

SUMMARY OF 2022 ANNUAL REVIEW OF WATER INFRASTRUCTURE

The following summarizes analysis of the Water infrastructure by the Director of Environmental Services, Environmental Services Manager, and Environmental Services Superintendent in preparation of the proposed 2023 Operating and Capital Budget submissions. (Note that routine ongoing operations are not detailed here. Where minor adjustments are required, they are detailed in the presentation of the 2023 Operations and Capital Budget submission.)

Note: The configuration of this chart presents the municipal water supply systems in alphabetical order with general considerations that overarch all systems at the end. Presentation within each system generally radiates outward from the primary source to tap.

AIRPORT WATER SUPPLY SYSTEM

NO.	DESCRIPTION	ACTION
1.	Flat roof on storage/maintenance building due for inspection.	\$1k one-time cost provided in proposed 2023 Operating Budget.
2.	Distribution system non-existent in area of proposed development at Oakhill Drive and Forced Road.	New watermain on Oakhill Drive from Green's Road to Forced Road and on Forced Road from Oakhill Drive to August Avenue will complete a loop which will service these lands. Timing of project will be developer driven. (WAT111) 2022 Capital Budget contained \$1.4M as a placeholder. We are unaware of any current development activity. Can push out on calendar.
3.	Considerations for Brant/Brantford joint venture for employment lands.	This project is in its infancy. Will respond to needs as they are identified. (Refer to PW-18-69 <i>Airport & Cainsville Servicing Strategy</i> .)
4.	The Burford Serving Study is considering the Airport water supply system as a potential source of water.	Pending total demand requirements for Burford, the addition to demand will be welcomed to decrease holding time in elevated tank. May require another well. Second PIC of Class EA was held Nov 21\22.

CAINSVILLE WATER DISTRIBUTION SYSTEM

NO.	DESCRIPTION	ACTION
1.	Agreement for water supply from Brantford.	Currently operating under general terms agreed to as part of boundary adjustment. This is likely to remain status quo until more details of the joint venture for development of Cainsville are solidified.
2.	Meter chamber flow control valve due for maintenance.	\$5k one-time cost provided in proposed 2023 Operating Budget.

NO.	DESCRIPTION	ACTION
3.	Elevated tank due for inspection.	\$5k one-time cost provided in proposed 2023 Operating Budget. Includes interior inspection with ROV.
4.	When electricity grid power fails, there is no power for communications mounted on elevated tank. Must arrange for portable generator which takes time.	\$25k provided as one-time cost in 2021 Operations Budget to install stand-by power c/w automatic transfer switch. Upon further review purchased portable generator which is stored at Mt. Pleasant Roads Barn. Monitoring efficacy of solution.
5.	Cast iron watermain on Colborne St. East from meter chamber to Shaver St., full length of Worthington Dr., and County Road 18 from Colborne St., thru Prince Charles St. to Shaver St. (west end of Shaver to PVC pipe at former railway easement) have a history of breakage.	Adjustment of closing speed of POE valve has had positive results; however, corrosion of the pipes continues with time. It is anticipated that the preferred solution of an ongoing Class EA will be to construct a sanitary forcemain along Worthington Dr. and Colborne St. East from the Cainsville lagoons to the Brant/Brantford boundary. Work following the Class EA will detail pipe sizes. Watermain will be constructed with the forcemain. COVID has slowed the Class EA. It is anticipated that design of the Colborne St. E and Worthington Dr watermain will commence in 2023 with construction in 2024 and 2025. Design of the remainder will commence in 2025 with construction to follow schedule of developers. (WAT164)
6.	Considerations for Brant/Brantford joint venture for employment lands Class EA for Cainsville Servicing).	<p>Master planning of water and wastewater servicing is proceeding simultaneously in a coordinated fashion by Brant and Brantford. Funds provided in 2020 Capital Budget for 2023 construction as placeholder for funding calculations (WAT164).</p> <p>The County has engaged RVA to provide engineering services to the Class EA for Cainsville Servicing that commenced in March 2020.</p> <p>Primary considerations are:</p> <ul style="list-style-type: none"> a) Extending the service area; b) Fire water storage for big industry; c) Is the pipe size of existing distribution system appropriate; and d) A potential second feed from Brantford to Cainsville. <p>The first PIC was held virtually on October 28, 2021. Second PIC anticipated in first quarter of 2023.</p>

NO.	DESCRIPTION	ACTION
		Schedule of future progress will largely be driven by protocols of the Class EA process and dependent on comments received from the public and reviewing agencies.

MT. PLEASANT WATER SUPPLY SYSTEM

NO.	DESCRIPTION	ACTION
1.	Well 2 is due for 5-year inspection.	\$25k one-time cost provided in proposed 2023 Operations Budget to pull pump, test and inspect well, carry out minor repairs, and return well to service.
2.	Floor improvements in pumphouse.	\$12k one-time cost provided in proposed 2023 Operations Budget to level floor.
3.	In-ground reservoirs are due for 7-year inspection.	\$8k one-time cost provided in proposed 2023 Operations Budget.
4.	Monitoring ICI fire flows on max day.	Full capacity of the station will meet the requirement and the theoretical max day will not occur until near full build-out. Staff will monitor impact of growth on max day and schedule maintenance when max day is unlikely to occur. Re-evaluate pump strategy after water supply to Tutela Heights is taken over by the City of Brantford and design for vision of development at that time. Things that will be considered in the design include investigation of the Walton well and potential to increase the limits of the PTTW.
5.	Metal door frames on west exterior wall of the building are deteriorating.	\$2.5k one-time cost provided in 2021 Operations Budget to repair/replace the door frames. Procuring contractor has been a challenge COVID. Striving to complete before winter sets in.

NO.	DESCRIPTION	ACTION
6.	Bulk fill users requesting improved service to mitigate long line ups at busy times.	Staff evaluating need and options to address. May result in a new bulk fill at Cainsville elevated tank or in southwest Paris (e.g. Bethel WTP or new elevated tank).
7.	Single 1.3km watermain connecting the water supply facility to the watermain on Mt. Pleasant Rd. has no redundancy.	The AC watermain constructed in 1985 has limited short term risk. The risk increases with time. Staff is aware and will look for opportunities to provide redundancy.
8.	Stability of slope from Tutela Heights Road to Grand River causes concern. Slope failure may damage watermain. No immediate plans to relocate road.	Staff exercises required isolation valves to be prepared for immediate response. This item disappears when Brantford supplies water to the Tutela Heights Area as this section of watermain is in the City of Brantford.
9.	Burtch watermain near end of useful life and maintenance will become impractical after disconnected from loop through Tutela Heights.	<p>Received Green Stream Funding to replace Burtch Main with new watermain from east end of existing on Burtch Rd. to Cockshutt Rd., on Cockshutt Rd. from Burtch Rd to Tutela Heights Rd., on Tutela Heights Rd to new Brant/Brantford boundary.</p> <p>The funding also contributes to cost of new watermain along Phelps Rd. from Tutela Heights Rd. to Mt. Pleasant Rd. to eliminate the dead ends created when Brantford starts supplying water to the Tutela Heights area.</p> <p>\$300k provided for 2023 in proposed 2023 Capital Budget.</p>
10.	Agreement for County to supply water to Tutela Heights area transferred to Brantford expired December 31, 2020 with an option to renew for one (1) additional year.	The term of the arrangement is dependent upon Brantford implementing the findings of their Master Servicing Study to service the area. Brantford currently requesting extension to end of 2025. County encouraging shorter duration. Anticipate renewal of the agreement in early 2023. In the meantime, will operate status quo.
11.	High seasonal outdoor water use during the long hot and dry spell of the summer severely stresses capacity of the system. In 2020 it was necessary to issue a ban on outdoor water use.	<p>Commenced 3-stage water conservation program for Mt. Pleasant in 2021 and these measures along with Public Education have mostly dealt with the issue.</p> <p>County of Brant Communications Division assisting with Public Education regarding external water use.</p>

NO.	DESCRIPTION	ACTION
		<p>Considerations for Brantford to increase deterrents (charges and fines) to consumers in Tutela Heights for contravening outdoor water use restrictions</p> <p>Concern dissipates when Brantford supplies water to Tutela Heights area.</p>

PARIS WATER SUPPLY SYSTEM

NO.	DESCRIPTION	ACTION
1.	Increase PTTW for Gilbert overburden wells.	Monitoring long term impact of taking water from overburden aquifer. Input of storm water from Pinehurst and Cordon subdivisions to Gilbert Creek is likely to upset trends in data. Capital Budget provides \$450k in 2023 (WAT168).
2.	Overburden well flow control valves due for major maintenance.	\$25k one-time cost provided in proposed 2023 Operations Budget.
3.	Nitrate concentrations from overburden wells show varying trends. They remain below the MAC of 10 mg/L.	<p>Lake Erie Source Protection Region received funding to assess. Staff working with GRCA to implement.</p> <p>Mixing with water from bedrock wells will maintain regulatory compliance.</p> <p>Increasing PTTW may result in new bedrock well rather than new overburden wells. (See Item 1 above.)</p>
4.	Potential impact of proposed Dufferin aggregate mine on water supply.	County implemented long term program to sample Telfer production wells to mirror sampling program Dufferin is required to carry out on their property in accordance with their ECA for aggregate washing. Staff will invite Dufferin to meeting after receive Dufferin's 2022 annual monitoring report (April 2023).
5.	Well P29 due for 5-year inspection.	\$25k one-time cost provided in proposed 2023 Operations Budget to pull pump, test and inspect well, carry out minor repairs, and return wells to service.
6.	Gilbert in-ground reservoirs due for 7-year inspection.	\$8k one-time cost provided in proposed 2023 Operations Budget.
7.	Condensation dripping from overhead pipes causes slip hazard on floor in pump room at Gilbert, particularly at pre-reservoir and POE sample boards.	\$5k one-time cost provided in 2021 Operations Budget to install a trough to catch the water and direct to drain. Following success of insulation installed at Mt. Pleasant insulated rather than installing trough. Monitoring efficacy.

NO.	DESCRIPTION	ACTION
8.	Fix drainage issues on floor in pump room at Gilbert.	\$20k one-time cost provided in 2022 Operations Budget to engage contractor to make good drainage of the floor. Procuring contractor has been a challenge – COVID. Now project for 2023.
9.	Flat roof of WTP due for formal inspection.	\$1k one-time cost provided in proposed 2023 Operating Budget.
10.	Storage barn at Gilbert is full. Additional bays required to get inside storage of equipment. Heated storage in at least one bay would be beneficial.	\$200k provided for 2021 in 2020 Capital Budget to construct additional equipment storage at Gilbert. (WAT071) Given fiscal and time constraints of COVID, was pushed out to 2023. Proposed 2023 Capital Budget moves it out to 2024.
11.	Brush has overgrown around overhead powerline to former pump station.	\$5k one-time cost provided in 2022 Operations Budget to remove brush well back from electrical lines. Challenge to get contractor - COVID. Striving to complete by year end.
12.	P27 (former groundwater collection system) was decommissioned in 2001. Tried to use building for storage. High flows in Gilbert Creek regularly flooded the floor and mould was difficult to control due to reservoir below building. Building is decrepit and serves no purpose.	\$8k one-time cost provided in proposed 2022 Operations Budget to demolish the building and restore area of footprint. Challenge to get contractor - COVID. Striving to complete by year end.
13.	Nitrate concentrations at Telfer are stable just under the MAC of 10 mg/L.	Lake Erie Source Protection Region received funding to assess. Staff working with GRCA to implement.
14.	Well P31 at Telfer due for 5-year inspection.	\$25k one-time cost provided in proposed 2023 Operations Budget to pull pump, test and inspect well, carry out minor repairs, and return wells to service.
15.	Paris Master Servicing Plan (PMSP) identified need to upsize watermain on Woodslee Ave.	Work is currently being done with road and storm water management upgrades. Anticipate completion by year end 2022.
16.	When electricity grid power fails there is no power for communications mounted on North Paris Elevated tank. Must bring in portable generator which takes time.	\$5k provided as one-time cost in 2022 Operations Budget to install stand-by power c/w automatic transfer switch. Upon review purchased dedicated portable generator for use when required. Monitoring efficacy of solution.
17.	2022 inspection of North Paris elevated tank revealed minor damage to interior coating and fall arrest system not up to current code.	\$30k one-time cost provided in proposed 2023 Operations Budget to repair interior coatings and upgrade fall arrest system.

NO.	DESCRIPTION	ACTION
18.	North Paris elevated tank is due for a wash. (Experience has demonstrated care of the surface extends life of the coatings which are very expensive to replace.)	\$5k one-time cost provided in proposed 2023 Operations Budget to wash bowl of tank.
19.	Leaks do not surface in Paris. Aging infrastructure warrants persistent monitoring.	Have historically carried out leak detection by pressure zone on 5 year cycle. Commenced annual leak detection of all Paris in 2020. Include \$5k annually in proposed Operations Budget to continue this practice.
20.	Watermain on Paris Links Rd. from GRSN to former golf course showing signs of age.	Look for opportunity to replace with project by other utilities.
21.	Watermain in area of Owen St., McCammon St., and Kathleen St. showing signs of age.	Look for opportunity to replace with project by other utilities.
22.	Watermain on Grand River St. N. from Trillium Way to Woodslee Ave. identified for upgrade to support Brookfield Development in north Paris. Makes sense to continue to Paris Links Road to replace aging twinned pipe from Trillium Way to Paris Links Rd. and on to William St. to replace aging 1980 cast iron pipe.	PMSP identified pipe sizes. Work will be coordinated with GRSN street upgrades. Funds provided in Capital Budget for construction in 2023 thru 2026 inclusive (WAT121).
23.	Watermain on Silver St. is showing signs of age. Valves are due for maintenance/replacement.	Look for opportunity to replace with project by other utilities.
24.	Roads are upgrading Market St. from Silver St. to the railway tracks near Capron St. – includes stormwater upgrades. Should replace circa 1968 cast iron watermain.	Working to complete Capron St. to Wellington St. by year end 2022. Wellington St. to Silver St. to be completed in early 2023 construction season. (WAT134)
25.	Cast iron watermain on Riverview Terrace, Baily St., and Horrace St. showing signs of age.	Look for opportunity to replace with project by other utilities.
26.	Increasing traffic on Grand River St. N results in increased safety concern for	Design of new chamber and internals ongoing. Tender for construction in fall 2023. (WAT144)

NO.	DESCRIPTION	ACTION
	Operators and maintenance technicians accessing the chamber for the Zone 1/2 PRV and increases the inconvenience to traffic.	
27.	There is no watermain on Broadway St. from railway tracks to West River St. A watermain in this section of road and PRV at north end will create a 3 rd interface between Pressure Zone 1 and Zone 2. This will aid water flow to Pressure Zone 3 and increase resiliency of distribution system.	Roads upgrading this section of road. Will install watermain with roads upgrades. Design is ongoing. Anticipate construction in 2024 (WAT175).
28.	PMSP identifies upsizing watermain on West River St.	Will upgrade watermain entire length from Broadway to Mechanic St. \$25k provided for 2023 in proposed 2023 Capital Budget. (WAT180)
29.	Low pressure at north end of John St.	No current complaints.
30.	Water transfers from the west side to east side of the Grand River via a 300 mm cast iron pipe constructed north of the William St. bridge in 1969 and a 150 mm watermain constructed north of the Dundas St bridge in 1962. 150 mm crossing north of high-level bridge not sufficient redundancy to 300 mm pipe.	Addressed as part of the PMSP. Pipe may not be necessary if option of PMSP to supply consumers east of Grand River with water from Brantford is implemented. Design tentatively scheduled for 2023 (WAT146). Will depend on negotiations with Brantford.
31.	Portion of cast iron watermain on William St. from Grand River Bridge to east end constructed on timber supports. Timber is subject to deterioration. May also need to upgrade diameter to support development.	Sizing will depend on which option of PMSP is implemented - Zone 4 supplied from Brantford or upgraded County system. Will continue to monitor both condition and capacity and take action as required. Tentatively schedule design in 2023 for 2024 construction (WAT145).
32.	PMSP identified upsizing of Nith River crossing on GRSN/GRSS bridge.	A new pedestrian bridge west of the traffic bridge is being explored. If implemented, it may be viable to carry the watermain over the new bridge. Envision design in 2024 for 2026 construction. (WAT181)
33.	Nith River crossing Mechanic St. to Lions Park is 1972 cast iron.	Pipe is functioning well. It was recently twinned with construction of second sanitary sewer siphon. Monitor and look for opportunities to create redundancy of the river crossing.

NO.	DESCRIPTION	ACTION
34.	Small diameter cast iron watermain in area of Nimmo and Walnut Streets are aging and are cause of enhanced flushing to maintain adequate chlorine residual.	Will try to hold off replacement until can be coordinated with other works. Placeholder provided in Capital Budget for design in 2023 and construction in 2024 and 2025 (WAT176).
35.	A connection between Pressure Zones 2 & 4 via Willow St. and Consolidated Dr. would enhance pressure in Zone 2, particularly north of Hampton St. May be required to provide adequate pressure to support development on higher ground in Zone 2 or construction of multi-story buildings.	<p>Capital Budget provided \$1M in 2017 (WAT114) to coincide with developer interest which envisioned extension of Consolidated Dr. to Willow St. Current tentative development plans do not include extension of Consolidated Dr. May include utility easement on the envisioned Consolidated Dr. extension. Will be patient and allow PMSP to reflect development direction of the day.</p> <p>Also, the importance of this connection increases if the option to supply water to consumers east of Grand River from Brantford is implemented as there is currently only one connection between Zone 2 and Zone 4 and there is no storage in Zone 2 on the east side of the Grand River.</p>
36.	Watermain on Bobby West St. showing signs of age.	Look for opportunity to replace with project by other utilities.
37.	Numerous sections of aging 100 mm cast iron watermain on Ball St., Main St., Queen St., Catherine St., Monk St., Ann St., and Amelia St.	Will try to hold off replacement until can be coordinated with other works. Wastewater considering works on Main St. – Ball to Creeden. Design in 2023 for 2024 construction. Coordinate design and construction of new watermain on Grand River St. S. and Ball St. with wastewater upgrades in 2027 and 2028 (WAT172). Funds for other works provided as placeholders in 2029, 2030 and 2031 (WAT173). Envision sequencing construction over 3 years.
38.	Watermain on Main St. west of Ball St. experiences breakage. Watermain is important as it is feed between Zone 2 and Sharpe Reservoir.	Construction scheduled to follow works on Market/Broadway/West River. Anticipate 2023 or 2024. (WAT174)
39.	Watermain on Dumfries St. showing signs of age.	Considering replacing with Main St. project or do as separate project the following year. (See Item 38 above.) \$25k provided for start of design in 2023 in proposed 2023 Capital Budget.

NO.	DESCRIPTION	ACTION
40.	1890 cast iron watermain from Zone 2 to Sharpe Reservoir on Dundas St. West is experiencing breakage. PMSP recommends upsizing this and high pressure main in this area.	Funds provided in proposed 2020 Capital Budget for design in late 2020. Includes rerouting watermain to be on Chapel St. Due to other construction in Paris, construction of new watermain envisioned for 2023. In-house design ongoing. (WAT158)
41.	Low pressure at services to residents at top of Main St. hill at Chapel St.	There are no current complaints. Will address when constructing new watermain on Main St.
42.	Sharpe in-ground reservoirs due for 7-year inspection.	\$8k one-time cost provided in proposed 2023 Operations Budget.
43.	Flat roof on Sharpe PS due for formal inspection.	\$1k one-time cost provided in proposed 2023 Operating Budget.
44.	Hydraulic modelling for PMSP identified pipe upsizing required in King Edward St. – Rest Acres Rd. to Dundas St. W.	Targeting design and construction with Dundas St. West watermain to Sharpe Reservoir – design ongoing. Anticipate 2023 construction. (WAT163)
45.	Hydraulic modelling determined new pressure zone required for development of Nith Peninsula subdivision.	Funding is largely by developer and schedule is driven by the developer. Funds provided in Capital Budget for County's portion of costs. Anticipate implementation in 2023. (WAT156)
46.	Residents at top of Mile Hill Rd requesting municipal services.	\$225k provided for 2023 in proposed 2023 Capital Budget.
47.	Increased fire flow required in Zone 3 to satisfy demands at ICI properties.	Update to PMSP being carried out to satisfy requirements of the Class EA. Expediting construction schedule of a new South Paris elevated tank. Anticipate being in service by end of February 2023. (WAT179)
48.	Recommendations of PMSP provide for a new watermain crossing of Hwy 403 at Pottruff Rd. Create new pressure zone with PRV's on Pottruff Rd north of Hwy 403 and at Bethel WTP.	Schedule is developer dependent. Funds provided in proposed 2020 Capital Budget for 2021 design and 2024 construction (WAT162). Development recently reactivated. Anticipate within next 5 years. Also, proposed 2023 Capital Budget contains \$640 in 2023 to construct new watermain on Bethel Rd. from Hwy 24 to Pottruff Rd. – Funded from DC's.

NO.	DESCRIPTION	ACTION
49.	Concentrations of sodium and chloride in the Bethel well water are increasing. Both are aesthetic parameters but have to report sodium at concentrations greater than 20 mg/L so those on sodium reduced diets can consider in their calculations of daily consumption.	Lake Erie Source Protection Region received funding to assess. Staff working with GRCA to implement.
50.	8 motorized valve actuators at Bethel WTP are fatiguing.	Switching service of some and rebuilding/upgrading others will meet the needs. \$50k provided in proposed 2023 Capital Budget.
51.	Watermain on Dundas St. E. from Willow St. to Paris Rd. and on Paris Rd. to 250 mm watermain is aging cast iron which experiences breaks from time to time. Repairs are arduous as high-pressure gas main is installed above it. PMSP identified upgrade to 400 mm required.	Work budgeted as (WAT117). Try to coordinate replacement with work of other utilities. GM BluePlan engaged to carry out Class EA for expansion of lands serviced with water, wastewater and stormwater in Zone 4. Installation of sanitary is driven by development. Enbridge has suggested upgrading the gas main is in their future plans. Envision design will commence in 2024.
52.	County is coordinating with property owner to upgrade service lane from Consolidated Dr. to Green Lane, (arocci Blvd.) to municipal road standards.	\$350k provided for 2023 in proposed 2023 Capital Budget.
53.	Wood frame vestibule on Oak Park Elevated Tank has reached end of functional life. \$20k one-time cost provided in 2021 Operations Budget to replace vestibule with well clad and insulated structure. Job not finished due to time commitments of COVID.	Challenge getting a contractor - COVID. Job nearly complete. Currently finishing up lighting.

NO.	DESCRIPTION	ACTION
54.	Surface of ground floor of Oak Park Elevated Tank requires attention.	\$10k one-time cost provided in 2023 Operations Budget to provide epoxy coating on floor.
55.	Oak Park elevated tank cleaning	\$5k one-time cost provided in 2023 Operations Budget to wash bowl of tank.
56.	When electricity grid power fails there is no power for communications mounted on Oak Park Elevated Tank. Must bring in portable generator which takes time.	\$25k provided as one-time cost in 2021 Operations Budget to install stand-by power c/w automatic transfer switch. Upon review purchased dedicated portable generator for use when required. Monitoring efficacy of solution.
57.	Overall capability of water supply system to satisfy demand from development. System can meet current demand and imminent growth. Must plan for future demand.	Ongoing work of PMSP is narrowing options for increased water supply. Funds provided in Capital budget in 2025 and 2026 to develop preferred option identified by Paris Master Servicing Plan (WAT160).

ST. GEORGE WATER SUPPLY SYSTEM

NO.	DESCRIPTION	ACTION
1.	New wellfield for redundancy of supply	Class EA anticipated to be completed in Q1 2023
2.	Well 1 is due for 5-year inspection.	\$25k one-time cost provided in proposed 2023 Operations Budget to pull pump, test and inspect well, carry out minor repairs, and return wells to service.
3.	Early Source Protection work identified nitrates in the well water may be a concern. They have been holding at ½ MAC of 10 mg/L.	Lake Erie Source Protection Region received funding to assess. Staff working with GRCA to implement.
4.	fix pumphouse roof	\$6k one-time cost provided in proposed 2023 Operations Budget to remove loose material to solid base and make good.
5.	Metal frames on exterior metal doors of the building are deteriorating.	\$10k one-time cost provided in 2021 Operations Budget to repair/replace. Challenge getting contractor - COVID. Work ongoing for year end completion.
6.	Distribution system due for 5-year comprehensive leak detection.	\$5k one-time cost provided in proposed 2023 Operations Budget.
7.	Elevated tank and standpipe	\$5k one-time cost provided in proposed 2023 Operations Budget to wash bowl of tank and standpipe.

NO.	DESCRIPTION	ACTION
8.	Replace watermain on Beverly St. from Main St. to dead end at bank	Will be replaced with sanitary sewer upgrades required to support development.
9.	District metering required to enhance water consumption data and leak detection.	\$50k provided in Capital Budget for 2017 for installation. (WAT122). Tweaking operation of installation at standpipe. Flow meter will be installed on PRV bypass at Reid St. valve chamber.
10.	Development generally on hold due to limitations of wastewater treatment capacity.	Monitor developments in wastewater treatment capacity to prepare for anticipated growth.

GENERAL

NO.	DESCRIPTION	ACTION
1.	Impact of COVID and emerging health trends to ongoing operations and service delivery.	<p>Most non-operational staff working at home, either full time or alternating home and office to maintain physical distancing. Business Solutions have provided VPN for remote access to files and phones where required.</p> <p>Operations staff are working separately whenever they can.</p> <p>County protocols are being followed in all cases. There was an initial step back in productivity; however, this has largely been recovered as staff adapt to the new way of meetings, training, and other communication.</p> <p>Have changed stock inventory and procurement protocols to address shortages of certain equipment, materials and consumables.</p>
2.	Solid Waste, Wastewater and Water staff and their roles amalgamated in March 2020 to form Environmental Services Division.	Continue working to build strength of the new division thru sharing of ideas and experiences and cross training staff.

NO.	DESCRIPTION	ACTION
3.	Migrating administration and oversight of storm water infrastructure to Environmental Services.	Seek opportunities to build strength of the new division thru sharing of ideas and experiences and cross training staff. Staff propose to report to Council to consider forming a storm water utility in 2023.
4.	Migrating oversight of municipal utility locates (water, wastewater, storm sewer, fibreoptic cabling, streetlights, and traffic signal control loops) to ES to improve efficiencies.	Analysis shows may be cost effective to contract to specialty company. RFP will be advertised early December 2022.
5.	Fill available complement of Water Operators to address ongoing growth & development, increasingly stringent regulatory requirements, succession planning and implement overall efficiencies with County utilities.	While core and majority of staff is stable recruitment and retention has been a challenge.
6.	Re-organization (August 2019) of clerical staff.	COVID has broken some of the momentum gained. Staff striving to find new efficiencies under the current conditions as we find the “new normal”.
7.	Contract out to read meters, issue bills, carry out collections and provide customer service. Energy+ recently amalgamated with Branford Power to form GrandBridge Energy Inc. (GBE).	Negotiated new contract with GBE. Staff of former Energy+ that were key to Brant County assigned similar role at GBE. Transition has been seamless.
8.	Distribution system contains asbestos cement (AC) pipe – primarily Airport, Cainsville, Mt. Pleasant, and St. George.	Pipe is aging well and presents concern only when disturbed. Precautions are taken when working in it. Continue monitoring and look for opportunities for replacement coincidental with other projects.
9.	Record drawings and distribution system mapping.	Protocols developed in 2020 where Infrastructure Services, Development Engineering Review and Water Division take lead for the responsibility of seeing that as-built conditions of capital projects, development work, and maintenance and repair respectively are accurately reflected on the drawings and mapping show significant improvement.

NO.	DESCRIPTION	ACTION
10.	A GPS unit, rather than hand drawn paper copies, will enhance efficiencies of transferring geographical data from the field to GIS mapping data base.	\$12k one-time cost provided in proposed 2023 Operating Budget.
11.	Hydraulic model of distribution systems maintained by GM BluePlan is generally up to date.	Funds maintained in WAT088 to keep model up to date and carry out minor modelling inquiries as required. Major inquiries funded by the proponent.
12.	Trend in QMS is toward computerized software for equipment maintenance, water quality sampling, water level monitoring, so on and so forth.	Business Solutions staff leading project to implement recently procured Asset Management software. Anticipate this software will be used for workorders for equipment maintenance. (WAT152) Anticipate RFP for software to manage water quality matters to be issued in early 2023. \$30k one-time cost provided in proposed 2023 Operating Budget.
13.	The high security lock system is approaching the limits of its branch capabilities.	Staff will research options in 2023 and determine best fit alternative for the County and take appropriate action during 2024 budget process.
14.	General watermain replacement. Difficult to predict what specific watermains will require replacement in future.	Provide \$1.5M annually as placeholders in Capital Budget for future work (WAT119).
15.	COVID impacts to supply chain puts ERT's for water meters in short supply.	Procured 600 units. Rate of consumption depends on development. Continue to work market to have enough ERT's in stock to keep up with new builds and trouble reports.
16.	Water meter upgrade program stalled by COVID with approx. 98% of meters 1" and smaller complete and all meters larger than 1" outstanding.	<p>Will reinitiate project when COVID subsides resulting in consumers being more amenable to having technicians enter their premises. (WAT089).</p> <p>Will complete meters 1" and below with staff. Regulation requires licenced plumber for meters larger than 1".</p> <p>\$100k provided in proposed 2023 Capital Budget for meters larger than 1". (WAT089). \$45k provided as one time cost in proposed 2023 Operations budget for incidentals.</p>

NO.	DESCRIPTION	ACTION
17.	Water service vehicles.	Fleet Manager was consulted regarding vehicle maintenance and replacement. \$45k provided for replacement of one service vehicle in each of 2023 thru 2032 (WAT151 & WAT154).
18.	Provision of vehicle for Water Quality Technician for use rather than personal vehicle. (Transportation of tools and chemicals and higher visibility for safety when working near traffic.)	Fleet submitting decision package for consideration of 2023 Capital Budget.
19.	Computers and PLC's put into service in 2008 are reaching end of life expectancy. Firmware and software program packages have migrated in different directions over time. Must coordinate sequence of replacements.	\$100k provided in each year 2021 thru 2032 of 2021 Capital Budget (WAT125) to maintain SCADA system.
20.	Upgrade alarm controls on SCADA system to provide control on individual signals.	\$15k one-time cost provided in proposed 2023 Operating Budget.

NO.	DESCRIPTION	ACTION
21.	Cyber security is an ever-increasing concern.	Design SCADA system to include for onsite storage of data until download to central computer is confirmed. Maintain two (2) data storage sites located remote from each other. Implement software with high security features. Engage expertise of Business Solutions and Technology staff. Ensure ongoing awareness by contractors and staff.
22.	Monitoring well inspection and maintenance program. Currently reviewing Paris monitoring program.	\$100k provided in Capital Budget (WAT113) in 2017. \$5k remaining. Work to support decommissioning some wells nearly complete but need to consider impact of storm water management system for new Pinehurst subdivision prior to finalizing. Will require approx. 24 months of field data after SWM pond is commissioned and challenged by weather events.
23.	Recent changes in grass cutting contract have resulted in improved aesthetics of facilities, fewer complaints from public, and less administration by staff.	Three-year contract ends at conclusion of 2022 season. Work to maintain similar contractors and level of service moving forward.
24.	Recent changes to approach in snow removal has improved access and safety at the facilities.	Snow clearing now done by County staff at all but Gilbert, Bethel, Oak Park Elevated Tank, Mt. Pleasant, and St. George Elevated Tank. 2022 is first of four (4) year contract with optional one (1) year extension. Work to maintain similar level of service moving forward.
25.	Planning has lead for Source Protection. Engaged Cambium Inc. to provide professional services.	Cambium's performance is satisfactory. Funded from Water Operations Budget. Same allocation as previous years.
26.	The County's participation in the GRCA's Rural Water Quality Program is via the Water Division. The program has momentum for success.	Maintained \$50k in proposed 2022 tax-based operations budget.

NO.	DESCRIPTION	ACTION
27.	The County's Asset Management system is being upgraded to meet current standards and expectations of the provincial government.	This is a cross departmental function that affects nearly all divisions of the County in some form or another. Sr. Management is currently rationalizing optimum implementation of a Capital Asset Management Program. (Also see Item 12 above.)
28.	Keeping pace with development.	Good interdepartmental staff relationships enhance the process of planning and readying for development. Current major development at different stages of implementation includes Valeri, Guesenbauer, Paris Grand (formerly Golf North), Nith Peninsula, Arlington Commons, Arlington Meadows (formerly Grandville), Riverview Highlands, Scenic Ridge, and Paris Meadows (formerly Gurney Pit.) and south-east of intersection of Rest Acres Rd. and Hwy 403. Other major developments are considered in ongoing considerations for capital works in Airport and St. George.
29.	Public education regarding outdoor water users to mitigate peak seasonal water demand.	County of Brant Communications and Public Relations division assisting with development and communication of the program. Implemented three (3) colour program with signage for Mt. Pleasant. Will continue to monitor and respond as required.
30.	Previous rain barrel program was successful. Makes sense to continue program to encourage water conservation for outdoor water use.	\$1k provided in Water Operations budget to provide \$25 subsidy on 40 rain barrels. (Purchase rain barrels at \$80 each and sell for \$55.)
31.	Water rate structure.	In 2021 implemented new humpback rate structure to enhance water conservation. Residential water only seasonal surcharge of 30% on usage greater than 45m³ per month from May to September. Anticipate report on efficacy spring 2023.

NO.	DESCRIPTION	ACTION
32.	Incentive programs for water conservation.	<p>RPT-21-267 Residential and ICI Water Rebate Programs and Residential High Water Leak Adjustment Program approved at the November 9, 2021 Policy Development and Strategic Planning Committee provides incentives for:</p> <ul style="list-style-type: none"> a) Residential toilet replacement; b) Residential washing machine replacement; and c) ICI SMART Water Use Programs. <p>Working with Communications for promotion of the programs. Will ramp up in 2023.</p>
33.	Perimeter security fencing at various facilities has been damaged by age and being hit by wheeled vehicles. Probably mostly contracted snow plowing and grass cutters.	\$5k provided as one-time cost in 2022 Operations Budget to repair fencing as required. Obtaining contractor has been a challenge - COVID. Carry forward to 2023.
34.	Condominium properties becoming more popular, and owners express high expectations for service.	Have had no response to communication to Brant/Brantford Condo Association following their presentation to Council. Will reach out in early 2023 to renew communication and develop processes to ensure public safety with appropriate fiscal responsibilities.
35.	Asphalt of driveways and parking areas is reaching the end of its natural life at many of the facilities. Life can be extended by sealing cracks to keep the water out of the base thus mitigating frost action.	\$5k provided as one-time cost in 2022 Operations Budget to engage contractor to seal cracks in asphalt to extend its life. Obtaining contractor has been a challenge - COVID. Carry forward to 2023.
36.	Consider lining cast iron and ductile iron water mains rather than replacement.	In today's market must be large job to be economically feasible. Will inventory potential areas for using this technique and analyze feasibility.