


Item No. 10.1.2
Halifax Regional Council
July 30, 2013

TO: Mayor Savage and Members of Halifax Regional Council

Original signed by 

SUBMITTED BY:

Richard Butts, Chief Administrative Officer

Original Signed by 

Mike Labrecque, Deputy Chief Administrative Officer

DATE: June 28, 2013

SUBJECT: Halifax Water Sewer System - Chain of Lakes Trail

ORIGIN

- August 11, 2009, Motion authorizing the Purchase of a portion of the Chester Spur Line by HRM from Canadian National (CN) Railway (from Joseph Howe Drive to Lakeside Industrial Park) for a maximum price of \$2,695,117 (net HST included) from Project No. CPX01133 - Regional Trail Acquisition; and
- Request from Halifax Regional Water Commission for an easement along the Chain of Lakes Trail, as a corridor for a wastewater conveyance system from Lakeside Park Drive to the Trail's termination on Joseph Howe Drive, with connection to the Bedford Highway Interceptor Sewer.

LEGISLATIVE AUTHORITY

This recommended action complies with HRM Charter Section 61 (5).

RECOMMENDATION

It is recommended that Halifax Regional Council:

1. Endorse the use of the Chain of Lakes Trail as the preferred corridor for a wastewater conveyance system from Lakeside Park Drive to the Trail's termination on Joseph Howe Drive, with connection to the Bedford Highway Interceptor Sewer; and
2. Authorize the Mayor and Municipal Clerk to enter into an Easement Agreement with the Halifax Regional Water Commission for the required portions of the Chain of Lakes Trail, based on easement unit values as set out in Table 1 of this report.

BACKGROUND

The Beechville Lakeside Timberlea Wastewater Treatment Facility (BLT WWTF) was commissioned in 1982 with a capacity of 4,545 m³/day. It was built with the intention to increase the facility's capacity as required, to provide service to the ultimate flow generated from the lands within the prescribed service boundary.

Currently, the wastewater flow to this facility is approaching the rated capacity and the growth in the sewershed is expected to increase significantly in the near term, due to proposed development activity within the area.

The proposed new "Brunello Estates" development is located within the service boundary and includes a golf course, commercial development and some 3,200 residential units. The initial 180 units are currently being developed and the remaining will commence once appropriate progress has been made on the wastewater capacity issue.

In total, this development could ultimately generate 3,600 m³/day of wastewater. In 2007, HRM communicated to the developer that "...HRM commits to Nine Mile River Investments Limited (now Brunello Estates) that it will have access when required, in accordance with our usual practices to provide municipal sewage treatment."

DISCUSSION

Two distinct options have previously been identified for addressing the BLT wastewater capacity issue:

- Expand the capacity of the BLT WWTF; and
- Redirect wastewater flow from the BLT sewershed to the Halifax sewershed.

Within the past few years, Halifax Water has completed a number of studies which considered this issue. These are as follows:

BLT WWTF Environmental Risk Assessment (ERA) Study:

The BLT WWTF ERA study was a direct result of the Canadian Council of Ministers of the Environment (CCME) national strategy for the management of municipal wastewater effluent, which was endorsed in 2009 by the Federal Government and most provinces, including Nova Scotia. The ERA identified the necessary performance standards, should it be desired to expand the capacity at BLT WWTF.

BLT Area Wastewater Servicing Options – Concept Development Study:

The results of the BLT WWTF ERA were an input into the BLT Area Wastewater Servicing Options – Concept Development Study. The objective of this study was to determine, at a high level, the preferred approach to addressing the BLT capacity issue.

Regional Wastewater Functional Plan (RWWFP):

The RWWFP was completed in 2012 and provides Halifax Water with a wastewater servicing master plan for existing and future growth areas, consistent with HRM's Regional Plan. An objective of this plan was to achieve compliance with CCME objectives, which include that Combined Sewer Overflows (CSO) and Sanitary Sewer Overflows (SSO) will not increase in frequency as a result of new development activity.

The cumulative results of these studies determined the preferred approach to addressing the BLT wastewater capacity issue. The life cycle costs of the two options were comparable; however, the RWWFP confirmed that the optimum solution was the redirection of wastewater flow from the BLT sewershed to the Halifax sewershed.

In the near term, the wastewater would be directed to the Halifax sewershed consistent with available capacity at the Halifax WWTF. The RWWFP identified that, as development progresses within the Halifax sewershed (such as densification on the peninsula and continued growth in Mainland North), capacity will be created within the Halifax WWTF by diverting wastewater flows in the Armdale, Lower Spryfield, Bayers Lake areas, and the redirected BLT flows, to the existing Herring Cove WWTF. In this scenario, the wastewater from the BLT area will be redirected to the Herring Cove WWTF with optimal discharge to a deep marine environment, and eliminating the long term operation of the BLT WWTF with its existing discharge to the fresh water Nine Mile River.

With the broad servicing option established, the next level of evaluation was selecting the optimal method of piping the wastewater to the Halifax Sewershed. Halifax Water retained Genivar to undertake the preliminary and detailed design for this project. Genivar has completed the preliminary design work and is currently finalizing their Preliminary Design Report.

The preliminary design generally includes the reconstruction of the existing Lakeside pumping station, which currently directs flows to the BLT WWTF, to direct flows to the Bayers Lake area via new forcemains and gravity mains along a route that includes sections of the BLT Trail and the Chain of Lake Trail. With the wastewater routed to Bayers Lake, two alternatives were developed to convey the wastewater from the Bayers Lake pumping station area to the Bedford Interceptor wastewater trunk sewer at Fairview Cove:

- The first alternative involves utilizing the existing Bayers Lake pumping station and forcemain system to convey the wastewater to the Northwest Interceptor Sewer located in Fairview. The Northwest Interceptor Sewer connects to the Bedford Highway Interceptor Sewer located along the Bedford Highway. This work would include a major reconstruction of the Bayers Lake Pumping Station, replacement of the Bayers Lake forcemain system (approximately 1.3 km), and the replacement of a significant portion (approximately 1.8 km) of the Northwest Interceptor Sewer located on Rosedale Avenue, Willet Street, Main Street, Berts Drive, Evans Avenue, Dawn Street and Titus Avenue.
- The second alternative involves a continuation of a gravity sewer system along the Chain of Lakes Trail corridor from Bayers Lake to Joseph Howe Drive, with connection to the

Bedford Highway Interceptor Sewer. The Chester Spur corridor is identified as a key active transportation (AT) corridor in the Active Transportation Plan approved in 2006. The Chester Rail Spur was formally abandoned by CN in March 2008. Just prior to the spur line abandonment, two public sessions were held to present the opportunity for a future AT corridor and to provide information on alternative uses for the corridor. Public response was nearly fully supportive of the idea of creating an AT trail within this corridor. In 2009, HRM purchased a significant portion of the Chain of Lakes Trail from Canadian National Railway.

The selection of one of these alternatives is strictly a routing issue, as in either case the wastewater will be conveyed to the Halifax WWTF. The draft preliminary design indicates that the capital cost of the alternatives is within five percent of each other; however, the lifecycle analysis strongly favours the gravity system along the Chain of Lakes Trail. Assuming a 20 year time horizon, the net present value of the gravity system along the Chain of Lakes Trail is predicted to cost approximately \$9M less than providing capacity via the route through Fairview. In addition, the construction of a gravity sewer along the Chain of Lakes Trail would be consistent with the RWWFP, with respect to creating capacity within the Halifax WWTF by diverting wastewater flows to the Herring Cove WWTF. A gravity sewer system along the Chain of Lake Trail would, in time, become a core component of the system required to convey wastewater to the Herring Cove WWTF, as the wastewater conveyed through this system (from BLT, Bayers Lake and potentially future development areas to the north) could be intercepted in the area of the Armdale Round About. At this location, a regional pumping station would be constructed to convey these flows as well as wastewater from the Armdale, Lower Spryfield, and Bayers Lake areas to the Herring Cove WWTF.

In an effort to meet the noted servicing commitments for new development, the BLT wastewater solution is proposed for completion by the end of 2014. To meet this timeline, Halifax Water proposed to complete detailed design work by September of 2013 and begin the construction phase.

The detailed design for the preferred alternative along the Chain of Lakes Trail would include initiatives to mitigate impacts to trail users and provide legacy enhancements to the trail with project reinstatement work. One of the prime mitigative approaches would be to include a significant portion of the construction activity between Bayers Lake and Joseph Howe Drive, during the winter months from November 2013 to April 2014.

Easement Requirement:

To undertake the required work, consistent with the preferred alternative, Halifax Water requires the acquisition of the necessary property rights to both construct and operate a sewer system within the HRM trail system. An easement over the required width of the trail would be the most appropriate approach. Easements represent a partial interest in property for a very specific purpose, which in this case is for the operation of a sewer system. HRM would continue to own the property, subject to Halifax Water having the right in perpetuity via an easement to construct and maintain a sewer system.

TABLE 1

Easement Value Terms and Conditions			
Grantor	Halifax Regional Municipality		
Grantee	Halifax Regional Water Commission		
Land Parcel	Area of Easement (sq.ft.) subject to final plan of survey	Per Square Foot Unit Cost for Easement	Total Purchase Price exclusive of applicable HST
A	15,774	\$7.20	\$113,572.80
B	12,243	\$1.00	\$12,243.00
C	8,217	\$1.00	\$8,217.00
D	46,530	\$0.50	\$23,265.00
E	4,323	\$2.00	\$8,646.00
F	57,486	\$0.75	\$43,114.50
G	23,859	\$1.75	\$41,753.25
H	34,056	\$0.50	\$17,028.00
J	254,100	\$0.15	\$38,115.00
K	233,904	\$0.50	\$116,952.00
X	19,734	\$1.00	\$19,734.00
Y	7,590	\$1.00	\$7,590.00
Total	717,816		\$450,230.55

The easement value for a utility easement is typically calculated at 50% of the market value of the land. In this instance, staff has calculated the easement value at 50% of the unit cost for acquisition of the parent parcels by the Municipality in 2009.

Impact on the Trail

All impacts on the trail will be short term during construction activities, as the trail will be reinstated to its original state or better. Work will be completed in phases along the trail of several hundred metres each, on average, between cross streets. Some sections such as along Chain Lake will be longer. Each phase would require a full closure of that section of the trail. The work within each section would take 3 to 6 weeks on average to complete (slightly longer for the longer sections).

Each section of the trail will be restored to grade and opened to traffic before advancing to the next section. The final asphalt surface may be delayed so that it can be restored in one pass for a better end product; some of the final vegetation restoration may lag the individual section re-openings. Several sections at alternate ends of the project may be closed at one time.

The impact to the trail users will be mitigated by completing the busier sections of the trail during the winter season, creating detours around closed sections for trail continuity, and there will be communication and signage to clarify closed sections and alternate routes. The end result will have no impact on the trail itself and the finished grade and surface condition will generally match the existing. It is possible that improvements may be made in the trail features within the scope of required restoration.

All of the above issues will be worked out during the detailed design phase and in consultation with the stakeholders.

FINANCIAL IMPLICATIONS

The net proceeds of the conveyance will be contributed to the Sale of Land Reserve Account Q101. Legal and registration fees associated with this transaction will be the responsibility of Halifax Water.

Applicable Grantor adjustments to the transaction value include, but are not limited to, appraisal, survey, easements, environmental impacts, grading deficiencies, and wetland management, legal, marketing and administrative costs. Adjustments or deficiency, if required, shall be to a maximum of fifteen percent of the easement value.

COMMUNITY ENGAGEMENT

Community Engagement will be led by Halifax Water, including consulting and coordinating with project stake holders during the project design and construction processes.

The Chain of Lakes Trail Association, along with HRM staff, will be directly engaged for input. Due to the size and extensive use of the trail system, the general public consultation and coordination will include:

- A public meeting to present the project and provide interaction;
- A general information website updating details of the project;
- Signage posted along the trail to advise of upcoming work and direct the public to the website; and
- Advertise upcoming work to the trail in local media.

Project goals will include the mitigation of the project on trail users and to optimize legacy trail enhancements with project restoration activities.

ENVIRONMENTAL IMPLICATIONS

As articulated in the Discussion section of this report, the recommendation helps to create capacity within the Halifax WWTF, which in turn supports the urban growth targets of the Regional Plan.

ALTERNATIVES

Regional Council could agree not to grant an easement to Halifax Water along the Chain of Lakes Trail. This option is not recommended for the reasons outlined in this report.

ATTACHMENTS

Attachment 1: Map showing proposed Lakeside Pump Station Diversion to Halifax Sewershed

Attachment 2: Easement Corridor Map A

Attachment 3: Easement Corridor Map B

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/agenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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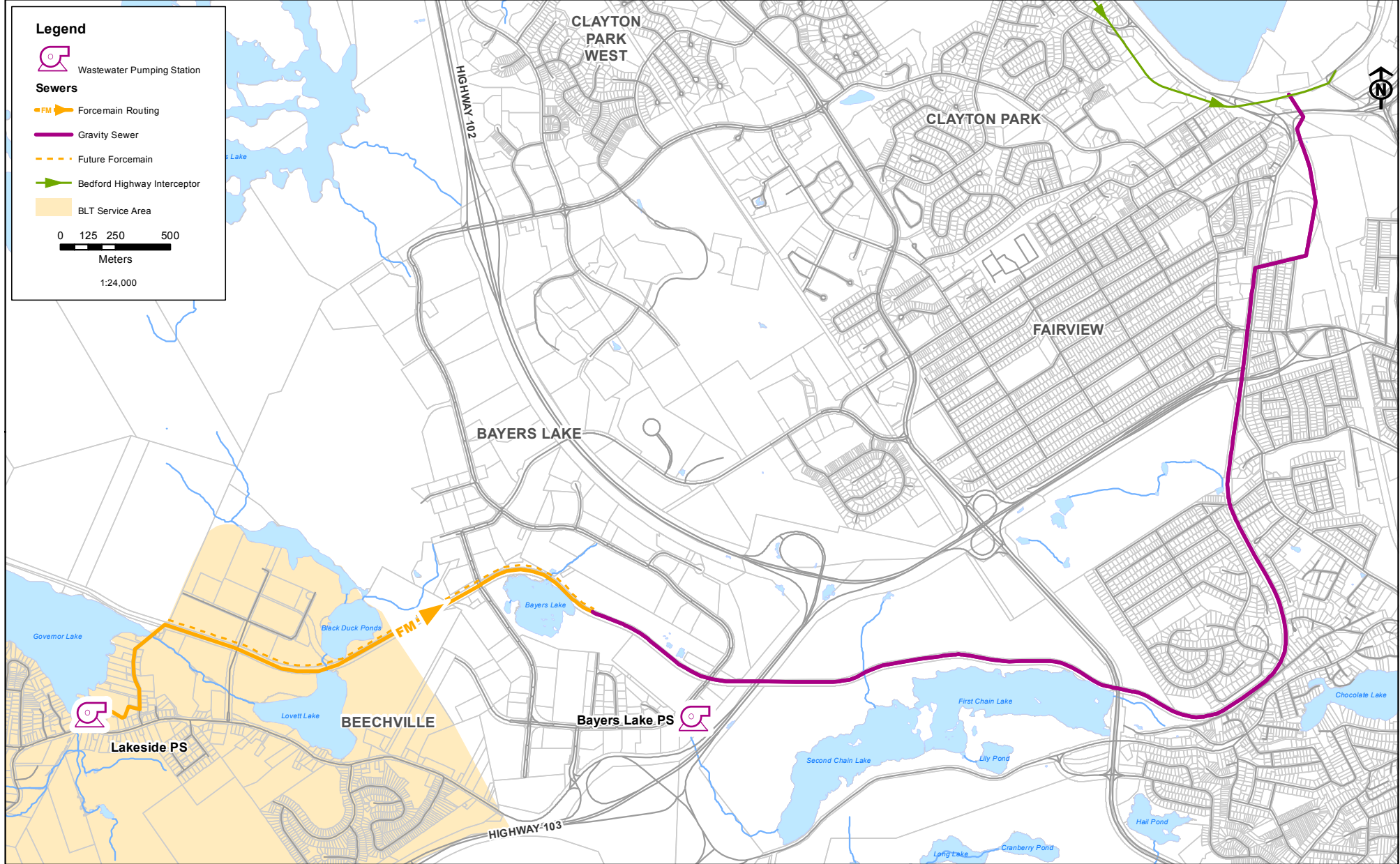
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Lakeside Pump Station Diversion to Halifax Sewershed



The information contained on this map may not be complete and/or accurate in all areas. Should accurate information or confirmation of completeness be required, please contact the Engineering Department of Halifax Water. Halifax Water will not be held liable for misuse of this information.

Figure 1

"To provide world class services for our customers and our environment"

Drawn By: G.Mesheau
Data Source: Halifax Water / HRM
Date: Thursday, July 04, 2013



Attachment 2



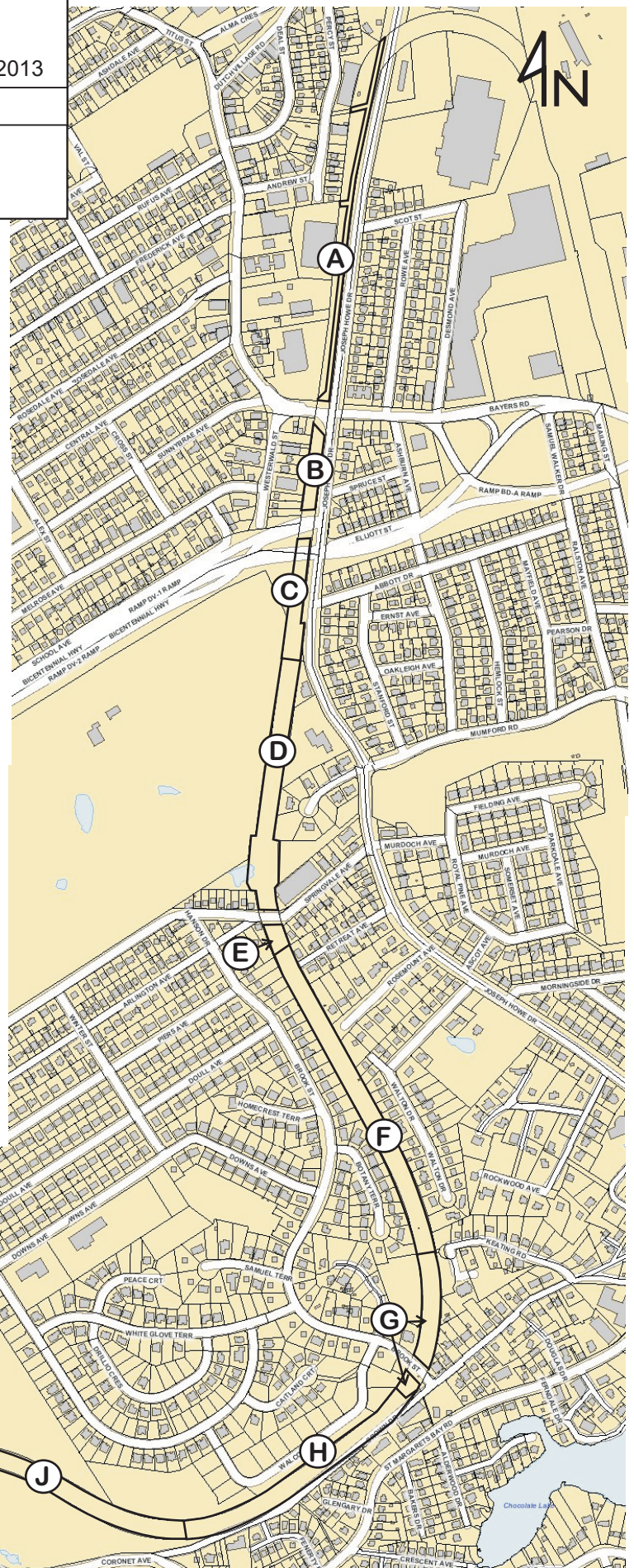
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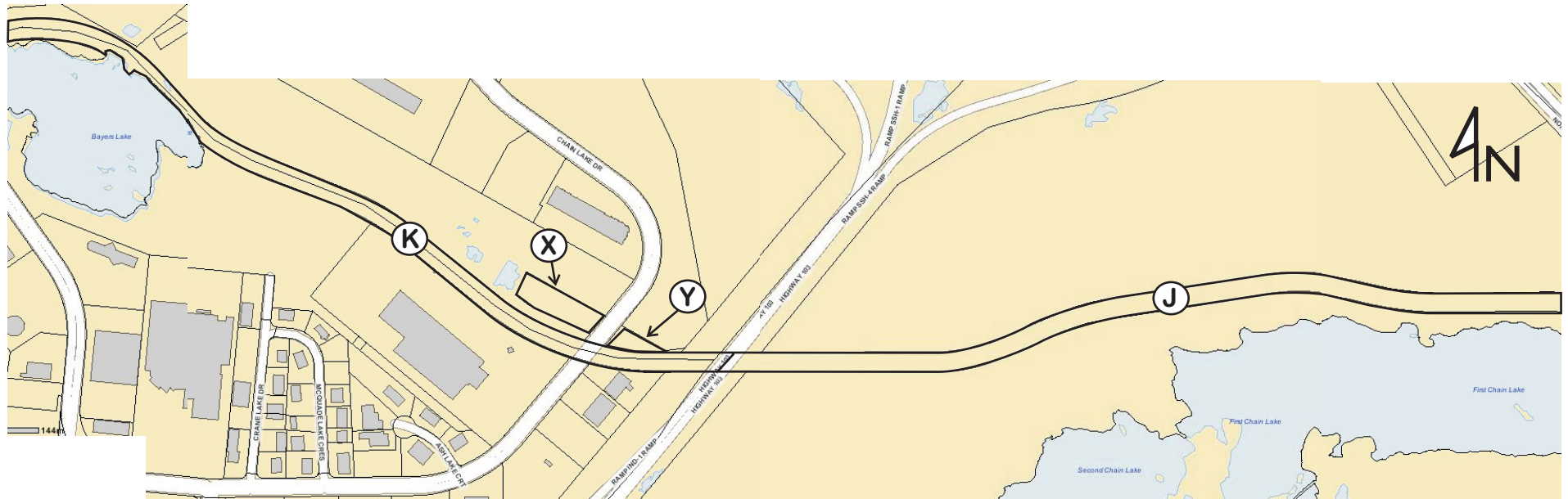
ATTACHMENT A

Easement Corridor Map A

Scale 1:10,000



Attachment 3



Scale 1:10,000

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ATTACHMENT B

Easement Corridor Map B