MEMORANDUM OF UNDERSTANDING – MUNICIPAL REFORM

CAPITAL INVESTMENT PLAN

"Asset Management and how it relates to on-going MOU work in Pictou County"

Engineers are not boring!

They just like boring things

And lots of Detail….Earl M!

Terms of Reference

STUDY TERMS OF REFERENCE MEMORANDUM OF UNDERSTANDING - MUNICIPAL REFORM	
CAPITAL INVESTMENT PLAN	
Date of Committee Approval:	Version: 1

1. STUDY OBJECTIVE AND DELIVERABLES

Overview Statement

To create high-level recommendations on prioritized Tangible Capital Asset (TCA) requirements of a regional municipality.

Deliverables

- An overview condition and servicing report on:
  - piped infrastructure; [1]
  - buildings;
  - rubber tired assets (Appendix A)
  - information technology (Appendix B);
  - plants;
  - streets/roads/active transportation routes; (Appendix C)
  - street lights;
  - equipment; and
  - redundant and competing infrastructure.

PURPOSE OF THE CIP (AMP)

- The Regional Capital Investment Plan (CIP) sets out a strategic framework for managing assets, aligning core infrastructure with service objectives, and guiding the action and investment needed to meet key service goals.

- This Plan will help guide the coordinated actions of new regional government in effectively managing municipal-owned infrastructure to meet service requirements.

Purpose cont’d

- It also recommends the prioritized Capital Assets requirements for the new regional municipal government.

What Assets ?

- This Plan covers Water, Sewer (Sanitary and Storm), Streets & Roads, Sidewalks, Buildings, Street Lights and Fleet (rubber tired equipment and vehicles) assets, as prescribed in the Study Terms of Reference.

These assets contribute to community health, welfare and satisfaction, and long-term prosperity and growth.

Draft REPORT STRUCTURE

1. **OVERVIEW**
2. **INTRODUCTION & PLAN**

- ASSET MANAGEMENT FOR THE NEW REGIONAL MUNICIPALITY
- CAPITAL INVESTMENT PLAN vs. ASSET MANAGEMENT PLAN
- THE ASSET MANAGEMENT PLAN
- Potential RELATIONSHIP TO OTHER Future STRATEGIES, PLANS & DOCUMENTS
- CIP DEVELOPMENT METHODOLOGY
- PLAN SCOPE AND TIMEFRAME

REPORT STRUCTURE, cont'd

3. State of Regional Infrastructure

- ASSET INVENTORY
- ASSET USEFUL LIFE
- ASSET CONDITION

4. Report Framework – Level of Service

5. Asset Management

- LIFECYCLE MANAGEMENT PLAN

REPORT STRUCTURE, cont'd

6. Consolidated Five (5) Year Capital Investment Plan

- Investment Requirements – Capital Investment Plan (CIP)
- Coordinated Decision Making
- CIP - Outcomes
- Best Practice & Target Level of Service
- Projects vs. Programs
- Risk Management
- The Next Five Years

7. Improvement Plan

AM vs. CIP

- The Capital Investment Plan (CIP) is one of the key outcomes of a well developed and managed AMP.

- It is derived from Asset Management Principals

ASSET MANAGEMENT

- Asset management has been described as ”a systematic process of maintaining, upgrading, and operating physical assets cost-effectively.

- It combines engineering principles with sound business practices and economic theory, and it provides tools to facilitate a more organized, logical approach to decision-making.

the AM “Piece”

- The Asset Management Plan portion of this Report summarizes current and future infrastructure planning and decision making practices, and identifies the actions needed to meet current and future service delivery goals.

CIP – WHERE TO START?

- Asset Management provides a framework for handling both short- and long-range planning.

- The Asset Management Plan to sustain the assets can be divided into two (2) infrastructure categories;

  “Programs” and “Projects”.

“PROGRAMS”

- ***Programs*** are based on Best Practices. *Programs* focus on “rehabilitation” more so than “replacement”. Rehabilitation works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. It generally involves repairing the asset to deliver its original level of service without resorting to significant upgrading or renewal, using available techniques and standards.

“PROJECTS”

- ***Projects*** also use Best Practices as a foundation, but Projects are mainly considered either “new” or “replacement” infrastructure. Replacement is the complete replacement of an asset that has reached the end of its service life, to provide an alternative that satisfies a targeted level of service.

CIP METHODOLOGY

- The CIP development process was split into three (3) key phases:
  - Asset Management Plan Scoping and Strategy: This step identified a roadmap for the CIP development based on the CIP Terms of Reference, the MOU Engineering Technical Working Group's knowledge and experience, developed consensus around a detailed Inventory structure, highlighted key AM and Best Management practices, and identified data gaps and potential data sources for populating the document.
  - Inventory and Data Acquisition: GIS is the foundation for populating the necessary data and information. A combination of historical data (paper and digital), and new field data was used to assess current asset condition. Knowing the state of the local infrastructure is critical in projecting future requirements.
  - Capital Investment Plan Development:

Condition of Local Infrastructure

3.1.2 Waste Water Assets: *Sanitary Sewer*

Table - Asset Inventory – Sanitary Sewer System

GRAVITY SEWER MAINS								PVC/HDPE 0 concrete 5 cast 10 vitreous clay 15		0-25yrs 0 26-50yrs 5 51-75yrs 10 76+ yrs 15		no 0 minor system 15 major system 30		never 0 annually 10 monthly 20		excellent 0 good 5 fair 10 poor 15 extreme 20		
LOCATION	STREET NAME	FROM MH#	TO MH #	LENGTH (m)	DIAM. (mm)	GRADE %	I&I ISSUES (Y or N)	PIPE MATERIAL	RATING 0-15	AGE (Yrs)	RATING 0-15	COMBINED SEWER	RATING 0-30	SURCHARGE FREQUENCY	RATING 0-20	OVERALL CONDITION	RATING 0-20	TOTAL SCORE /100
																		0
																		0
																		0

Note: Similar Asset Inventory Condition Templates exist for Manholes, Lift Stations, Force Mains, Pressure Sewers and CSO Overflows/Outfalls

Condition of Local Infrastructure, cont'd, template example

3.1.5 Buildings Assets:

Table - Asset Inventory – Buildings

Address	Building_Type	Building_Name	Stories	Foundation_10	Ext_Wall_5	Roof_10	Window_door_5	Primary_score_30	InWalls_Doors_Ceiling_5	Floors_5	Fixed_Fur_Equi_2	Interior_Score_12	HVAC_15	Plumbing_4	Electrical_10	Lighting_5	System_Score_34	Fire_Code_4	Energy_Code_10	Accessibility_10	Code_score_24	Total_Score_100

Report Framework -LOS

LEVEL OF SERVICE FRAMEWORK - Projects and Programs Scorecard

Identifier	Element	Weight (0-10)	Service Goal	Definition
A	Accessible	5	Affordable	Costs are minimized and distributed such that access to service does not cause undue hardship to customers businesses, and the public.
			Accommodate Growth	Growth and development is not hampered by the availability of service capacity (within current plan).
B	Life Safety	10	Keep employees safe	Employees are safe in doing their jobs.
			Protect the Public	Services delivered and/or supporting infrastructure, do not pose undue risk to public safety.
C	Reliable/Resiliency	7	Sufficient Quality /Quantity	Services are delivered to acceptable quality and quantity.
			Uninterrupted Service	Service is reliable and subject to infrequent interruption.
D	Regulatory Compliance	10	Safety	Services meet safety requirements, as regulated by legislation and/or operating “Approval's or agreements.
			Environment	Services meet environmental requirements, as regulated by legislation and/or operating “Approval's or agreements.
			Current	Services meet or exceed present Regulations
			Forthcoming	Anticipates future imminent or pending regulations as well as those already adopted by other regions/jurisdictions.
E	Customer Service Delivery	6	Responsive	Customer issues are captured and acted upon in an efficient and timely manner.
			Accurate	Customer response is accurate and based on correct information.
F	Geographic Considerations	4	Locality	Area of Region is considered. Urban, rural, costal, agricultural, and Communities if Interest are assessed
G	Support to Emergency services/Regional Hospital	6	Facility Enhancement	Aberdeen Hospital improvements and enrichments are supported regionally.
H	Residential (population density)	3	Sustainable	Residential development is well balanced between in-filling (higher density) and expansion (sub-divisions)
I	Commercial (regional/density)	4	Prosperity/Growth	Commercial development is supported by services and appropriate for area.
J	Emergency Management	7	Reduction	Prevention (mitigation) to reduce the risk consequence or probability. Preparedness.
			Response to Recovery	The latter three activities relate to managing the consequences of the failure, such as by reducing response and recovery times

Scorecard cont'd

B	**Life Safety**	**10**	Keep employees safe	Employees are safe in
			Protect the Public	Services delivered an
C	**Reliable/Resiliency**	**7**	Sufficient Quality /Quantity	Services are delivered
			Uninterrupted Service	Service is reliable an
D	**Regulatory Compliance**	**10**	Safety	Services meet safety r
			Environment	Services meet environ
			Current	Services meet or exce
			Forthcoming	Anticipates future imr
E	**Customer Service Delivery**	**6**	Responsive	Customer issues are c
			Accurate	Customer response is

UNDER AMALGAMATION

- Combining responsibility for inspection, condition assessment, and renewal planning for infrastructure assets within a single group will provide the new government with a complete view of renewal requirements, allowing it to make coordinated renewal decisions that manage risk and maximize benefits.

Under Amalgamation, cont’d

- Asset Management requires dedicated resources to properly manage numerous aspects of the Plan.

Improvement Plan

- ***IMPLEMENT THE LEVEL OF SERVICE (LOS) FRAMEWORK***

- ***DEVELOP A RISK MANAGEMENT FRAMEWORK***

  Risk = Probability of Asset Failure X Consequence of Asset Failure

- ***ROLLING OUT THE REGIONAL ASSET MANAGEMENT PROGRAM (AMP)***

Improvement Plan, CONT'D

- ***IMPROVE ALIGNMENT BETWEEN AMP AND FINANCIAL PLANS***

- ***EXPANDING THE SCOPE TO OTHER ASSET CLASSES***