

July 23, 2018

VIA COURIER, RESS and EMAIL

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON
M4P 1E4

Dear Ms. Walli:

**Re: Upper Canada Transmission, Inc. (“UTC” or “NextBridge”)
Ontario Energy Board (“OEB” or “Board”) File EB-2017-0182/EB-2017-0194
New East-West Tie Line Project
Undertaking Responses of NextBridge**

Attached please find undertaking responses from NextBridge taken during the Oral Hearing on July 5, 2018 in the above noted proceeding.

Yours truly,

(Original Signed)

Krista Hughes
Senior Legal Counsel
Enbridge Employee Services Canada Inc.

UNDERTAKING JD1.1

UNDERTAKING

TR 1, page 19

To provide an updated attachment 11.

RESPONSE

This undertaking requested that the carrying charge in Attachment 11 be updated to reflect the carrying charge being calculated on an opening balance. The following Attachment 11 reflects this change. The number was reduced from \$855,474 to \$733,013.

NextBridge Infrastructure LP
Extended Development Period Costs
July 23, 2018

Cost Category	Board-Approved Costs (1) (in 2013 \$)	Anticipated Extended Development Period Incremental Costs (in 2015 \$, rounded to nearest 10,000s)	Actual Extended Development Period Incremental Costs (in nominal \$) (2)	Total Extended Development Period Costs (in nominal \$)
	(A)		(B)	(A + B)
Engineering, Design and Procurement Activity	10,553,290	240,000	(289,826)	10,263,464
Permitting and Licensing	47,320	30,000	37,461	84,781
Environmental and Regulatory Approvals	3,592,680	4,890,000	4,225,000	7,817,680
Land Rights	1,991,000	2,580,000	3,809,532	5,800,532
First Nations and Métis Consultation	1,724,000	3,750,000	1,530,002	3,254,002
Other Consultation	496,000	2,020,000	1,091,015	1,587,015
Regulatory (legal support, rate case and LTC filings)	985,000	1,510,000	888,499	1,873,499
Interconnection Studies	179,000	60,000	(95,141)	83,859
Project Management (3)	1,300,000	3,330,000	3,666,784	4,966,784
Contingency (4)	1,529,710	1,960,000	(1,529,710)	0
SUBTOTALS - BUDGETED	22,398,000	20,370,000	13,333,616	35,731,616
First Nation and Métis Land Acquisition			16,862	16,862
First Nation and Métis Participation			3,415,388	3,415,388
Pic River Appeal Costs			230,163	230,163
Carrying Costs			733,013	733,013
SUBTOTALS - UNBUDGETED	0	0	4,395,425	4,395,425
TOTALS	22,398,000	20,370,000	17,729,041	40,127,041

NOTES:

(1) Ontario Energy Board EB-2011-0140 East-West Tie Line Designation Phase 2 Decision and Order issued on August 7, 2013 escalated in accordance with Upper Canada Transmission, Inc. Response to Board Interrogatory 26 to all Applicants ("NextBridge Response to IR 26") (rounded to the nearest 000s).

(2) "Actual" refers to actual costs plus estimated accruals at July 31, 2017.

(3) Costs not attributable to a specific workstream have been captured within Project Management.

(4) Contingency of \$1,319,136 and escalation of \$211,062 as per NextBridge Response to IR 26.

UNDERTAKING JD1.2

UNDERTAKING

TR 1, page 31

To map actual spent for each of the 42 items listed.

RESPONSE

This undertaking requested that NextBridge make best efforts to provide the actual costs associated with each of the 42 activities set forth in its May 15, 2015 and June 24, 2015 submittal to the OEB.

Background on Development Budgets

During the oral hearing on development costs, NextBridge was asked to recast its budget from the format that it has been using to track costs, consistent with Designation Phase Staff Interrogatory No. 26, to the format it used in its May 15, 2015 and June 24, 2015 filing when it was asked by the OEB to provide, among other things, the “[b]reak down the incremental development costs by activity.” OEB Order EB-2011-0140, January 22, 2015, Appendix A. NextBridge has made best efforts to do so.

NextBridge’s development cost budgets (at designation and as supplemented and reforecasted in 2015) are set forth in Table 1.

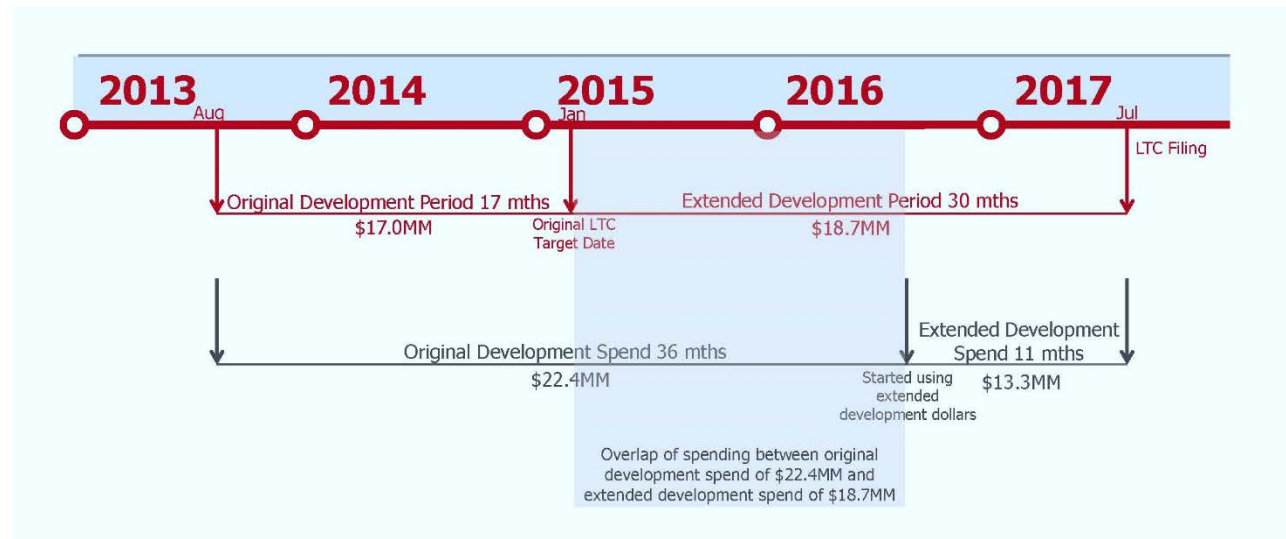
Table 1
Total Development Budget Estimates Over Time
(\$‘000)

<u>Development Cost Budgets</u>	<u>Cost</u>	<u>Change from Designation</u>
Designation – August 2013 (2013 \$)	22,398	
Project Delay – May 2015 (2015 \$)	45,628	23,230
Park Reroute – June 2015 (2015 \$)	42,768	20,370
Actual Cost (nominal \$)	\$35,732	\$13,333

Note: Amounts do not include identified Unbudgeted amounts at Designation

The following figure illustrates the development period, the extended development period, and how the designation development budget and extended development budget spend overlapped.

Figure 1
Chronology of NextBridge's Cost Spend



Note: All costs expressed in nominal dollars

Determination of Extended Development Period

The timeline (Figure 1) illustrates two views of the extended development period. The top timeline shows how much was spent when NextBridge was to file its original Leave to Construct in January 2015 and how much was spent after that point to the actual filing of the Leave to Construct in July 2017. The lower timeline shows how NextBridge was able to extend the budget approved at designation of \$22.4 MM until the fall of 2016 and then spent an additional \$13.3 MM only after the original designation budget was expended. The gray shading shows the overlap of spending between the original designation budget of \$22.4 MM and the extended development period spend of \$18.7 MM. In either timeline, the total spent on development activities through the Leave to Construct filing was \$35.7 MM. The top line also provides a view of the extended development period as consisting of \$18.7 MM starting after January 15, 2015 when NextBridge was originally scheduled to file its Leave to Construct versus the bottom line which shows the \$13.3 MM after the \$22.4 MM was completely expended.

To assist the OEB's understanding of the top timeline, NextBridge included all spend from February 2015 to July 2017 in the attached Table 2.¹ There were some specific items that were already considered in the original budget of \$22.4 MM and were not part of May and June 2015 extended development budget filings, such as costs from third parties performing engineering work, Leave to Construct preparation and Crown and Public Entities permitting and consultation. Removal of these costs amounted to an extended development period spend of \$15.8 MM (see Table 3), which is in recognition that NextBridge was under budget for the originally scheduled filing deadline of the Leave to Construct in January of 2015. Using this approach to understand the extended development period spend, NextBridge categorized \$15.8 MM into the 42 categories, more than just the requested \$13.3 MM.

Table 3
Total Development Budget Savings
(\$'000)

	<u>Budget</u>
Extended Development Budget from June 2015 (2015 \$)	20,370
Extended Development Period Spend (nominal \$)	18,746
Costs excluded from the June 2015 rebudget (These costs were included in the \$22.4M budget)	(2,952)
Extended Development Period Costs in 42 categories (nominal \$)	15,794
Actual Cost Savings (nominal \$)	\$4,576

For clarity, in Table 2 the negative and red numbers in the variance column denote a budget underspend, while the black numbers denote a budget overspend. As described in Table 3, even comparing the \$20.3 MM identified in June 2015 as the extended development period budget to larger extended development period of \$15.8 MM described above, NextBridge was still able to underspend \$4.6 MM on the extended development budget. When the extended development period budget underruns are combined with the original development underruns, the overall project savings achieved were \$7.0 MM (see Table 4 below)

¹ The method used to determine the actual costs for the 42 activities is set forth below.

Table 4
Total Development Budget vs Actual Spend
(\$'000)

<u>Development Cost Budgets</u>	<u>Cost</u>
Designation – August 2013 (2013 \$)	\$22,398
Park Reroute – June 2015 (2015 \$)	42,768
Actual Cost (nominal \$)	\$35,371
Overall Project Savings	\$7,038

Note: Amounts do not include identified Unbudgeted amounts at Designation

Methodology used to provide best efforts estimates in Table 2

NextBridge's Project Management Office used the following methodology to develop the actual costs for each of the 42 activities:

- (1) The extended development phase was defined as the period between when NextBridge was originally scheduled to file the Leave to Construct (January 15, 2015) and when it actually filed its Leave to Construct (July 31, 2017). This is a period of 30 months (see Figure 1).
- (2) Each activity was reviewed to determine if incremental development period costs were incurred (i.e., costs from February 2015 to July 2017) or if the originally identified activities were no completed. For example, it was determined that there was no material cost associated with activity Nos. 12). Update System Impact Assessment (SIA) and Customer Impact Assessment (CIA) since an updated was not needed. Similarly, activity Nos. 6). Additional performance-based ratemaking (PBR) consultation was deemed not necessary after the OEB set forth PBR approaches in Chapter 2.
- (3) Known third party invoices were collected and assigned to an activity based on invoice detail, input from third parties performing the activities and/or team leads that directed the work.
- (4) To the extent internal labor were directly assignable to activities, such costs were assigned. For example, the internal costs for activity Nos. 14) Preparation of revised East West Tie Project schedule & budget and Nos. 15) May 15, 2015 submission costs were tracked through the extended development period and provided.

(5) Unlike activities Nos. 14 and 15, there was no programmatic tracking for some internal costs, and, therefore, the Project Management Office and the team leads made best efforts to estimate internal costs on an activity-by-activity basis. The re-creation included assigning of internal labor hours to incremental activities based on review of specific meetings and their purpose, the development of work product for incremental activities, and knowledge of external vendor invoicing during the extended development period.

Based on these reviews, actual costs for each activity were developed. Attached are the actual costs in a format similar to that submitted in May and June of 2015. (Attachment 1).

An explanation is provided below to facilitate an understanding of why each incremental development activity was needed and performed during the January 2015 to July 2017 timeframe. This evidence is in addition to evidence already on the record, such as I.NextBridge.STAFF.21 the March 14, 2018 Additional Evidence, Exhibit B, Tab 16, Schedule 1 and Attachments.

Need for the 42 Activities during the Development Phase

The intervening events that resulted in separate development period budgets (i.e., the Ontario Power Authority's (OPA) delaying of the in-service date for the East-West Tie Line from 2018 to 2020, then the requirement to route around Pukaskwa Park) directly impacted the original budget and schedule of the East West Tie Line. Thereafter, in the Spring of 2016, the Minister of Energy ordered the East West Tie Line be treated as a priority with an in-service date of 2020, which added a sense of urgency and priority to ensuring the East West Tie Line was in a position to meet the 2020 in-service date. Thus, while it may appear that certain costs, such as land optioning and Indigenous participation, could have been delayed to the construction phase, as will be shown in the descriptions of the 42 activities, prudent project management dictated that these activities be pursued prior to the filing of the Leave to Construct to maintain a 2020 in-service date.

Although there is a regulatory division between the development period/costs and the construction period/costs as ending and beginning, respectively, at the filing of the Leave To Construct, effective and efficient management of the project requires a continuous focus on the ultimate goal of completing the East West Tie Line on time (i.e., end of 2020) and within the development and construction period cost estimates/budgets. Thus, while NextBridge in its 2015 submissions provided an incremental budget of \$20.3 MM (see Table 1) and associated 42 activities based on what was known to it at that time, the entire 53 months of development was focused on effectively and efficiently managing the overall disciplines and associated activities to a budget of \$42.8 MM (see Table 1). The evidence shows that NextBridge was successful in reducing that budgeted incremental extended development period cost to \$13.3

MM from the \$20.3 MM estimate (see Table 1). These savings of \$7.0 MM (see Table 4) are permanent because the total construction phase project budget remains the same as filed in the Leave to Construct as \$737 MM.

The following is an activity-by-activity account for the following: (1) whether the activity was affected by project delay and major re-routes; (2) a description of the activity; (3) the reason why there was a need for that activity to occur during the extended development period and the cost management tools implemented for the activity.

1) Update Stakeholder Relations Consultation Plan

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

To consider and revise Consultation Plan to address changed circumstances arising from extended development period.

Detailed Description:

Consultation Plan is part of the Terms of Reference (TOR) and the Environmental Assessment (EA). The Consultation Plan is the document that guides NextBridge stakeholder engagement activities and is required to be updated when there are changes.

Need During Development Period (January 2015 through July 2017):

It was necessary to update the Consultation Plan in January 2016 to effectively and efficiently manage stakeholder engagement during the extended timeline. This allowed NextBridge to make strategic decisions and manage our engagement costs during this period.

An original version of the Consultation Plan and a blacklined version of the updated Consultation Plan showing changes is attached (Attachment 2 and 3). During the 2016 update, NextBridge also included new sections on community investment, comment management, and complaint resolution processes.

Cost Management:

While the actual text edits to the Consultation Plan would not have taken more than a couple days to complete, the time to discuss and develop the modified Consultation Plan and engagement strategy is where the bulk of the time was spent. The team efficiently managed the time of others by discussing the strategy on already scheduled weekly calls and providing one consolidated draft for review.

2) One additional round of open houses

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

To prepare and deliver one round of open houses at eight locations within the East West Tie Line Project area as part of a broader stakeholder relations consultation program to keep public and stakeholders informed of East West Tie Line Project development activity.

Detailed Description:

Open houses are standard practice and are expected for an EA to be approved. NextBridge included three rounds of open houses in the TOR submitted to the Ministry of Environment and Climate Change. Once the TOR was approved by that Ministry, the three rounds became mandatory.

Need During Development Period (January 2015 through July 2017):

The open houses are necessary to maintain contact with stakeholders and remain transparent in project development.

Cost Management:

During the Extended Development Period NextBridge held two rounds of open houses. These extra rounds of open houses were needed to fill the gap during the extended development period and were held in April 2016., which was two years after the original open houses. Materials from these open houses are found on NextBridge's website:

<http://www.nextbridge.ca/>

3) Aboriginal capacity funding expenditures

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Provision of financial resources to facilitate meaningful Aboriginal participation in consultation activity required throughout the extended development period, including enhancement of traditional knowledge studies and skills development.

Detailed Description:

As outlined in Exhibit H, Tab 1, Schedule 1 of NextBridge's Application, extensive engagement with First Nation and Métis communities has occurred in order to understand, identify, record, and mitigate identified impacts to or within Indigenous traditional lands and activities arising out of the New East West Tie Line. In a May 31, 2011 letter to the OPA, the Ministry of Energy identified 14 First Nation and 4 Métis communities to be consulted by the OPA on the New EWT Line Project. The 18 communities identified by the Ministry of Energy are listed as an attachment to this exhibit at Exhibit H, Tab 1, Schedule 1, Attachment 1. These same communities were identified in the consultation Memorandum of Understanding between NextBridge and the Crown dated November 2013 (the MOU). The identified communities are to be consulted for the purposes of fulfilling the Crown's constitutional Duty to Consult and accommodate, procedural aspects of which were delegated to NextBridge via the MOU.

Need During Development Period:

In order for communities to meaningfully consult with developers of the East West Tie Line, such as NextBridge, it is expected practice to provide capacity funding support since communities are historically resource constrained. During the Extended Development Period, NextBridge provided an additional 12 capacity funding agreements to communities, and provided a total of \$1,310,582 in funding during that period (some payments came in after the filing of the Leave to Construct that were tied to these agreements). An example of one of these agreements are found in Undertaking JT1.32 from the Missanabie Cree.

Cost Management:

Costs related to these capacity funding agreements are based on actual invoices and tied to deliverables and activities.

4) Aboriginal consultation costs

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

To engage in ongoing Aboriginal consultation activity throughout the extended development period with the 18 communities identified by the Crown as potentially impacted by the East West Tie Line Project, including ongoing community meetings to discuss the East West Tie Line Project, skills development, and employment opportunity discussions.

Updated Description:

As noted in Activity No. 3, NextBridge engaged with 18 communities in order to meet its delegated Duty to Consult given to it by the Crown. This cost category includes internal time, expenses, legal support, and consultant support.

Need During Development Period (January 2015 through July 2017):

During the extended development period on-going work included consulting on the alternate route around Pukaskwa Park, additional field studies, and the draft and final EA.

Cost Management:

Examples of cost management for this discipline are found in Undertaking JT1.10.

- Individual First Nation and Métis meetings were grouped together to be efficient with time and travel expenses; and
- Used internal labour to minimize more costly consultants.

5) Aboriginal Advisory Board

Affected by Project Delay – N/A

Affected by Major Re-Route – N/A

May 15, 2015 Description:

To facilitate ongoing Aboriginal Advisory Board meetings and honoraria for member participation throughout the extended development period.

Detailed Description:

During the extended development period NextBridge disbanded the Aboriginal Advisory Board to reduce costs and proposed replacing it with the Aboriginal Community Advisory Board, made up of members from the 18 community members. In its January 2017 report to the OEB NextBridge stated:

...finalization of Proposed Terms of Reference for an Aboriginal Community Advisory Board ("ACAB") in accordance with feedback received from communities in satisfaction of Milestone II. NextBridge subsequently held a call for nominations for membership in the ACAB, which opened on October 31 and closed on November 30, 2016. An informational teleconference was held for community representatives to ask questions about the ACAB on November 15, 2016. Due to very limited interest, NextBridge has elected to suspend establishment of the ACAB until such time as further interest is expressed to justify the cost of establishing a formal board structure. NextBridge will continue to engage with Aboriginal communities that nominated a representative for membership in the ACAB outside of an ACAB structure. NextBridge will re-evaluate interest in the ACAB periodically;

Need During Development Period (January 2015 through July 2017):

Not applicable

Cost Management:

To date no meetings have been held, and, therefore no costs have been incurred.

6) Additional performance-based ratemaking (“PBR”) consultation

Affected by Project Delay – N/A

Affected by Major Re-Route – N/A

May 15, 2015 Description:

To revisit, update and re-engage stakeholders and other interested parties regarding PBR matters during preparation of the Leave to Construct application.

Detailed Description:

NextBridge anticipated that there would be further consultation on PBR during the extended development period. However, as NextBridge explained in Exhibit I.NextBridge.STAFF.6 the OEB adopted a PBR related to ongoing costs in Chapter 2 – Revenue Requirement Applications (released on February 11, 2016) that prescribed a PBR framework. Therefore, NextBridge determined it was not necessary to conduct additional outreach on a PBR method, because NextBridge will follow the OEB’s Chapter 2 PBR filing requirements.

Need During Development Period (January 2015 through July 2017):

Not applicable.

Cost Management:

None; no costs were incurred.

7) Stakeholder engagement program

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Stakeholder relations consultation program to keep public and stakeholders abreast of East West Tie Line development activity over extended development period, including preparing

East West Tie Line update materials, tracking and responding to inquiries, website and database management, and municipal meetings.

Detailed Description:

Stakeholder engagement activities are the same as the description above.

Need During Development Period (January 2015 through July 2017):

During the extended development period, NextBridge determined that it needed to continue its external stakeholder engagement to ensure transparency and to keep stakeholders informed. Costs during this period included updates to NextBridge's project web site, site management, database costs, and labour.

The costs in this category are largely driven by the amount of requested engagement with stakeholders the extent of which is described in Exhibit I.NextBridge.STAFF.36, which include interactions with the Township of Dorion, Loon Lake, and the additional landowners from the Pukaskwa Park re-route. For just the extended development period, 3,959 records of contact were made with individuals, landowners, organizations, and municipalities as calls and emails continued to come into the project hotline/email during this time period. The Record of Consultation, which is part of the EA, requires all calls and emails to be entered into the database as well as a record of the company's contact with the stakeholders.

Other stakeholder outreach that took place included:

- April 7, 2015 – Letter to NextBridge contact list with an update
- June 16, 2015 – Update to web site with information on Route evaluation due to several requests from stakeholders for information on routing
- April 1, 2016 – Project Newsletter to mailing list
- April 2016 – Open Houses (additional round considered elsewhere)
- December 2016 – Notice of submission of draft EA and public review logistics
- January – February, 2017 – Open Houses (original planned and budgeted but postponed to now)
- July 18, 2017 – Notice of submission of the EA
- July 25, 2017 – Posting and submission of the EA
- July 31, 2017 – Leave to Construct submission notification

Cost Management:

Cost management strategies for the stakeholder engagement program can be found under "Other Consultation" in Undertaking JT1.10.

8) Ramp-up of Leave to Construct preparation

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

To revisit Leave to Construct requirements, re-establish Leave to Construct application preparation schedule, complete additional Leave to Construct draft cycle, as well as liaising with IESO regarding incremental needs analyses.

Detailed Description:

In order to prepare a Leave to Construct, coordination with NextBridge's multiple internal disciplines, as well as external stakeholders, was necessary. To stop drafting the Leave to Construct in September 2014 and then start again in July 2016 required considerable work to coordinate the many components of the Leave to Construct. In fact, some of the information had changed since the originally scheduled filing date of January 2015, including additional stakeholder feedback from the 3,959 engagement requests (referred to in Activity No.7), deeper knowledge of Aboriginal involvement and needs, land access (including the inability to access Pukaskwa park), and more detailed engineering specifications. To give the OEB the most complete and informative development package at Leave to Construct, NextBridge made a conscious effort to include the additional information received during the extended development period.

Need During Development Period (January 2015 through July 2017):

As outlined in its additional evidence filed in March 2018, NextBridge ceased working on its Leave to Construct when it received notice from the OPA that the in-service date was delayed to 2020 in order to conserve costs. The drafting of the Leave to Construct was picked back up again in July 2016. In July 2016, NextBridge re-examined the 2014 draft, compared it to the filing requirements of Chapter 4, coordinated with all of NextBridge's multiple internal disciplines on the status of their workstreams in the context of the restarting of the Leave to Construct, and began to update sections based on current information. This included updating baseline aspects of the Leave to Construct, such as the landowner line list, the description of the route (including around Pukaskwa Park), maps, and EA status.

Cost Management:

NextBridge conserved costs by ceasing work on its Leave to Construct once it received notice the East West Tie Line in-service date was delayed. NextBridge only restarted the activities in order to meet the new Leave to Construct filing date and in-service date.

9) Accounting back office, internal reporting and procurement support

Affected by Project Delay – Yes

Affected by Major Re-Route - No

May 15, 2015 Description:

To facilitate accounting, internal financial reporting, East West Tie Line Project decision documentation and procurement support throughout extended development period.

Detailed Description:

The activities include day-to-day back office requirements, including project accounting, accounts payable, sales tax management, cash management, variance analysis, and information technology support.

Need During Development Period (January 2015 through July 2017):

Included in this activity are essential back office functions necessary for the development of the East West Tie Line. This activity additionally supported reviewing audit, tax filings, regulatory filings for accuracy, and preparing the financial statements for the ten quarterly OEB reports required during this period.

Cost Management:

For this activity, project management oversaw the partnership company employees and part time contractors. The employees provide, “as needed” services, to eliminate the need for full time employees dedicated to NextBridge.

10) Support functions for EWT Project development work from all work streams

Affected by Project Delay – Yes

Affected by Major Re-Route - No

May 15, 2015 Description:

Multi-disciplinary review of workstream activities in furtherance of East West Tie Line Project development to ensure consistency and alignment.

Detailed Description:

During this period, team leads would meet to provide advice, feedback and ongoing support to activities associated with the development of the EA and the filing of the Leave to Construct. Disciplines such as Land, Environment, Indigenous Relations, and Engineering and Construction met to ensure alignment and consistency with project design criteria and the

access and construction plan that supported the procurement of the general contractor, which was needed prior to the Leave to Construct filing to inform the construction cost estimate.

Need During Development Period (January 2015 to July 2017):

The schedule for the development and construction of the East West Tie Line has many interdependencies and requires the coordination of multiple disciplines. In order to ensure that the project remained on schedule to meet the 2020 in-service date, NextBridge personnel met regularly, either in person or via conference call, to align interrelated tasks.

Cost Management:

As many interactions of these disciplines as possible were held via conference calls and remote meetings.

11) EWT Project office salaries and overheads

Affected by Project Delay – Yes

Affected by Major Re-Route - No

May 15, 2015 Description:

To maintain office lease, utilities, salaries for Project Director, Project Manager and one administrative position and miscellaneous overhead throughout extended development period.

Detailed Description:

To maintain office expenses and salaries for the Project Director, the Project Manager, and administrative staff. To increase cost savings during the extended development period, the Project Manager position and administrative position were eliminated in the spring of 2016. In addition, the Project Director also supported other partnership company functions reducing cost to the project.

Need During Development Period (January 2015 through July 2017):

Project management is essential to the development of the East West Tie Line. Project managers lead overall project coordination, team member coordination, and organize regulatory reporting. In order to continue managing the project, consistent oversight and its associated costs are required even during the delay period to ensure that the project is achieving required milestones and regulatory requirements.

Cost Management:

To reduce costs during the extended development window, NextBridge reduced its dedicated staff from a Project Director, Project Manager, and an administrative position to a single Project Director while leveraging other internal labour as needed. NextBridge also eliminated

its full time office space by utilizing part of a partner's office location at no charge to NextBridge. Because these costs efficiencies were maximized during the extended development period, NextBridge was able to perform these duties at lower costs than estimated in the June 2015 filings.

12) Update System Impact Assessment ("SIA") and Customer Impact Assessment ("CIA")

Affected by Project Delay – N/A

Affected by Major Re-Route – N/A

May 15, 2015 Description:

To revisit and update SIA and CIA in the event that material modifications to design, interconnection or route length arise during extended development period activity.

Detailed Description:

NextBridge anticipated that it may have to update its SIA or its CIA if there was a significant change in the route during the extended development period.

Need During Development Period:

NextBridge did not need to update these assessments during the extended development period, and, therefore, no costs were incurred.

Cost Management:

None needed.

13) Supplemental socio-economic assessment

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Supplemental socio-economic data collection to ensure currency of information collected.

Detailed Description:

The socio-economic assessment is a component of the EA that assesses the potential socio-economic impact of the project. The socio-economic assessment includes factors such as population and demographics, infrastructure, transportation, services, the labour market, the

economy, community well-being, non-traditional land uses, land use plans, parks and other protected areas, energy resources, non-renewable resources (e.g., mining, and aggregates), forestry, agriculture, the harvesting of fish and wildlife resources (inclusive of hunting, trapping, and guided outfitting), and outdoor recreation and tourism. There are specific regulatory and methodology requirements for this assessment as set out under the Province's *Environmental Assessment Act*.

Need During Development Period (January 2015 through July 2017):

To submit the EA in July of 2017, it was necessary during the development period to completed the socio-economic assessment – this included information from the Township of Dorion, Loon Lake, and the route around Pukaskwa Park. The submission of a complete EA, including the socio-economic assessment, in July of 2017 was necessary in order to have the EA reviewed on a project schedule that provided for construction of the East West Tie Line to being construction in late 2018, so NextBridge could meet the 2020 in-service date.

Cost Management:

Three bidders were invited to bid on the RFP proposal to complete the EA in Fall of 2015, which included finalizing the socio-economic assessment. One successful bidder (Golder Associates) was awarded the contract in November 2015 as the lowest cost bidder with the required experience.

14) Preparation of revised EWT Project schedule & budget & 15) May 15, 2015 submission review costs

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

14) To revisit and revise project execution strategy, scope, schedule and budget to address extending the East West Tie Line Project in-service date to 2020.

15) To present revised schedule for approval and budget of costs for recovery before the OEB.

Detailed Description:

NextBridge has grouped together the costs for Activity No. 14 & 15 due to the similar nature of work completed.

Need During Development Period (November 2014 to July 2017):

These activities started to some degree after receipt of the October 29, 2014 Letter from the OEB recognizing that the OPA's proposal to delay the in-service date will affect the East West

Tie Line schedule, which concluded with NextBridge's May 15, 2015 filing of the revised budget and schedule – which took a full 6 months of work to complete. The work involved a complete reconsideration and creation of a new baseline of the project schedule and development costs due to the interactive nature of scheduling, the interrelated disciplines and activities, including the seasonality of constructing the line.

As part of the reconsideration and creating a new baseline project schedule and project development cost, NextBridge worked with all of the team leads and associated contractors to change the in-service date from early 2018 to late 2020. This required changing the construction schedule to accommodate issues such as the timing windows that allow for construction in "species at risk" habitats, and during a season that the clearing of land can be completed when the ground is frozen to minimize damage. During the development phase, other examples included (1) the scheduling of planning field studies in the spring and summer to have data to support the EA and other permitting; (2) procuring the general contractor to ensure sufficient lead-time for construction to commence in the Fall of 2018; and (3) coordinating open houses to coincide with project milestones. All of the development activities are interrelated and required many hours by project team leads to coordinate efforts.

Additionally, NextBridge undertook to provide an updated development budget for these activities to enhance transparency on the potential cost increases. This budget also required the same level of effort to assign incremental costs to the change in schedule. As part of this exercise, and as noted in NextBridge's Additional Evidence filed on May 2018, considerable effort was made to slow project spending during this extended development period. This required team leads and vendors to take a detailed look at their spending at the time, determine the tasks to be completed in order to make an in-service date of 2020, and adjust appropriately.

Cost Management:

Unlike the other activities in the May 15, 2015 budget, NextBridge specifically recorded these costs under a separate cost code so that they could be tracked and the costs managed.

16) Pursuit of authorization to study route through Pukaskwa National Park (Park)

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2105 Description:

To prepare and implement a government relations strategy with the objective of gaining access to study a route through the Park.

Detailed Description:

As part of its Designation Application, NextBridge proposed a Reference Route through Pukaskwa National Park, essentially paralleling an existing transmission line in the Park. As an Alternate Route, a path around the Park was offered as well.

The managing authority of the federal lands, including Pukaskwa Park, is Parks Canada. Parks Canada requested from NextBridge a project description in order to make a determination on the routing of the new transmission line through the Park. On December 12, 2013, NextBridge submitted a Project Description to Parks Canada, and request permission to conduct studies within the National Park.

In February 2014, Parks Canada denied NextBridge's request to study the route, indicating that it did not support the project routing through Pukaskwa National Park. Based on this letter, NextBridge decided to focus on development of the Alternate Route, since data collection/studies in the Park were not allowed, and the prospect of a successful challenge to Parks Canada denial was deemed costly to the ratepayer with a low probability of success. In sum, efforts to develop the Reference Route through the Park were ceased due to the determination that Parks Canada did not have authority to allow NextBridge to route through the Park.

In subsequent meetings with the Ontario Energy Board, the Ontario Power Authority ("OPA") and Ministry of Energy staff in June 2014 this message was communicated and updates provided. The Ministry of Energy indicated that they may be of assistance and offered to reach out to the Federal Environment Minister (authority for Parks Canada). This initiative was supported by NextBridge. In July, 2014, the Ontario Minister of Energy wrote the Federal Minister of Environment outlining his Ministry's position and request. No response was received until late October 2014 stating the Federal Minister was unable to meet to discuss the route through the Park.

Need During Development Period (January 2015 to July 2017):

Despite Parks Canada decision, in September 2014, the OPA sent a letter to NextBridge indicating that due to slower than anticipated demand growth in Northwestern Ontario, the in service date of the project could be delayed from 2018 until 2020. In that letter, the OPA indicated it believed there was value to ratepayers in NextBridge pursuing the route through Pukaskwa Park, because an extension in the development timeline would allow for further consideration by Parks Canada. In response to the OPA's request, NextBridge retained an external government relations firm to pursue a route through the Park.

Although NextBridge, consistent with the OPA request, worked during the extended development (January 15, 2015 to May 2015) requesting that Parks Canada reconsider its determination that NextBridge could not route through the Park shortly after NextBridge's May 15, 2015 filing with the OEB, NextBridge received confirmation from Parks Canada that it did

not have the authority to allow NextBridge to route through Pukaskwa Park. Subsequently, at that time, NextBridge abandoned the Reference Route through the Park and focused its development efforts of the Alternate Route.

Cost Management:

The external government relations firm was retained through a request for proposal process. There were eight bidders and NextBridge chose the firm based on a combination of the lowest bid price and qualifications. The contract was terminated in mid-June 2015 when Parks Canada confirmed that NextBridge was unable to go through Pukaskwa Park in May 2015.

17) Proponent information tax returns

Affected by Project Delay – Yes

Affected by Major Re-Route - No

May 15, 2015 Description:

To fulfill Canada Revenue Agency tax reporting requirements for NextBridge Infrastructure LP over the extended development period.

Detailed Description:

To fulfill Canada Revenue Agency tax reporting requirements for NextBridge Infrastructure LP over the extended development period. Three returns were completed during the delay period by a well-respected outside firm.

Need During Development Period (January 2015 through July 2017):

Filing of tax returns in 2016 and 2017.

Cost Management:

NextBridge utilized an existing vendor of a partner to prepare the statutory required partnership information returns during the extended development window. NextBridge was able to use the pre-negotiated rates of the larger partner company resulting in the returns being prepared with minimal cost to NextBridge.

18) Annual audit of EWT Project financial statements

Affected by Project Delay – Yes

Affected by Major Re-Route - No

May 15, 2015 Description:

Annual audit of financial statements over the extended development period.

Detailed Description:

An annual audit of the project's financial statements was required during the extended development period due to regulatory reporting requirements of the Ontario Energy Board.

Need During Development Period (January 2015 through July 2017):

As part of the regulatory reporting requirements of the OEB, two additional audits were performed during the extended development period. NextBridge provided annual audited financial statements in 2016 and 2017.

Cost Management:

To conduct the audit in a cost effective manner, NextBridge reached out to several audit firms to gather bids before completing the audit. NextBridge selected the lowest bid.

19) OEB Quarterly Reporting

Affected by Project Delay – Yes

Affected by Major Re-Route - No

May 15, 2015 Description:

To fulfil transmitter licence reporting requirements over the extended development period.

Detailed Description:

The OEB concluded in its Phase 2 Decision and Order at 4, 42 to 43 it was approving the \$22.4 M of development funding, subject to limited identified conditions, including satisfying its reporting requirements. Examples of evidence of NextBridge satisfying the reporting requirements are found in the interrogatories filed on January 25, 2018 in response to SEC Interrogatory #2, found at I.NextBridge.SEC.2 – all of NextBridge monthly and quarterly reports which comport with the filing requirements. These reports also explain the progress and meeting of milestones, as well as in Undertaking JT1.7 from the Technical Conference that further breaks down the accomplishment of milestones from August 2013 to January 2015.

Need During Extended Development Period (January 2015 through July 2017):

During the extended development period, NextBridge made necessary filings to comply with the OEB's reporting filing requirements.

Cost Management:

NextBridge requested that the reporting frequency be reduced from monthly to quarterly in its May 15, 2015 filing to the OEB. This reduced the amount of time spent on creating and filing these reports.

20) Expanded alternatives assessment

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Costs associated with completing a detailed alternatives assessment considering over 30 additional alternative routes around communities, parks, reserves, and protected areas in response to MNRF and MOECC instruction and stakeholder engagement.

Detailed Description:

The alternatives assessment was an evaluation of potential route alternatives for the East West Tie Line against specific criteria and indicators to assess and identify the preferred route for the project. The preferred route was then assessed as part of the EA with the information gained from the alternative assessments.

The Hydro One Inc. Bruce to Milton EA was used as a template for the designation application EA scope of work, which did not include the need for an alternatives assessment. Ministry of Natural Resources and Forestry (MNRF) and Ministry of Environment Conservation and Parks (MECP, formerly Minister of the Environment and Climate Change) indicated in the spring of 2014 that an alternatives assessment would be required as part of the EA during consultation on the TOR for the EA. They indicated NextBridge must include information originally analyzed by NextBridge during their initial review of potential routes during the OEB bid submission. As well, the MNRF indicated that an assessment of alternative routes around provincial parks and conservation reserves was required to allow the Project to cross these lands. The alternatives assessment was then added to the TOR to be completed during the EA.

MNRF provided comments on NextBridge's Alternatives Assessment Report on February 9, 2016. They commented that alternatives were identified for some but not all provincial parks and that, where alternatives were identified, the assessment of associated advantages and

disadvantages did not meet the purposes of the Provincial Parks and Conservation Reserves Act as not all reasonable alternatives were explored. Specifically, the MNRF requested more species information to adequately assess the impact that the alternative and reference route would have on species and wildlife habitat, indicating that additional assessment of Species at Risk would be required under the Endangered Species Act, and may include the consideration of alternatives.

Parks Canada also provided feedback regarding the Pukaskwa National Park route and indicated that NextBridge would not be granted permission to collect data within Pukaskwa Park for development purposes.

Completing the alternative route assessment for the draft EA included dialogue with the project team and updating the report as a result of the comments received on the previous report. All of the above work was required to be completed prior to the filing of the EA.

Need During Development Period (January 2015 through July 2017):

The filing of the EA in July of 2017, including the completed alternative route assessment, was required to allow construction of the East West Tie Line to begin in late 2018 and to bring the project into service in 2020.

Cost Management:

Three bidders were invited to bid on the RFP proposal to complete the EA (including Alternatives Assessment) in Fall of 2015. One successful bidder (Golder Associates) was awarded the contract in November 2015 as the lowest cost bidder with the required experience.

21) Incremental field studies and access route assessment, 22) Incremental environmental permits, 23) Establish incremental study area and required activities & 24) Incremental socio-economic assessment

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

21) As a result of interaction with MNRF, additional EA and field study activity was determined to be required in relation to an expanded area, including access roads, laydown and difficult to access areas. The MNRF also required significantly more detailed information on all aspects of the undertaking such as location of aggregate resources, detailed fisheries assessments, location of temporary laydown yards and man camps, typically associated with the permitting stage following approval of the EA.

22) Additional costs for environmental permitting acquisition and related activities for the incremental EA field work identified in Activity No. 21.

23) To work with MNRF and other agencies to delineate incremental study area and corresponding additional assessment activities identified in Activity No. 21.

24) To complete additional socioeconomic data collection related to expanded study area identified in Activity No. 21.

Detailed Description:

Activities No. 21 through 24 are discussed together as they are interrelated. The Hydro One Inc. Bruce to Milton EA was used as a template for the designation application EA scope of work. Assumptions were made that the reference route that paralleled the existing East-West Tie Line would be assessed with desktop data collection of the project area and field data collection in approximately 10% of the assessment area. In 2015, the Ministry of Natural Resources and Forestry (MNRF, formerly MNR) and Ministry of Environment Conservation and Parks (MOECP, formerly Minister of the Environment) indicated they required more data collection and assessment than was initially assumed in the designation application scope. Additional EA and field data collection was also required for additional areas that were not included in the assumptions, such as additional routes, access roads, and laydown yards. There were also additional mobilization and demobilization costs due to logistics of access and land owner access issues. Some environmental permitting activities were undertaken concurrent with the EA work to meet the in service data of December 2020 and at the request of MNRF.

As mentioned, the EA of the reference route paralleling the existing East-West Tie line was scoped and budgeted with assumptions based on the Hydro One Inc. Bruce to Milton EA. Consultation with environmental regulators, Indigenous communities, landowners, and interested parties resulted in additional data collection and assessment than was initially assumed. The additional scope was required for the following:

- Data collection and assessment of additional routes.
- Data collection and assessment of construction execution plan areas (access roads, temporary work space, etc.).
- Increased study areas for EA.
- Increased % of project area required field data collection.
- Increased level of detail of data collected.
- Data collection and assessment for species at risk identified during desk top data collection and consultation with MNRF.
- Additional data collection and assessment for rare environmental communities/ecosites based on consultation with MNRF and stakeholder consultation.

- Additional breeding bird surveys (2x instead of 1x at each location) and assessment across the project study area based on consultation with MNRF.
- Additional data collection and assessment (wildlife, habitat, vegetation, amphibian, breeding bird, aquatic, Species at Risk, species of concern) as a result of data received from MNRF and other public data sources and requested by MNRF.
- Viewshed analysis.
- Increased environmental regulator consultation than previously anticipated.

A natural environment existing conditions report was completed for the project study area in 2015 based on the designation application scope and consultation with MECP and MNRF; however, due to logistics of access and landowner approval there were gaps in the 2015 existing conditions report. The 2016 data collection work plan was determined to address those gaps through desktop research, aerial reconnaissance and field surveys for the completion of the draft EA report and submission in December 2016, with a comment period from December 2016 to March 2017.

Included in the comments from the MNRF on the Draft EA were statements such as the following:

- More field studies should occur to better define the potential fisheries impacts of water crossings on nearby values, especially along the Greenfield (e.g., Loon Lake) route.
- For the EA to adequately predict, assess and prescribe mitigation for the impacts of the Project in its entirety on the abundance and distribution of brook trout, northern pike, walleye and lake sturgeon, and the community composition of aquatic ecosystems, information on each stream crossing is required. Where current information is not available, or is lacking, field sampling programs are advised.
- More information on the location of permanent roads is needed within the EA to fully determine the impacts of these roads and their water crossings.
- Provide detailed vegetation information at tower locations to identify if/where/what setbacks or other mitigation will be applied in the park for significant wildlife habitat or regionally/provincially significant species associated with the nature reserve zone. This may require additional field work or site inspections.

NextBridge also received feedback from a meeting that NextBridge attended with MNRF, Fisheries and Oceans Canada (DFO), and Lakehead Conservation Authority (LRCA) on February 3, 2017 to discuss the permitting phase of the Project. Additional field surveys would be required to meet the permitting requirements for the MNRF, DFO, and the LRCA based on the comments received.

MNRF indicated that acoustic surveys for bats may be required for permitting during a meeting on April 4, 2016. Specifically, it was suggested that a flyover and acoustic monitoring be undertaken in 2017. The MNRF made additional recommendations in a meeting on July 31,

2017 that additional aquatic field surveys (e.g., fishing efforts) on water body crossings where NextBridge has predicted no/low fish presence and habitat be completed to consider Northern Brook Lamprey distribution.

Environmental surveys (e.g., bat acoustic monitoring, breeding bird and bird Species at Risk surveys, and surface water fish and fish habitat surveys) were undertaken as part of the permitting phase of the Project, with the data contributing to the amended EA Report where feasible as a result of the MNRF request for additional data collection.

Need During Development Period (January 2015 through July 2017):

The filing of the EA in July of 2017 was required to start construction of the East West Tie Line in late 2018 and bring the project into service in 2020.

Cost Management:

Three bidders were invited to bid on the RFP proposal to complete the EA in Fall of 2015. One successful bidder (Golder Associates) was awarded the contract in November 2015 as the lowest cost bidder with the required experience. NextBridge requested its consultants to use a streamlined approach for the surveys, resulting in a reduced cost of planning, coordination and execution of the 2017 field study program.

25) Capacity funding agreements

Affected by Project Delay – No

Affected by Major Re-Route - No

May 15, 2015 Description:

Increased capacity funding support provided to Aboriginal communities to facilitate traditional knowledge data collection and consolidation.

Detailed Description:

As explained in Activities No. 3 and No. 4, NextBridge engaged with 18 communities to meet its delegated Duty to Consult.

Need During Development Period (January 2015 through July 2017):

During the course of these engagements with the Aboriginal communities, NextBridge learned that a deeper level of consultation was needed on the traditional territories of the communities. For much of the line, traditional knowledge studies had not been performed since no development had occurred in the region for quite some time. The original East West Tie Line was built during a time when consultation was not done with communities, and, therefore, consultation with these communities on a project of this magnitude started from no known

reference point. Additionally, with the added route around Pukaskwa Park and the additional field studies requested by MNRF there was an increased amount of consultation needed. Support for the level and extent of consultation needed on the East West Tie Line can be found in the Record of Consultation included in the EA Amendment that was updated and filed publically in June 2018.

Cost Management:

Costs related to these capacity funding agreements are based on actual invoices and tied to deliverables and activities.

26) Archaeology Stage 2 study

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Additional costs to complete Stage 2 archaeological assessment in relation to a larger area than originally anticipated. This is partially due to better information regarding archaeological potential made available through Stage 1 archaeological study, and partially due to incorporating a variety of methodologies to provide construction flexibility, which increases ground disturbance in the East West Tie Line Project area.

Detailed Description:

The Stage 1 Archaeological Assessment must be completed first to determine if a Stage 2 Archaeological Assessment is required, and, if required, the scope of the Stage 2 Assessment. The Stage 1 was completed at various times during the development phase on different sections of the line (see attached reviews from Ministry of Tourism, Culture and Sport (MTCS)) (Attachments 4 to 9). The results from Stage 1 indicated that the Stage 2 scope would include test pitting to determine the presence or absence of archaeological resources. Subsequent Stage 3 and 4 Archaeological Assessments can be required if archaeological resources are discovered during the Stage 2 Archaeological Assessment. It is required that the Stage 2 be completed prior to development that may affect archaeological potential directly or indirectly (tower bases, laydown areas, staging areas, access roads, and related infrastructure) consistent with the identified scope.

Need During Development Period (January 2015 through July 2017):

The Ministry of Tourism, Culture and Sport requires that Stage 2 archaeological assessments be completed in areas of archeological potential prior to development that may affect archaeological potential. Stage 2 Archaeological Assessments were completed in areas that geotechnical drilling was completed in 2015 and 2016. The Stage 2 Archaeological

Assessment work plans must be completed by a licensed consultant archaeologist, which then must be submitted to the MTCS for approval prior to execution of the Stage 2 Archaeological Assessment. The field work is completed then a report is produced and submitted to MTCS for approval. This can be a lengthy process which also has the potential to result in a need for subsequent Stage 3 and 4 Archaeological Assessments. There is a risk of project delays if archaeological resources are discovered. It is typical for the archaeological work to be completed in advance of construction to avoid potential project delays. This work was completed prior to construction to meet the in service date of 2020.

Cost Management:

Five bidders were invited to bid on the RFP proposal in January 2017. One successful bidder (Stantec Consulting Ltd.) was awarded the contract in March 2017.

27) Timber valuation

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Costs to assess timber values on Crown and private land to further land appraisals and land rights optioning.

Detailed Description:

The proposed width for the East West Tie Line 230 kV transmission line right-of-way (ROW) is approximately 52 to 56 meters. Clearing will be required for much of the ROW, including clearing of timber. In addition, NextBridge will require both temporary and permanent working space for potential laydown yards, storage yards, and access which will also require clearing. During the operation of the East West Tie Line, compliance with North American Reliability Electric Corporation FAC-003 requires that the ROW be cleared of incompatible tree growth. This clearing of trees will result in a loss of potential income to the landowner(s). Landowners will be compensated for the potential loss of income related to timber due to the construction and maintenance of the proposed East West Tie transmission line. The Merchantable Timber Value is that value which an owner could expect to receive from a buyer of forest products for the trees on the stump based on highest and best use. This is a recognized loss in value to the landowners for the required easement rights traversing their lands. This type of compensation item will be viewed by a land tribunal arbitration board as part of a fair compensation package for the easement rights due, payable to an affected landowner.

Need During Development Period:

After investigations during the development phase, due to the nature of the forest crop, an evaluation of the species composition along with the estimated number of years since the last harvest where forested lands are not virgin forests is required to establish the diameter of trees, to provide a reliable market value for the trees to be removed from the proposed East West Tie 230 kV transmission line ROW. This activity was required during the development phase to further land appraisals and secure land rights optioning for both the right-of-way lands and construction activities.

Cost Management:

Four bidders were invited to bid on the RFP proposal in January 2016. One successful bidder (Green Forest Management Inc.) with the lowest costs was awarded the contract in February 2016.

28) Engineering Review

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Original Description:

To complete a review of the East West Tie Line Project for the Leave to Construct application for the purposes of design validation, cost estimate valuation and project readiness.

Detailed Description:

The purpose of the Engineering Review was for an independent expert, Bob Nickerson, to review the Ontario East-West Tie Line Project with a focus on the structure loading, design, detailing and testing. This review focused on the guyed Y structures since these are the predominant structure type used on the line and since the freestanding tower family is a more typical structure configuration. The following documents were involved in Mr. Nickerson's review.

- Section 337117.13 – Lattice Tower Specification Rev. F Issued 6/09/2014.
- Final Design Criteria for Conductor and Structure Selection; Issued January 31, 2014.
- Final Design Criteria for Conductor and Structure Selection, Rev. B; Re-issued October 21, 2016 (supersedes January 31, 2014 issue).
- Ontario Energy Board – Minimum Technical Requirements for the Reference Option of the E-W Tie Line; November 9, 2011.
- Ontario Energy Board – Appendix A: Minimum Design Criteria for the Reference Option of the E-W Tie Line (230kV Wawa to Thunder Bay Transmission Line); November 9, 2011.

- INTERNATIONAL STANDARD CEI IEC 60826, Third Edition 2013-10; Design criteria of overhead transmission lines.
- CAN/CSA-C22.3 No. 60826-10; National Standard of Canada, reaffirmed 2015; Design criteria of overhead transmission lines.
- C22.3 No. 1-15; Overhead systems.
- ONTARIO ENERGY BOARD - Rules of Practice and Procedure.
- EWT_IFB_SegmentA_PnP_RevA_20160210.pdf; Segments A – F.
- PLS- Tower Models, i.e. gtl.02.49m equal guy support.tow, 2014_0702 gt-h_53m.tow & 2014_0630 gt-f_53m.tow.
- Detail drawings: 1234L-01101 GTL02 Detail.pdf; 1234L-01102 GTH02 Detail.pdf and 1234L-01103 GTF02 Detail.pdf.
- Detailed Test Report - GTL02.pdf.
- Detailed Test Report - GTH02.pdf.
- Detailed Test Report - GTF02.pdf.

Mr. Nickerson found NextBridge's tower design, as tested, to be appropriate. Mr. Nickerson also found the tower design was appropriate given the terrain and the failure containment methodology was reasonable. Mr. Nickerson's report is attached (Attachment 10). Mr. Nickerson's comments in the draft final report have been incorporated into the design.

Need During Development Period (January 2015 through July 2017):

Mr. Nickerson's review was needed prior to the filings of the Leave to Construct, since NextBridge understood that its guyed Y structures had not been used in Northwest Ontario, and, therefore, NextBridge desired to file tower designs as part of the Leave to Construct that had been independently reviewed to address any question as to the reliability of the tower designs. This activity also confirmed the tower designs were appropriate for the Engineering, Procurement and Construction request for proposal that was issued during the development period.

Cost Management:

The costs of the activity were overseen and managed by the Engineering and Construction team. This oversight provided Mr. Nickerson with an efficient means to obtain the documents and data in need of review, kept calls for updates to a minimum, and ensured his work product was effectively managed and within scope.

29) Land Title Activity

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Additional costs to purchase and review title and encumbrance documents in support of third party agreement negotiations, which are more extensive than anticipated.

Updated Description:

This activity is a necessary real estate due-diligence exercise to confirm parties with property interests (owners, tenants, and/or interest holders) in relation to the land affected by the proposed project for the Leave to Construct filing and application notice, as well as for subsequent easement agreement execution and third party crossing agreements.

As outlined in Exhibit E, Tab 4, Schedule 1, Attachment 1 of Leave to Construct application filing the "Landowner Line List" an extensive review of property title was conducted. This review included: (1) purchasing of parcel registers and registered instruments for all properties directly affected by proposed project infrastructure and (2) Reviewing this documentation to confirm property ownership and identify registered encumbrance holders on title.

Need During Development Period:

During the development phase, it was discovered that there was a complex title history of land in the project area since filing of designation application given the ongoing development of resources (minerals and timber) as well as outdated title records relative to other parts of the province. There were also additional landowners that, due to having to route around Pukaskwa National Park, required more negotiations. Given the importance of securing land rights to be ready for the start of construction in late 2018, the work was needed during the extended development period to ensure that the East West Tie Line was on track to be in-service in 2020.

Cost Management:

To manage costs for this activity, NextBridge used a third party consultant (who was competitively procured through a Request for Proposal and the lowest bidder) to consult with landowners sparingly during the extended development phase.

30) Legal Support for Land Activity

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Costs related to legal support required to review and execute land agreements, particularly complex in relation to Crown disposition rights holders.

Detailed Description:

The East West Tie Line impacts a variety of Crown disposition rights holders, such as mining leasehold interests, in various stages of development. A detailed review of Crown dispositions was required to review the title from the time of the original Crown grant to present day due to the common practice of acquisitions and divestitures of Crown dispositions, specifically mining rights holders.

Need During Extended Development Period (January 2015 through July 2017):

Legal support provided much needed expertise on Crown title review, historical transaction and drafting forms of agreements. Agreement and/or consent drafting for Crown disposition rights holders, such as mining leasehold interests impacted by the East West Tie Line was needed to reflect complicated history of ownership from the time of the original Crown grant to present day. Furthermore, each type of affected interest (unpatented claim, leasehold interest, land use permit, aggregate permit) necessitated a different form of agreement and/or consent document. This increased the overall cost of legal oversight required to secure land rights for the project. Given the complexity of this activity and the importance of securing land rights to start construction in late 2018, the work was needed during the extended development period to ensure that East West Tie Line was on track to be in-service in 2020.

Cost Management:

All legal invoices are reviewed and approved by internal legal counsel on an actual time spend basis for the project.

31) Compliance tracking and safety coordination & monitoring

Affected by Project Delay – No

Affected by Major Re-Route – No

May 15, 2015 Description:

To track compliance with commitments made by NextBridge over the course of the designation and development phases of the East West Tie Line Project, as well as to tailor safety processes and compliance monitoring for the East West Tie Line Project.

Detailed Description:

Same as May 15, 2015 Description.

Need During Development Period (January 2015 through July 2017):

Compliance monitoring and safety coordination was required in 2015, 2016 and 2017. These processes are required to ensure the project is in compliance with all statutory and regulatory requirements, such as provincial health and safety protocols.

Cost Management:

The project has utilized an existing tool for managing compliance tasks at no additional costs to the project, which allowed NextBridge to efficiently monitor and maintain commitments and other required tasks. Additionally, this task is being performed in conjunction with other administrative tasks to lower the cost of labor assigned to compliance tracking. Also, during the development phase, health and safety was the primary responsibility of the vendors doing field work (i.e., environmental field studies to support the EA). Although NextBridge provided oversight, the costs were kept below the original budget.

32) Community Investment

Affected by Project Delay – N/A

Affected by Major Re-Route – N/A

May 15, 2015 Description:

Costs to support East West Tie Line Project area communities through funding and participation in events and activities.

Detailed Description:

As outlined in Undertaking JT1.15, NextBridge provides support to improve the communities in which NextBridge expects to operate.

Need During Development Period (January 2015 through July 2017):

Not applicable.

Cost Management:

None; no costs were incurred.

33) Data management/technical figure production

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Additional costs to collect, manage, interpret and prepare technical figures for the reports in support of the EA.

Detailed Description:

Due to additional land acquisition and environmental field study analysis, NextBridge identified an increased need for mapping and Geographical Information System ("GIS") work. Activities included management and maintenance of project GIS data, including edits and refinements to locations of project infrastructure based on environmental field studies and stakeholder consultation, required to produce technical figures for EA reporting.

Need During Development Period:

NextBridge refined project routing throughout the development stage and up to the Leave to Construct filing. In this period NextBridge created and continually updated a construction access plan that includes roads, camps, laydowns areas and storage yards. These features were sited and adjusted through an access change review process. Re-routes include major route changes (e.g. Loon Lake and Dorion) and minor route changes (e.g., historical sites, environmental concerns, topographical challenges). Refinements also reflected results of environmental and engineering field studies as well as feedback received from stakeholder and landowner engagement. As a result, additional costs were incurred to collect, manage, interpret and prepare technical figures for the reports in support of the EA. As the initial environmental surveys were completed in the field, the field program grew and adapted to findings in the field and direction from regulators and stakeholder engagement. As such, tracking and maintenance of project data, including edits and refinements to locations of project components, required ongoing management and oversight. The filing of the EA in July of 2017 was required to start construction of the East West Tie in late 2018 and bring the project into service in 2020.

Cost Management:

Instead of out-sourcing data management and technical figure production to an outside firm, NextBridge uses internal resources which are more cost effective and efficient.

34) Land access and optioning activities

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Costs resulting from obtaining access agreements independent of land optioning arrangements, which occurred when a specific route for acquisition could not be confirmed early in the development phase as anticipated.

Detailed Description:

Activity entailed obtaining access to lands to support alternative route reconnaissance, including investigative studies (geotechnical, soil, environmental, archaeological), as well as consultation with landowners and communities to finalize the route for land acquisition. NextBridge has executed over 120 access clearance agreements with landowners to enable field studies, engineering due-diligence, and route analysis.

Need During Development Period (January 2015 through July 2017):

The additional land access and optioning activities increased over the development period in response to the re-routes around Pukaskwa Park, Dorion and Loon Lake, as well additional requests from stakeholder and landowner engagement, environmental and engineering field studies that have been requested by MNRF. These activities are independent of land optioning arrangements due to timing of when the alternative accesses were identified relative to the initial acquisition of the project. Also, securing land option is a critical path item that could not be halted or slowed down during the extended development period. It was needed to ensure the appropriate land rights were secured to keep the project on track to meet the 2020 in-service date.

Cost Management:

NextBridge has an extensive route and access request management process that identifies modifications prior to contacting landowners. This eliminates access and optioning activities that are unnecessary.

35) Market Valuation

Affected by Project Delay – No

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Additional costs for the evaluation of land market values resulting from limited availability of sales data, requiring expansion of scope criteria to ensure determination of representative values.

Detailed Description:

The generally accepted basis for the establishment of fair compensation relies upon the use of the fair market value of the lands as outlined in NextBridge's Compensation Principles

brochure included in Exhibit E, Tab 4, Schedule 1, Attachment 2, page 1 of 6 of NextBridge's application. This is completed by establishing a benchmark market data valuation that analyzes recent land transactions in close proximity to the project area. A review of sales along the project route was undertaken however it was found that there had been a limited number of vacant parcel sales, specifically 63 in the vicinity of the route since 2006 to when the initial market value review was undertaken in 2014 by a third party consultant for NextBridge.

Need During Development Period:

A market valuation was completed by an appraisal firm, a member of the Accredited Appraiser Canadian Institute with a designation from the Appraisal Institute of Canada, in accordance with the Consolidated Regulations of the Appraisal Institute for the reference route and alternative route. This work provided an estimate of the market value on privately held lands, a physical inspection of those lands on the reference route and an appraisal report to support any subsequent expropriation. This valuation was required to ensure determination of representative values and to include a review of sales in a larger area around the project route, as well as a review of sales from 2014 to 2016 to account for the project delay.

The activity also included a review of other right of way agreements and assessment of fees paid for similar takings, and a review of other utilities' standard rates of compensation being offered. It was during this review that NextBridge discovered that utilities with existing transmission line agreements offered more compensation to landowners. NextBridge subsequently increased its offerings to landowners.

Cost Management:

To hire a consultant to conduct the market valuation, a request for proposal went out in November 2013 and the contract was awarded to the lowest price bidder.

36) External general legal support for review and negotiations of documents & Aboriginal capacity funding agreements

Affected by Project Delay – N/A

Affected by Major Re-Route – N/A

May 15, 2015 Description:

Increased costs to address requests for tailored capacity funding agreements.

Detailed Description:

As noted in Activity No. 3, NextBridge engages with 18 communities in order to meet its delegated Duty to Consult given to it by the Crown. This cost category includes internal time, expenses, legal support and consultant support.

Need During Development Period (January 2015 through July 2017):

Upon further investigation, the additional costs relating to the negotiation of capacity funding agreements was nominal and these costs have been captured in Activity No. 4 as part of the project delay.

Cost Management:

All legal invoices are reviewed and approved by internal legal counsel on an actual time spend basis for the project.

37) Aboriginal consultation costs

Affected by Project Delay – N/A

Affected by Major Re-Route – N/A

May 15, 2015 Description:

Additional costs to coordinate EWT Project Aboriginal traditional knowledge data collection, consolidation and reporting.

Detailed Description:

These costs are associated with the additional environmental and Aboriginal consulting costs needed to support the route around Pukaskwa Park and additional field studies requested by the MNRF.

Need During Development Period:

Upon further investigation, the additional costs relating to the negotiation of capacity funding agreements was nominal and these costs have been captured in Activity No. 4 as part of the project delay.

Cost Management:

Examples of cost management for this discipline can be found in Undertaking JT1.10.

- Individual First Nation and Métis meetings were grouped together to be efficient with time and travel expenses; and
- Used internal labour to minimize consultants.

38) Stakeholder relations activity

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Additional costs attributable to incorporating expanded components to open house activities completed to date, including additional locations and security measures, as well as more frequent and extensive meetings with municipalities to address interest in the EWT Project.

Detailed Description:

Upon consultation with municipalities, more locations were added at the request of communities in recognition that the original plan had them spaced too far apart. NextBridge's original plan had four locations to be completed in one week. During the first set of open houses, NextBridge published these four locations in the paper and received criticisms that they were too far apart for people to travel. To respond to this need, an additional two locations were identified and NextBridge published another notice with the added locations.

Need During Development Phase (January 15, 2015 through July 2017):

As noted in Activity No. 2, open houses are standard practice and are expected for an EA to be approved. NextBridge included three rounds of open houses in the TOR and once the TOR was approved, the three rounds became mandatory per the Ministry of the Environment and Climate Change's process. During this period there were two open houses.

Cost Management:

Six locations required either spreading the events over two weeks with additional travel costs, or holding two events per day over three or more days. Both options would have additional cost compared to the original four locations. An analysis was completed and it was decided the most cost efficient practice would be to hold two events per day over three or more days. This plan reduced travel and accommodation costs, as well as allowing, team members to be more productive in their regular duties since they are only in the field for a shorter number of days.

Also, as standard operating procedure of NextBridge's partner companies, security is added as a safety measure. After each open house the need for security was assessed. After the first round of open houses, the security detail was halved; after the second round the security was eliminated for rounds three and four.

39) Regulatory and accounting matters

Affected by Project Delay – No

Affected by Major Re-Route – No

May 15, 2015 Description:

To prepare OEB application for authorization to use US GAAP so as to streamline EWT Project accounting practices. Also, to prepare Electricity Reporting and Recordkeeping Requirement (RRR) submissions and to consider deferral account matters arising from the designation decision, PBR and other regulatory matters.

Detailed Description:

Same as May 15, 2015 Description.

Need During Development Period (January 2015 through July 2017):

As a licensed transmitter NextBridge is required to comply with the RRR of the OEB. During this period, NextBridge submitted three RRRs to the Board. The RRR filings included, among other certifications, the requirement to make annual submissions of audited financial statements. Additionally, and for the reasons submitted to the Board and outlined in the Board's Order of approval in EB-2014-0282, NextBridge requested the use of US GAAP when maintaining the company's accounting records and audited financial statements to reduce overall project costs. Per the Board's Order the company requested the use of US GAAP for the four following main reasons:

- Maintaining two different accounting frameworks if required to use Modified International Financial Reporting Standards, would increase administrative costs;
- Cost benefit to ratepayers as US GAAP allows for some administrative costs to be capitalized and recovered over time at lower depreciation rates;
- Administratively simpler and will eventually benefit ratepayers and Upper Canada Transmission as a transmitter; and
- Allow for comparison and benchmarking with other entities and utilities using US GAAP for regulatory purposes (Hydro One, Toronto Hydro, Enbridge Gas Distribution, Union Gas).

Cost Management:

Using shared resources from partnership companies, NextBridge prepared the filings in a more cost effective manner. No external resources or dedicated full time resources were required.

40) Support functions for EWT Project development work from all work streams

Affected by Project Delay – N/A

Affected by Major Re-Route – N/A

May 15, 2015 Description:

Additional costs for coordinating project development activities, including additional labour to manage the EWT Project through the development phase.

Updated Description:

As noted in Activity No. 10, the schedule for the development and construction of the East West Tie has many interdependencies and requires the coordination of multiple disciplines.

Need During Development Period (January 2015 through July 2017):

Upon investigation, the additional costs relating to support functions for the project were nominal and these costs have been captured in Activity No. 10 as part of the project delay.

Cost Management:

As many interactions as possible were held via conference calls and remote meetings.

41) Environmental Assessment review participation

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

Costs to participate in EA review process scheduled to start in advance of the Leave to Construct filing.

Detailed Description:

A draft EA Report was prepared and submitted in December 2016, with a comment period from December 2016 to March 2017. NextBridge received approximately 1,000 comments on the draft EA Report. The comments were reviewed and a response to each comment was provided in Appendix 1-III in the final EA Report. The final EA Report was updated in

response to many of the comments and these changes are noted in the responses provided in Appendix 1-III and in the final EA Report change log (refer to Attachment 1 to Appendix 1-III-A). Project planning and consultation continued during this period and NextBridge also received additional data that resulted in updates to the Project footprint, Project description, and the final EA Report, which was submitted in July 2017.

Need During Development Period (January 2015 through July 2017):

There was a regulatory requirement to respond to the draft EA comments received from Regulators, Indigenous communities and other stakeholders, as well as revise the EA to reflect the comments and responses prior to submitting the final EA. There were also several meetings held with regulators and Indigenous communities to get clarification on the comments prior to drafting the responses. The filing of the EA in July of 2017, including the completed alternative route assessment, was required to start construction of the East West Tie in late 2018 and bring the project into service in 2020.

Cost Management:

Three bidders were invited to bid on the RFP proposal to complete the EA in Fall of 2015. One successful bidder (Golder Associates) was awarded the contract in November 2015.

42) Incremental land optioning negotiations

Affected by Project Delay – Yes

Affected by Major Re-Route - Yes

May 15, 2015 Description:

A portion of costs to acquire land options that were previously going to be pursued in the construction phase.

Detailed Description:

The initiation of land optioning during the development phase was critical to maintaining the project schedule. At the time of Leave to Construct application filing, NextBridge had reached agreements, through the execution of 135 Option Agreements, with 73% of private landowners impacted by the project reducing the risk of expropriation. As outlined in Exhibit E, Tab 4, Schedule 1, Attachment 2 of NextBridge's application, NextBridge is committed to building and maintaining respectful relationships with landowners and upholding transparent, meaningful dialogue with landowners as it relates to property owner compensation and land rights. NextBridge desires to enter into voluntary, mutually acceptable agreements with landowners, and, where possible, avoid relying on a potentially prolonged, costly, and less certain outcome associated with the legislated expropriation process.

This activity includes: initial meetings with landowners regarding the proposed project, meetings with landowners to review and explain land acquisition principles, meetings with landowners to present an offer of compensation and associated agreement, and follow-up engagement with landowners regarding status of project. This activity also includes line list preparation, agreement preparation, and agreement schedule figure production.

Need During Development Period (January 2015 through July 2017):

As outlined in NextBridge's May 15, 2015 and June 24, 2015 filings on pg. 11, NextBridge determined that continued land optioning negotiations were prudent during this period:

Generally speaking, additional time for Land Optioning negotiations results in a higher percentage of optioned landowners and interest holders, and a corresponding reduction in the number of expropriations required. Given NextBridge's preference to avoid adversarial and costly expropriation processes in the event that the EWT Project is determined to be in the public interest, 35 additional months of development phase offers a valuable opportunity to shift a component of Land Optioning activity into the development phase so as to maximize the opportunity to negotiate with rights holders. For this reason, early engagement will be pursued to minimize, and potentially eliminate, the need for expropriation at later stages of the project.

Cost Management:

NextBridge has an extensive route and access request management process that identifies modifications prior to contacting landowners. This eliminates access and optioning activities that are unnecessary.

Activity # ¹	Activity ¹	Extended Development Budget ¹	Actual Costs Allocated by Activity ²	Variance (Ext Dev Budget vs Actuals)
1	Update stakeholder relations consultation plan	10	10	(0)
2	One additional round of open houses	310	216	(94)
3	Aboriginal capacity funding expenditures	1,260	1,310	50
4	Aboriginal consultation costs	1,510	1,020	(490)
5	Aboriginal Advisory Board	90	0	(90)
6	Additional performance-based ratemaking (PBR) consultation	30	0	(30)
7	Stakeholder engagement program	300	296	(4)
8	Ramp-up of LTC preparation	60	54	(6)
9	Accounting, back office, internal reporting and procurement support	300	291	(9)
10	Support functions for EWT Line Project work from all work streams	1,290	1,241	(49)
11	EWT Project office salary and overheads	1,700	1,467	(233)
12	Update System Impact Assessment and Customer Impact Assessment	60	0	(60)
13	Supplemental socio-economic assessment	170	160	(10)
14	Preparation of revised EWT schedule & budget	1,200	952	(248)
15	May 15, 2015 submission costs			
16	Pursuit of authorization to study route through Pukaskwa Park	100	92	(8)
17	Proponent information tax returns	190	153	(37)
18	Annual audit of EWT project financials			
19	OEB quarterly reporting	220	200	(20)
Subtotal Project Extension		8,800	7,463	(1,337)
20	Expanded alternatives assessment			
21	Incremental field studies and access route assessment			
22	Incremental environmental permits	3,020	2,952	(68)
23	Establish incremental study area and required activities			
24	Incremental socio-economic assessment			
25	Capacity funding agreement	480	69	(411)
26	Archaeology Stage 2 study	1,270	1,012	(258)
27	Timber Valuation	210	71	(139)
28	Engineering Review	250	95	(155)
29	Land title review Activity	170	248	78
30	Legal support for land activity	340	96	(244)
31	Compliance tracking and safety coordination & monitoring	110	39	(71)
32	Community Investment	40	7	(33)
33	Data management/technical figure production	50	42	(8)
34	Land access and optioning activities	1,140	1,367	227
35	Market valuation	30	6	(24)
36	External general legal support	170	0	(170)
37	Aboriginal consultation costs	160	0	(160)
38	Stakeholder relations activity	350	299	(51)
39	Regulatory and accounting matters	140	44	(96)
40	Support functions for EWT Line Project development work	680	84	(596)
Subtotal Scope Change & Budget Variance		8,610	6,431	(2,179)
41	Environmental Assessment review participation	540	460	(80)
42	Incremental land optioning negotiations	460	1,439	979
Subtotal Phase Shift		1,000	1,899	899
Contingency		1,960		(1,960)
Total		20,370	15,794	(4,576)

Costs included in \$22.4 MM and excluded from the June 2015 Extended Development Budget

3rd Party Engineering Costs	1,927
Filing of the Leave to Construct	584
Land permitting and consultation (Crown and Public Entities)	442
Total spent during extended development period	18,746

Total spent by NextBridge from Feb 15-Jul 17

18,746

← The activity accounting matches the actual NextBridge spend during the extended development period

¹ June 24, 2015 Revised Schedule C (in 2015\$, inflation has not been factored in)

² dollars are nominal

New East West Tie Transmission Project Landowner, Community and Municipal Consultation Plan

NextBridge Infrastructure

November 2013



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Introduction

The new East West Tie was identified as a priority electric power transmission project by the Government of Ontario. The project will consist of an approximately 400 km double-circuit 230 kilovolt (kV) transmission line generally paralleling the existing double-circuit 230 kV transmission corridor connecting the Wawa Transformer Station (TS) to the Lakehead TS near Thunder Bay (the “new East West Tie Project”). The project will also require new and improved access roads and temporary laydown and work areas. The targeted in-service date is the first half of 2018.

NextBridge Infrastructure (NextBridge), the proponent for the project, is committed to consulting with all interested community members, First Nations and Métis, elected officials and municipal staff, agencies, landowners and other stakeholders in a clear and mutually respectful manner throughout the life of the project.

An Individual Environmental Assessment under the *Environmental Assessment Act* is required for this project and consultation is a required element of the environmental assessment process. The Ministry of the Environment’s Code of Practice, *Consultation in Ontario’s Environmental Assessment Process* (2007), states the purpose of consultation is:

- To provide information to the public;
- To identify persons and Aboriginal peoples who may be affected by or have an interest in the undertaking;
- To ensure that government agencies and ministries are notified and consulted early in the environmental assessment process;
- To identify concerns that might arise from the undertaking;
- To create an opportunity to develop proponent commitments in response to local input;
- To focus on and address real public concerns rather than regulatory procedures and administration;
- To provide appropriate information to the ministry to enable a fair and balanced decision; and
- To expedite decision-making.

The Ontario Energy Board Act Leave to Construct process is also applicable to this project. Applicants under this process are responsible for justifying the extent of consultation carried out for each Leave to Construct application and must provide the following information:

- Principles and goals of the consultation program;
- Design details of the consultation program; and
- The results of the consultation carried out, including how public input influenced the design, construction, or operation of the project.

This consultation plan addresses these key pieces of legislation and presents a core program of consultation strategies and activities to engage landowners, municipalities and communities in relation to the Project. It is noted that additional approvals may be required as the project progresses and is refined. Integration with this consultation plan will be considered or the plan will be modified as required should additional consultation be required to obtain these additional approvals.

This consultation plan is a living document and elements of the plan will be updated and refined based on feedback obtained as the environmental assessment process evolves.

Principles and Objectives

NextBridge Infrastructure (NextBridge) will engage stakeholders and other interested parties through honest, regular and open communication, seeking and respecting each party's input. We are committed to timely and meaningful dialogue with interested individuals and groups, including, but not limited to, governments, First Nations and Métis communities, regulators, and landowners, and believe that this input will be critical to a successful project that seeks to address the needs of those involved.

Our consultation principles are:

- *open and honest*
- *proactive*
- *accessible (i.e. information that is easy to understand and access)*
- *respectful*

NextBridge will use a proactive, plain language, public communication and consultation program to support two-way communication with potentially affected parties. NextBridge's philosophy is to be as transparent as possible with individuals, communities, and groups.

Our consultation program involves a Public Involvement Program (PIP) with the following objectives:

- Build public awareness and understanding;
- Gather interested individual and group input;
- Answer questions;
- Learn about community interests and perspectives; and
- Implement changes to project design or scope to minimize adverse impacts where feasible.

NextBridge knows that its neighbours during construction will also be its neighbours for the many years that the project will be in operation. Therefore, we welcome the opportunity to invest in long-term collaborative consultation relationships.

Key Decision Making Milestones

Consultation will be a continual process and input into the project will always be welcome. There are specific times, however, when consultation activities will be focused to obtain input on key project decision points or milestones. There are also mandatory consultation requirements as regulated by the Ministry of the Environment, which include the Notice of Commencement of the Terms of Reference, Notice of Submission of the Terms of Reference, Notice of Commencement of the Environmental Assessment, and Notice of Environmental Assessment Submission. Notices will also be published and distributed as required by the Ministry of the Environment for public consultation events.

Figure 1 shows the anticipated steps in the Environmental Assessment process and how the general and specific consultation activities are integrated into the technical process steps.

Interactions with stakeholders will vary depending on their level of interest in the project. Some stakeholders may be satisfied to receive project information at inception with periodic updates. Others may have interests or concerns that require personal consultations ranging from discussions of impact mitigation strategies with recreational users of public land, to engagement with multi-stakeholder advisory groups, to discussions about economic opportunities with local contractors.

Recognizing the diverse needs and levels of interest among communities and stakeholders, this consultation plan provides diverse opportunities to participate in the consultation process for the new East West Tie project. The tools and techniques to be used are presented in sections below.

	Regulatory Process	Ongoing Consultation Activities	Specific Consultation Activities
Terms of Reference	Pre-Consultation	<div> <div>Meetings – Open Houses – Newsletters – Mail Outs – Land Agents – Web Site – Hot Line</div> </div>	<ul style="list-style-type: none"> Municipal, Agency & Key Stakeholder Meetings Landowner Contact by Land Agents First Nations & Métis Meetings
	Terms of Reference Initiated		<ul style="list-style-type: none"> Notice of Commencement and Notice of Open Houses Published, Mailed, and Posted on Website Newsletter #1 Distributed
	Terms of Reference Prepared		<ul style="list-style-type: none"> Open House Round One – Project Information, Environmental Assessment and Ontario Energy Board Processes, How to Get Involved Municipal, Key Stakeholder, First Nations and Métis, Agency, and Landowner Meetings Continue
	Draft Terms of Reference Review (Revisions if Necessary)		<ul style="list-style-type: none"> Notice of Review Published, Mailed, and Posted Draft Document Distributed as Appropriate Minimum 30–Day Comment Period Discussions with Review Agencies, Municipalities, Landowners, First Nations and Métis, and Stakeholders to Resolve Issues if Necessary
	Terms of Reference Submission and Review		<ul style="list-style-type: none"> Notice of Intent to Submit to the Ministry of the Environment Three Weeks Before Submission Notice of submission of Terms of Reference to Ministry of the Environment Two Weeks Before Submission Documents Distributed to Review Agencies, First Nations and Métis, Municipalities, Public Viewing Locations and Posted on Website Notice of Submission Published and Posted as Required Minimum 30–Day Public Comment Period
Environmental Assessment	Anticipated Terms of Reference Approval		<ul style="list-style-type: none"> Notification of Minister’s Decision to Commenters, Agencies, First Nations and Métis, and Posted
	Environmental Assessment Initiated		<ul style="list-style-type: none"> Notice of Commencement of Environmental Assessment Published, Mailed, and Posted
	Environmental Assessment Prepared		<ul style="list-style-type: none"> Notice of Open Houses Municipal, Key Stakeholder, First Nations and Métis, Agency, and Landowner Meetings Continue Open House Round Two – Alternative Route Evaluation and Proposed Mitigation Measures Open House Round Three – Draft Environmental Assessment Documentation
	Draft Environmental Assessment Review (Revisions if Necessary)		<ul style="list-style-type: none"> Notice of Review Published, Mailed, and Posted Draft Document Distributed to Review Agencies, First Nations and Métis, Municipalities, Public Viewing Locations and Posted on Website Minimum Five–Week Public Comment Period Discussions with Review Agencies, Municipalities, Landowners, First Nations and Métis, and Stakeholders to Resolve Issues if Necessary
	Environmental Assessment Submission and Review		<ul style="list-style-type: none"> Notice of Intent to Submit to the Ministry of the Environment Three Weeks Before Submission Notice of submission of Environmental Assessment¹ to Ministry of the Environment Two Weeks Before Submission Documents Distributed to Review Agencies, First Nations and Métis, Municipalities, Public Viewing Locations and Posted on Website Notice of Submission Published and Posted as Required Minimum Seven–Week Public Comment Period
	Ministry Review		<ul style="list-style-type: none"> Ministry Review Taking Into Account Public Comments Received during Public Comment Period
	Notice of Completion and Inspection of Ministry Review		<ul style="list-style-type: none"> Notice of Completion Published, Mailed, and Posted Five–Week Ministry Inspection and Public Comment and Hearing Request Period
	Final Ministry Evaluation and Minister’s Decision		<ul style="list-style-type: none"> Final Ministry Evaluation
	Lieutenant Governor in Council Approval and Decision Notification		<ul style="list-style-type: none"> Notice of Approval Issued and posted on the Ministry of the Environment’s Environmental Assessment webpage.

¹ It is noted that the Leave to Construct application will be filed with the Ontario Energy Board at the same time the Environmental Assessment is submitted to the Ministry of the Environment.

Stakeholder Identification and Comment Tracking

NextBridge has worked to identify stakeholders who might be affected by, or interested in the project including landowners, First Nations and Métis community contacts, government agencies, municipal staff, elected officials, and other interested groups and individuals. A stakeholder tracking database will be employed throughout the life of the project to record stakeholder contact information as well as concerns, responses, and proposed mitigation raised by stakeholders. The database will also be used to create mailing lists and produce output that will be used in Environmental Assessment documentation.

Feedback obtained from consultation activities and submitted through the project hotline and email will be documented and tracked.

Following key milestones and events, a summary of comments received and responses to the comments will be assembled. Project related comments received and responses will be documented in a Record of Consultation and submitted as part of the Environmental Assessment documentation. We note that to protect privacy personal information will not be included in the Record of Consultation.

Planned Consultation Activities

Public Notices

Regulatory required public notices will be published in local papers throughout the project area. Notices will meet the requirements established by the Ministry of the Environment for Individual Environmental Assessment projects.

Newspapers identified for publication include:

- Algoma News
- Marathon Mercury
- Nipigon Red Rock Gazette
- Thunder Bay Chronicle Journal

- Thunder Bay's Source
- Terrace Bay Schreiber News
- Wawa-News.com

Notices will also be distributed via Canada Post and e-mail to the stakeholder mailing list. French language notices will also be available.

Newsletters

Newsletters will be developed and distributed to the stakeholder mailing list, available at public events, and posted on the project website. Newsletters are proposed for release to correspond with the project commencement and key milestone events to provide additional information and invitation to events. The following summarizes the anticipated Newsletters:

- Newsletter 1 – Introduce the project, provide background information, describe the environmental assessment process, and let recipients know how they can participate (November 2013).
- Newsletter 2 – Invite participation in the second round of Open Houses and provide information on the background study results (anticipated time frame – Spring/Summer 2014).
- Newsletter 3 – Invite participation in the third round of Open Houses and provide information on the preferred route, potential effects and proposed mitigation (anticipated time frame – Fall 2014).

Additional newsletters may be prepared if necessary.

Project Website

A dedicated website, www.nextbridge.ca, has been established for the project. Project information, notices, newsletters, updates, and other documents will be posted on the website to enhance access to project information for interested parties. Project contacts are also provided on the website to facilitate exchange of information and issues with stakeholders and project staff.

Project Hotline

A dedicated telephone number, 1-888-767-3006, has been established for the project. Messages left on the hotline will be reviewed regularly and forwarded to relevant individuals for appropriate handling. Project related comments and inquiries made through the hotline will be documented. French language service is also available through the hotline.

Project Email

A dedicated email address, info@nextbridge.ca, has also been established for the project. Messages and comments sent to the email address will be reviewed regularly and forwarded to relevant individuals for appropriate action. Project related comments and inquiries made via email will be documented. French language service is also available.

Land Agents

To be as responsive as possible to landowner and tenant needs, a team of land agents will be available to provide personal, one-window contact with potentially affected landowners and tenants. It is expected that land agents will help landowners understand the approval process and address property-specific questions. This relationship will continue through post-Environmental Assessment, Leave to Construct activities, construction, and reclamation. A dedicated French language land agent will respond to inquiries and work with French speaking landowners and tenants.

Meetings and Presentations

Project staff has met with several agencies to date and will continue to be available to meet with key stakeholder groups, First Nations and Métis communities, agencies, municipal staff and elected officials. Requests for meetings and presentations will be entertained from stakeholders throughout the project area and regular meetings will take place with relevant municipalities, First Nations and Métis communities, federal and provincial agencies and authorities as required for project planning purposes.

Open Houses

Open houses will be held in communities along the project route to provide community members a forum to understand more about the project, speak directly with

NextBridge subject-matter experts, and for NextBridge representatives to gather community input on the project. Display panels and maps will describe and illustrate project elements and the planning process. Information presented at the Open Houses will be made available on the project web site.

Three rounds of public Open Houses are planned for the project:

- Open House Round 1 – To present the project to interested individuals and groups and obtain feedback on the Environmental Assessment Terms of Reference (December 2013).
- Open House Round 2 – To obtain feedback on alternative route evaluation, proposed mitigation measures (anticipated time frame – July 2014).
- Open House Round 3 – To obtain feedback on Draft Environmental Assessment documentation (anticipated time frame – October 2014).

The first round of Open Houses will be held in six locations: Thunder Bay, Nipigon, Marathon, Wawa, White River, and Terrace Bay. The number and location of venues for subsequent rounds of Open Houses may be revisited based on the level of participation and feedback during the first round.

Attendees at the Open Houses will have the opportunity to submit comment forms at the event and for a specified period after the event for consideration by NextBridge. Comments can also be made directly to NextBridge via email, mail, fax, and telephone hotline. Attempts will be made to document comments provided verbally to project staff during one-on-one conversations at Open Houses; however, given the nature of these conversations, it is not possible to guarantee comments provided in this manner will be comprehensively captured. As such, parties are always advised to submit written feedback wherever possible.

Key Stakeholder Identification and Engagement

NextBridge will consult with potentially affected stakeholder groups in a manner that is respectful of their needs and expected levels of interest.

First Nations and Métis

NextBridge considers consultation with First Nations and Métis to be an essential component of successful transmission projects in Northern Ontario. We are committed to working with First Nations and Métis peoples in Ontario to provide sustainable benefits to those communities. A dedicated consultation process has been established for First Nations and Métis located in proximity to the project. A First Nations and Métis Consultation Plan is being prepared with the benefit of community input.

Landowners

Issues faced by landowners are of the utmost importance to NextBridge. NextBridge identified potentially affected landowners along the Reference Route (i.e. within 500 metres of the centerline of the existing East West Tie) and along the proposed Reference Route Alternatives. Work to assemble landowner information was initiated in September–October 2013. An introductory package, containing the Notice of Commencement, Newsletter and a cover letter was mailed to landowners as contact information became available. The same package was hand delivered to potentially affected landowners along the proposed routes where mailing information was not readily available in mid–November 2013. Landowners will continue to receive direct mail, continue to interact with their land agent, and will be invited to attend public Open Houses for the project.

Districts, Townships, and Municipalities

The reference route and alternatives are located within or in close proximity to; one city, one town, two municipalities, and six townships in the Districts of Algoma and Thunder Bay.

Algoma District

- Municipality of Wawa
- Township of White River

Thunder Bay District

- City of Thunder Bay
- Municipality of Shuniah
- Town of Marathon
- Township of Dorion
- Township of Nipigon
- Township of Red Rock
- Township of Schreiber
- Township of Terrace Bay

Due to their proximity to the proposed project, these entities were invited to meet with NextBridge representatives. Meetings with municipal staff and elected officials were initiated prior to the first round of Open Houses. Additional meetings will be held throughout the Environmental Assessment process as required. Municipal staff and elected officials will receive copies of notices, newsletters, and reports to be made public in advance of public release to allow them to become informed in anticipation of questions from community members. Initial meetings with municipal staff and elected officials are scheduled to occur in mid-November 2013. Additional meetings will be held with municipalities as required, and municipal representatives will be invited to the public Open Houses.

Several unincorporated areas exist along the reference and alternative routes. Notification for these areas will be conducted through advertisements in local newspapers, direct mailings where addresses are publicly available, personal visits to potentially affected landowners that reside in those areas, and consultation with agencies that represent the interests of those unincorporated areas. If specific representatives of unincorporated areas identify themselves during the project, communication will be directed to them, and in person meetings may be held if requested.

Agencies

The input and cooperation of government agencies is necessary for completion of an effective Environmental Assessment process. Relevant agencies were identified through the Government Review Team list provided by the Ministry of the Environment. Pre-consultation meetings with identified agencies took place in September–November 2013 with the Ministry of the Environment, Ministry of Natural Resources, Parks Canada, Aboriginal Affairs and Northern Development Canada, Ministry of Transportation, Ministry of Tourism, Culture and Sport, Ontario Northern Development and Mines, Ontario Parks, and Ontario Infrastructure. Agencies will be provided with newsletters, notifications and reports for review and comment throughout the project and meetings will be held as needed.

Other Key Stakeholders

It is important to include a diverse range of stakeholders at the beginning of the project for potential issues to be heard and considered early in the process. Efforts have been made to identify a diversity of stakeholders through web searches, review of Ontario Energy Board and Ontario Power Authority documentation regarding the project, and by asking local municipal staff about active groups and individuals that should be included on the mailing list. Publication of notices in commonly read newspapers throughout the study area also allows stakeholders to self-identify.

Stakeholders on the project contact list will receive project information, such as newsletters and notices via mail and email, are invited to attend project Open Houses, and may submit input via mail, email, Open House comment forms, calls to the project hotline, or fax. Meetings with stakeholders may also be held.

Key stakeholders identified to date include, but are not limited to, the following:

- Economic Development Corporations;
- Local Chambers of Commerce;
- Provincial federations representing a variety of interests such as hunting, fishing, trail users, and tourism organizations;
- Crown Land Tenure holders;

- Intervenors in the Ontario Energy Board process;
- “Friends of...” organizations;
- Local emergency medical, fire and police services;
- Railways;
- Mining, and forestry industry; and
- Those who have expressed an interest in being kept informed about the project.

The stakeholder list will be updated as new stakeholders are identified or ask to be included on the project mailing list.

Issues Response and Mitigation

As with any consultation process, there can be a number of issues which must be carefully addressed. The previous experience of the NextBridge partners with such consultations has allowed NextBridge to define various issues and effective mitigation strategies which could apply to the project. Issue identification will continue through early consultation with agencies and municipalities and through consultation efforts throughout the Environmental Assessment process as outlined in this plan.

Based on research and early consultation, a preliminary list of potential issues has been established and is summarized below.

- Property issues and landowner concerns;
- First Nations and Métis community concerns;
- Habitat, recreational, and protected area disruption;
- Human health and safety; and
- Access to and loss of land resources.

A complaint resolution process will be instituted to manage and promptly address project related community problems or concerns. Issues will be considered by NextBridge and responses developed. Where appropriate, prevention and mitigation strategies will also be developed. Issues, responses, and required prevention and mitigation strategies will be documented as part of the Terms of Reference and

Environmental Assessment, and will be available for public and agency review through the Environmental Assessment process.

This consultation plan may be updated to reflect community concerns and issues as they emerge.

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New East—West Tie Transmission Project

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Landowner, Community, and Municipal Consultation Plan

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NextBridge Infrastructure

~~November 2013~~ Updated January 2016





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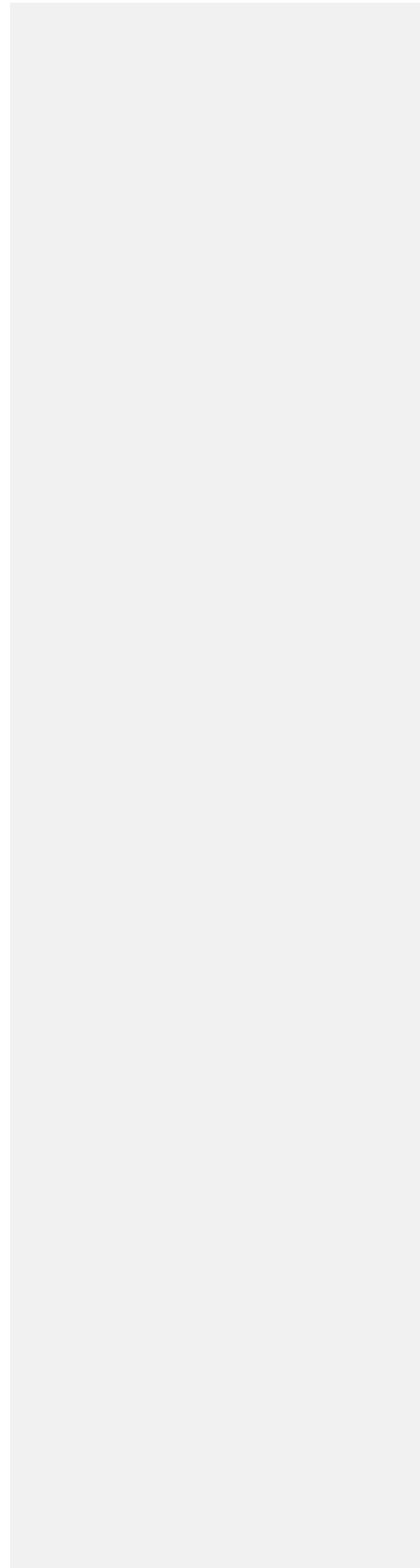
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1. Introduction

The new East-West Tie was identified as a priority electric power transmission project by the Government of Ontario. The project will consist of West Tie Transmission Project (EWT or the Project) is an approximately 400/445 km double-circuit 230 kilovolt (kV) transmission line generally paralleling the existing double-circuit 230 kV transmission corridor connecting from the Wawa Transformer Station (TS) to the Lakehead TS in the Municipality of Shuniah, near Thunder Bay, ON, with a connection approximately mid-way at the "new East-West Tie Marathon TS. The Project"). The project will also require new and improved access roads and temporary laydown and work areas.

The targeted in-service date Project is required to ensure the first half long-term reliability of the electricity supply in northwestern Ontario (the Northwest). Industrial activities in the Northwest, particularly in the mining sector, are expected to drive strong electricity demand growth in the coming decade. Coupled with changes to the electricity supply in the area, the Independent Electricity System Operator (IESO) (formerly the Ontario Power Authority or OPA) has identified supply needs for the Northwest, which can be met with additional transmission or generation. The IESO analyzed these alternatives and recommended expansion of 2018.

NextBridge Infrastructure (NextBridge), the proponent for the project the East-West Tie based on technical, economic and other considerations. The East-West Tie was included as a priority Project in the Government of Ontario's 2010 Long Term Energy Plan. On August 7, 2013 NextBridge Infrastructure (NextBridge) was designated by the Ontario Energy Board (OEB) to develop the EWT line and to file a Leave to Construct (LTC) application. NextBridge, the proponent for the Project, is committed to consulting with all interested community members, First Nations and Métis, elected officials and municipal staff, agencies, landowners and other stakeholders in a clear and mutually respectful manner throughout the life of the project Project.

The initial target in-service date for the Project was the first half of 2018. On September 30, 2014, the OPA (now the IESO) sent a letter to the OEB. In that letter, the

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(former) OPA proposed that the development schedule for the Project be extended to work toward a 2020 in-service date. In OEB Decision and Order Number EB-2015-0216, dated November 19, 2015, an updated Extended Development Schedule with a new Project in-service date of 2020, filed with the OEB by NextBridge Infrastructure on June 24th, 2015, was approved. The new target in-service date for the Project is 2020. To address the change in the development schedule, the Landowner, Community, and Municipal Consultation Plan has been revised to ensure the continuation of timely and meaningful dialogue with interested individuals and groups.

2. Regulatory Context for Consultation

An Individual Environmental Assessment (EA) under the *Environmental Assessment Act* is required for this ~~project~~Project and consultation is a required element of the ~~environmental assessment~~EA process. The Ministry of ~~the Environment's~~Environment and Climate Change (MOECC) Code of Practice, *Consultation in Ontario's Environmental Assessment Process* (20072014), states the purpose of consultation is:

- To provide information to the public;
- To identify persons and Aboriginal peoples who may be affected by or have an interest in the undertaking;
- To ensure that government agencies and ministries are notified and consulted early in the environmental assessment process;
- To identify concerns that might arise from the undertaking;
- To create an opportunity to develop proponent commitments in response to local input;
- To focus on and address real public concerns rather than regulatory procedures and administration;
- To provide appropriate information to the ministry to enable a fair and balanced decision; and
- To expedite decision-making.

The EA is expected to be filed with the MOECC in May 2017.

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An Ontario Energy Board Act Leave to Construct process is also applicable to this project. Applicants under this process are responsible for justifying the extent of consultation carried out for each Leave to Construct LTC application and must provide the following information: approval is also required before construction of the EWT Project can begin.

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- Principles and goals of the consultation program;
- Design details of the consultation program; and
- The results of the consultation carried out, including how public input influenced the design, construction, or operation of the project.

This consultation plan addresses these key pieces of legislation and presents a core program of consultation strategies and activities to engage landowners, municipalities and, communities, and other stakeholders in relation to the Project. ~~It is noted that additional approvals may be required as the project~~Project progresses and is refined. Integration with this consultation plan will be considered or the plan will be modified as required should additional consultation be required to obtain these additional approvals.

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This consultation plan is a living document and elements of the plan ~~will~~may be updated and refined based on feedback obtained as the ~~environmental assessment process evolves~~EA and LTC processes evolve.

3. Principles and Objectives

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NextBridge ~~Infrastructure (NextBridge)~~ will engage stakeholders and other interested parties through honest, regular, transparent, and open communication, seeking and respecting each party's input. We are committed to timely and meaningful dialogue with interested individuals and groups, including, but not limited to, governments, First Nations and Métis communities, regulators, tenants, and

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Our consultation principles are:

- *open and honest*
- *proactive*
- *accessible (i.e. information that is easy to understand and access)*
- *respectful*
- *respectful*
- *transparent*

landowners, and believe that this input will be critical to a successful ~~project~~Project that seeks to address the needs of those involved.

NextBridge will use a proactive, plain language, public communication and consultation program to support two-way communication with ~~potentially affected~~interested parties. NextBridge's philosophy is to be as transparent as possible with individuals, communities, and groups.

Our consultation program ~~involves~~is based on a Public Involvement Program (PIP) approach with the following objectives:

- Build public awareness and understanding;
- Gather interested individual and group input;
- Answer questions;
- Learn about community interests and perspectives; and
- Implement changes to ~~project~~Project design or scope to minimize adverse impacts where feasible.

NextBridge knows that its neighbours during development and construction will also be its neighbours for the many years that the ~~project~~Project will be in operation. Therefore, we welcome the opportunity to invest in long-term collaborative ~~consultation~~ relationships.

4. Key Decision Making Milestones

Consultation will be a continual process and input into the ~~project~~Project will always be welcome. There are specific times, however, when consultation activities will be focused to obtain input on key ~~project~~Project decision points or milestones. There are also mandatory consultation requirements as regulated by the ~~Ministry of the Environment~~MOECC, which include the Notice of Commencement of the Terms of Reference, Notice of Submission of the Terms of Reference, Notice of Commencement of the ~~Environmental Assessment~~EA, and Notice of ~~Environmental Assessment~~EA

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Submission. Notices will also be published and distributed as required by the ~~Ministry of the Environment~~MOECC for public consultation events.

Figure 4.1 shows the anticipated steps in the ~~Environmental Assessment~~EA process and how the general and specific consultation activities are integrated into the technical process steps.

Interactions with stakeholders will vary depending on their level of interest in the ~~project~~Project. Some stakeholders may be satisfied to receive ~~project~~Project information at inception with periodic updates. Others may have interests or concerns that require personal consultations ranging from discussions of impact mitigation strategies with recreational users of public land, to engagement with multi-stakeholder advisory groups, to discussions about economic opportunities with local contractors.

Recognizing the diverse needs and levels of interest among communities and stakeholders, this consultation plan provides diverse opportunities to participate in the consultation process for the new ~~East-West Tie project~~EWT Project. The tools and techniques to be used are presented in sections below.

Figure 1

	Regulatory Process	Ongoing Consultation Activities	Specific Consultation Activities	
Terms of Reference	Pre-Consultation	<div> <div>Hot Line</div> <div>Web Site</div> <div>Land Agents</div> <div>Mail Outs</div> <div>Newsletters</div> <div>Open Houses</div> <div>Meetings</div> </div>	<ul style="list-style-type: none"> Municipal, Agency & Key Stakeholder Meetings Landowner Contact by Land Agents First Nations & Métis Meetings 	Formatted: Justified
	Terms of Reference Initiated		<ul style="list-style-type: none"> Notice of Commencement and Notice of Open Houses Published, Mailed, and Posted on Website Newsletter #1 Distributed 	Formatted: Justified
	Terms of Reference Prepared		<ul style="list-style-type: none"> Open House Round One - Project Information, Environmental AssessmentEA and Ontario Energy Board Processes, How to Get Involved Municipal, Key Stakeholder, First Nations and Métis, Agency, and Landowner Meetings Continue 	
	Draft Terms of Reference Review (Revisions if Necessary)		<ul style="list-style-type: none"> Notice of Review Published, Mailed, and Posted Draft Document Distributed as Appropriate Minimum 30-Day Comment Period Discussions with Review Agencies, Municipalities, Landowners, First Nations and Métis, and Stakeholders to Resolve Issues if Necessary 	
	Terms of Reference Submission and Review		<ul style="list-style-type: none"> Notice of Intent to Submit to the Ministry of the Environment Three Weeks Before Submission Notice of submission of Terms of Reference to Ministry of the Environment Two Weeks Before Submission Documents Distributed to Review Agencies, First Nations and Métis, Municipalities, Public Viewing Locations and Posted on Website Notice of Submission Published and Posted as Required Minimum 30-Day Public Comment Period 	
	Anticipated Terms of Reference Approval		<ul style="list-style-type: none"> Notification of Minister's Decision to Commenters, Agencies, First Nations and Métis, and Posted 	
Environmental Assessment	Environmental Assessment EA Initiated		<ul style="list-style-type: none"> Notice of Commencement of Environmental AssessmentEA - Public Mailed, and Posted 	Formatted: Justified
	Environmental Assessment EA Prepared		<ul style="list-style-type: none"> Notice of Open Houses Municipal, Key Stakeholder, First Nations and Métis, Agency, and Landowner Meetings Continue Open House Round Two -- Review, Alternative Route Evaluation, Assessment, Criteria, Background, Proposed Mitigation Measures, Study and Land Matters Open House Round Three - Draft Environmental Review Alternative Assessment Documentation and Proposed Mitigation Measures 	Formatted: Font: +Body (Lucida Sans Unicode) Formatted: Font: +Body (Lucida Sans Unicode)
	Draft Environmental Assessment EA Review (Revisions if Necessary)		<ul style="list-style-type: none"> Notice of Review Published, Mailed, and Posted and Notice of Open Houses Draft Document Distributed to Review Agencies, First Nations and Métis, Municipalities, Public Viewing Locations and Posted on Website Minimum Five-Week Public Comment Period Open House Round Four - Draft EA Review Discussions with Review Agencies, Municipalities, Landowners, Nations and Métis, and Stakeholders to Resolve Issues if NecessaryPracticable 	Formatted: Justified, Indent: Left: 0.25", No bullets or numbering Formatted: Justified
	Environmental Assessment EA Submission and Review		<ul style="list-style-type: none"> Notice of Intent to Submit to the Ministry of the Environment Three Weeks Before Submission Notice of submission of Environmental AssessmentEA to Ministry of the Environment Two Weeks Before Submission Documents Distributed to Review Agencies, First Nations and Métis, Municipalities, Public Viewing Locations and Posted on Website Notice of Submission Published and Posted as Required Minimum Seven-Week Public Comment Period 	Formatted: Justified
	Ministry Review		<ul style="list-style-type: none"> Ministry Review Taking Into Account Public Comments Received during Public Comment Period 	

† It is noted that the Leave to Construct application will be filed with the Ontario Energy Board at the same time the Environmental Assessment is submitted to the Ministry of the Environment.

	Notice of Completion and Inspection of Ministry Review
	Final Ministry Evaluation and Minister's Decision
	Lieutenant Governor in Council Approval and Decision Notification

<ul style="list-style-type: none">• Notice of Completion Published, Mailed, and Posted• Five-Week Ministry Inspection and Public Comment and Hearing Request Period	
<ul style="list-style-type: none">• Final Ministry Evaluation	Formatted: Justified
<ul style="list-style-type: none">• Notice of Approval Issued and posted on the Ministry of Environment's <u>Environmental Assessment</u>EA webpage.	Formatted: Justified

5. Stakeholder Identification and Comment Tracking

NextBridge has worked to identify stakeholders who might be affected by, or interested in the ~~project~~Project including landowners, First Nations and Métis ~~community—contacts~~communities, government agencies, municipal staff, elected officials, and other interested groups and individuals.

5.1. Consultation Tracking and Database

A stakeholder tracking database has been established and will be employed throughout the life of the ~~project~~Project to record stakeholder contact information as well as concerns, responses, and proposed mitigation measures to address comments raised by stakeholders. Feedback obtained from consultation activities and submitted through the Project Hotline and Project Email will be documented and tracked within the database. The database will also be used to create mailing lists and produce outputreports that will be used in Environmental AssessmentEA documentation.

~~Feedback obtained from consultation activities and submitted through the project hotline and email will be documented and tracked.~~

Following key milestones and events, a summary of comments received and responses to the comments will be assembled. Project related comments received and responses will be documented in a Record of Consultation and submitted as part of the Environmental AssessmentEA documentation. We note that to protect privacy, personal information will not be included in the Record of Consultation.

6. Planned Consultation Activities

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6.1. Public Notices

Regulatory required public notices will be published in local papers throughout the ~~project~~Project area. Notices will meet the requirements established by the ~~Ministry of the Environment~~MOECC for Individual ~~Environmental Assessment projects~~EA Projects.

Newspapers identified for publication include:

- Algoma News
- Marathon Mercury
- Nipigon Red Rock Gazette
- Ontario News North
- Thunder Bay Chronicle Journal
- Thunder Bay's Source
- Terrace Bay Schreiber News
- Wawa-News.com

Notices will also be distributed via Canada Post and ~~e-mail~~email to the stakeholder mailing list. French language notices will also be available.

6.2. Newsletters

Newsletters have been and will continue to be developed and distributed to the stakeholder mailing list, available at public events, and posted on the ~~project~~Project website. Newsletters are ~~proposed for release~~intended to correspond with the ~~project~~Project commencement and other key milestone events to provide additional information and invitation to events. The following summarizes the issued and anticipated Newsletters:

- Newsletter 1 – Introduce the ~~project~~Project, provide background information, describe the ~~environmental assessment~~EA process, and let recipients know how they can participate and an invitation to the first round of Open Houses (issued November 2013).

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- Newsletter 2 – Invite participation in the second round of Open Houses and provide information on the background study results (~~anticipated time frame – Spring/Summer~~issued July 2014).
- Newsletter 3 – Invite participation in the third round of Open Houses and provide information on the ~~preferred route, potential effects~~Alternative Route Assessment, and ~~proposed mitigation~~upcoming EA study activities (anticipated time frame – ~~Fall 2014~~Spring 2016).²
- Newsletter 4 – Invite participation in the fourth round of Open Houses and provide information on the draft EA (anticipated time frame – Early 2017)³

Additional newsletters may be prepared if necessary.

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6.3. Update Letters

In addition to Newsletters, occasionally Project update letters are developed and distributed to the stakeholder mailing list when other important Project updates are identified.

6.4. Project Website

A dedicated website, www.nextbridge.ca, has been established for the ~~project~~Project. Project information, notices, newsletters, updates, and other documents will be posted on the website to enhance access to ~~project~~Project information for interested parties. Project contacts are also provided on the website to facilitate exchange of information and issues with stakeholders and ~~project~~Project staff.

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6.5. Project Hotline

A dedicated telephone number, [1-888-767-3006](tel:1-888-767-3006), has been established for the ~~project~~Project. Messages left on the hotline will be reviewed regularly and forwarded to relevant individuals for appropriate handling. Project related comments and

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² Newsletter 3 was originally anticipated to be sent in the fall of 2014. The date has been revised to reflect the updated Extended Development Schedule

³ Newsletter 4 has been added as a result of the updated Extended Development Schedule

inquiries made through the hotline will be documented. French language service is also available through the hotline.

6.6. Project Email

A dedicated email address, info@nextbridge.ca, has also been established for the ~~project~~Project. Messages and comments sent to the email address will be reviewed regularly and forwarded to relevant individuals for appropriate action. Project related comments and inquiries made via email will be documented. French language service is also available.

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6.7. Land AgentsAgent Meetings

To be as responsive as possible to landowner and tenant needs, a team of land agents will be available to provide personal, one-window contact with potentially affected landowners and tenants. It is expected that land agents will help landowners understand the approval process and address property-specific questions. This relationship will continue through post-~~Environmental Assessment, Leave to Construct activities~~EA, LTC, construction, and reclamation activities. A dedicated French language land agent will respond to inquiries and work with French speaking landowners and tenants.

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6.8. Meetings and Presentations

Project staff has met with several agencies to date and will continue to be available to meet with key stakeholder groups, First Nations and Métis communities, agencies, municipal staff and elected officials. Requests for meetings and presentations will be entertained from stakeholders throughout the ~~project~~Project area and regular meetings will take place with relevant municipalities, First Nations and Métis communities, federal and provincial agencies and authorities as required for ~~project~~Project planning purposes.

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6.9. Open Houses

Open houses have been and will continue to be held in communities along the ~~project~~Project route to provide community members a forum to understand more about the ~~project~~Project, speak directly with NextBridge subject-matter experts, and

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for NextBridge representatives to gather community input on the ~~project~~Project. Display panels and maps will be presented to help describe and illustrate ~~project~~Project elements and the planning process. Information presented at the Open Houses will also be made available on the ~~project~~Project web site.

~~Three~~Four rounds of public Open Houses are planned for the ~~project~~development phase of the Project:

- Open House Round 1 – To present the ~~project~~Project to interested individuals and groups and obtain feedback on the ~~Environmental Assessment~~EA Terms of Reference (held – December 2013).
- Open House Round 2 – To obtain feedback on ~~alternative route evaluation~~Alternative Route Assessment, criteria, background, proposed ~~mitigation measures (anticipated time frame – July)~~studies, and land matters (held – August 2014).
- ~~Open House Round 3 – To obtain feedback on Draft Environmental~~the Alternative Route Assessment, and upcoming EA study activities (anticipated time frame – April 2016).⁴
- Open House Round 4 – To obtain feedback on Draft EA documentation (anticipated time frame – ~~October 2014~~early 2017).⁵

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~~The first round of~~ Open Houses will have been held in ~~six~~eight locations: Thunder Bay, Nipigon, Marathon, Wawa, White River, Dorion, Schreiber, and Terrace Bay. The number and location of venues for subsequent rounds of Open Houses may be revisited based on the level of participation and feedback during the ~~first round~~initial rounds.

~~Attendees at~~Similar to the first two rounds of Open Houses, attendees will have the opportunity to submit comment forms at ~~the event~~events and for a specified period

⁴ Open House Round 3 was originally anticipated to be held in October, 2014. The date has been revised to reflect the updated Extended Development Schedule

⁵ Open house Round 4 has been added as a result of the updated Extended Development Schedule

after the ~~event~~events for consideration by NextBridge. Comments can also be made directly to NextBridge via email, mail, fax, and telephone hotline. Attempts will be made to document comments provided verbally to ~~project~~Project staff during one-on-one conversations at Open Houses; however, given the nature of these conversations, it is not possible to guarantee comments provided in this manner will be comprehensively captured. As such, parties are always advised to submit written feedback wherever possible.

6.10. Community Investment

NextBridge will seek out and support community investment opportunities and initiatives with various organizations to assist in building and maintaining long-term collaborative relationships.

7. Key Stakeholder Identification and Engagement

NextBridge will consult with potentially affected stakeholder groups in a manner that is respectful of their needs and expected levels of interest.

7.1. First Nations and Métis

NextBridge considers consultation with First Nations and Métis to be an essential component of successful transmission ~~projects~~Projects in Northern Ontario. We are committed to working with First Nations and Métis peoples in Ontario to provide sustainable benefits to those communities. A dedicated consultation process has been established for First Nations and Métis located in proximity to the ~~project~~Project. A First Nations and Métis Consultation Plan ~~is being~~has been prepared and submitted to the OEB that sets out a process that will be continually enhanced, with the benefit of community input.

7.2. Landowners

Issues faced by landowners are of the utmost importance to NextBridge. ~~NextBridge~~ identified potentially affected landowners along the Reference Route (i.e. within 500 metres of the centerline of the existing East West Tie) and along the proposed Reference Route Alternatives. Work to assemble landowner information was initiated

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in September–October 2013. –An introductory package, containing the Notice of Commencement, Newsletter and a cover letter, was mailed to landowners as contact information became available. –The same package was hand delivered to potentially affected landowners along the ~~proposed~~ routes under consideration where mailing information was not readily available in mid–November 2013. Landowners will continue to receive direct mail, continue to interact with their land agent, ~~(s)~~, and will be invited to attend public Open Houses for the ~~project~~ Project.

7.3. Districts, Townships, and Municipalities

The reference route and alternatives are located within or in close proximity to; one city, one town, two municipalities, and six townships in the Districts of Algoma and Thunder Bay.

Algoma District

- Municipality of Wawa
- Township of White River

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Thunder Bay District

- City of Thunder Bay
- Municipality of Shuniah
- Town of Marathon
- Township of Dorion
- Township of Nipigon
- Township of Red Rock
- Township of Schreiber
- Township of Terrace Bay

Due to their proximity to the proposed ~~project~~Project, these entities were invited to meet with NextBridge representatives. Meetings with municipal staff and elected officials were initiated prior to the first round of Open Houses. ~~Additional meetings will be held throughout the Environmental Assessment process as required.~~ ~~Municipal~~When possible, municipal staff and elected officials will receive copies of notices, newsletters, and reports to be made public in advance of public release to allow them to become informed in anticipation of questions from community members. ~~Initial meetings with municipal staff and elected officials are scheduled to occur in mid-November 2013.~~ Additional meetings will be held with municipalities as required, and municipal representatives and staff will be invited to the public Open Houses.

Several unincorporated areas exist along the reference and alternative routes. Notification for these areas will be conducted through advertisements in local newspapers, direct mailings where addresses are publicly available, personal visits to potentially affected landowners that reside in those areas, and consultation with agencies that represent the interests of those unincorporated areas. If specific representatives of unincorporated areas identify themselves during the ~~project~~Project, communication will be directed to them, and in-person meetings may be held if requested.

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7.4. Agencies

The input and cooperation of government agencies is necessary for completion of an effective ~~Environmental Assessment~~EA process. Relevant agencies were identified through the Government Review Team list provided by the ~~Ministry of the Environment~~MOECC. Pre-consultation meetings with identified agencies took place in September–November 2013 with the ~~Ministry of the Environment~~MOECC, Ministry of Natural Resources, Parks Canada, Aboriginal Affairs and Northern Development Canada, Ministry of Transportation, Ministry of Tourism, Culture and Sport, Ontario Northern Development and Mines, Ontario Parks, and Ontario Infrastructure. Agencies will be provided with newsletters, notifications and reports for review and comment throughout the ~~project~~Project and meetings will be held as needed.

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7.5. Other Key Stakeholders

It is important to include a diverse range of stakeholders at the beginning of the ~~project~~Project for potential issues to be heard and considered early in the process. Efforts have been made to identify a diversity of stakeholders through web searches, review of ~~Ontario Energy Board~~OEB and ~~Ontario Power Authority~~ESO documentation regarding the ~~project~~Project, and by asking local municipal staff about active groups and individuals that should be included on the mailing list. Publication of notices in commonly read newspapers throughout the study area also allows stakeholders to self-identify.

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Stakeholders on the ~~project~~Project contact list will receive ~~project~~Project information, such as newsletters and notices via mail and email, are invited to attend ~~project~~Project Open Houses, and may submit input via mail, email, Open House comment forms, calls to the ~~project~~Project hotline, or fax. Meetings with stakeholders may also be held.

Key stakeholders identified to date include, but are not limited to, the following:

- Economic Development Corporations;
- Local Chambers of Commerce;
- Provincial federations representing a variety of interests such as hunting, fishing, trail users, and tourism organizations;

- Crown Land Tenure holders;
- Intervenor in the ~~Ontario Energy Board~~OEB process;
- “Friends of...” organizations;
- Local emergency medical, fire and police services;
- Railways;
- Mining, and forestry industry; and
- Those who have expressed an interest in being kept informed about the ~~project~~Project.

The stakeholder list will be updated as new stakeholders are identified or ask to be included on the ~~project~~Project mailing list.

8. Issues Response and Mitigation

As with any consultation process, there can be a number of issues which must be carefully addressed. The previous experience of the NextBridge partners with such consultations has allowed NextBridge to define various issues and effective mitigation strategies which could ~~apply~~be applied to the ~~project~~Project. Issue identification will continue through early consultation with agencies and municipalities and through consultation efforts throughout the ~~Environmental Assessment~~EA process as outlined in this plan.

Based on research and early consultation, a preliminary list of potential issues has been established and is summarized below.

- Routing concerns
- Property issues and landowner concerns;
- First Nations and Métis community concerns;
- Habitat, recreational, and protected area disruption;
- Human health and safety; and
- Access to and loss of land resources.

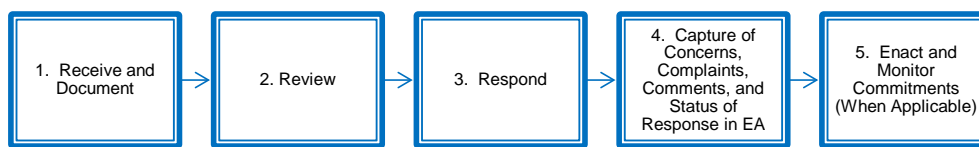
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8.1. Comment Management and Complaint Resolution Process

All comments, concerns, and complaints are important to NextBridge and are taken into careful consideration. A ~~complaint resolution process will be~~ Comment Management and Complaint Resolution Process has been instituted to capture, manage, and promptly address ~~project-Project-related community problems~~ comments, complaints, or concerns. ~~Issues~~



8.1.1. Receive and Document

Concerns, complaints, and comments are typically communicated during public consultation activities, or received through our Project Hotline or Project Email. Once a concern, complaint, or comment is raised, it is captured and documented to the extent possible. Attempts will be made to document comments provided verbally to Project staff during one-on-one conversations during public consultation activities; however, given the nature of these conversations, it is not possible to guarantee comments provided in this manner will be ~~considered~~comprehensively captured. As such, parties are always advised to submit written feedback wherever possible. If the concern, complaint, or comment is communicated through the Project Hotline or Email, efforts are made to ensure an initial response to the individual or group is made promptly to inform them that their concern, complaint, or comment has been received, documented, and is under review (when applicable).

8.1.2. Review

Once the concern, complaint, or comment is documented, it is then sent to the appropriate Project subject matter expert(s) for review and evaluation. In some cases, inquiries will require a dedicated review by NextBridge and various Project

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subject matter experts to ensure an appropriate response and identification of potential mitigation measures and Project impacts.

8.1.3. Respond

Many questions, complaints, and concerns that are raised can be addressed through the use of our publically available materials, such as our Project Frequently Asked Questions document, and/or Fact Sheets. Depending on the results of the inquiry review, responses developed. Where appropriate, prevention and mitigation strategies will also be developed. Issues can range from thanking the individual or group for their comment, to potentially making changes to the Project, if warranted.

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8.1.4. Capture of Concerns, Complaints, and Comments, and Status of Responses in EA

Concerns, complaints, and comments, and their associated responses, and required prevention and mitigation strategies, will be documented as part of the Terms of Reference and Environmental Assessment EA, and will be available for public and agency review through the Environmental Assessment EA process.

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8.1.5. Enact and Monitor Commitments (When Applicable)

Where appropriate, prevention and mitigation strategies may be developed in response to inquiries. In cases where Project changes or additional commitments are identified after review, these actions will be incorporated and enacted within the scope of the Project and recorded in the EA.

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This consultation plan may be updated to reflect community concerns and issues as they emerge.

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Jan 15, 2018

Paige Glenen (P1084)
Stantec Consulting
400 - 1331 Clyde Ottawa ON K2C 3G4

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment: Additional Lands, East-West Tie Transmission Line, Segment 2. Various Lots and Concessions, Township of Nipigon, Geographic Township of Wiggins, Geographic Township of Priske, Geographic Township of Syine, and Geographic Township of Walsh, District of Thunder Bay, Ontario.", Dated Dec 8, 2017, Filed with MTCS Toronto Office on Dec 8, 2017, MTCS Project Information Form Number P1084-0040-2017, MTCS File Number 0000351

Dear Ms. Glenen:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Figures 8.1 to 8.5 of the above titled report and recommends the following:

Stantec was retained by the NextBridge to complete a Stage 1 archaeological assessment for additional lands associated with Segment 2 (between Nipigon and Marathon) of the proposed East-West Transmission Line. The Stage 1 archaeological assessment determined that portions of the five study areas, approximately 4.71 ha within study areas B098, C156 and RCR081, retain archaeological potential. In accordance with Sections 1.3.1 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), a Stage 2 archaeological assessment is required for portions of the study area which retain archaeological potential (Figures 8.1, 8.4 and 8.5).

The objective of the Stage 2 archaeological assessment will be to document any archaeological resources within portions of the study area retaining archaeological potential and to determine whether these archaeological resources require further assessment. As per Section 1.3.3 of the Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), the Stage 2 archaeological assessment will follow alternate survey standards specific to the special conditions of the Canadian Shield, where the study

areas are located. The Stage 2 archaeological assessment will follow the alternative strategies outlined in Section 2.1.5 of the Standard and Guidelines for Consultant Archaeologists (Government of Ontario 2011) as follows:

- test pitting is required between 0 to 50 metres from a modern water source at intervals of five metres and a survey is not required past 50 metres.
- for features of archaeological potential other than modern water sources, such as the known historical transportation route, test pitting is required in intervals of five metres 0 to 50 metres from the feature. From 50 to 150 metres from the feature, test pitting intervals can be a maximum of 10 metres. Survey is not required beyond 150 metres.

All test pitting will involve excavating test pits that are approximately 30 centimetres in diameter and excavated five centimetres into sterile subsoil. The soils will be examined for stratigraphy, cultural features, or evidence of fill. All soil will be screened through six millimetre mesh hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit.

In addition to the above, the Stage 1 archaeological assessment determined that the remainder of the study areas retains low to no archaeological potential, approximately 17.85 ha, due to their distance from any features of archaeological potential. In accordance with Section 1.3.2 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), a Stage 2 archaeological assessment is not required for any portion of the five study areas which solely impacts an area of low to no archaeological potential (Figures 8.1 to 8.5).

If the archaeological field team determines any additional lands to be low and wet, steeply sloped, or disturbed during the course of the Stage 2 field work, those areas will not require survey, but will be photographically documented in accordance with Section 2.1 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

The MTCS is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. Additional archaeological assessment is still required for portions of the study area and so these portions recommended for further archaeological fieldwork remain subject to Section 48(1) of the Ontario Heritage Act (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Paige Campbell
Archaeology Review Officer

cc. Archaeology Licensing Officer
Corinne Miller, NextBridge Infrastructure LP
Antonia Testa, Ministry of the Environment

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Jan 15, 2018

Paige Glenen (P1084)
Stantec Consulting
400 - 1331 Clyde Ottawa ON K2C 3G4

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment: Additional Lands, East-West Tie Transmission Line, Segment 3. Various Townships in the District of Thunder Bay and the District of Algoma, Ontario.", Dated Dec 8, 2017, Filed with MTCS Toronto Office on Dec 8, 2017, MTCS Project Information Form Number P1084-0041-2017, MTCS File Number 0000351

Dear Ms. Glenen:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Figures 8.1 to 8.9 of the above titled report and recommends the following:

Stantec was retained by the NextBridge to complete a Stage 1 archaeological assessment for additional lands associated with Segment 3 (between Marathon and Wawa) of the proposed East-West Transmission Line. The Stage 1 archaeological assessment determined that portions of the nine study areas, approximately 10.06 ha within all study areas except F023, retain archaeological potential. In accordance with Sections 1.3.1 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), a Stage 2 archaeological assessment is required for portions of the study area which retain archaeological potential (Figures 8.1 to 8.5 and 8.7 to 8.9). The objective of the Stage 2 archaeological assessment will be to document any archaeological resources within portions of the study area retaining archaeological potential and to determine whether these archaeological resources require further assessment. As per Section 1.3.3 of the Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), the Stage 2 archaeological assessment will follow alternate survey standards specific to the special conditions of the Canadian Shield, where the study areas are located. The Stage 2 archaeological assessment will follow the alternative strategies outlined in Section 2.1.5 of the Standard and Guidelines for Consultant Archaeologists (Government of Ontario 2011)

as follows:

- test pitting is required between 0 to 50 metres from a modern water source at intervals of five metres and a survey is not required past 50 metres.
- for features of archaeological potential other than modern water sources, such as the known historical transportation route, test pitting is required in intervals of five metres 0 to 50 metres from the feature. From 50 to 150 metres from the feature, test pitting intervals can be a maximum of 10 metres. Survey is not required beyond 150 metres.

All test pitting will involve excavating test pits that are approximately 30 centimetres in diameter and excavated five centimetres into sterile subsoil. The soils will be examined for stratigraphy, cultural features, or evidence of fill. All soil will be screened through six millimetre mesh hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit.

In addition to the above, the Stage 1 archaeological assessment determined that the remainder of the study areas retains low to no archaeological potential, approximately 88.76 ha due to their distance from any features of archaeological potential. In accordance with Section 1.3.2 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), a Stage 2 archaeological assessment is not required for any portion of the nine study areas which solely impacts an area of low to no archaeological potential (Figures 8.1 to 8.9).

If the archaeological field team determines any additional lands to be low and wet, steeply sloped, or disturbed during the course of the Stage 2 field work, those areas will not require survey, but will be photographically documented in accordance with Section 2.1 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

The MTCS is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. Additional archaeological assessment is still required for portions of the study area and so these portions recommended for further archaeological fieldwork remain subject to Section 48(1) of the Ontario Heritage Act (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Paige Campbell
Archaeology Review Officer

cc. Archaeology Licensing Officer
Corinne Miller, NextBridge Infrastructure LP
Antonia Testa, Ministry of the Environment

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Jan 15, 2018

Paige Glenen (P1084)
Stantec Consulting
400 - 1331 Clyde Ottawa ON K2C 3G4

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment: Additional Lands, East-West Tie Transmission Line, Segment 1: Various Lots and Concessions, Municipality of Shuniah, Township of Dorion, and Township of Red Rock, District of Thunder Bay, Ontario", Dated Nov 22, 2017, Filed with MTCS Toronto Office on Dec 8, 2017, MTCS Project Information Form Number P1084-0042-2017, MTCS File Number 0000351

Dear Ms. Glenen:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Figures 8.1 to 8.4 of the above titled report and recommends the following:

Stantec was retained by the NextBridge to complete a Stage 1 archaeological assessment for additional lands associated with Segment 1 (between Thunder Bay and Nipigon) of the proposed East-West Transmission Line. The Stage 1 archaeological assessment determined that portions of the four study areas, approximately 0.64 ha within study areas A0128 and B079, retain archaeological potential. In accordance with Sections 1.3.1 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), a Stage 2 archaeological assessment is required for portions of the study area which retain archaeological potential (Figures 8.3 and 8.4).

The objective of the Stage 2 archaeological assessment will be to document any archaeological resources within portions of the study area retaining archaeological potential and to determine whether these archaeological resources require further assessment. As per Section 1.3.3 of the Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), the Stage 2 archaeological assessment will follow alternate survey standards specific to the special conditions of the Canadian Shield, where the study areas are located. The Stage 2 archaeological assessment will follow the alternative strategies outlined in

Section 2.1.5 of the Standard and Guidelines for Consultant Archaeologists (Government of Ontario 2011) as follows:

- test pitting is required between 0 to 50 metres from a modern water source at intervals of five metres and a survey is not required past 50 metres.
- for features of archaeological potential other than modern water sources, such as the known historical transportation route, test pitting is required in intervals of five metres 0 to 50 metres from the feature. From 50 to 150 metres from the feature, test pitting intervals can be a maximum of 10 metres. Survey is not required beyond 150 metres.

All test pitting will involve excavating test pits that are approximately 30 centimetres in diameter and excavated five centimetres into sterile subsoil. The soils will be examined for stratigraphy, cultural features, or evidence of fill. All soil will be screened through six millimetre mesh hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit.

In addition to the above, the Stage 1 archaeological assessment determined that the remainder of the study areas retains low to no archaeological potential, approximately 18.02 ha, due to their distance from any features of archaeological potential. In accordance with Section 1.3.2 and Section 7.7.4 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011), a Stage 2 archaeological assessment is not required for any portion of the four study areas which impacts an area of low to no archaeological potential (Figures 8.1 to 8.4).

If the archaeological field team determines any additional lands to be low and wet, steeply sloped, or disturbed during the course of the Stage 2 field work, those areas will not require survey, but will be photographically documented in accordance with Section 2.1 of the MTCS' 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011).

The MTCS is asked to review the results presented and to accept this report into the Ontario Public Register of Archaeological Reports. Additional archaeological assessment is still required for portions of the study area and so these portions recommended for further archaeological fieldwork remain subject to Section 48(1) of the Ontario Heritage Act (Government of Ontario 1990b) and may not be altered, or have artifacts removed, except by a person holding an archaeological license.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Paige Campbell
Archaeology Review Officer

cc. Archaeology Licensing Officer
Corrine Miller, NextBridge Infrastructure LP
Antonia Testa, Ministry of the Environment

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Dec 9, 2014

Scarlett Janusas (P027)
Scarlett Janusas Archaeology Inc.
269 Cameron Lake Tobermory ON N0H 2R0

**RE: Review and Entry into the Ontario Public Register of Archaeological Reports:
Archaeological Assessment Report Entitled, "STAGE 1 ARCHAEOLOGICAL
ASSESSMENT NEW EAST WEST TIE TRANSMISSION PROJECT DISTRICTS OF
THUNDER BAY AND ALGOMA ", Dated Oct 30, 2014, Filed with MTCS Toronto
Office on Nov 13, 2014, MTCS Project Information Form Number P027-0245-2014**

Dear Ms. Janusas:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Maps 280 to 337 of the above titled report and recommends the following:

Based upon the background research of past and present conditions, the following is recommended:

- All areas of archaeological potential that will be affected by either direct or indirect (tower bases, laydown areas, staging areas, access roads, and related infrastructure) by the Project must be subject to a Stage 2 archaeological assessment prior to any development;
- Stage 2 assessment must be conducted as per the Standards and Guidelines for Consulting Archaeologists for work in Northern Ontario (that is, the limit for testing from present bodies of water (navigable) is 50 m; and the limit for testing from all other variables: ancient water, historic features, previously documented sites, etc. is 150 m). Given the nature of the area, Stage 2 assessment will consist of using a test pitting methodology at 5 m intervals up to 50 m, and then 10 m intervals up to 150 m distant from the feature of archaeological potential; and, visual observations of areas of exposed bedrock. Intervals should attempt to follow a grid pattern, or as close to a grid pattern as landscape/forest conditions allow.
- No information was gathered from the Aboriginal communities that are being included in engagement by NextBridge at the time of the Stage 1 archaeological assessment. It is recognized that special concerns may still be raised and that consideration of these issues should be reviewed in concert with the recommended areas of Stage 2 archaeological assessment.
- Areas other than those identified as exhibiting archaeological potential are not recommended for any additional archaeological assessment.
- Compliance regulations must be adhered to as described in Section 6 of this report.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,
Paige Campbell
Archaeology Review Officer

cc. Archaeology Licensing Officer
Mario Buszynski, Dillon Consulting Limited
Anotonia Testa, Ministry of the Environment

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Apr 11, 2016

Jamie Lemon (P1056)
Golder Associates Ltd.
84 High Bowmanville ON L1C 3B4

**RE: Review and Entry into the Ontario Public Register of Archaeological Reports:
Archaeological Assessment Report Entitled, "Stage 2 Archaeological Assessment
– East-West Tie Transmission Project Thunder Bay to Wawa, Ontario", Dated Feb 1,
2016, Filed with MTCS Toronto Office on Feb 17, 2016, MTCS Project Information
Form Number P1056-0029-2015, MTCS File Number 0000351**

Dear Mrs. Lemon:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in Figures 1 to 3 of the above titled report and recommends the following:

The Stage 2 archaeological assessment did not identified any archaeological resources at the ten borehole locations. Each of the 10 borehole locations subject to Stage 2 survey are considered to be sufficiently documented and no further archaeological assessment is recommended.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Paige Campbell
Archaeology Review Officer

cc. Archaeology Licensing Officer
Carrie Wiklund, NextBridge Infrastructure LP
Carrie Wiklund, NextBridge Infrastructure LP

¹In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

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Dec 29, 2016

Jamie Lemon (P1056)
Golder Associates Ltd.
84 High Bowmanville ON L1C 3B4

RE: Review and Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment, EWT Access Roads, Construction Camps, Laydown Yards and Loon Lake Route Refinement, Districts of Thunder Bay and Algoma, Ontario", Dated Nov 17, 2016, Filed with MTCS Toronto Office on Nov 28, 2016, MTCS Project Information Form Number P1056-0074-2016, MTCS File Number 0000351

Dear Mrs. Lemon:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 Standards and Guidelines for Consultant Archaeologists set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment of the study area as depicted in all maps of Figure 8 of the above titled report and recommends the following:

Based on the results of the Stage 1 archaeological assessment, it has been determined that archaeological potential is low for the majority of the Project RSA. Nevertheless, potential for pre- and post-contact archaeological resources, as well as historical Euro-Canadian archaeological resources exists for specific areas within the RSA.

The following recommendations are made:

1. Areas within the RSA identified as exhibiting archaeological potential are recommended for Stage 2 archaeological assessment, as described in Section 2.4 of this report and illustrated on Map 8.
2. The RSA is defined as being located on the Canadian Shield (Map 1), and as such the following Stage 2 test pit strategy is recommended as per Section 2.1.5 of the Standards and Guidelines for Consultant Archaeologists (MTCS 2011):

Standard 1. Where the identified feature of archaeological potential is a modern water source, test pitting is required between 0 and 50 m from the feature. Space test pits at maximum intervals of 5 m. Survey is not required beyond 50 m.

Standard 2. For features of archaeological potential other than modern water sources (e.g., historic water

sources such as glacial shorelines), test pitting is required as follows:

- a. space test pits at maximum intervals of 5 m between 0 and 50 m from the feature of archaeological potential
- b. space test pits at maximum intervals of 10 m between 50 and 150 m from the feature of archaeological potential
- c. survey is not required beyond 150 m

Standard 3. While maintaining standard survey grids as closely as possible, the consultant archaeologist may vary from standard survey grids as necessary, based on professional judgement. Document and explain the rationale for all variation in the Stage 2 report.

3. Areas within the RSA not identified as having archaeological potential have low cultural heritage value or interest for archaeological resources and no further archaeological assessment is recommended.

4. Golder recommends coordinating with Indigenous communities who have expressed an interest in the Project and providing them an opportunity to comment on the Stage 1 report, recommendations for Stage 2 field work, proposed Stage 2 work plans, as well as providing opportunities to participate in Stage 2 field work.

5. Where exposed bedrock is encountered in an area requiring Stage 2 survey, the area should be inspected at a 5 m interval for evidence of cultural modification.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Paige Campbell
Archaeology Review Officer

cc. Archaeology Licensing Officer
Carrie Wiklund, NextBridge Infrastructure LP
Dave Bell, Ministry of the Environment and Climate Change

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Memorandum

DATE: March 16, 2017

TO: Brian J. Murphy, Senior Attorney
Aziz S. Brott, Project Engineer
NextEra Energy Resources, LLC

FROM: Robert E. Nickerson, P.E.

RE: Summary Review of Ontario East-West Tie Line Project; Project No. 78290-78311

Overview

I have completed an overall review of the Ontario East-West Tie Line Project with a focus on the structure loading, design, detailing and testing. During this process I completed a detailed review of the type GTL.02 structure with the assumption the design, detailing and testing procedures were similar for all other tower types. With this assumption, the findings for this structure type can likely be applied to the other structures. A higher level review was also completed for the type GTF.02 with specific interest in the ability of the structure to perform as a failure containment structure. This review focused on the guyed Y structures since these are the predominant structure type used on the line and since the freestanding tower family is a more typical structure configuration.

The following documents were referenced during the project review:

- Section 337117.13 – Lattice Tower Specification Rev. F Issued 6/09/2014
- Final Design Criteria for Conductor and Structure Selection; Issued January 31, 2014
- Final Design Criteria for Conductor and Structure Selection, Rev. B; Re-issued October 21, 2016 (supersedes January 31, 2014 issue)
- Ontario Energy Board – Minimum Technical Requirements for the Reference Option of the E-W Tie Line; November 9, 2011
- Ontario Energy Board – Appendix A: Minimum Design Criteria for the Reference Option of the E-W Tie Line (230kV Wawa to Thunder Bay Transmission Line); November 9, 2011
- INTERNATIONAL STANDARD CEI IEC 60826, Third Edition 2013-10; Design criteria of overhead transmission lines
- CAN/CSA-C22.3 No. 60826-10; National Standard of Canada, reaffirmed 2015; Design criteria of overhead transmission lines
- C22.3 No. 1-15; Overhead systems
- ONTARIO ENERGY BOARD - Rules of Practice and Procedure
- EWT_IFB_SegmentA_PnP_RevA_20160210.pdf; Segments A – F
- PLS- Tower Models, i.e. gtl.02.49m equal guy support.tow, 2014_0702 gt-h_53m.tow & 2014_0630 gt-f_53m.tow

- Detail drawings: 1234L-01101 GTL02 Detail.pdf; 1234L-01102 GTH02 Detail.pdf and 1234L-01103 GTF02 Detail.pdf
- Detailed Test Report - GTL02.pdf
- Detailed Test Report - GTH02.pdf
- Detailed Test Report - GTF02.pdf

A) Task: Review Plan and Profile drawings to confirm if tower selection type is appropriate for proposed line route.

- a) Review of the plan and profile drawings and terrain was completed. The effort was limited to reviewing the Plan and Profile drawings provided, which while not final, is close to complete. The structure spotting was reasonable, maximizing use of guyed structures to reduce installed costs, limiting as much as practical impact in the ROW with smaller foundations utilizing a mix of helical piers, screw anchors, piers and grillages to support the base of the guyed structure.
- b) Terrain is in most cases well-suited for guyed structures and as necessary, freestanding latticed structures were used. In most cases, the guyed structures appear well-located with self-supporting structures as required. With only Plan and Profiles plans available, a limited review of structure type placement was completed. It was noted for Segment A between structure 22 and 68 (approximately 17000m) no failure containment or angle structures were located, i.e. 40 GTL.02 and 5 STL.02 structures are spotted. Thus 45 tangent structures could be at risk of a cascade in this segment. I am not aware of the failure containment limits set for this line but would recommend replacing structure 45 with a GTF.02. Limited information was available on the topography but per the Plan and Profile drawings, it appears that in most locations, significant differential guy lengths will be limited. I would recommend reviewing Segments B-F to confirm failure containment structure placement meets the design requirements of NextBridge.

B) Task: Review and confirm wind loads applied in the PLS-Tower models correspond to PLS-Cadd modeling. Section and area factors do not include drag factors so important to verify design models work correctly with the PLS-Cadd "criteria" files.

- a) The recommended loading requirements per OEB requirements, CSA-22.3 No. 60826 requirements and additional loading requirements from NextBridge were all reviewed. It was noted that for load case 100YR WIND-2 a pressure value of 87 was used and I believe it should be $175/0.9=194$. I believe this value should also increase from 98.01Pa to 220Pa for the dead end tower which has a 1.25 load factor instead of a 1.10 load factor. There is a slight difference for the oblique wind load parameter between the GTL.02 structure and all other structures. I think this value should increase from 325Pa to 346Pa for the GTL.02 structure for consistency with all other

models. None of these corrections should impact the structure designs.

(RE: Attachment A - Load Case Comparison_ All Structure Types)

- b) The factors in the PLS-Tower model section tables normally include the drag factor modified for any missing area not in the model. Since the applied loads for the models included the drag factor in the load file, the models provide the correct wind on structure loading. It is cautioned that if these models are used in a PLS-Cadd line model that coordination of the PLS-Cadd criteria file (Weather Case and Structure Load Criteria table) and section table be reviewed. From the preliminary review of the PLS-Cadd criteria files the only conflict noted is the PLS-Tower models include the 83% limit in the Cable Properties component table and also in the PLS-Cadd Structure Criteria Load table. Left as is, any model integrated within PLS-Cadd would limit the guy capacity to 69%.
- C) **Review guy attachment and foundation locations, verify maximum offset conditions have been considered. (If possible, cross-reference with selected structure locations on the P&P drawings.)**
 - a) Guy foundation tolerances were provided on the design drawing and in Section 9.5 of the Design Criteria Document (BMCD Project No. 78290-78311). Design drawing requirements state "...a 10% differential in opposite guy lengths and a deviation from the guying angle ranging from 0° to 5° in the vertical and/or horizontal direction." The Design Criteria Document states "Lattice towers are to be designed to support a maximum deviation from the design guying angle to accommodate relocation of anchors with a 2m radius of the design location..."
 - b) The guy offset variations in the models provided don't follow either criteria described above. The offset models in most cases displaced the guy anchor vertically (up or down) in an effort to determine the influence of longer or shorter guys due to elevation differences. The models developed don't indicate any overstressed members under these specific conditions.
 - c) For the GTL.02.049 (the tallest tower), another guy configuration was benchmarked with the standard guy orientation. This specific model modified the guy locations so the left side the longitudinal spread was 80° with a slope of 55° (steeper guy angle) and on the right side the longitudinal spread was 100° with a slope of 45°. The normal values for this structure would be 90° and 50°, respectively. Three sub-conditions were included; level guys, left guys raised 5m and right guys dropped 5m and left guys dropped 5m and right guys raised 5m. Results of this analysis indicate no overstresses in the tower. The maximum guy load did increase from 91.2% Use to 99.1% Use.
- D) **Review of overall model parameters; component files, member groups, member connectivity parameters, etc. will be an overview of the model and not a line by line**

review. Random detail checks will be completed to verify the validity of the modeling assumptions.

- a) The Type GTL.02.049 was selected for an in-depth review of the model. A “check” file with key data was reviewed and differences noted. (RE: Attachment B - CheckFile-230kV_GTL.02_DC Guyed Tower). Joints (primary and secondary), Angle Groups, Angle Connectivity, Section Table, Components Files (Material Properties, Angle Sizes, Bolt Properties and Cable Properties) were reviewed. Insulator properties were not reviewed since specific reference information was not available.
- i) *Joints* – Joint coordinates were calculated at the centroid which is important for a guyed structure. The tower designer elected to calculate almost every joint location in lieu of using the secondary joint algorithm for the GTL.02 tower. This required calculation of 56 joint x, y and z coordinates. Only 4 secondary joint were generated in this model. While calculation of each joint location will not change the results of the model, greater use of secondary joints allows the tower designer a much easier opportunity to optimize the tower geometry. (*Note: All other tower types in this series took advantage of the secondary joint option.*)
 - ii) *Angle Groups* – The angle group table was reviewed and member sizes verified with the detail drawings. For two member groups, H3IX and TBLT2, the member size was corrected to L63.5x63.5x4.8. For H3IX this was decrease in size and for TBLT2 this was an increase. Also noted on the detail drawings, sheet 1234L-01101-SH002, piece mark BM52 is shown as L50.8x50.8x4.8 while on sheet SH003, in the section labeled “Longitudinal Face” and the Bill of Materials, it is designated as L44.45x44.45x4.8 which reflects the size in the tower model. (See marked up drawing “1234L-01101 GTL02 Detail_comments”).
 - iii) *Angle Connectivity* – In reviewing the angle connectivity information, either the designer did not clearly understand the intent of the ASCE 10 standard in regards to eccentricity and constraint codes or in many cases wanted to be more conservative in the calculation of buckling capacity of the member. Additional corrections are noted for member length factors. In some cases, the length factors for alternating bracing was misunderstood. For continuous members, the tower designer input bolts in panels where the member was not connected. In some cases, number of bolts, number of holes out and number of shear planes was corrected. Rupture values were not calculated and input of gage and bolt spacing is required for this calculation. However, a review of the rupture capacity indicates that it does not control the member design for this tower type. Corrected values for the angle connectivity are highlighted in Attachment B.
 - iv) *Section Table* – For the GTL02 tower, the model has been defined with three sections; the section at and above the bridge designated as the “boom”, the section below the bridge to waist designated as the “window” and the section below the waist to groundline designated as “body”. Sections should be delineated such that the factors for the section are representative of the section.

For example, a section with a large number of redundants not included in the model will have larger “Area Factor” so it would not be appropriate to combine this section with an adjacent section that did not include redundants. Defining the sections in this way provides a more accurate wind load on the structure. Since CSA load cases are included for this structure, it is important to define sections that will be more accurate when the solidity ratio of the section face is calculated. Normally these codes require a maximum section height of 20m (60ft). Thus it is recommended at a minimum the “body” be in at least two sections. *(Note: This is not critical for this tower so I would not implement this change at this time. All other towers have many more sections so it is not an issue for those towers.)*

v) *Components Files* -Material Properties, Angle Sizes, Bolt Properties and Cable Properties

- (1) Material Properties: ASTM A572 Grade 50ksi (345MPa) is used exclusively. E, Fy and Fu values are correct for this material.
- (2) Angle Sizes: Imported from AISC 13th Edition and assumed correct.
- (3) Bolt Properties: Only one bolt property is provided. A 5/8” (15.875 mm) A394 Type 1 bolt. Bolt diameter in table of 15.875 mm is correct and hole diameter is 17.463 mm. The hole diameter should be 19.05 mm to include the additional 1.5875 mm (1/16”) required for punched bolts per ASCE 10. The shear capacity in the component file is correct for the shear through the shank; 102 kN (22.9 kips). However, using a lock washer with an approximate thickness of 4mm (5/32”) is not sufficient to guarantee threads are not in the shear plane. The shear capacity with threads in the shear plane is 67 kN (15.05 kips) and would normally be used unless recessed nuts or washers were installed to assure threads were not in the shear plane. I recommend the bolt shear capacity be corrected to 67kN (15.05 kips) unless it can be demonstrated that threads will not be in the shear plane. *(Note: Modifying the model for bolt shear capacities with threads in the shear plane resulted in changes in the %Use of a few member groups but overall had no impact on the overall structure capacity. The reason is the bearing capacity for members with a thickness of 4.4 mm (3/16”) ASTM A572-50 material results in a capacity 51.2 kN (11.5 kips) which is less than the shear capacity of a single A394 Type 1 bolt of 66.9 kN (15.05 kips) with threads through the shear plane. Thus bearing on thinner members with one-bolt connections controlled over the shear capacity through the threads.*
- (4) Cable Properties: 22.7 mm (7/8”) diameter Gr220 (19 strand) with a Modulus of Elasticity of 16,000 MPa (21,756 ksi). A %Use value of 83% was included and reflects the specification reduction for “normal” loading conditions. For “failure containment” conditions, this value is designated at 90% Use. The

model does not reflect this criteria and conservatively uses the 83% allowable for this loading condition.

vi) Man Load Requirements

- (1) All members 15° or less to horizontal shall be sufficient to support 1350kN (304lbs) multiplied a 1.5 load factor about the weakest axis (Sz). If we assume the simple bending of PL/4, the figure (RE: Attachment C - Overstressed Members - Man Load Check. GTL.02 Tower) shows the %Use under this loading requirement. Most overstresses are less than 106% with the exception of two member groups. For this analysis the Sz value was added to a revised angle database to complete this calculation. The PLS-Tower algorithm for the man-load check uses a default value of Sz calculated by the program which is conservative or if available, the Sz value in the member component file. As noted above, I populated the Sz values in the component file so the program would use the actual Sz values in the calculation. The PLS-Tower algorithm completes this analysis independent of any tower loading conditions. PLS-Tower uses the simplified formula of $PL/4 + wL^2/8$ where P is the factored man-load and w is the weight per foot of the member. While not specifically documented, it is possible that a reduction in bending moment could be justified in well-restrained, multi-bolt connections. This was not considered in the analysis completed. (Note: Completion of a full man load check requires all redundant members be included in the model.)

vii) Detailing Comments

- (1) A number of members have “flange cuts” shown. These are designated as “CF__” where the number represents the length of the cut. This is also referred to as “blocking” or “stripping” the angle. In the commentary of ASCE 10, Section C3.4 states “The practice of blocking the outstanding leg of angles to facilitate the connection should be avoided.” The concern is crack propagation if the member experiences continuous vibration. (Note: The file “1234L-01101 GTL02 Detail_comments” circles in “red” the locations of flange cuts.) It should also be noted, member failures did not occur during full-scale testing due to blocking of the member.

viii) Selections for member restraint and eccentricity are conservative in many cases. A comparison of the GTL.02 structure can be provided as an example. The implication is the tower may be been lighter.

- b) The review of the freestanding structures was limited to typical models and detail drawings. A few observations are noted.
 - i) For all towers with the exception of the SDX90, only three common leg extensions were detailed; 6m, 4m and 2m. This results in a maximum sidehill differences of 4m. For most of the structures this limits the face to face sidehill to about 11° and about 8° between diagonal legs. In many cases this could require

more significant site work. Once the final Plan & Profile is completed, you may want to design additional leg extensions.

- ii) All towers used 5/8" bolts on all tower types. Normally larger, heavier structures such as the SDX90, SDX30 and SXX30 would use 3/4" bolts to limit connections sizes.

E) Summarize observations of review with corrections/modifications when appropriate. It is beyond the scope to review all data in detail so any observations will likely be relevant to all structure types.

- a) A review of GTF.02 tower in regards to the failure containment methodology was also completed.
 - i) The structure is capable of resisting broken wire conditions, increased torsional and longitudinal loading. The addition of crossing longitudinal guys attached at the bottom end of the bridge results in a very effective failure containment structure. The difference between the GTF.02 and GTH.02 is the addition of the four additional longitudinal guys. Thus the only additional cost to install this failure containment structure is the four additional guys and guy anchors.
 - ii) To benchmark the capabilities of the failure containment structure, the SRF in PLS-Tower was reduced from 1.0 to 0.85 for the GTF.02.53 structure and results of the analysis indicate a maximum %Use in the leg member just below the waist of 102.7% and the first panel above the waist at 104%. This provides a "rough" idea of the structure limitation which is similar to the maximum test load of 115% under the broken conductor condition. The maximum 104%Use occurs in the same member that failed during the destruction test as loading increase above 115% of load. The failure containment loads include multiple broken wire loads applied at the same time; OHGW with two phases on the same side. The probability of this type of loading is very unlikely.
 - iii) A second benchmark was to modify the modulus of elasticity of the failure containment longitudinal guys. This was done to determine the static response of the structure with a reduced longitudinal stiffness, i.e. a greater allowable longitudinal displacement. For this benchmark the modulus of elasticity was reduced by 50% for the longitudinal containment guys only. Results indicate the longitudinal guy load decreases to 73% Use (about 7% decrease) and the main guy increases to 98% Use (about a 14% increase). A few additional member stresses increased but no members exceeded 100% Use. This is important as it indicates if the failure event is more significant than calculated, the structure still has some additional resistance.
- b) Strength Reduction Factor (SRF): In Section 9.4.6 of Design Criteria Document (BMCD Project No. 78290-78311), CSA 22.3 No. 60826 is referenced for the SRF's tabulated in the table. In this section it states "Unfactored loading due to reliability-based

climatic conditions will be converted to ultimate loading by multiplying the unfactored load by an OLF equal to 1 over the applicable SRF. I caution the use of this approach as the SRF is to be used to reduce the strength of materials and not increase the load. For guyed structures, implementing this strategy has a much greater impact as the pseudo load factor ($1/\text{SRF}$) for a guyed tower increases the P-Delta effect in the movement of the structure, likely resulting in loads beyond the intent of the reduced member capacity. In all cases, guyed or freestanding structures, using the inverse of SRF in the loading can increase structure the loads beyond the linear range for indeterminate structures with multiple load paths and a high level of redundancy. However, it must be noted that increasing the applied test loads by the $1/\text{SRF}$ is a conservative approach.

c) Full-Scale Testing Review – GTL.02 Tower

- i) Applied test loads reflect the required design loads used in the model. However, based on the information in the test report, the applied loads did not account for deflection of the structure. In most test cases this was not critical. For example, for Test Case 10 - C9A-100Yr Non-Uniform Ice, the longitudinal load is approximately 96.6% of the design load. Since this was the destruction case which successfully reached 130%, these loads were easily exceeded.
- ii) For Test Case 3 – C9C-100Yr Non-Uniform Ice-Torsion, the structure rotation of approximately 22.9° requires adjustment of the applied cable loads so resultant loads at the attachment locations are equivalent to the design test loads. Since the distance to the transverse and longitudinal test frames are on average 100m from the center of the test pad, the small deviation of the transverse and longitudinal pull cables results in very small differences. This is not the case for the vertical load since the height to attachment locations range from 40-49m. In addition, the vertical loads are much higher loads resulting in longitudinal components not considered in the test plan. These differences are shown in Attachment D - GTL.02 Test Load Case 3 - C9C-100YR NON-UNIFORM ICE-TORSION. In the model the maximum guy load did occur under Test Case 3 at 310N (91.2% of use). Since the vertical load components decreased the structure rotation and were not accounted for in the applied test loads, the maximum test guy load was 271N (79.5% of Use) for this test.
- iii) Since the Test Case 11 – C9A-100Yr Non-Uniform Ice (Destruction Test) was successfully tested to 130%, with the exception of the guy wire all highly stressed members were maximum under Test Case 11 at the 130% load. The maximum guy load under this the destruction test was calculated at 294N (86.5% of Use), slightly less than maximum design load of 310N.
- iv) Equivalent wind on tower loadings are calculated as discrete wind loads for the full-scale test. Calculation of the total applied wind load for LC-1 CSA Heavy and LC-13 100YR ICE/WIND-4 600KG/M3 load cases computed by the PLS-Tower

model were compared with the total applied wind load during testing. The differences of approximately 1% were noted and are acceptable.

d) Structure Optimization – GTL.02 Structure

- i) During the review of the GTL.02 structure, it was noted that using alternating lacing on the shaft would further optimize the structure weight. The attached file “gtl.02.49m equal guy support alternating lacing.bak” is an example of the alternating lacing. This model stiffens the mast in the first section below the waist with no significant weight (200N, 44lbs.) and reduces the shaft weight by 2280N (512lbs.) with the elimination of the horizontal redundants in the transverse face.

Summary

The series ten of guyed and freestanding latticed structures was reviewed for two key objectives; 1) the tower design is appropriate given the terrain and the design has been correctly performed and 2) the failure containment methodology is reasonable.

Appropriateness and Adequacy of the Structure Designs

The results of the review provide evidence that the tower designs are realistic and reasonable for the climatic and terrain condition for the 230kV Double Circuit Ontario East-West Tie Line. In completing the detailed review of the GTL.02 structure, it was noted parameters selected yield, in some cases, a smaller buckling capacity. In other cases bolt quantities and holes out values need to be adjusted. Similar changes may be expected on the other structures. That said, with the successful testing of all structures and a minimum failure for the destruction test of 110% for the SDX30 and SDX90 and greater for the other structures, provides strong evidence the structure designs will meet or exceed the in-service load requirements.

For the guyed structures, one specific modification is recommended. The base detail is made up of two plates; a bent plate that bears on the convex plate and a separate plate that bolts the two legs together. Since the smaller plate is not attached to the bent bearing plate, there is not mechanism for load transfer directly to the bearing plate but only through the bolts on the longitudinal face. I recommend that for the GTL.02 plate BS07 is extended and welded to BS06. This will transfer the load from all bolts in the connection directly to the bottom of plate BS06. The same modification should be completed for the GTH.02 and GTF.02 structures. (RE: Attachment E - Guyed Mast Base).

Failure Containment Methodology Is Reasonable

As discussed in Section E.a, a review of the failure containment methodology (addition of longitudinal guys to the GTH.02 structure resulting in the GTF.02 structure within failure containment loading) provides a cost-effective and successful solution. As indicated above, the addition of the two crossed longitudinal guys on the ahead and back spans, supports the additional broken wire, torsional and longitudinal loading conditions.

UNDERTAKING JD1.3

UNDERTAKING

TR 1, page 117

To confirm the average project management cost from January to August of 2016.

RESPONSE

The calculation of the average total project management cost of \$104,587 for the period of 8 months (January to August of 2016) is below:

Month	Cost (\$)
January	97,451
February	86,444
March	104,421
April	80,073
May	74,438
June	155,086
July	92,787
August	145,998
Average	104,587

In examining Undertaking JT1.9, Attachment 2, Page 16 of 22, Board staff noted the following reference “The PMO was the main variance for the month, budget of \$74,000 dollars a month. Previous months were unbudgeted. January to August average was \$76,000 dollars a month.” and asked NextBridge to confirm the average project management costs from January to August of 2016.

The reference on the Board of Director’s slide to the budget amount of \$74,000 was a reference to internal labour of one of the partner companies, which is only one component of the project management office (PMO) budget. This labour cost monthly average for January to August 2016 was approximately \$76,000, and, therefore, was \$2,000 higher than the budget of \$74,000.

The PMO budget also includes:

- Accounting back office, internal reporting and procurement support.
- Project office salaries and overheads.

- Office lease expenses – which was terminated during this time period to save expenses during the extended development period.
- Preparation of tax returns – which occurred in this period.
- Preparation of audited financial statement – which occurred in this period.
- Production of OEB Reports – of which 2 were prepared in this period.
- Travel and expense costs for open houses – of which one occurred in April 2016.

UNDERTAKING JD1.4

UNDERTAKING

TR 1, page 122

To advise whether counsel was asked for an estimate of the cost of the pic river appeal, before it was undertaken; to the extent that it was, to provide the amount of the estimate in terms of also any rationale for the amount.

RESPONSE

Attached is the draft budget and rationale for the budget provided to NextBridge by its outside counsel. As the budget explains, “[t]he appeal record is anticipated to be very large and complex.” The total estimated budget was \$141,000 to \$179,000.

Litigation Budget – Going Forward from October 24, 2013 to April 3, 2014

Estimated Costs

1. Review Appeal record. The appeal record is anticipated to be very large and complex. We have therefore provided a range of hours that may be required to review it. This review is especially important to ensure the proper information and evidence is before the Court. We have budgeted for some involvement by Ian M due to his familiarity with the record, but some of his time may be more appropriately assigned to the regulatory matter.

Estimated Costs

\$15,000-\$25,000

2. Ongoing weekly matters that arise over the next 23 weeks, allowing for 3-5 hours a week required to address matters that may include the following: (i) strategic analysis and review of materials filed by other parties; (ii) reviewing law; (iii) providing weekly reports to NextBridge counsel; and (iv) ongoing communications with counsel for Board and intervenors to ensure all arguments are made in the most effective manner and all grounds of appeal are addressed.

Estimated Costs

\$42,000-\$70,000

3. Appeal preparation, including researching law, drafting factum (and consultation with NextBridge counsel regarding revisions to same) and preparation of oral argument at hearing.

Estimated Costs

\$60,000

4. Attendance at 2 day appeal hearing

Estimated Costs

\$22,000

5. Disbursements (copying, legal database charges)

Estimated Costs

\$2,000

Total Estimated Costs

\$141,000 - \$179,000

UNDERTAKING JD1.5

UNDERTAKING

TR 1, page 127

To provide what the original budget for this participation amount was and how it was modified throughout the period.

RESPONSE

This undertaking requests the original budget for Indigenous participation, which was unbudgeted at designation. As outlined in Board Staff Interrogatory #22, found at Exhibit I.B.NextBridge.STAFF.22 and in its Leave to Construct Application (Exhibit B, Tab 9, Schedule 1, page 6 of 11), NextBridge did not include First Nation and Métis participation costs in its designation budget. NextBridge conveyed that it was not in a position to estimate the costs associated with First Nation and Métis participation until further engagement had been initiated with communities. NextBridge believed to do so would be presumptuous to the needs of communities as each community is unique in its interaction with project proponents. Over the Development phase, NextBridge has worked with all communities identified by the Crown and has a better understanding of the scope of potential economic participation in the New East West Tie Line.

To date, NextBridge has signed economic participation agreements with Bamkushwada (representing 6 First Nations) and the Métis Nation of Ontario (representing 3 Métis communities). The agreements contain various forms of economic participation beyond equity positions substantially forms the costs during the development phase. Not only did NextBridge incur costs for its own legal counsel, it provided funding in a series of capacity funding agreements to these communities to facilitate their participation in negotiations and retain their own independent legal counsel. Funding of this type is a customary practice in project development to provide First Nation and Métis communities the opportunity to secure participation arrangements to ensure projects on their traditional territories provides an economic benefit for future generations.

To supplement the costs provided by NextBridge, the First Nation and Métis communities also sought and received funding from various provincial and federal government ministries and agencies, such as the IESO's Energy Partnership Program that provides funding for legal negotiations. Also, these communities received over \$9M in funding for education, training, and procurement support from the Indigenous Economic Development Corporation that partnered with NextBridge's general contractor. These funds provide valuable resources to

enable economic participation that are not part of NextBridge's development or construction costs.

To manage costs, each of the First Nation and Métis capacity funding agreements were tied to a specific milestone in the negotiations. The milestone approach ensured that costs were associated with progress toward reaching a participation agreement. NextBridge's own external legal counsel fees were also tied to these same milestones.

NextBridge and the First Nation and Métis communities consider these costs essential to the development phase as participation agreements need to be finalized as much as possible before the filing of the Leave to Construct and well before the commencement of construction in order to (1) ensure costs in the Leave to Construct budget reflect these activities (2) provide communities the time to train and employ community members for jobs before the commencement of the construction period and (3) prepare Indigenous businesses to participate in procurements for construction contracts to maximize economic opportunities. For example, the results of these development period engagement efforts have enabled over 300 individuals from all the 18 communities identified in the Duty to Consult to be trained for employment.

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To make best efforts to provide a calculation of costs for (1) a major route change around Pukaskwa Park and (2) the delay of the in-service date; to report on progress within the week

RESPONSE

NextBridge has undertaken a best efforts calculation. For the major route change, which includes routing around Pukaskwa Park, the Township of Dorion and Loon Lake the development cost incurred are estimated to be \$1.7 MM. The incremental development costs resulting from the delayed in-service date are estimated to be \$7.7 MM.

Table 1
Total Development Cost
(\$'000)

	<u>Cost</u>
Designation – August 2013 * (\$2013)	\$22,398
Cost of Major Reroute	\$1,700
Cost of Project Delay	\$7,600
All other drivers (including escalation)	\$4,034
Subtotal Budgeted Development Cost *	\$35,732
Unbudgeted at Designation *	\$ 4,395
Overall Development Cost *	\$ 40,127

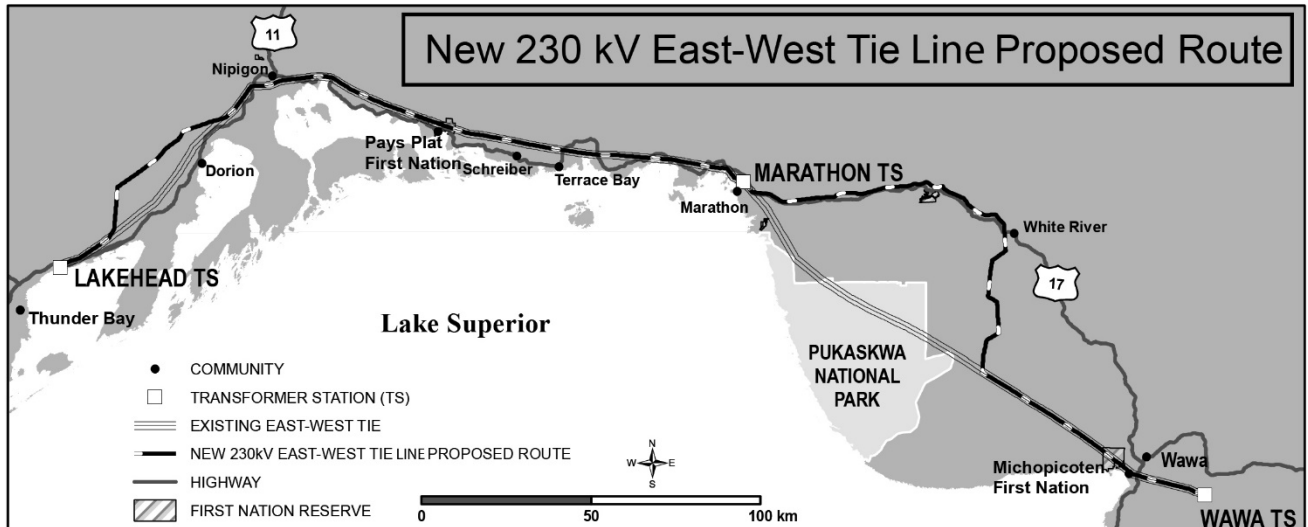
* From updated Attachment 11 in JD1.1

Part 1 – Methodology for Calculating Major Re-Route Costs

NextBridge defined major route changes to include Pukaskwa Park, the Township of Dorion and Loon Lake since considerable amount of effort was expended on these re-routes. Note, major re-routes do not take into consideration the over 90 alternative change requests to route

around certain landowners or environmentally sensitive areas.

Figure 1 Map of East West Tie Line Route vs. Reference Route



In total an approximately 222 kilometers ("km") route was pursued in association with Pukaskwa Park (see Figure 2): (1) the approximately 90km through the Park; and, thereafter, (2) approximately 130 km around the Park.

In addition to the route around Pukaskwa Park, work was completed for routes around Dorion and Loon Lake, which were identified through stakeholder consultation during the development phase. A description of how these routes were assessed and the rationale for the variant are described in Exhibit I.B.NextBridge.STAFF.25 and Exhibit I.B.NextBridge.STAFF.34 filed in January 2018.

Originally, the route through the Township of Dorion was approximately 25km. After much consultation with the community over numerous alternates, some of which NextBridge did additional investigation on, a variant was determined that was approximately 30km to go around Dorion and to the west of Ouimet Canyon. Therefore, 55km of route was studied. In addition, the residents of Loon Lake requested NextBridge investigate an alternative to the approximately 40km that would pass by the lake. Although the alternate is the same distance as the original route (approximately 40km) a total of approximately 80km of route was studied. For both these re-routes approximately 135km of route, of which 70km was incremental to the reference route, was studied by the environment, land, regulatory, engineering, stakeholder engagement and Indigenous teams even though the additional length was only approximately 5km.

The calculation of the actual extended development costs attributable to routing around Pukaskwa Park, Dorion and Loon Lake was informed by the process used to determine the actual costs associated with the 42 activities as set forth in the response to Undertaking JD1.2. Based on the review of the 42 activities of the amount of time and resources spent on assessing the routes overall (i.e., assessing approximately 200km of extra route) it was determined that a conservative straight-line allocation of km around the Park, Dorion and Loon Lake to the total was a reasonable appropriate approach to estimating the incremental costs related to these re-routes.

The allocation for these routes is approximately 11% of the total \$15.8 MM described in this undertaking (see Table 3 of JD.1.2), as it correlates with the approximately 50km of the total route of 450 km. Accordingly, the calculation of costs for the route change around Pukaskwa Park is \$1.7 MM, which is a subtotal of the actual cost incurred during the extended development period – \$15.8 MM.

Part 2 – Methodology for Calculating Project Delay Costs

As explained in Undertaking JD1.2, NextBridge shows that the extended development period spend was \$15.8 MM. Thus, starting with \$15.8 MM, and then removing the \$6.4 MM in costs associated with Activity Nos. 20 to 40 from Table 2 of JD1.2 which are not a result of the re-routes or delay and also removing \$1.7 MM for the routes around the Park, Dorion and Loon Lake, NextBridge ascribes \$7.7 MM to the delay of the in-service date from 2018 to 2020.