

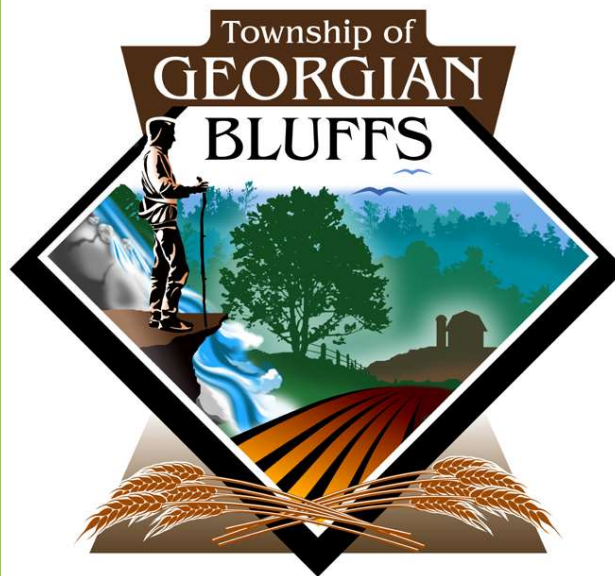
**COMMITTEE OF THE WHOLE
MEETING**

**EAST LINTON
WATER AND WASTEWATER
MASTER SERVICING PLAN
DRAFT PHASE II PRESENTATION**

**TOWNSHIP OF
GEORGIAN BLUFFS**

WEDNESDAY, NOVEMBER 15TH, 2023

21-050

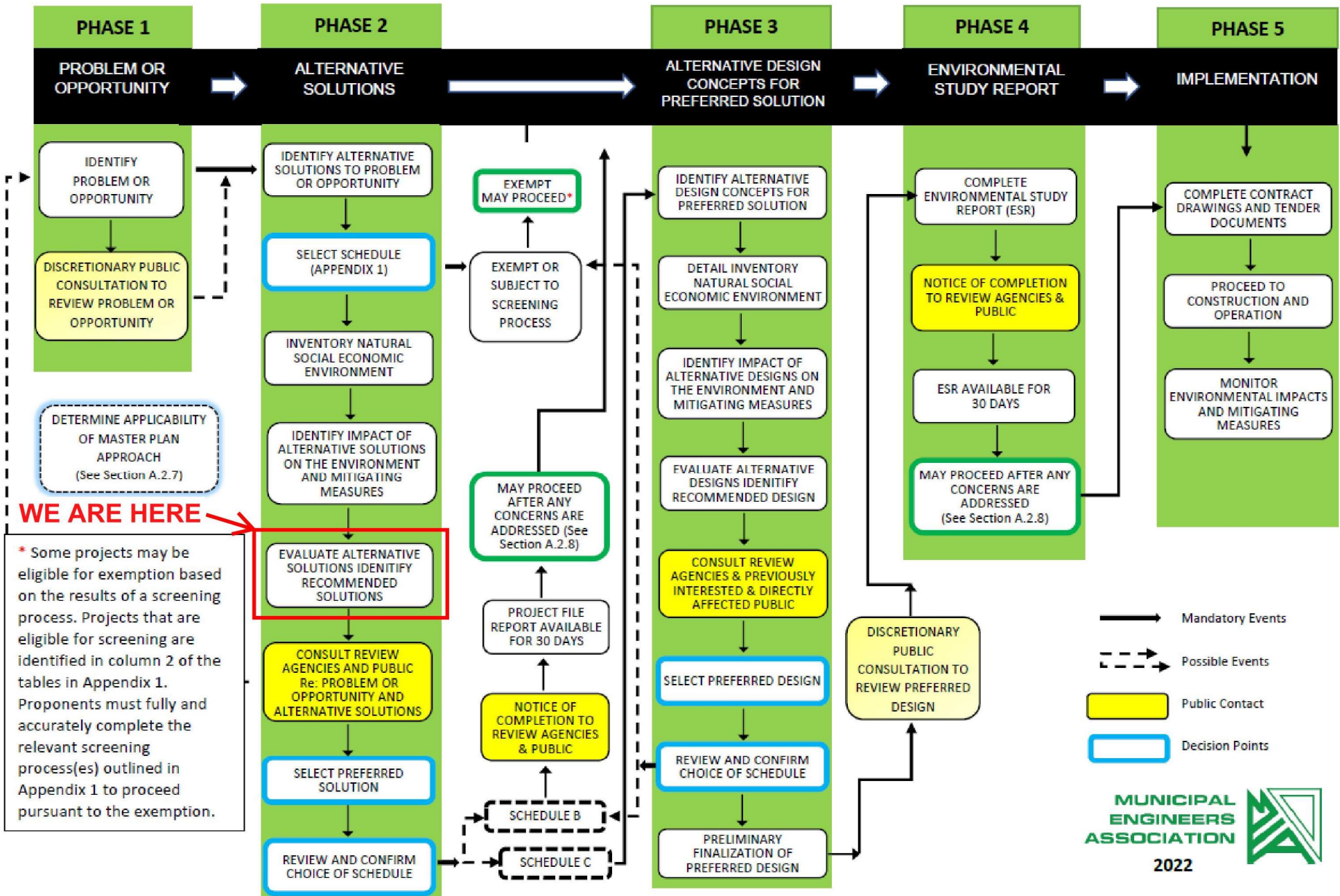


STUDY OBJECTIVES

- Assess current water demands & population in East Linton
- Evaluate existing water servicing infrastructure
- Determine short term water main upgrades (including cost and timeline)
- Estimate future population growth and water demands
- Determine long term water treatment and distribution upgrades (including cost and timeline)
- Evaluate wastewater treatment plant at Cobble Beach and potential for servicing lands outside of Cobble Beach
- This Master Plan is proceeding in accordance with the MEA Class EA document. The Class EA flow chart diagram is provided overleaf.

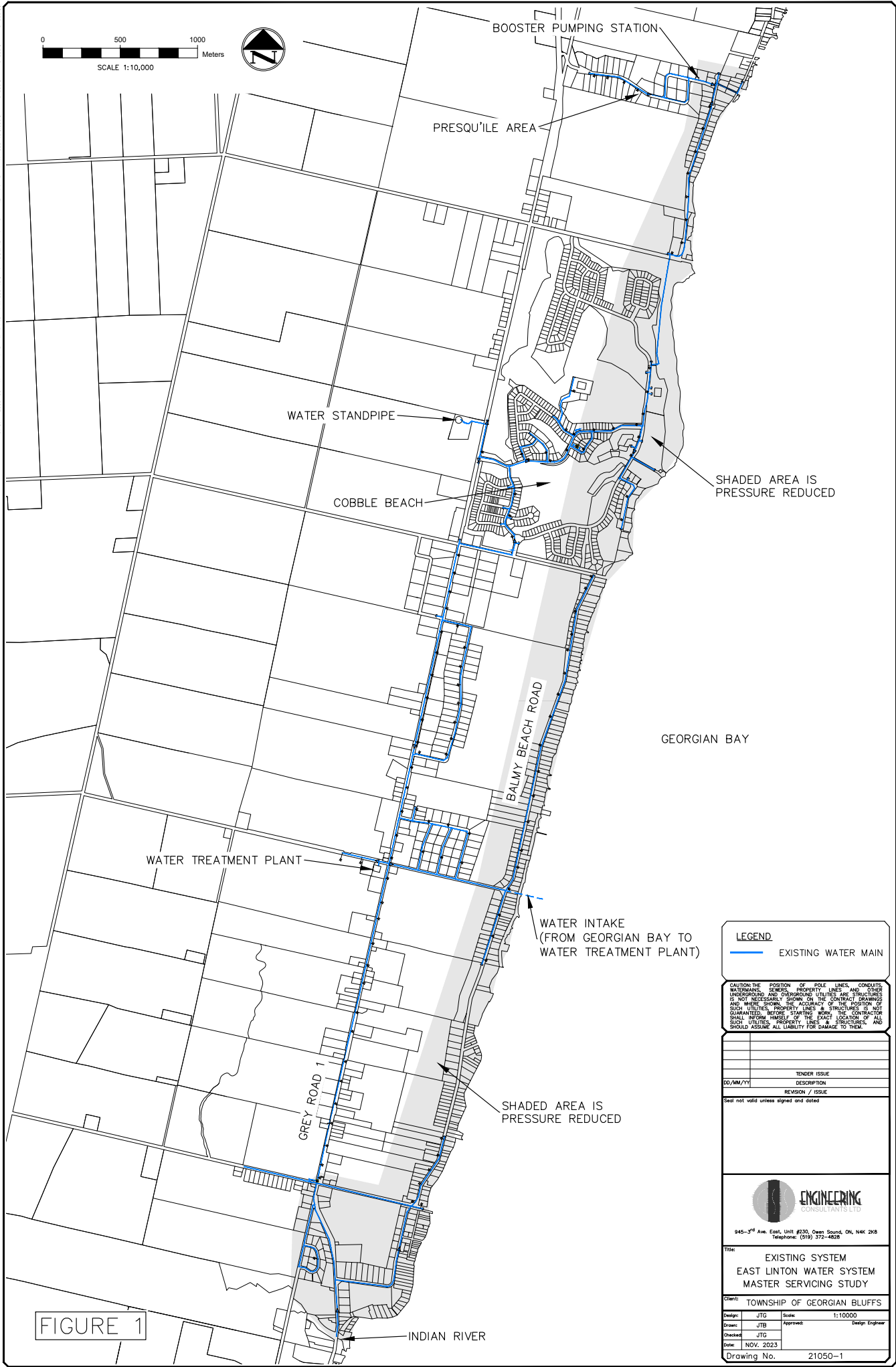
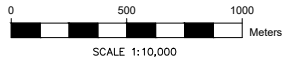
EXHIBIT A.2. MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

NOTE: This flow chart is to be read in conjunction with Part A of the MCEA



EXISTING EAST LINTON WATER SYSTEM

- Spans 8.4 km north-south from Presqu'île area to Indian River and 1 km east-west from Grey Road 1 to the west shore of Georgian Bay
- Many of the water mains are aged and undersized (75 mm – 100 mm diameter)
- The water treatment plant is located at East Linton Side Road and Grey Road 1
- The water treatment plant has a rated capacity of 2,600 m³/day and services the majority of homes in East Linton
- The water standpipe is located on Grey Road 1 across from Cobble Beach
- The standpipe provides pressure control and additional water storage to the system
- The elevation difference from east to west of 55 m creates two pressure zones in the water system. There is virtually no “looping” within the water system.



BOOSTER PUMPING STATION

PRESQU'ILE AREA

WATER STANDPIPE

COBBLE BEACH

SHADED AREA IS PRESSURE REDUCED

GEORGIAN BAY

BALMY BEACH ROAD

WATER TREATMENT PLANT

WATER INTAKE
(FROM GEORGIAN BAY TO
WATER TREATMENT PLANT)

SHADED AREA IS PRESSURE REDUCED

GREY ROAD 1

INDIAN RIVER

FIGURE 1

LEGEND	
	EXISTING WATER MAIN

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWER, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS, AND NECESSARILY SHOWN ON THE CONSTRUCTION DRAWINGS AND WERE BROKEN. THE ACCURACY OF THE POSITION OF SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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DD/MM/YY	DESCRIPTION
	REVISION / ISSUE

Not valid unless signed and dated

945-3rd Ave. East, Unit #230, Ocean Sound, ON, N4K 2K8
Telephone: (519) 372-4608

Title: EXISTING SYSTEM
EAST LINTON WATER SYSTEM
MASTER SERVICING STUDY

Client: TOWNSHIP OF GEORGIAN BLUFFS

Design:	JTG	Scale:	1:10000
Drawn:	JTG	Approved:	Design Engineer
Checked:	JTG		
Date:	NOV. 2023		
Drawing No.	21050-1		

WASTEWATER SERVICING IN EAST LINTON

- The only communal wastewater treatment plant in East Linton is located within Cobble Beach and is currently owned and operated by Cobble Beach
- The wastewater treatment plant only services buildings within Cobble Beach at this time
- When Cobble Beach reaches 400 homes constructed (among other stipulations), the Township can take over ownership and operation of the wastewater treatment plant and the sanitary sewer system
- At the end of 2022, Cobble Beach had 171 homes (including clubhouse, etc.)
- Prior agreements between Cobble Beach and the Township anticipate expansion of the wastewater sanitary sewers to lands outside of Cobble Beach

CURRENT POPULATION, WATER DEMAND, AND LEAKAGE RATES

- Currently (as of December 2022) there are 588 connections to the East Linton water system
- Average daily water consumption, based on individual water meter records, was 235 m³/day in 2022 (0.4 m³/day per home)
- Average daily water demand at the water treatment plant (in 2022) was 752 m³/day (1.3 m³/day per home)
- The difference between water demand and the water meter consumption is 517 m³/day. This amount is the leakage in the water distribution system.
- Therefore, leakage accounts for 70% of average daily water demand, far higher than an acceptable 15% allowance as per Ministry of Environment guidelines
- Water distribution system leaks are a major issue in East Linton
- Maximum day water demand in 2022 was 1,182 m³/day including leakage (2.0 m³/day per home)

MODELLING OF THE EXISTING EAST LINTON WATER SYSTEM

- The water system was modelled using WaterCAD software by dividing the maximum day water demand amongst 50 locations in the water distribution system, then assigning an appropriate fire flow to each location (based on the type of surrounding buildings)
- Modelling indicates the water distribution system can adequately provide the maximum day water demand to all areas at acceptable water pressure
- Out of 50 locations modelled in the East Linton water system, 21 locations did not provide sufficient fire flows at adequate water pressures
- We recommend 6 water main upgrade projects to replace undersized water mains, increase water main looping and improve fire flows and pressures throughout the system
- Following these upgrades, only 11 out of 50 locations modelled did not provide sufficient fire flows at adequate pressures though almost all areas had significantly improved fire flow protection

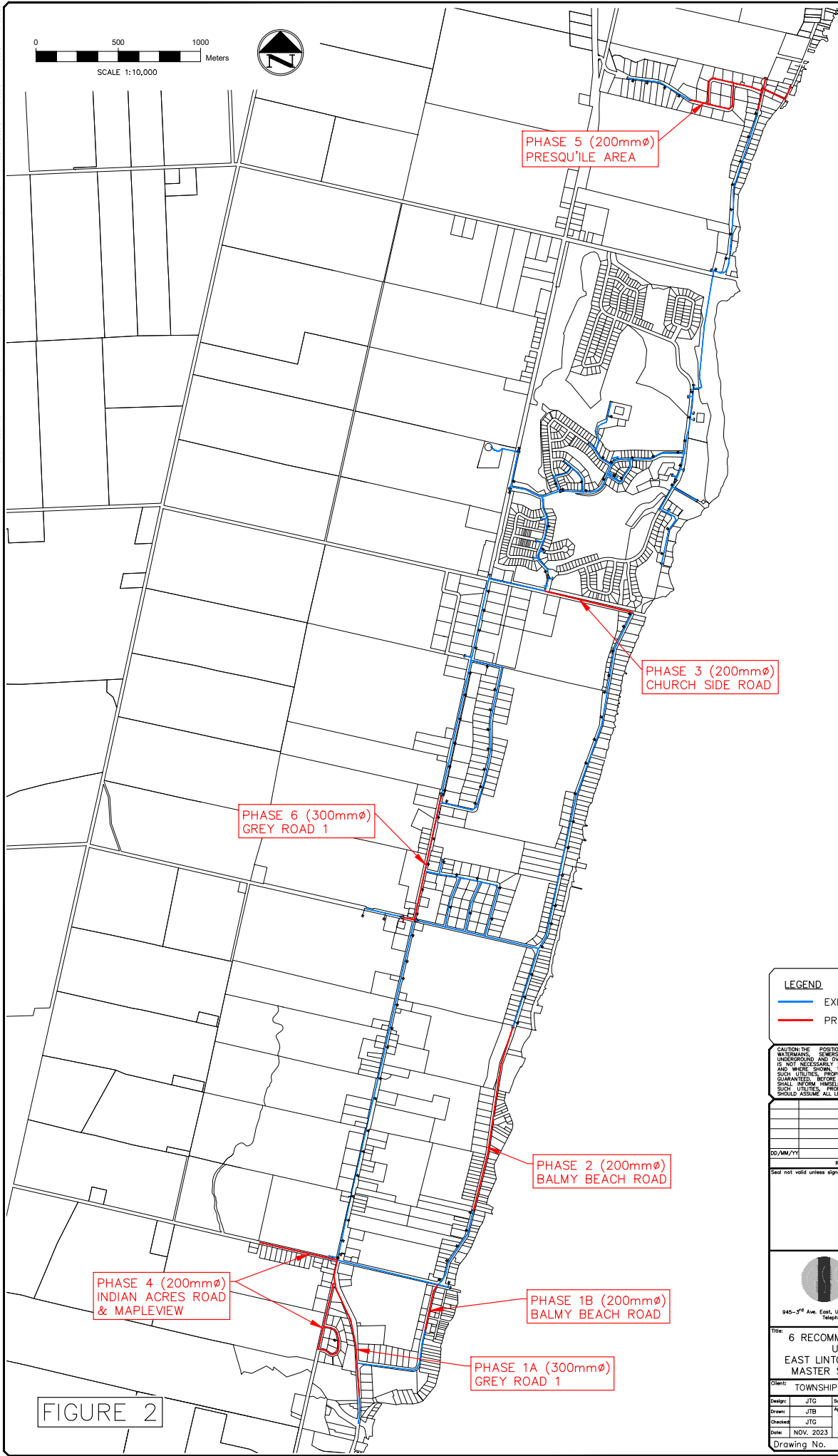
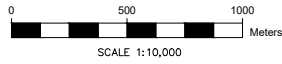


FIGURE 2

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWER, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS, AND NECESSARILY SHOWN ON THE CONSTRUCTION DRAWINGS AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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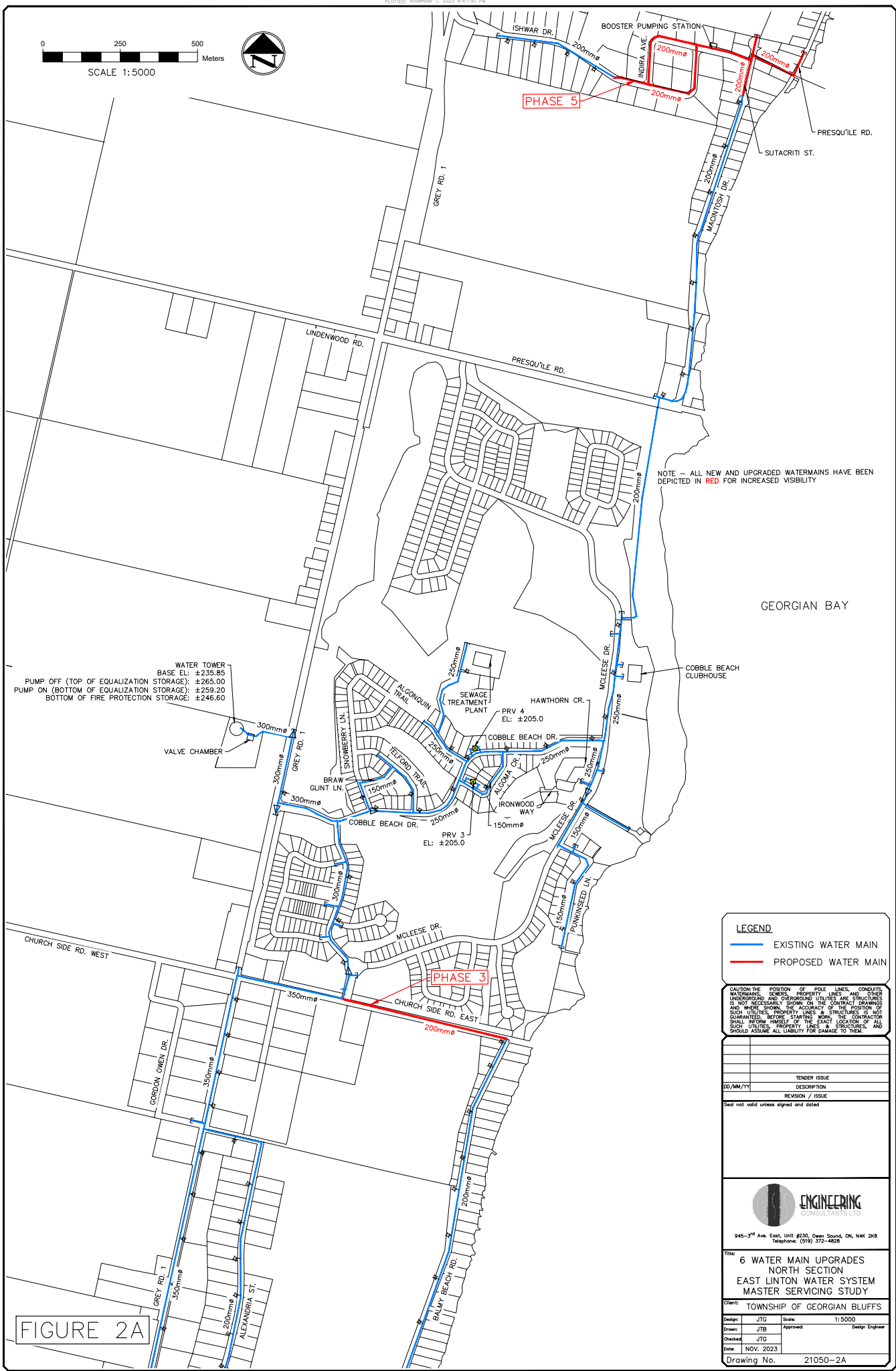
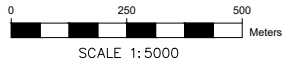
ENGINEERING CONSULTANTS LTD

945-3rd Ave. East, Unit #230, Ocean Sound, ON, N4K 2K8
Telephone: (905) 372-4608

Title: 6 RECOMMENDED WATERMAIN UPGRADES
EAST LINTON WATER SYSTEM
MASTER SERVICING STUDY

Client: TOWNSHIP OF GEORGIAN BLUFFS

Design:	JTG	Scale:	1:10000
Drawn:	JTG	Approved:	Design Engineer
Checked:	JTG		
Date:	NOV. 2023		
Drawing No.	21050-2		



PHASE 5

PHASE 3

NOTE - ALL NEW AND UPGRADED WATERMANS HAVE BEEN DEPICTED IN RED FOR INCREASED VISIBILITY

WATER TOWER
 BASE EL: ±235.85
 PUMP OFF (TOP OF EQUALIZATION STORAGE): ±265.00
 PUMP ON (BOTTOM OF EQUALIZATION STORAGE): ±259.20
 BOTTOM OF FIRE PROTECTION STORAGE: ±246.60

VALVE CHAMBER

PRV 4
 EL: ±205.0

PRV 3
 EL: ±205.0

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS, AND NECESSARILY SHOWN ON THE CONTOUR, STRINGS AND WERE SHOWN FOR THE ACCURATE POSITION OF SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM WAREP OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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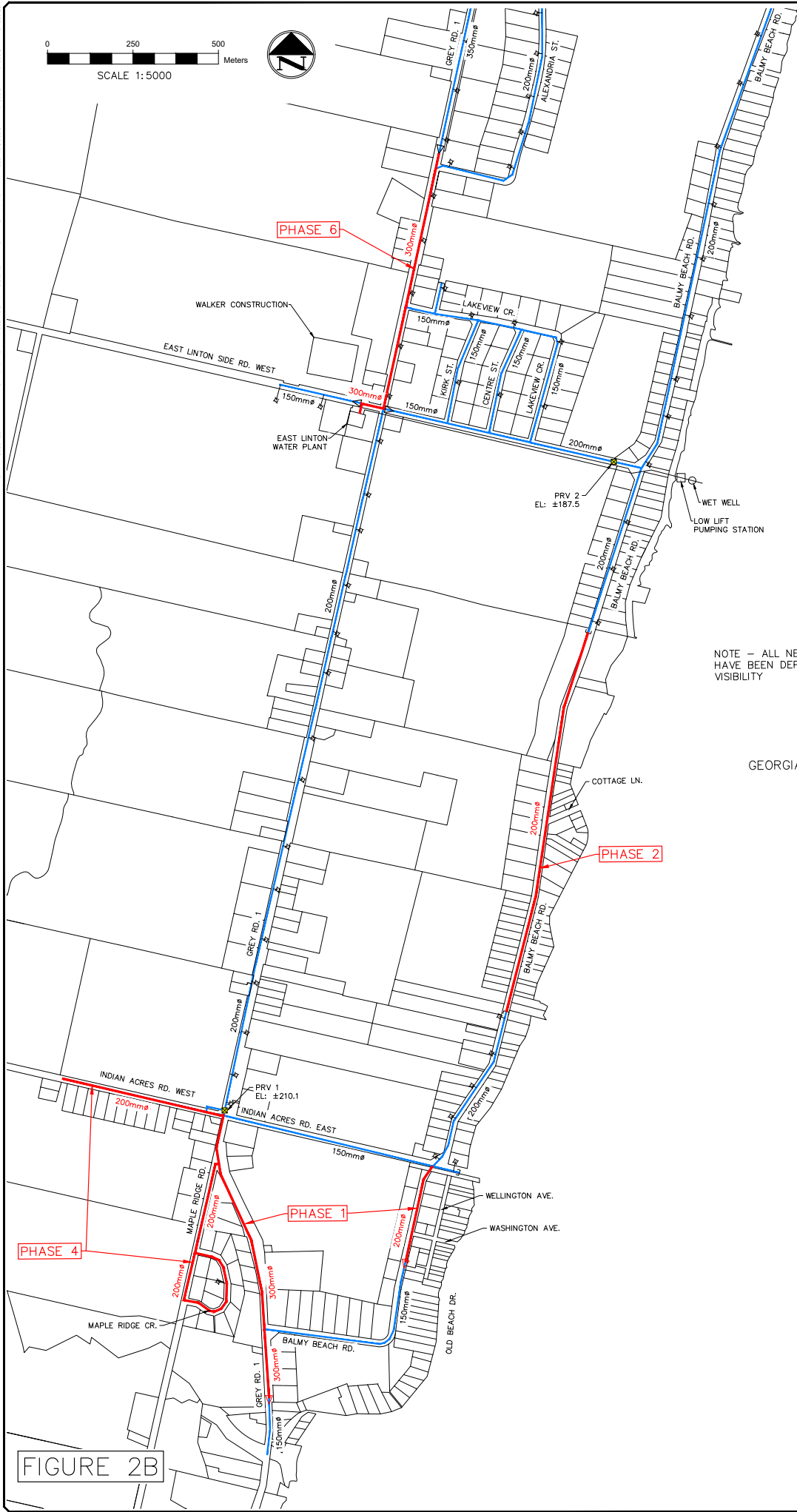
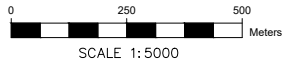
945-3rd Ave. East, Unit #230, Ocean Sound, ON, N4K 2K8
 Telephone: (905) 372-4608

Title: 6 WATER MAIN UPGRADES
 NORTH SECTION
 EAST LINTON WATER SYSTEM
 MASTER SERVICING STUDY

Client: TOWNSHIP OF GEORGIAN BLUFFS

Design: JTG **Scale:** 1:5000
Drawn: JTG **Appr'd:** Design Engineer
Checked: JTG
Date: NOV. 2023
Drawing No.: 21050-2A

FIGURE 2A



PHASE 6

PHASE 2

PHASE 4

PHASE 1

NOTE - ALL NEW AND UPGRADED WATERMANS HAVE BEEN DEPICTED IN RED FOR INCREASED VISIBILITY

GEORGIAN BAY

LEGEND

	EXISTING WATER MAIN
	PROPOSED WATER MAIN

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONFORMING DRAWINGS AND THESE SHOULD BE ACCURATELY LOCATED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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945-3rd Ave. East, Unit #230, Ocean Sound, ON, N4K 2K8
Telephone: (905) 372-4608

FIGURE 2B

TITLE: 6 WATER MAIN UPGRADES SOUTH SECTION EAST LINTON WATER SYSTEM MASTER SERVICING STUDY

CLIENT: TOWNSHIP OF GEORGIAN BLUFFS

Design:	JTG	Scale:	1:5000
Drawn:	JTG	Approved:	Design Engineer
Checked:	JTG		
Date:	NOV. 2023		
Drawing No.	21050-2B		

PRELIMINARY COST ESTIMATES FOR 6 RECOMMENDED UPGRADES

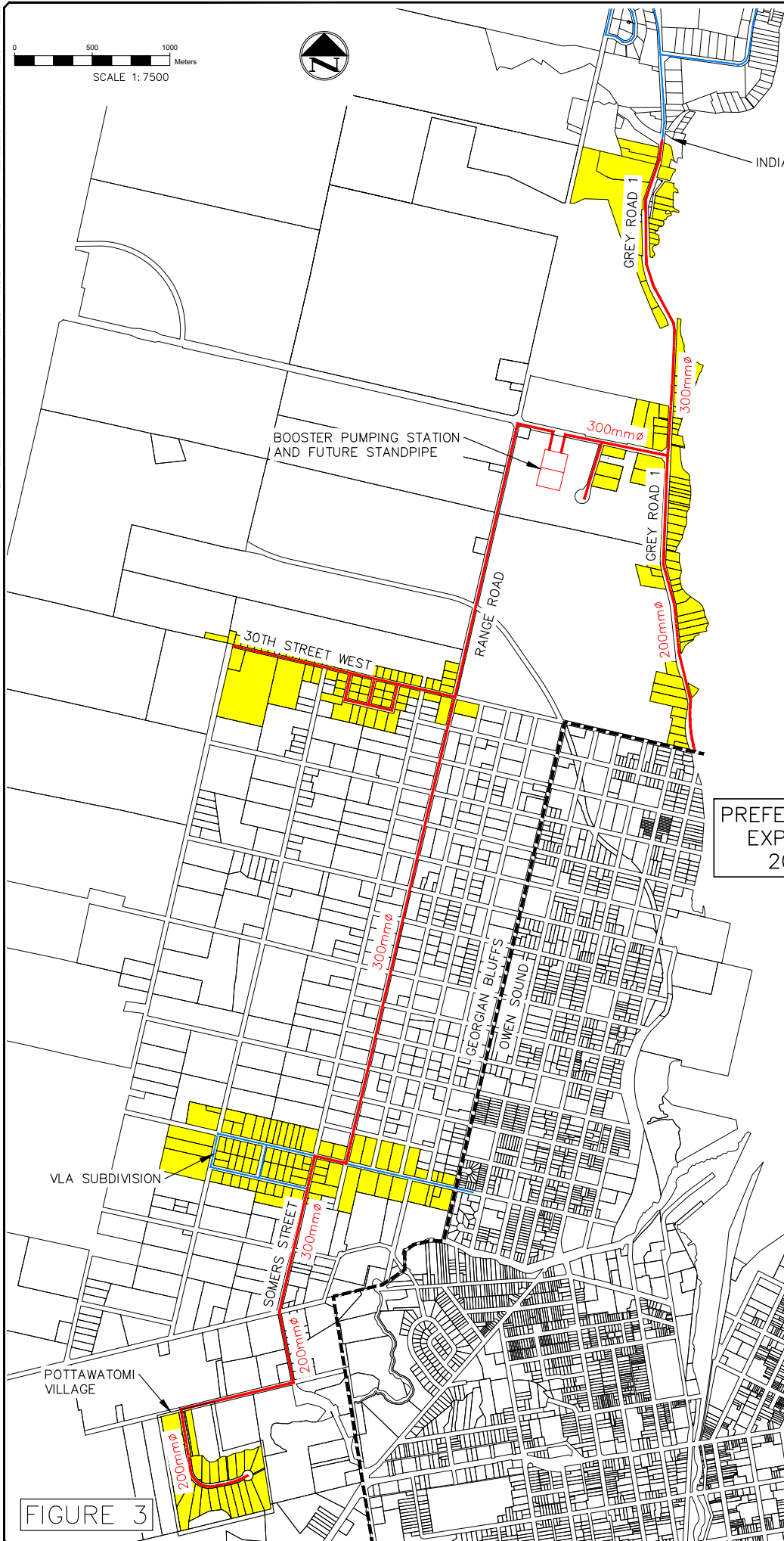
Phase	Description	Cost*
1A and 1B	Upgrade water main size on the south end of Balmy Beach Road from 75 mm ø to 200 mm ø (300 m) and on Grey Road 1 (south of Indian Acres Road) from 75 mm ø to 300 mm ø (860 m).	\$1,600,000.00
2	Install 200 mm ø water main on the 1,150 m long stretch of Balmy Beach Road, between East Linton Side Road and Indian Acres Road, currently without water main.	\$1,600,000.00
3	Install 200 mm ø water main on the 550 m long stretch of Church Side Road, between McLeese Drive and Balmy Beach Road, currently without water main.	\$700,000.00
4	Upgrade water main size on the west end of Indian Acres Road from 75 mm ø to 200 mm ø (490 m) and on Maple Ridge Road and Maple Ridge Crescent from 75 mm ø to 200 mm ø (775 m).	\$1,600,000.00
5	Upgrade 100 mm ø water main on Ishwar Drive and Indira Drive to 200 mm ø, at 75 mm ø water main on Sutacriti Street, and Presqu'ile Road to 200 mm ø (total length of 1,375 m).	\$1,700,000.00
6**	Upgrade water main size on Grey Road 1 from the water treatment plant to the lower end of Alexandria Street from 200 mm ø to 350 mm ø (875 m).	\$1,400,000.00
TOTAL		\$8,600,000.00

* Includes construction, engineering, and contingency costs but excludes HST. Estimates are preliminary and based on 2022 construction prices.

** Upgrade Phase 6 to be funded by Cobble Beach once 200 ERUs are reached within Cobble Beach.

POTENTIAL EXPANSION TO BROOKE AND POTTAWATOMI VILLAGE (2018 CLASS EA)

- A Class EA was completed in 2018 to assess alternatives to expand water servicing into portions of Brooke area and Pottawatomi Village
- The 2018 Class EA proposed a water main to be run approximately 7.5 km from Indian River to Pottawatomi Village
- This expansion would service approximately 272 homes and add 272 m³/day to the maximum day water demand in East Linton (excluding leakage)
- The cost estimate for this expansion in 2018 was \$6.7 M
- Currently, with inflation we estimate the cost of this expansion to be \$8.2 M or approximately \$30,000 per home



PREFERRED WATER MAIN EXPANSION AS PER 2018 CLASS EA

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- LOTS TO BE SERVICED BY WATER MAIN EXTENSION AS PER 2018 CLASS EA

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SERVICES, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES AS FAR AS POSSIBLY SHOWN ON THE CONVEYING DRAWINGS AND WHERE BROKEN, THE ACCURATE POSITION OF SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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ENGINEERING CONSULTANTS LTD

945-3rd Ave. East, Unit #230, Owen Sound, ON, N4K 2K8
Telephone: (519) 372-4608

Title: WATERMAIN EXPANSION TO BROOKE/POTTAWATOMI EAST LINTON WATER SYSTEM

Client: TOWNSHIP OF GEORGIAN BLUFFS

Design: JTG **Scale:** 1:7500

Drawn: JTB **Approved:** Design Engineer

Checked: JTG

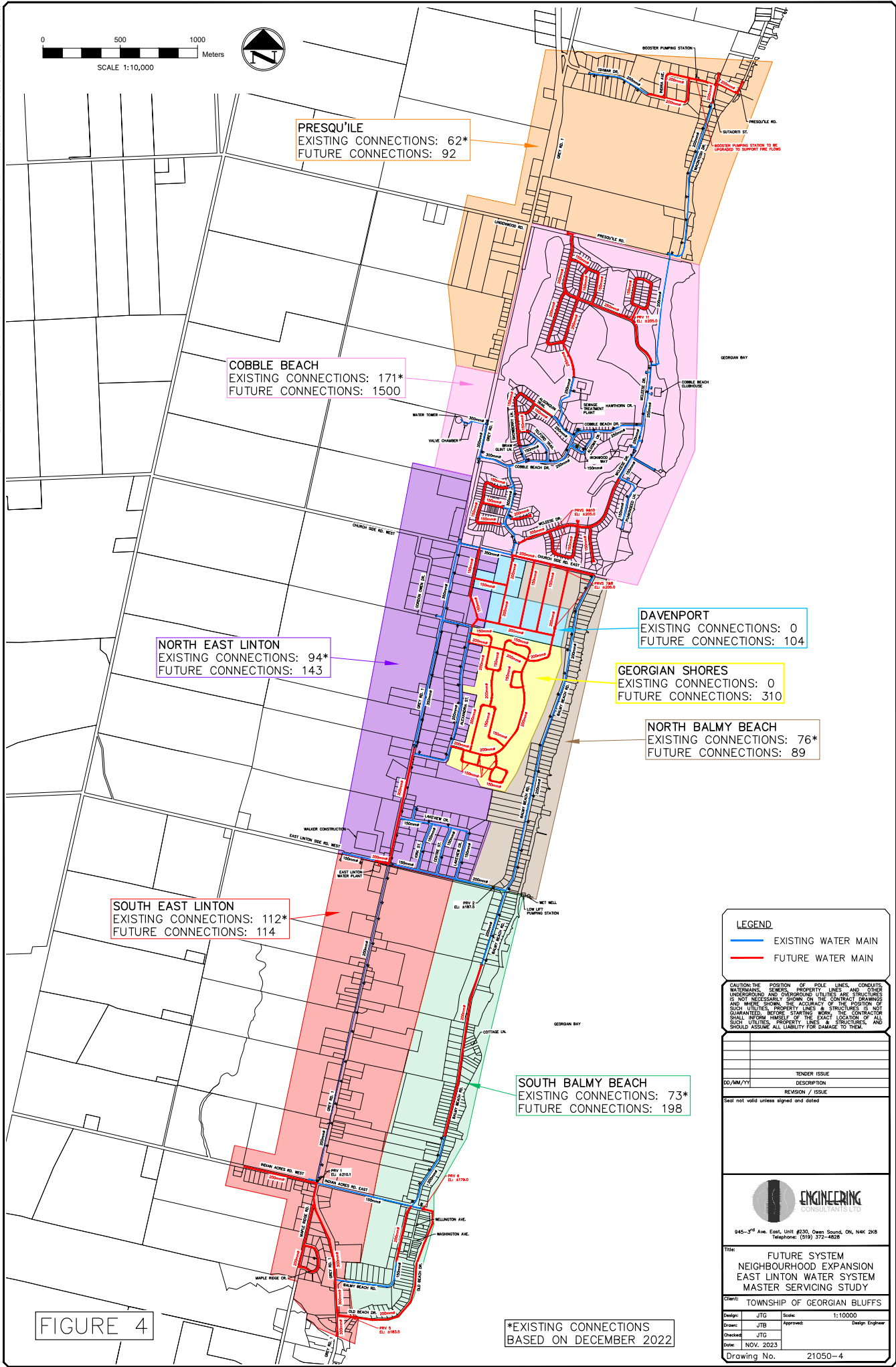
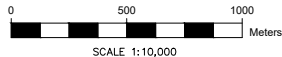
Date: NOV. 2023

Drawing No.: 21050-3

FIGURE 3

FUTURE POPULATION GROWTH AND WATER SYSTEM

- For this study, East Linton was divided into 9 areas (one being Brooke area) referred to as neighbourhoods
- Each neighbourhood was assessed for estimated population growth using Grey County GIS and Township planning documents
- At full build out, we estimated East Linton will grow to 3,000 homes. This includes 272 connections in Brooke area.
- This represents a 2,412 increase in homes from the current amount of 588



PRESQU'ILE
EXISTING CONNECTIONS: 62*
FUTURE CONNECTIONS: 92

COBBLE BEACH
EXISTING CONNECTIONS: 171*
FUTURE CONNECTIONS: 1500

NORTH EAST LINTON
EXISTING CONNECTIONS: 94*
FUTURE CONNECTIONS: 143

DAVENPORT
EXISTING CONNECTIONS: 0
FUTURE CONNECTIONS: 104

GEORGIAN SHORES
EXISTING CONNECTIONS: 0
FUTURE CONNECTIONS: 310

NORTH BALMY BEACH
EXISTING CONNECTIONS: 76*
FUTURE CONNECTIONS: 89

SOUTH EAST LINTON
EXISTING CONNECTIONS: 112*
FUTURE CONNECTIONS: 114

SOUTH BALMY BEACH
EXISTING CONNECTIONS: 73*
FUTURE CONNECTIONS: 198

LEGEND

- EXISTING WATER MAIN
- FUTURE WATER MAIN

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SERVICES, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS, AND NECESSARILY SHOWN ON THE CONSTRUCTION DRAWINGS AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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945-3rd Ave. East, Unit #230, Ocean Sound, ON, N4K 2K8
Telephone: (905) 372-4608

Title: FUTURE SYSTEM
NEIGHBOURHOOD EXPANSION
EAST LINTON WATER SYSTEM
MASTER SERVICING STUDY

Client: TOWNSHIP OF GEORGIAN BLUFFS

Design:	JTG	Scale:	1:10000
Drawn:	JTG	Approved:	Design Engineer
Checked:	JTG		
Date:	NOV. 2023		
Drawing No.	21050-4		

FIGURE 4

*EXISTING CONNECTIONS
BASED ON DECEMBER 2022

EXISTING AND FUTURE NUMBER OF WATER SERVICE CONNECTIONS

Neighbourhood	Existing Connections*	Future Connections
Presqu'île	62	92
Cobble Beach	171	1,500
North East Linton	94	143
Davenport	0	104
Georgian Shores	0	310
North Balmy Beach	76	89
South Balmy Beach	73	198
South East Linton	112	124
Sub -Total	588	2,560
If Brooke water system expansion included as per 2017 Class Environmental Assessment	221	272
Total with Brooke	809	2,832 (3,000**)

* As of December 2022

** Rounded up to provide a 6% safety factor

FUTURE WATER DEMAND AND LEAKAGE RATE

- With 3,000 connections to the water system the average daily water demand is estimated to be 1,700 m³/day (including 500 m³/day leakage)
- The future maximum day water demand is estimated to be 3,500 m³/day (including 500 m³/day leakage)
- This assumes leakage remains relatively constant (at approximately 500 m³/day) in the future
- Therefore, future maximum day demand is 900 m³/day more than the current rated capacity of the water treatment plant (2,600 m³/day)
- We proposed 2 options for expansion of the water treatment system in East Linton to meet future water demands
- A do-nothing alternative (no water main upgrades and no water treatment expansion) would limit future development in East Linton and inadequate fire flows would remain

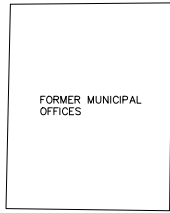
OPTION 1: CONSTRUCT NEW WATER TREATMENT PLANT ADJACENT TO EXISTING WATER TREAT PLANT

- Pro: a portion of the infrastructure and site work required for increased water treatment capacity is already present at this site
- Con: the road allowance at the shore of Georgian Bay where the current water intake and low lift pumping station are installed is very narrow and potentially limits expansion of the water intake
- The preliminary estimated cost to expand the plant from a capacity of 2,600 m³/day to a firm capacity of 3,900 m³/day is \$18 M (based on current construction costs)
- The preliminary estimated cost to expand to a firm capacity of 6,500 m³/day is \$25 M (based on current construction costs)
- The additional capacity (6,500 m³/day) would support further expansion of the water system to potentially Springmount, the Sunset Strip, and the complete Brooke area



EAST LINTON SIDEROAD WEST

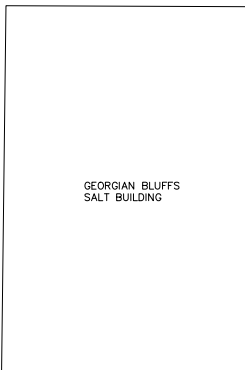
APPROX. P/L



FORMER MUNICIPAL OFFICES

CURRENT RATED CAPACITY
- 2,600m³/d (30L/s)
FUTURE FIRM CAPACITY
- 3,900m³/d (45L/s)

ALL UPGRADES HAVE BEEN
DEPICTED IN RED FOR
INCREASED VISIBILITY

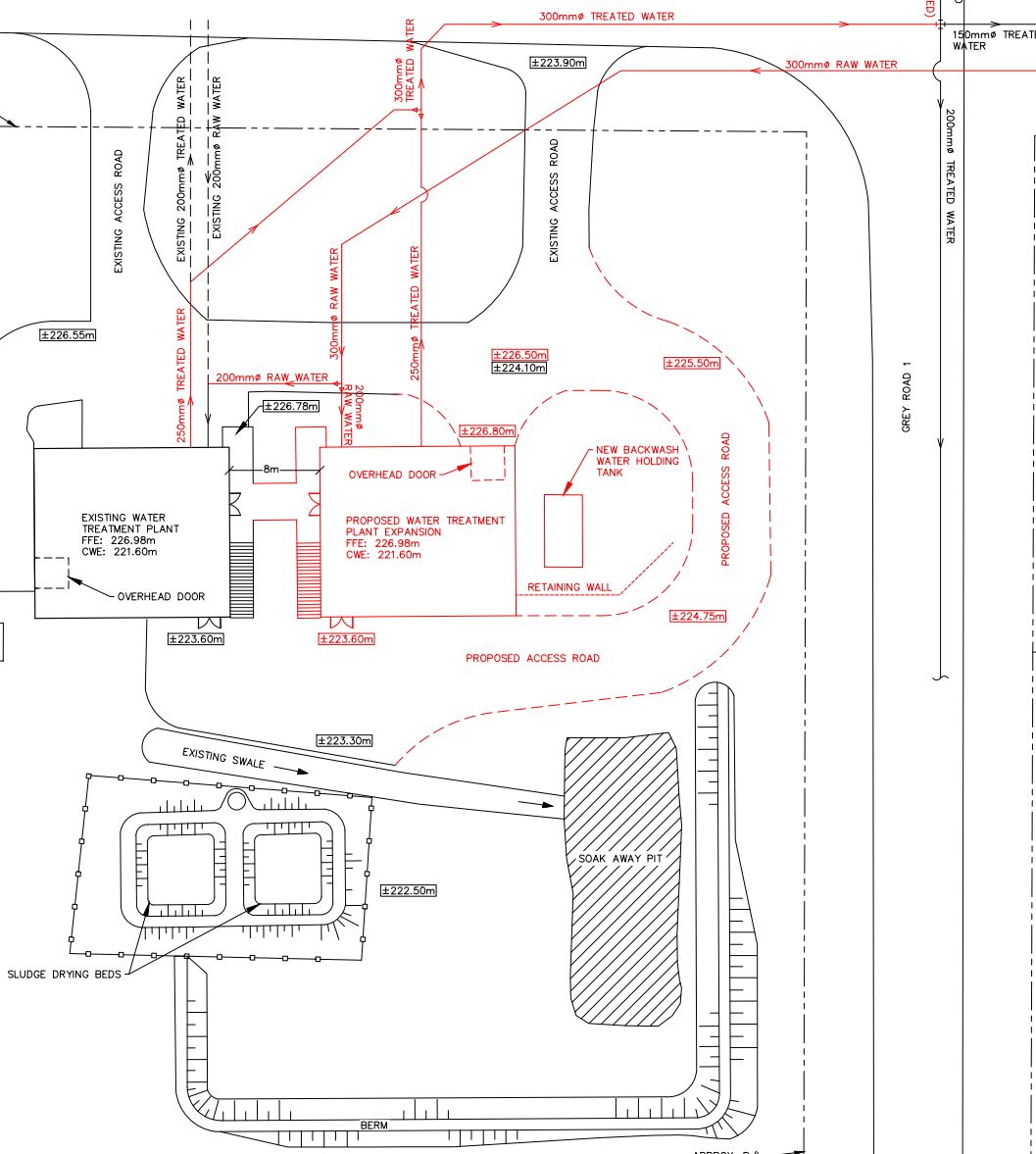


GEORGIAN BLUFFS
SALT BUILDING

FIGURE 5

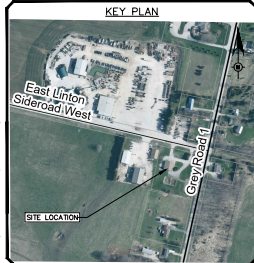
NEW SITE GENSET

EXISTING BACKWASH
WATER HOLDING TANK



GREY ROAD 1

200mm^Ø TREATED WATER
150mm^Ø TREATED WATER
300mm^Ø PROPOSED RAW WATER



KEY PLAN

LEGEND

- ±226.55m EXISTING ELEVATION
- ±226.55m PROPOSED ELEVATION
- FENCE
- FFE MAIN FLOOR ELEVATION
- CWE FLOOR ELEVATION OF CLEAR WELL
- ◁ REDUCER

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTIONS IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND THESE SHOULD BE CHECKED BY THE CONTRACTOR BEFORE STARTING WORK. THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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112		DESCRIPTION
113		REVISION / ISSUE

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ENGINEERING CONSULTANTS LTD.
945-3rd Ave. Egl. Unit #230, Deep Sound, ON, N4K 2K8
Telephone: (519) 372-4528

Title: GENERAL SITE PLAN
CONCEPTUAL EXPANSION
WATER TREATMENT PLANT
EAST LINTON

Client:	TOWNSHIP OF GEORGIAN BLUFFS		
Design:	JTG	Scale:	1:200
Drawn:	JTB	Approved:	Design Engineer
Checked:	JTG		
Date:	JUNE 2023		
Drawing No.:	21050-7.2		

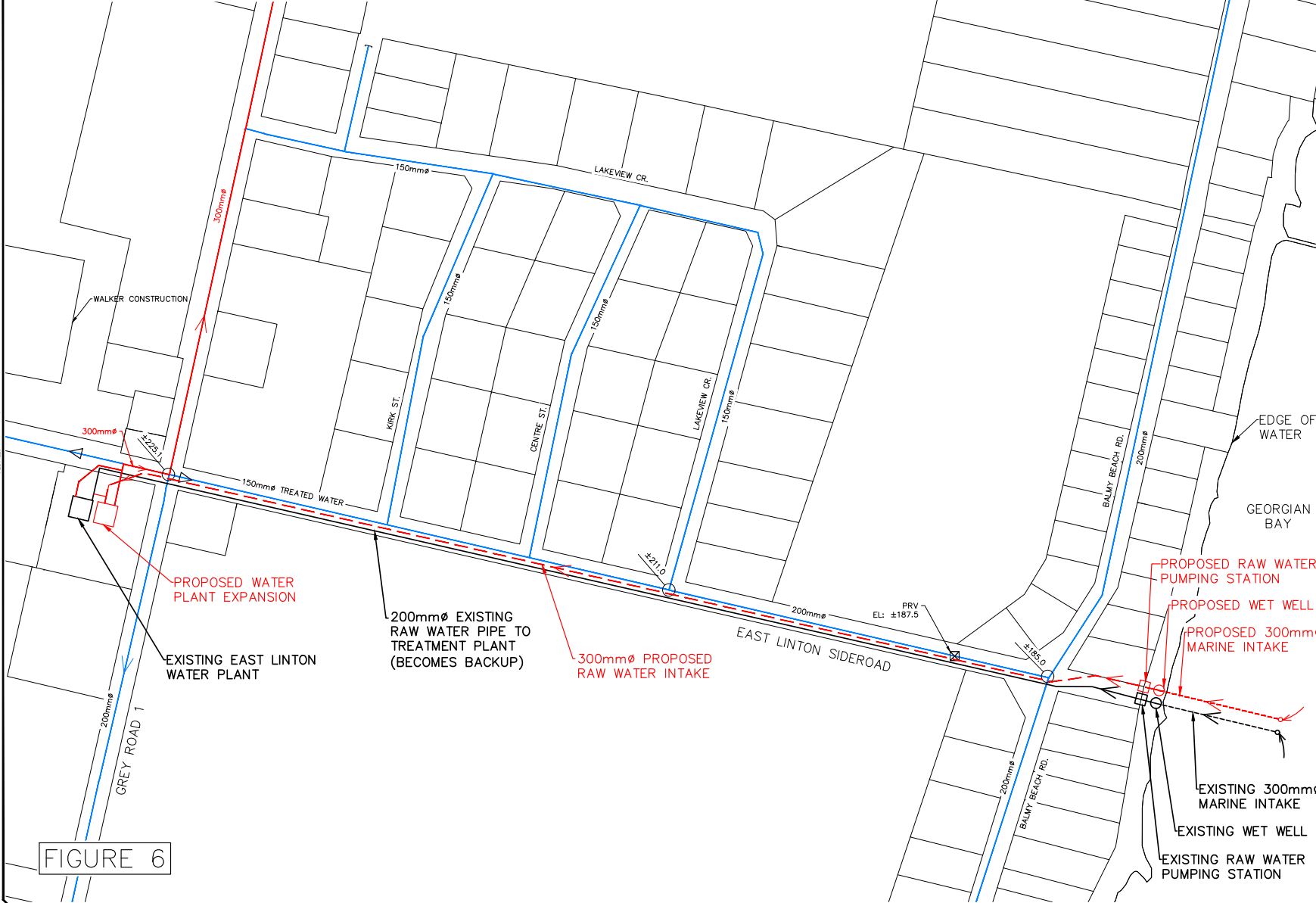
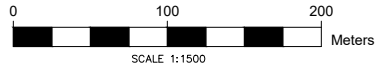


FIGURE 6



- LEGEND**
- EXISTING TREATED WATERMAIN
 - PROPOSED TREATED WATERMAIN
 - EXISTING RAW WATERMAIN
 - - - PROPOSED RAW WATERMAIN
 - ±211.0 APPROX. GROUND ELEVATION
 - ⊠ PRESSURE REDUCING VALVE

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND THESE SHOULD BE CHECKED BY THE CONTRACTOR. SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

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945-3rd Ave. Egl. Unit #230, Deep Sound, ON, N4K 2K8
Telephone: (519) 372-4528

Title: RAW WATER INTAKE UPGRADE
CONCEPTUAL EXPANSION
WATER TREATMENT PLANT
EAST LINTON

Client: TOWNSHIP OF GEORGIAN BLUFFS

Design	Scale
JTG	1:1500
JTB	Approv
JTG	Design Engineer

Date: JUNE 2023
Drawing No. 21050-7.1

© 2023, November 2, 2023, 11:02:27 AM

OPTION 2: CONSTRUCT NEW WATER TREATMENT PLANT AT SARAWAK FAMILY PARK

- The treatment plant could be constructed on the south side of the park and should not interfere with the existing park and beach area
- This treatment plant would not replace the existing plant, but work in tandem
- Pro: this location is closer to potential south expansion of the water system
- Con: balance use of site for new water treatment plant with established family park area
- The preliminary estimated cost to construct a new water treatment plant with 6,500 m³/day firm capacity at the Family Park is \$25.5 M (based on current construction costs)
- Proposed schematic design assumes oversized building to install two membrane treatment units now (firm capacity of 3,900 m³/day) and two additional membrane treatment units later (firm capacity of 6,500 m³/day)

PROJECT: November 2, 2023, 11:08:40 AM

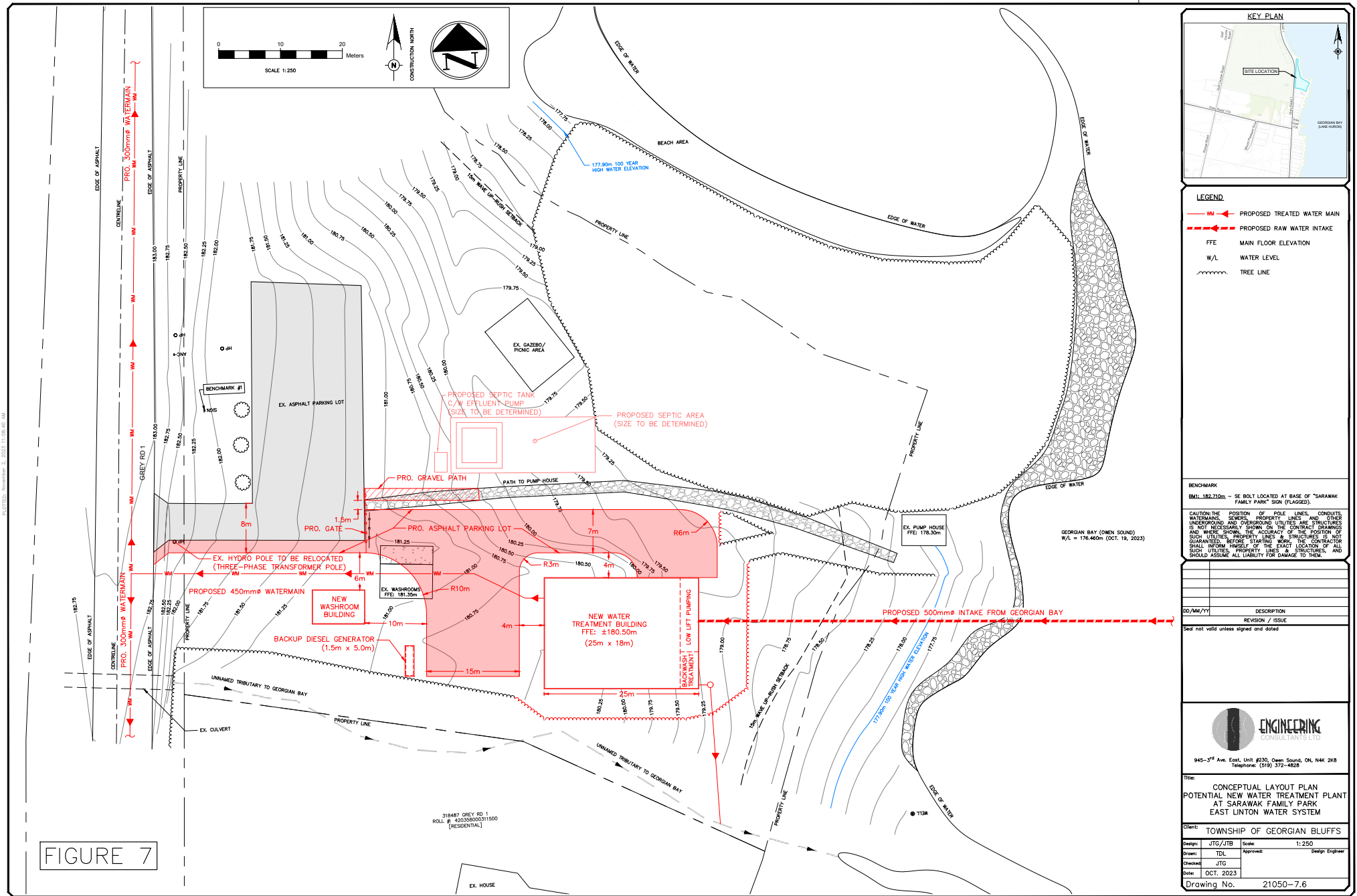


FIGURE 7



LEGEND

- **PROPOSED TREATED WATER MAIN**
- - - **PROPOSED RAW WATER INTAKE**
- FFE** MAIN FLOOR ELEVATION
- W/L** WATER LEVEL
- TREE LINE**

BENCHMARK
 BM1: 182.710m - SE BOLT LOCATED AT BASE OF "SARAWAK FAMILY PARK" SIGN (FLAGGED).

CAUTION: THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS, PROPERTY LINES AND OTHER UNDERGROUND AND OVERGROUND UTILITIES ARE STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES, PROPERTY LINES & STRUCTURES IS NOT GUARANTEED, BEYOND THE POINT WHERE THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES, PROPERTY LINES & STRUCTURES, AND SHOULD ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

NO./REV./DATE	DESCRIPTION

See not valid unless signed and dated

ENGINEERING
CONSULTANTS LTD

945-3rd Ave. East, Unit #230, Owen Sound, ON, N4K 2K8
 Telephone: (519) 372-4828

Title:
 POTENTIAL NEW WATER TREATMENT PLANT
 AT SARAWAK FAMILY PARK
 EAST LINTON WATER SYSTEM

Client: TOWNSHIP OF GEORGIAN BLUFFS	
Design: JTG/JTB	Scale: 1:250
Drawn: TDL	Approved: Design Engineer
Checked: JTG	
Date: OCT. 2023	

Drawing No. 21050-7.6

TIMELINE FOR INCREASING WATER TREATMENT CAPACITY

- We recommend that new water treatment capacity be planned/financed/constructed by the time the maximum day water demand reaches 2,000 m³/day (approximately 800 more connections)
- If 50 new connections were added to the water system each year, this would leave 16 years until the treatment plant capacity upgrade is required. Need to confirm past number of connections per year.
- Key steps including arrangement of financing, preparation of final design and tender documents, obtain all approvals, etc. need to be completed in advance of this timeline
- If funds for Option 1 (firm treatment capacity of 3,900 m³/day) were collected over the next 16 years, this would require \$1.1 M per year to be collected
- Option 2 (firm treatment capacity of 6,500 m³/day) would require \$1.6 M per year to be collected over 16 years
- These funds do not include the 6 recommended water main upgrades or potential expansion to Brooke and Pottawatomini Village as discussed earlier

Thank you for your attention!

We would appreciate any questions.