

Cape Breton Regional Municipality

Special Council Meeting

AGENDA

TUESDAY, MAY 29TH, 2018

10:00 A.M.

Council Chambers
2nd Floor, City Hall
320 Esplanade, Sydney, NS

Cape Breton Regional Municipal Council

Tuesday, May 29th, 2018

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AGENDA ITEMS

ROLL CALL

1. **Presentation of the Corporate Plan 2018 – 2013:** Marie Walsh, Chief Administrative Officer
 - a) **Engineering & Public Works** Wayne MacDonald, Director of Engineering & Public Works (See page 3)
2. **Update on Investing in Canada Infrastructure Plan (ICIP) Funding Process -** Wayne MacDonald, Director of Engineering & Public Works

Adjournment

Engineering and Public Works

Corporate Plan - 2018 to 2023

Background

Over the past two decades much has changed within the CBRM and much has changed in the region. Prior to that point, on the operations side, Engineering, Public Works, Water, and the additional services currently under the umbrella of Engineering and Public Works, operated as independent operations in various municipal units across Industrial Cape Breton.

Significant growth has taken place with EPW, associated with Regulatory Initiatives from both the Provincial and Federal Governments in the areas of Water Treatment, Solid Waste Management, Occupational Health and Safety, and most recently Treatment and Operation of Municipal Wastewater Effluent.

Further to the CBRM Organizational Review that was completed in 2013, a number of initiatives were identified, initiated and in various stages of completion. These included an expenditure reduction program and a number of initiatives to reduce operating costs. The past 5 years has seen significant strides made in the areas of:

- Energy Efficiencies
- Infrastructure Assessments and Construction
- Water Utility Distribution Rationalization and Leakage Detection
- Wastewater Treatment
- Stormwater Separation from Sanitary Sewer
- Fleet Rationalization and Service Changes
- Transit Growth and Successes
- Public Works Service Standards and Asset Management
- Solid Waste Materials Handling

Corporate Plan Projects

The next five (5) years will see Engineering and Public Works (EPW) continue to move forward along the areas of focus mentioned above. The areas of particular focus for 2018 to 2023 will include a number of departmental projects as follows:

Project 1 – Asset Management and Computer Maintenance Management System (CMMS)

2018/2019 to 2020/2021 - The Next Chapter with respect to the delivery of municipal services for all EPW operations will be to build on the existing Financial Work Order systems, to incorporate a full Computer Maintenance Management

System (CMMS). An integrated CMMS will integrate scheduling, reporting, maintenance planning and physical infrastructure data and provide a proactive maintenance planning system that will improve efficiency, reduce costs, as well as provide a more effective approach to service delivery. This will standardize operations, and provide the technical infrastructure required to incorporate:

- tracking, planning, recording, geo-referencing, and closure of operational tasks;
- 311 development for service, integrated work order creation/closure, as well as planned and emergency response;
- Enhanced GIS and property based systems are needed in the engineering, capital infrastructure planning and water utility billing and metering system.

Project 2 – Development of Water and Wastewater Utility

2018/19 to 2020/2021 - Identified and discussed for many years, the next logical progression for Wastewater Operations will be to incorporate through the Nova Scotia Utility and Review Board (NSUARB) as a Utility. The initial model being proposed is to integrate with CBRM Water Utility and the current Framework and Plans are being developed to bring before Council for Approval in the coming months. With the current Canadian Council of Ministers of the Environment – Municipal Waste Water Effluent (CCME/MWWE) Guidelines, the future Wastewater Utility is going to spend the next 25 years building wastewater treatment infrastructure to treat the numerous existing raw wastewater discharges across CBRM. The utility model will move forward with CBRM's Service Based Cost Recovery model paid for by the users of the service.

Project 3 – Continued Development of Public Transit

2018/19 – 2019/20 - Continuing on a very successful Pilot Project Operation in 2017 and expansion of Handi-trans between 2016 and 2018, both Transit and Handi-Trans have taken advantage of opportunities and funding to grow the operation and improve service delivery. The next 5 years will see upgrades to Rolling Stock, incorporation of new technologies and software for payment, tracking, and improved service delivery, evaluation of Sunday Service for Transit, improved Bus Shelters, higher revenues, and a Downtown Sydney Hub. Transit is currently developing an Issue Paper for Council to provide an overview of the 2017 Pilot Project, and plans for 2018. In addition, the next Federal and Provincial funding sources, "Investing in Canada Infrastructure Program" (ICIP) will have a specific area of focus for Public Transportation.

Project 4 – Continued Focus on Energy Usage and Greenhouse Gas Reductions

Greenhouse Gas Emissions and Carbon Tax Mechanisms, as well as simply trying to reduce operating costs, will provide that CBRM will need to continue its focus on Energy Efficiencies and reduction of Energy Usage in all of its operations. Further, the next round of Federal and Provincial Funding will incorporate requirements for Greenhouse Gas Emissions Reduction Strategies as part of the project approval process. Areas of significant concentration will be in the Solid Waste Composting Operations, Wastewater Bio-solids Handling, Centralized Heating operations, fuel usage efficiencies and investigations into alternative fuel options. The continuation of CBRM's relationship with Efficiency One and CBRM's Onsite Energy Manager will need to remain a priority. Currently Management of this operation is a mutual cooperation between Engineering and Public Works and the Parks, Grounds, Buildings, Facilities and Recreation Departments.

Project 5 – Service Standards Rationalization using Alternative Technologies

EPW continues to review all technological changes to Service Delivery with the hope to improve services within the existing operating scenarios and requirements. Recent examples include the "in-house" provision of Hot Asphalt, for pothole repairs during winter months, research and piloting of "permanent pavement traffic markings" to improve abrasion resistance, GPS based salting/plowing, Transit, Solid Waste Collections, etc. In addition to the operational limitations, the improvement of Occupational Health and Safety Standards by incorporating new technologies has greatly helped to protect employees and the public.

Project 6 – Solid Waste Materials Handling Reductions

One of the largest costs to EPW is in the Solid Waste Operations Budget. Included in the operation of Solid Waste are costs associated with Handling and proper disposal or processing of all of the waste and recycling streams. Each stream continues to be investigated to determine efficiency and alternative usage. Recently, it was determined that additional screening capability will significantly reduce the waste stream out of the Composting Operation. These types of initiatives have very quick payback, and provide operational savings into the future. A second and more recent investigation into technologies associated with Anaerobic Digestion of Compost is another area that could provide reduced expenditures, greenhouse gas emission reductions, and alternative fuel development.

In addition and along the lines of Disposal of Household Solid Waste (HSW), the current agreement with the Second Generation Landfill in Guysborough expires

in 2025. Council has requested that this agreement be reviewed and the development of a “go forward” plan be brought back for Council approval taking into account costs, possible alternatives, and developing technologies to provide the most efficient option for HSW Handling for 2025 and beyond. Staff is in a review process and options will be brought back to Council for approval.

Project 7 – Multi Year Infrastructure Plan

CBRM is no different than most urban areas in North America, Infrastructure is crumbling. This is further enhanced by the financial constraints within CBRM and the availability of sustainable Infrastructure funding. To better position CBRM to the Provincial and Federal funding streams, and to provide a global view of reinstatement and construction works, CBRM will continue to develop and work within a Five (5) Year Capital Plan. We have seen in the past that a well communicated multi-year infrastructure plan greatly benefits opportunities for funding and as well can communicate to the public where CBRM infrastructure development will be in within the five (5) year window. The Engineering Services Department conducts investigations into the conditional assessments of the infrastructure across CBRM and identifies the list of projects for Council Consideration. This is an opportunity that provides a balanced budget approach to ensure input from all departments and associated stakeholders.

Engineering and Public Works – Structure

To successfully move forward in accordance with the EPW Corporate Plan, some immediate structure changes are required that will ensure that the operation continues while the projects are completed through all of the associated hurdles of implementation. This must be completed while existing operations and service levels are maintained. The current EPW Department is experiencing overload at senior management level, creating timing bottlenecks and capacity issues in:

Corporate and Strategic Planning;
Senior Management/Mentoring of staff;
Continued implementation of Results - orientated organizational reviews; and,
Proactive based service delivery models.

Effectiveness and efficiency improvements can be improved with a re-alignment of department management and delegated responsibilities and corresponding accountability to achieve greater productivity and performance within EPW's scope of responsibilities. Council has provided direction that supports the establishment of a water and wastewater utility structure in CBRM. The proposed structure provides a balance in department size, equivalent staff numbers, scope and operating budgets to that each department will incorporate an annual budget range of \$35 - \$40M per year.

The operational rationale between a merged future utility and the existing public works divisions, as well as additional supporting departments, provides certain challenges. The current integrated model within EPW for both Public Works and Water Utility at the senior management role and operational separation at the operations level provide a very workable and operationally efficient situation. This will be identified as a transitional structure and would be re-evaluated once the Water and Wastewater Utility is developed, and operating for a few years.

The wastewater treatment requirements arising from Federal and Provincial wastewater discharge regulations will trigger close to \$100,000,000 in new WWTP facilities across CBRM by 2021, and an additional \$240,000,000 in new WWTP facilities across CBRM by 2040. This is in addition to the infrastructure requirements associated with existing infrastructure. The capital financing and operational impacts will require significant investments from taxpayers in CBRM to pay for these facilities. A combined water and wastewater utility opportunity presents an organizational model and integrated structure that can provide a rate based financing scheme under a Provincial regulatory agency (NSUARB) to generate the capital funds necessary to acquire the capital and operating funds to address this situation. A framework including timelines and approval milestones is currently being developed to be presented to Council in the coming months.

A revised EPW structure is attached to present an outline of the Department. This will include two separate divisions:

- The Department of Water and Wastewater
- The Department of Public Works

The Department of Water and Wastewater

The Department of Water and Wastewater will be led by a Senior Manager, reporting to the Director of Engineering and Public Works. The department will be incorporated under the Utility and Review Board (UARB) and include Water (Operations and Treatment), Wastewater (Operations and Treatment) and Support Services (combined support for CBRM Water and Wastewater).

- Three (3) operating Public Works divisions (Water and Wastewater Staff) across CBRM: Providing combined water and wastewater operations and maintenance
 - Co-located at existing PW facilities in North, Central and East Regions of CBRM
- Wastewater Treatment
- Water Treatment
- Support Services
 - Metering, Billing and Finance
 - Regulatory and Technical Support:

- Capital construction coordination, Regulatory and Compliance oversight/ reporting, water quality control, data and system security, SCADA monitoring and instrumentation services, leak detection, KPI/benchmarking and reporting

The Department of Public Works

The Department of Public Works will be led by the Senior Manager of Public Works, reporting to the Director of Engineering and Public Works. The Department will continue to operate in most of its normal functions and operating locations to include:

- Three (3) operating Public Works divisions across CBRM
- Transportation and roads maintenance
- Storm water and catch basins
- Transit Operations
- Fleet Maintenance
- Solid Waste Management
- Streets and Lights

The co-location of water, wastewater and public works operations will leverage the existing work bays at the operation depots by division, field yards and storage compounds, inventory stores, Occupational Health & Safety, vehicle dispatch and administrative support at these locations, while the staff will be available for cross crafting and as a combined department for emergency response as currently exists today.

Other Structural Changes

Engineering Services

Engineering Services (ES) will remain a shared department reporting directly to the Director of Engineering and Public Works. This department will provide shared Engineering, Capital, Construction Management services, etc., within EPW as currently exists. A significant component of Engineering Services will be to work with all CBRM Departments to prepare and manage the CBRM Capital Budget.

Transit and Fleet Maintenance

Transit has been operating over the past number of years under a Supervisor, and under a partial responsibility of the Senior Manager of Administration position. A Transit Study and a recent Evaluation and Analysis of Fleet Operations report have made recommendations to reorganize and plan for growth. Recent vacancies and position replacements over the past number of years in both the Supervisory and Management

Roles of Transit as well as Fleet Maintenance, have provided an opportunity to merge the two departments under one Manager, the Manager of Transit and Fleet Maintenance. This will provide opportunities for both departments to grow and enhance service delivery, building on previous departmental achievements.

Integrates with Corporate Priorities:

The corporate enterprise systems under the planning and assessment phases are required to achieve an improved utility model.

- 311 system for service, work order creation and emergency calls response integrates smoothly in the proposed utility structure
- Enhanced GIS and property based systems are needed in the engineering, capital planning and water utility billing / metering system
- Asset management system is an integral system requirement to transition to a proactive maintenance planning schedule which will improve efficiency, reduce costs and emergency response, over time.

A combined utility model can provide significant cost sharing for these initiatives through a rate based allocation of costs.

Staff Morale and Readiness:

Recent water loss reduction program in the water utility resulted in a change in culture and focus on performance management and benchmarking. The significant reductions in leakage have saved millions of liters of water per year in CBRM and a management shift to using international best practices in performance management. The timing is opportune for a transition to a utility model for water and wastewater management and revised culture focus on effectiveness and efficiency of operational improvements.

Opportunities and Benefits of Re-structure:

- Enables more departmental strategic and operational planning, more senior management time, expanded Federal & Provincial infrastructure funding outreach and engagement for a larger apportionment of available funds
- Create a rate based capital financing ability for wastewater capital works, outside the taxation structure with responsibility with provincial regulatory body
- Long range capital planning requirements and financing support by NSUARB
- Aligns responsibility with accountability of performance results in the water and wastewater operational services for improved overall management
- Increase effectiveness and efficiency in operations
- Facilitate a flatter organizational structure
- Enable more proactive vs. reactive O&M with focussed strategy, management oversight and Key Performance Indicators (KPI's) imbedded in new organization
- Sustains a large and viable PW organization with equivalent budget and staff responsibilities

- Allows for a seamless transition from existing structure to a utility model & operating autonomies in new departments
- Allows for support for more frequent interaction with CBRM Council and the Public.

Timelines:

A propose water and wastewater utility structure and organizational model rollout can be achieved between 2018/19 and 2019/20, with the goal of having full switch on April 1, 2020. This timing would also address the revised PW structure requirements.

Submitted by:

Wayne MacDonald, P.Eng.
Director of Engineering and Public Works

