



Pugwash and Area Water Supply

Presented by:

Justin Waugh-Cress P.Eng.

municipality of
cumberland



BACKGROUND OF PUGWASH WATER PROJECT

- 2012 CBCL INVESTIGATED WATER QUALITY IN PUGWASH
- 10% OF DOMESTIC WELLS WERE TESTED
- 80% OF THE WELLS TESTED IN THE CORE AREA EXCEED THE CANADIAN DRINKING WATER GUIDELINES FOR AESTHETIC PARAMETERS.
- 30% OF THE WELLS TESTED FOR ARSENIC IN THE CORE EXCEED THE CANADIAN DRINKING WATER GUIDELINES FOR THIS HEALTH RELATED PARAMETER.

SCREENING REQUIREMENTS FOR GROUNDWATER SOURCE LOCATION:

- QUANTITY MUST BE APPROXIMATELY 60 IGPM, NO FIRE PROTECTION.
- QUALITY MUST NOT REQUIRE TREATMENT OTHER THAN DISINFECTION.
- MUST BE ABLE TO PROTECT THE RECHARGE AREA FROM FUTURE CONTAMINATION.



Municipality of the County of Cumberland

Pugwash Groundwater Supply Investigation

Figure 3: Bedrock Geology



M.P. DRAWING INFORMATION
DATA PROVIDED BY: NSDMP, GEONOVA

M.P. CREATED BY: SQM
M.P. CHECKED BY: MCE
M.P. PROJECTION: NAD 1983 UTM Zone 20N

0 200 400 1,000 1,500 Metres



3/5/2014 1:29:18 pm
1:29 pm 2:14 pm



Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2015 DigitalGlobe

Google earth
Earth Point

2011

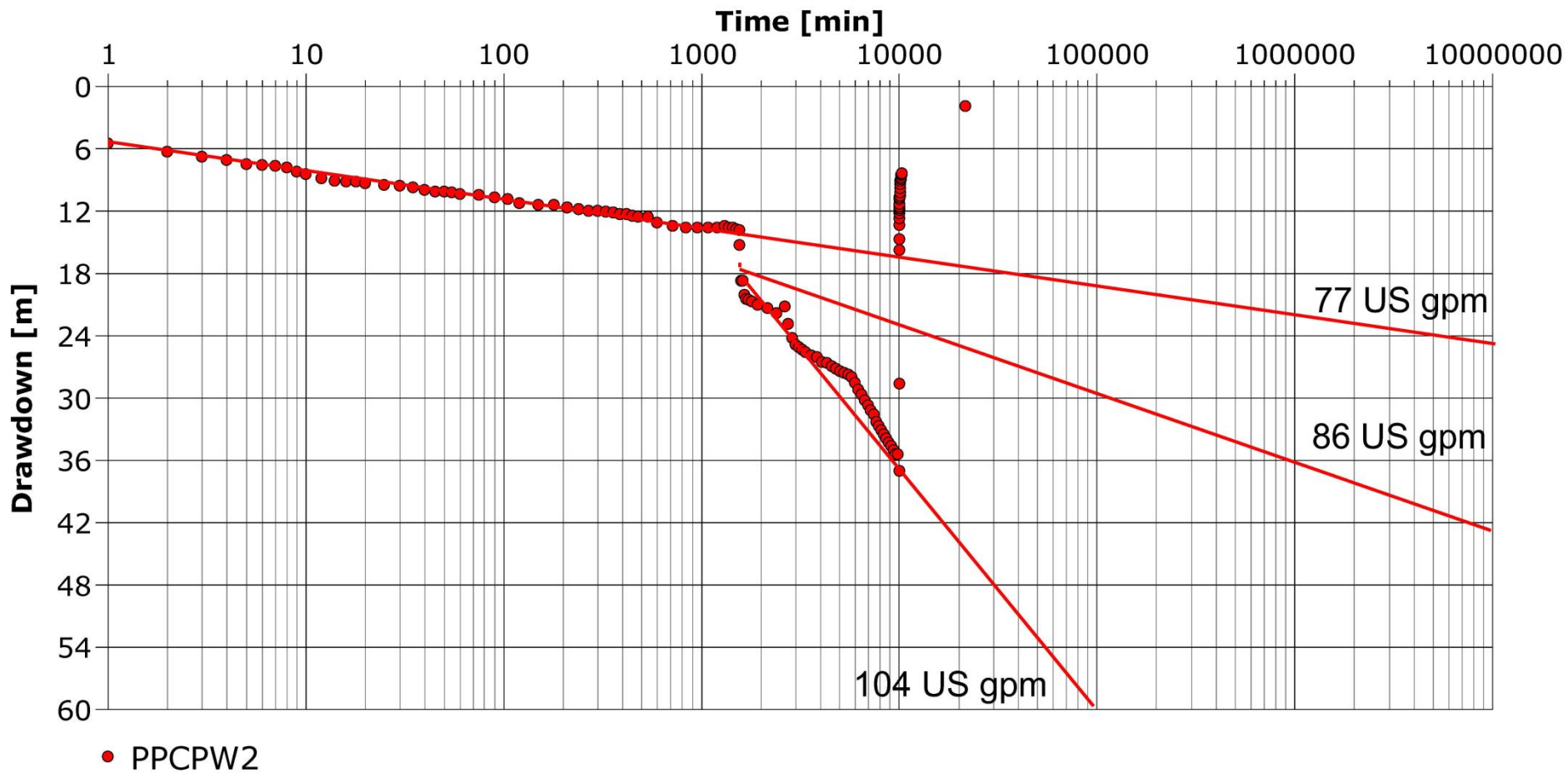
Imagery Date: 9/23/2014 45°48'55.35" N 63°40'42.95" W elev 18 ft eye alt 24421 ft

Typical test well drill site

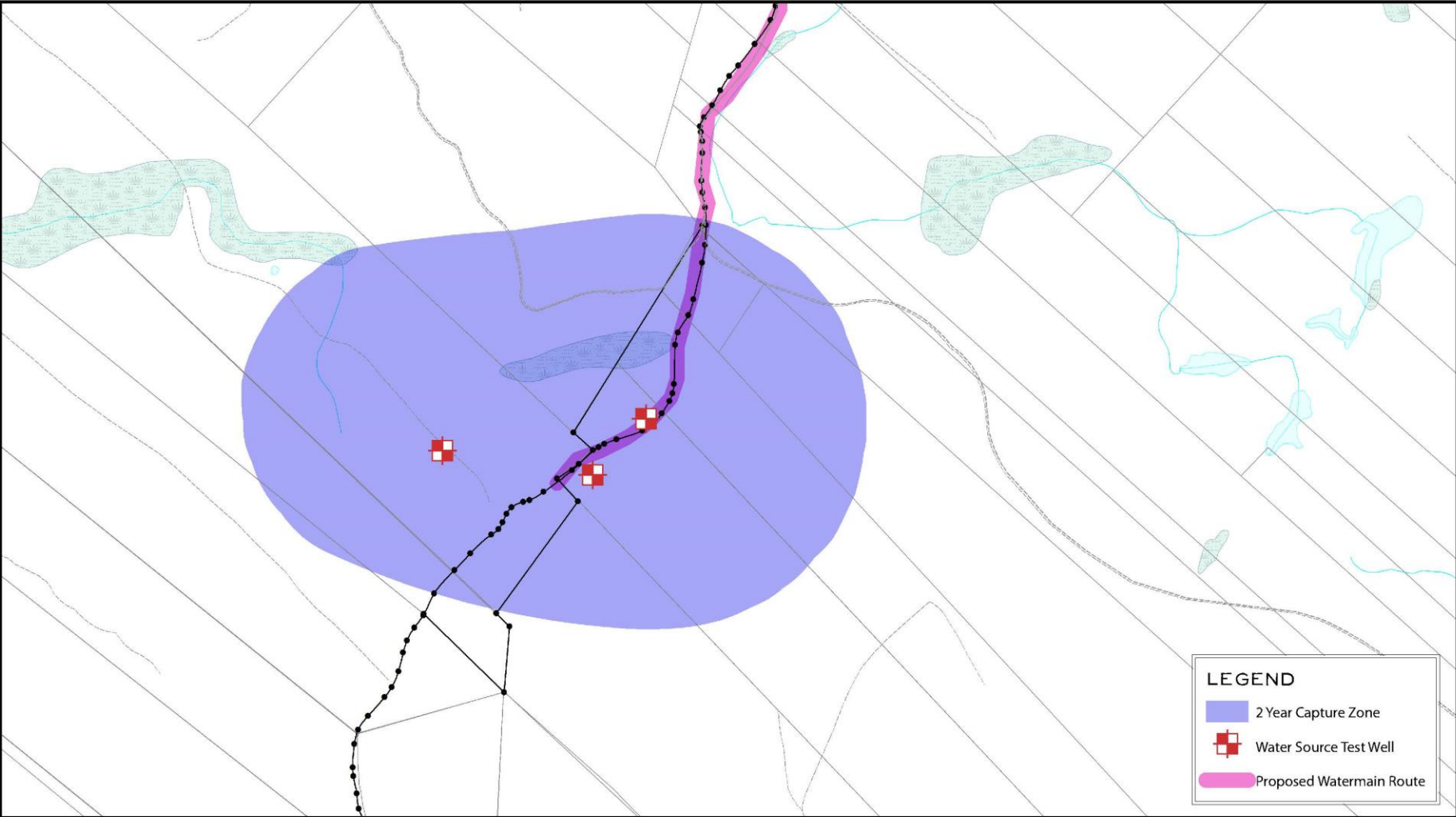


Test well setup

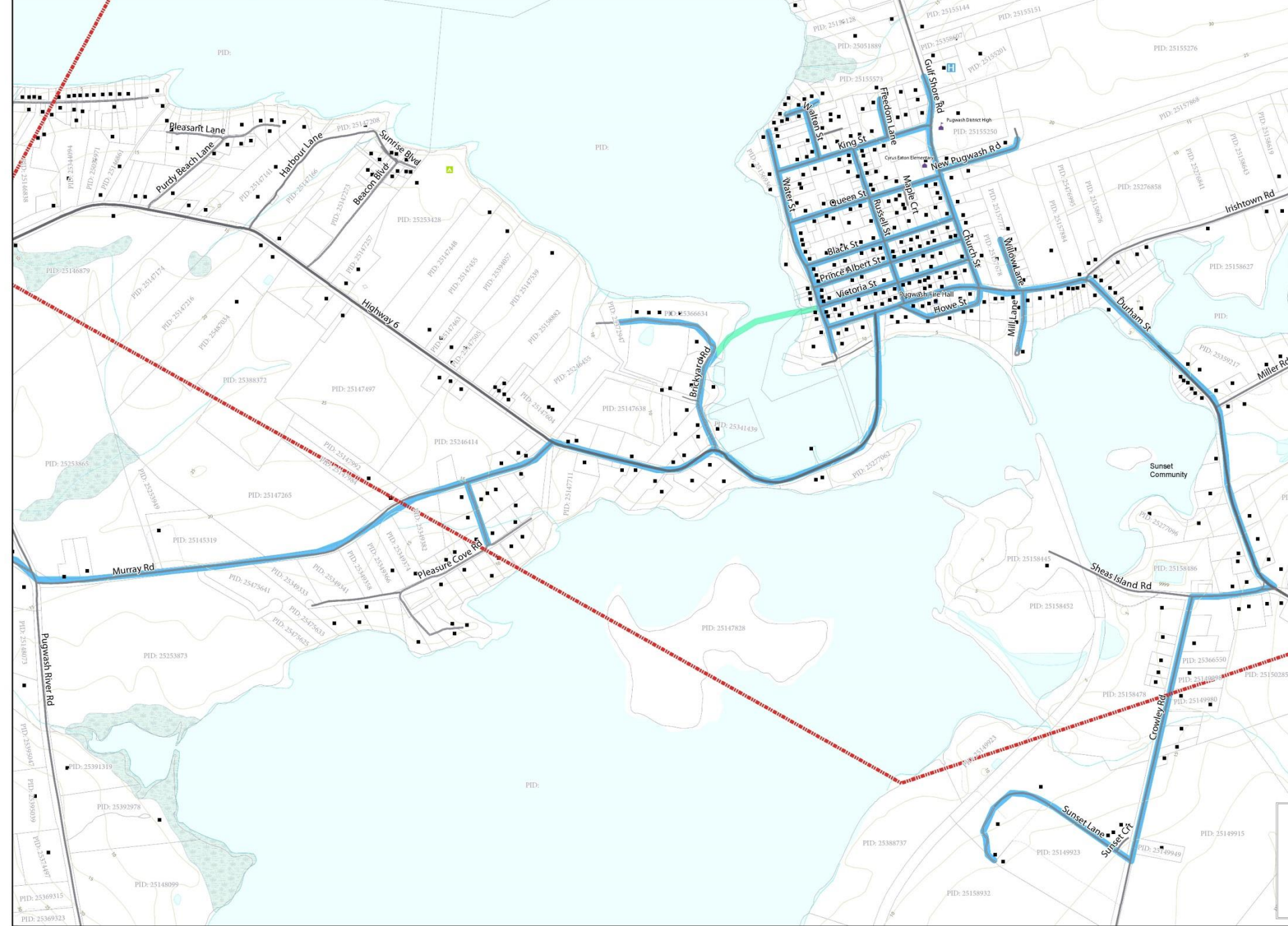




PUGWASH WATER 2 YEAR CAPTURE ZONE



0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 km
1:7,500
1 centimeter = 75 meters



PROPOSED INFRASTRUCTURE

- A TOTAL OF 20 KM OF 8" TRANSMISSION PIPE AND 6" DISTRIBUTION PIPE
- WELL FIELD INFRASTRUCTURE
- WATER TREATMENT PLANT – TO REMOVE IRON AND MANGANESE AND CHLORINATE
- STORAGE RESERVOIR – BALANCE PEAK DEMANDS, PROVIDE SYSTEM PRESSURE AND SUPPLY EMERGENCY RESERVE
- WATER METERS AT EVERY SERVICE
- ESTIMATED CAPITAL COST = \$14.3 MILLION (+HST)

FUNDING

- APPLICATION HAS BEEN MADE TO THE BUILDING CANADA FUND
- ON JULY 29, 2015 THE FEDERAL AND PROVINCIAL GOVERNMENT HAS ANNOUNCED THEY HAVE SET ASIDE FUNDING PENDING REVIEW OF THE PROJECT BUSINESS CASE.
- THE MUNICIPALITY OF THE COUNTY OF CUMBERLAND HAS SUBMITTED THE BUSINESS CASE TO THE PROVINCE OF NOVA SCOTIA
- THE BUILDING CANADA FUND WILL CONTRIBUTE:
 - 33.33% FEDERAL FUNDS
 - 33.33% PROVINCIAL FUNDS

FUNDING (CONTINUED)

- THE MUNICIPALITY OF THE COUNTY OF CUMBERLAND IS RESPONSIBLE FOR FUNDING 33.33% OF THE PROJECT COST. THE BREAKDOWN IS:
 - 16.67% GENERAL RATE/CAPITAL RESERVES
 - 8.33% CAPITAL CHARGE
 - 8.33% DEBT OF THE UTILITY
- THE CAPITAL CHARGE WILL BE LEVIED TO ALL PROPERTIES FRONTING ON THE SYSTEM. FINAL COST WILL BE BASED ON ACTUAL PROJECT COST.
- CAPITAL CHARGE IS ESTIMATED TO BE LESS THAN \$5,000.
- WATER RATES ARE SET BY THE UTILITY AND REVIEW BOARD AND ARE SET AT A LEVEL THAT WILL FUND THE OPERATION AND UPKEEP OF THE SYSTEM.

WHAT'S NEXT?



- PRELIMINARY ENGINEERING HAS BEEN AWARDED TO WSP CANADA INC. THIS WORK HAS ALREADY STARTED AND WILL PROCEED THROUGH TO NOVEMBER 2015.
- TWO MORE OBSERVATIONS WELLS WILL BE DRILLED THIS SUMMER TO FURTHER CONFIRM THE ZONE OF INFLUENCE.
- DETAILED ENGINEERING DESIGN WILL BE AWARDED BY CHRISTMAS.
- PROJECT WILL GO FOR TENDER IN THE SPRING OF 2016.
- CONSTRUCTION WILL BEGIN THE SUMMER OF 2016 AND IS ANTICIPATED TO BE COMPLETED BY THE END OF 2017.



QUESTIONS?



Contact Information

Justin Waugh-Cress, P. Eng.
Director of Engineering & Operations
The Municipality of the County of Cumberland
1395 Blair Lake Rd.,
Upper Nappan, NS, B4H 3Y4

Tel: (902) 667-2313

Fax: (902) 667-1352

jwaugh-cress@cumberlandcounty.ns.ca