

Infrastructure Capital and Operational Program Delivery Models

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Introduction

- Consulting – studies, needs assessments, MCEA's, pre-design
 - 3% - 5% of construction cost or an estimate of effort
- Engineering – design and construction administration
 - 12% - 15% of construction cost based on complexity
- IPW 5 yr program has 48 new projects at \$98.2M
 - \$3.0M in consulting and \$11.4M in engineering fees
 - Council approved creation of 2 new Capital Project Coordinator positions to deliver the program



Capital and Operational Program Delivery Models

1. Fee for Service
2. Selected Assignments by Town Staff
3. Construction Administration by Town Staff
4. Design and Construction Administration by Town Staff



1. Fee for Service

- Current model most often used – Town Staff coordinates and project manages professional services contracts
- Engineering Consulting firms retained on fee for service basis to undertake project specific study, design and construction administration assignments
- Pros
 - Flexibility
 - Access to skills on an as-needed basis
- Cons
 - Expensive
 - Lack of ownership
 - Scope changes result in additional costs



2. Selected Assignments by Contracted Staff

- Staff takes on selected assignments of general research or assessments
- Use of contracted staff
- Pros
 - Flexibility
 - Access to skills as needed
 - Lower cost than consultants
 - Increased sense of ownership
- Cons
 - Availability of skill range
 - Increased oversight and mentorship
 - Extended delivery time



2. Selected Assignments by Contracted Staff

- Past example projects
 - Diversion Plan (2013)
 - Introduction of composting program
 - Energy Management Plan (2014)
 - Found opportunities to reduce energy use – mostly implemented
- Potential 2019 projects
 - Diversion Improvement Plan (\$35k)
 - Increase diversion to save landfill capacity
 - Roads Depot Needs Assessment (\$186k)
 - Snow plow in-house or contracting
 - Determine Ravenna Road's Depot space needs incl. land and structure
 - Craigleith Satellite Depot needs and timing
 - Preliminary schematics of preferred solution



2. Selected Assignments by Contracted Staff

- Implementation
 - One contracted position for up to 18 months
 - Diversion Improvement Plan (\$35k)
 - Roads Depot Needs Assessment (\$186k)
 - Sidewalk Winter Maintenance – extent and delivery options (included within Roads Depot Needs Assessment)
 - Space Needs
 - Work from home opportunities
 - Work space available in Road's office in Ravenna



3. Construction Monitoring by Town Staff

- Engineers prepare stamped drawings and technical support
- Fulltime Staff undertake contract preparation, site monitoring and construction administration of linear works
 - 6% of construction cost allocated
- Pros
 - Lower cost than consultants
 - Knowledge base
 - Increased sense of ownership
 - Better public engagement
- Cons
 - Town commitment to consistent work load
 - Availability of value added off-season work
 - Long term staff obligations
 - Limitation in skill range and mix



3. Construction Monitoring by Town Staff

- Past examples projects
 - Indian Circle Subdivision Road reconstruction
 - Camperdown Ditch Re-alignment
 - Black Bridge Rehabilitation
- Potential projects
 - Focus on high profile linear projects
 - 1 large project or 2 to 3 small projects per person



3. Construction Monitoring by Town Staff

- Implementation
 - 2 Construction Administrators with field and office skills for 2020
 - Use specialized consultants as needed (i.e. geotechnical)
 - 2020
 - Elma & Louisa Street Reconstruction (\$296k)
 - Price's Sub'n Drainage Diversion (\$20k)
 - Price's Wastewater Servicing Extension (\$83k)
 - Peel Street WW Pumping Station Upgrades (\$38k)
 - 2021
 - Peel Street Reconstruction (\$190k)
 - Birchview Trail Wastewater Extension and Wtm Replacement (\$44k)
 - Blue Mtn Dr & Fraser Cres Watermain Connection (\$15k)



3. Construction Monitoring by Town Staff

- Implementation
 - 2022
 - Victoria Street and Louisa Street Reconstruction (\$309k)
 - Jozo Weider Boulevard Phase 3 (\$108k)
 - Water Distribution Improvements (\$150k)
 - 2023
 - Arrowhead Road Reconstruction (\$279k)
 - Lakewood Drive Reconstruction (\$180k)
 - Clark Street Realignment (\$118k)
 - Potential available is \$1.830 million
 - Assume 25% for specialized inspection and technical support
 - \$1.373 million available for 2 Town Staff over 4 years and designation of a project coordinator supervisor



3. Construction Monitoring by Town Staff

- Off-season utilization
 - Records management
 - Use of vacation and lieu time
 - Potential for preliminary design to scope future projects
- Scheduling
 - Salary cost to deferring planned projects
 - In-year construction time management
- Space Needs
 - 2 workspaces available in IPW Offices allocated to proposed Capital Project Coordinators
 - Mostly field work in summer but need workspace to maintain paperwork and for off-season activities



4. Design and Construction Monitoring by Town Staff

- Town Staff prepare design drawings and undertake construction administration – utilize specialists as needed
- Municipal linear works only or simple mechanical projects
 - 12% - 15% of construction cost
- Pros
 - Lower cost than consultants
 - Knowledge base
 - Increased sense of ownership
 - Increased public engagement
 - Off-season work for CA's
- Cons
 - Town commitment to consistent work load
 - Long term staff obligations
 - Limitation in skill range and mix
 - Additional training, equipment & software



4. Design and Construction Monitoring by Town Staff

- Past examples projects
 - Hester Street Parking Lot
 - Lakeshore Wastewater Pumping Station Replacement
 - Hazardous Waste Sorting and Storage Addition
 - Ravenna Cold Storage Building
 - TWWTP Perimeter Fence and Disposal Site Litter Fence
- Potential projects
 - 1 large project or 2 to 3 small projects



4. Design and Construction Monitoring by Town Staff

- Implementation
 - 1 Engineer, 1 Design Technologist, 2 Construction Monitors with field and office skills
 - Engineer will also be Manager of Infrastructure Engineering
 - Same projects as Option 3 but advanced 1 year to accommodate design
 - Assume 12% of construction cost
 - Potential available is \$3.660 million
 - Allocate 25% for specialized technical support
 - \$2.745 million available for 4 Engineering Staff plus administrative support over 4 years



4. Design and Construction Monitoring by Town Staff

- Year round utilization
 - Records management
 - Use of vacation and lieu time in off-season
 - Potential for preliminary design to scope future capital projects
- Commitment to consistent linear capital works program
 - Maintain consistent workload for full utilization
 - In year scheduling and construction time management
- Workspace Needs
 - Consideration needed for 4 additional engineering staff and administrative support



Recommendations

- Proceed with contract for Roads Depot Needs Assessment and Diversion Improvement Plan
- On balance there are warrants to consider internal engineering capabilities
- Develop a business plan for consideration in advance of the deliberations of the 2020 Town Budget
- Potential implementation
 - 2019
 - Recruit 1 or 2 fulltime contract administrators late 2019 to start Feb / March 2020 for orientation, tender preparation, procurement, and pre-project preparation
 - 2020
 - Recruit in-house design staff Q2 2020



Recommendations

- Next Steps
 1. Identify projects with opportunity for alternate delivery models (June)
 2. Identify space needs requirements and options (July)
 3. Prepare costing model(s) (August)
 4. Finalize Project Delivery Business Plan (September)
 5. Council presentation and direction (September)
 6. Consideration within Draft 2020 Town Budget



Infrastructure Capital and Operational Program Delivery Models



