

**AGENDA**  
SPECIAL OPEN COMMITTEE OF THE WHOLE MEETING  
BOARD ROOM, SERVICE AND RESOURCE CENTRE,  
411 DUNSMUIR STREET, NANAIMO, BC  
WEDNESDAY, 2014-JAN-08, AT 9:00 A.M.

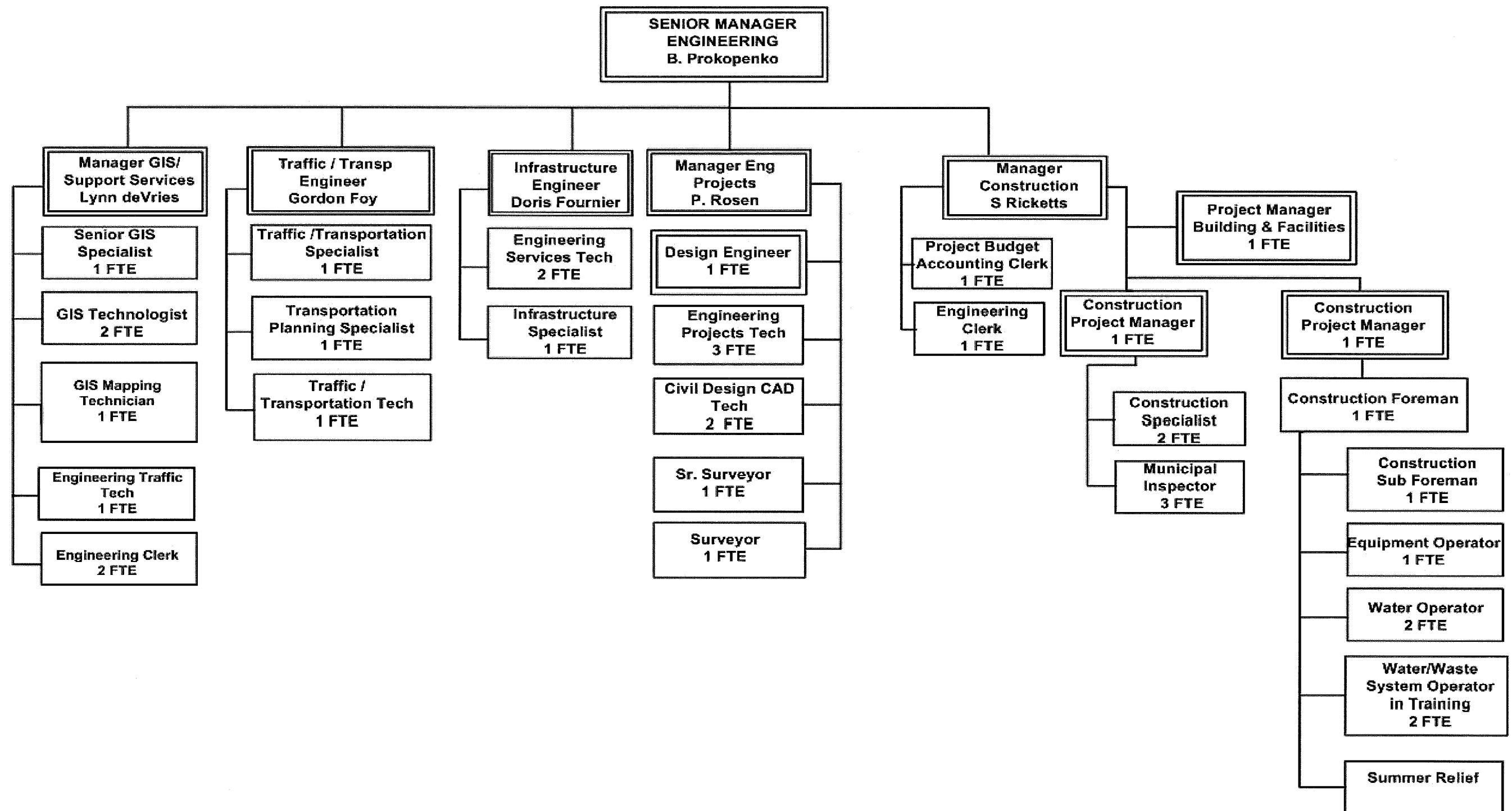
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1. **CALL THE SPECIAL OPEN COMMITTEE OF THE WHOLE MEETING TO ORDER:**
2. **ADOPTION OF AGENDA:**
3. **PRESENTATIONS:**
  - (a) Mr. Tom Hickey, General Manager, Community Services, to provide a presentation regarding the 2014-2018 Financial Plan for Engineering and Public Works. Council discussion regarding the Financial Plan to follow the presentation.
4. **OTHER BUSINESS:**
5. **QUESTION PERIOD:** *(Agenda Items Only)*
6. **ADJOURNMENT:**

ACTING MAYOR: COUNCILLOR BESTWICK  
2013-DEC-02 – 2014-JAN-19



**COUNCIL BUDGET REVIEW  
ENGINEERING AND PUBLIC WORKS  
ENGINEERING SERVICES  
January 8, 2014**



**Engineering and Public Works - Engineering Services - Current Level of Service**  
**2014 - 2018 Financial Plan Review**

**Financial and Operational Planning includes:**

- Annual operating and maintenance activities to provide current service levels
- Identify specific projects, supported by a long range asset management plan, for renewal of current infrastructure.
- Identify specific projects for expansion/upgrades to current infrastructure.

**Significant Events:**

- In 2012 the City's Asset Management Plan was updated and asset management was indentified as a strategic priority in the City's Strategic Plan
- Development of the City's first long-term Transportation Master Plan which will guide transportation decision-making in the City over the next 25 years and beyond
- The City is currently negotiating a new operating agreement with Fortis BC, the outcome of this agreement and related processes may have an impact to City operations
- Provincial requirements for reduction of Inflow & Infiltration (I & I) in the sanitary sewer system
- Increasing environmental awareness around climate change and rainwater management to determine where ground water recharging can be achieved in the City
- Addition of a CAD technician position in 2013 as a result of the contracted services recommendations to bring work in-house

**Current Level of Services:**

**GIS:** The GIS department provides support to operating and planning staff through the management of a corporate geodatabase to store spatial data in a centralized location enabling the City's geographic information system (GIS). This inventory data supports long range asset renewal plans.

**Infrastructure Planning:** The infrastructure department is responsible for planning, establishing, controlling and monitoring the policies and standards necessary to develop an efficient multi-modal transportation network, safe and efficient water distribution, sanitary sewer collection and storm drainage infrastructure to support existing and future growth.

**Engineering Projects:** The engineering projects department is responsible for the engineered designs for municipal infrastructure including: roads, water, sanitary sewer, storm drainage, traffic signals, bridges, streetlights, sidewalks and retaining walls.

**Construction:** The construction department provides project management, construction management, contract administration, inspection and liaison with the public to support construction projects. Examples of projects include: Quaterway Bridge/Bowen widening, Cilaire utility improvements, Green Lake low pressure sanitary sewer, Vancouver Island Conference Centre, SARC building, Beban Park Upgrades and the Water Treatment Plant.

Engineering and Public Works - Engineering Services - Current Level of Service  
2014 - 2018 Financial Plan Review

Continuous Improvement Changes

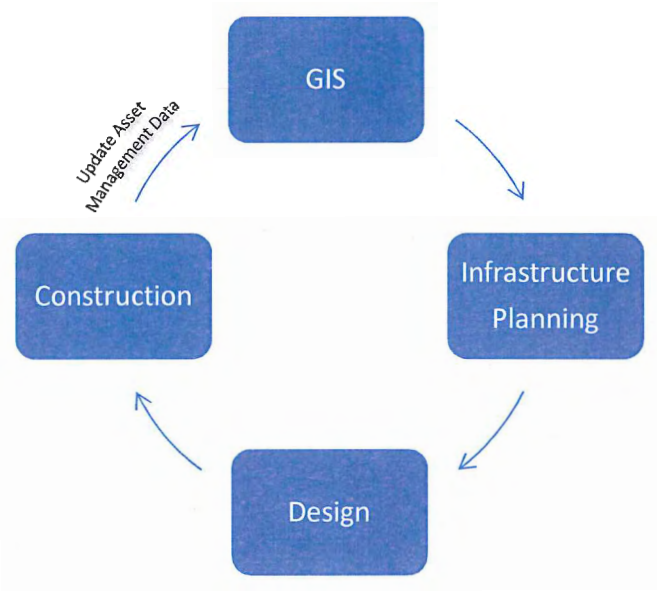
**GIS:** Implementation of a GIS web server to share GIS information across the City and the web  
Updating the City's traffic sign management system

**Infrastructure Planning:** Risk Assessment scoring of linear assets for condition and capacity to support project prioritization for the five year capital and asset management plans  
- Millstone and Chase River Sanitary Sewer catchments were completed as a pilot and scoring is now being expanded for all other sanitary sewer utilities as well as water distribution and storm drainage  
Development of a annual condition assessment program for water distribution  
Working with the Regional District of Nanaimo (RDN) to develop a common strategy for I & I that is achievable financially and physically within all areas of the RDN  
Collaborate with other City departments to review and research Rainwater Management & Climate Change efforts undertaken by other jurisdictions, develop policies and guidelines  
Improvements to the Capital Projects Management System (CPMS) to improve efficiency and access to information

**Engineering Projects:** Development of seismic hazard map for City infrastructure

**Construction:** Use of on-line tenders to reduce paper generation and improve accessibility to documents  
Using the City website to improve public access to project information such as project facts, updates, construction notices and traffic disruptions  
(currently under development)

Annual Operating Programs Include:



**Engineering and Public Works - Engineering Services - Current Level of Service**  
**2014 - 2018 Financial Plan Review**

- Support Services:** Provide traffic management services to the community including:
- Reviewing traffic issues and working with residents to resolve and explain road safety
  - Manage road conditions through traffic signage
  - Conduct traffic calming reviews and implement changes

Approving road closures, permitted road uses

Production of City mapbook

Processing of engineering as-built records

Permit processing

- GIS:** Development, implementation and management of the corporate geodatabases including 3D data collection and aerial data acquisition
- Updating inventory data for completed capital projects with details such as in-service date, location, measurements and material type
  - Geospatial database inventories maintained include:

- |                               |  |
|-------------------------------|--|
| - Sanitary sewer              | - Traffic signage                            |
| - Storm drainage              | - Sidewalks                                  |
| - Water system                | - Urban trees                                |
| - Parks and Recreation fields | - City's land base information (legal plans) |

The geodatabases support such systems as:

- |   |   |
|---|---|
| - Mapguide                                | - Fire department urban interface hazard data and mapping |
| - Snow and ice control routing initiative | - Traffic data map views and tools                        |
| - Utilities condition assessment          | - Utilities modelling and forecasting                     |

- Infrastructure Planning:** Annual updating of the five year capital plan for linear assets
- Review annual condition assessments of critical sanitary sewer and storm drainage pipes
  - Modeling to determine capacity issues
  - Coordinate with utilities and transportation departments to identify assets that require replacement/upgrading
- Management of studies and master plans for the City water distribution, sanitary sewer and storm drainage infrastructure to meet the short and long-term development, upgrading and maintenance of the utilities
- Long-term transportation planning for multi-modal transportation system
- Review development projects for local road network layout and impacts on major roads
- Traffic signal system timing and neighbourhood traffic calming programs
- Annual condition assessment programs for sanitary sewer and storm drainage
- Management of nine sanitary sewer flow monitoring stations and five rainfall monitoring stations that provide data to determine sanitary sewer base flows and I & I values
- Every three years, coordinate the evaluation and revisions to the Engineering Standards and Specifications with users

**Engineering and Public Works - Engineering Services - Current Level of Service**  
**2014 - 2018 Financial Plan Review**

**Engineering Projects:** Prepare engineered designs for the City's municipal infrastructure projects. Includes project management during the design stage, engineering, survey, design and drafting services.

- The goal is to have designs completed well in advance of construction to allow for detailed budgeting and coordination
- Designs are completed by with City staff or contract consultants with 50-100 projects of varying size and complexity underway at any given time
- Designs are completed taking into account a wide range of factors including:
  - Council priority
  - Level of service
  - Cost effectiveness
  - Operation and maintenance
  - Asset lifespan and impact
  - Public safety
  - Technical requirements
  - Environmental and social impact
  - Neighborhood benefit and concern
- To allow for coordination, consultation, property acquisition, permitting and resolution of issues designs are typically started two years in advance of construction

Provide project management during the design stage, engineering, survey design and drafting support to other departments within the City

Maintenance of the City's passive survey monument network that allows for establishing calibration of the GPS rover and ensures availability of the survey control when the GPS network is not functioning

**Construction:** Project construction management, contract administration and inspection for engineering projects including roads, pedestrian facilities, water and sewer mains

Project management, contract administration and inspection for civic facilities

Construction inspection for private developments and subdivisions, fill sites and other works in City streets

Permits and inspection of all private utility installations for example: BC Hydro, Telus, Shaw and Fortis BC

In house construction of water and sewer projects with a typical annual value of 2 - 2.5M

Annual Operating and Maintenance Budget

Annual operating and maintenance budgets include:

- Staffing
- Software Licenses
- Materials and Supplies
- Employment Expenses (i.e. vehicle allowance, memberships, training and development)

Indirect costs that are incurred to support the Engineering Services operations such as payroll, accounts payable, human resources and senior management resources are not included in Engineering Services operations actuals/budget.

Interprogram Credits - 24% of the net cost of Support Services , Construction Services and Engineering and 100% of Water Supply Administration is charged out to the Sewer and Water departments

Notes:

CUPE contract expires December 31 2013

2013 - 2017 Financial Plan includes inflationary increases for years 2 to 5 (2% increase for wages and benefits)

2014 Draft Budget does not include an increase for wages and benefits, a contingency is used for wages increases

\* Changes to classifying Capital and Operating Projects:

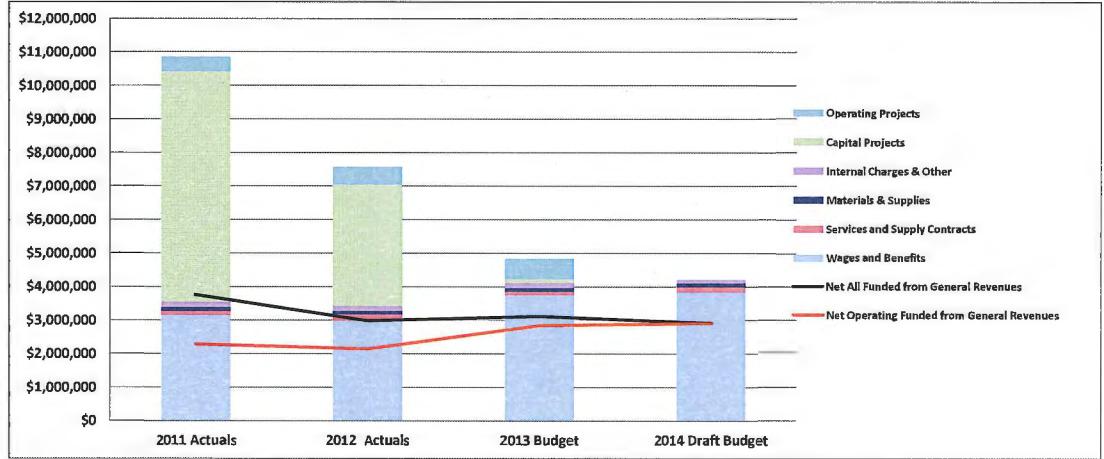
- In 2012 Pedestrian Facilities, Bicycle Network Development, Railway Crossing Repairs and Transportation Studies/Pre design operating projects moved from Engineering Services to Transportation
- Effective 2013 all Transportation and Drainage construction projects that were previously in Engineering Services were moved to the applicable department

Engineering Services	2013 - 2017 Financial Plan				
	2011 Actuals	2012 Actuals	2013 Budget	2014 Budget	2014 Draft Budget
Permits	14,812	15,654	19,000	19,190	19,000
Private Contributions	37,794	-	-	-	-
Other Revenue	7,706	10,471	2,100	2,121	3,100
Total Operating Revenues	60,311	26,125	21,100	21,311	22,100
Wages and Benefits	3,146,578	2,981,222	3,739,334	3,814,121	3,830,837
Services and Supply Contracts	121,218	184,904	109,551	111,742	155,417
Materials & Supplies	118,996	108,926	117,000	119,340	115,750
Internal Charges & Other	151,036	141,934	140,959	142,208	107,792
Total Operating and Maintenance Expenditures	3,537,828	3,416,986	4,106,844	4,187,411	4,209,796
Net Excluding Interprogram Credits	3,477,517	3,390,860	4,085,744	4,166,100	4,187,696
Interprogram Credits	(1,198,161)	(1,250,483)	(1,254,005)	(1,279,085)	(1,282,826)
Net Operating Funded from General Revenues	2,279,356	2,140,377	2,831,739	2,887,015	2,904,870
Transfers from Reserves	5,719,483	3,176,466	458,246	-	-
Other Project Funding	125,811	139,139	-	-	-
Total Project Funding	5,845,294	3,315,605	458,246	-	-
Capital*	6,872,635	3,623,347	116,679	80,000	-
Operating*	448,800	535,298	621,568	50,000	-
Total Project Expenditures	7,321,435	4,158,645	738,247	130,000	-
Net - Funded from General Revenues	3,755,497	2,983,417	3,111,740	3,017,015	2,904,870
Funded from General Revenues	39%	47%	87%	99%	99%
Cost per Capita \$	43.19	34.09	35.06	33.51	32.27

Budgeted FTEs 45\*

\* Budget reflects 46 positions however Manager of Engineering Services position was recently eliminated.

Expenditure Analysis







**COUNCIL BUDGET REVIEW  
ENGINEERING AND PUBLIC WORKS  
PROJECTS  
January 8, 2014**

## **Engineering and Public Works - Project Planning**

### **Asset Management**

The City of Nanaimo's Strategic Plan included asset management as a priority. Asset management is an integrated approach involving planning, finance, engineering and operations to effectively manage existing and new assets. The intent is to maximize benefits, reduce risks and provide satisfactory levels of service to the community in a sustainable manner.

The Engineering and Public Works department's responsibilities include identifying specific projects to renew, upgrade and expand the City's infrastructure (excluding park amenities, facilities and IT). These responsibilities support the purposes of efficient and effective asset management.

The City's 2012 Asset Management Update, presented to Council in January 2013, projected long term renewal needs for current infrastructure. The projected long term renewal needs are based on assumptions regarding material types, current costs and on current infrastructure condition information where available. The purpose of preparing long term renewal plans is to bring attention to significant issues and their probable timing.

The current replacement cost (2012 Asset Management Update) for the City's infrastructure managed by Engineering and Public Works is approximately \$1.9B.

### **Annual Project Planning Review**

Each year, the Infrastructure Planning section leads a review and update of the specific projects to be included in the next five year financial plan. Starting with the information from the long term renewal plans additional information is gathered from:

- Studies and capacity/condition assessment programs
- Field information from operations (eg main breaks, service leaks, low flows)

Risk assessment and ability to time concurrent projects (eg need to replace water and sewer mains in same location) is then used to prioritize projects that will maximize cost efficiencies and minimize impact to service levels.

This comprehensive process includes consultation with a wide range of operational staff, finance staff and external consultants.

**Currently, the Infrastructure Planning section is completing a comprehensive evaluation of all roads, storm sanitary sewer and water infrastructure identified at or near end of life in the Asset Management Update long term renewal plans. Additional investigation will determine the timing for replacement of this infrastructure.**

Engineering and Public Works - Service Level Changes and Projects  
2014 - 2018 Financial Plan Review

- Notes:
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  - 4) Projects can be funded from reserve, DCC Reserves, borrowing, grants and general taxation funding.

		Asset Renewal Projects	New Assets Projects	Asset Upgrade Projects	Strategic Projects			
		2014						
Type	Description	\$	% - 1% taxation	2015	2016	2017	2018	
	<b>Concurrent Renewal Projects:</b>							
Sewer	Highland & Departure Bay Sanitary	175,000	0.2%					
Water	Highland Blvd WM: Departure Bay/Island Hwy	25,000	0.0%					
Drainage	Drainage Northfield Cr @ Dep Bay Rd: MH45163 to outlet	194,000	0.2%					
Water	Juniper: Princess Royal to Vancouver			300,000				
Water	St George St WM: Vancouver to Belford			224,000				
Drainage	Drainage Juniper St, 229 Juniper to Stewart			76,000				
Water	Townsite: Graham to St Patrick (CI and Lead Joints)			217,000				
Transportation	Boundary Avenue			17,500				
Transportation	Crosswalk Imp: Boundary Cres @ Graham Cres			80,000				
Transportation	Crosswalk Imp: Boundary Ave @ Nightingale Pl			80,000				
Transportation	Crosswalk Imp: Townsite Rd @ Bush St			80,000				
Sewer	Beban Plaza Sanitary	20,000	0.0%		280,000			
Drainage	Beban Plaza Storm	30,000	0.0%		450,000			
Water	Glenayr Dr WM: Loat to Bay			25,000		240,000		
Water	Wingrove St WM: Glenayr to Elk St Looping			5,000		89,000		
Sewer	Sherwood Forest Utility Upgrades - Sewer	659,120	0.7%					
Water	Sherwood Forest Utility Upgrades WM	1,327,936	1.5%					
Drainage	Sherwood Forest Area Drainage	336,000	0.4%					
Water	Argyle Ave WM: Cul-de-sac to Golf Course			10,000		110,000		
Water	Argyle Ave WM: Cosgrove to Cul-de-Sac			10,000		60,000		
Sewer	Beaufort Park Area Sanitary			2,508,924				
Water	Beaufort Park Area Water			843,000				
Water	Seafield Crescent WM			175,000				
Drainage	Drainage Beaufort Park Area			340,000				
Water	Fourth St WM: Wakesiah to Milton			110,000		1,533,000		
Drainage	Drainage Replacement Program - Priority					725,000		
Sewer	Bruce Ave, Fifth St to Dundas St	375,000	0.4%					
Water	Bruce Ave Area Water	620,000	0.7%					
Transportation	Pine - Bruce - 10th Bikeway Ph 1	10,000	0.0%					
Transportation	Pine - Bruce - 10th Bikeway Ph 2	70,000	0.1%					
Water	Cumberland Place WM: Nottingham to End			20,000		225,000		
Water	Locksley Pl: End to Cumberland Pl			10,000		91,000		
Sewer	Cliff Street, Comox to Terminal	25,000	0.0%		250,000			
Water	Cliff St Area Water	25,000	0.0%		385,700			
Transportation	Downtown St Lighting : Ph B Commercial & Skinner	-			270,000			
Drainage	Morningside Dr: Replace CSP Drainage	50,000	0.1%					
Water	Morningside Dr: Hammond Bay to End	180,000	0.2%					
	<b>Sewer Infrastructure Renewal Projects:</b>							
Sewer	Sewer Service Connection Upgrades	175,000	0.2%	175,000	175,000	175,000	175,000	
Sewer	Sanitary Share - Road Rehabilitation	200,000	0.2%	200,000	200,000	200,000	200,000	
Sewer	Sanitary Infrastructure - Sewer Capital	200,000	0.2%	200,000	200,000	200,000	200,000	
Sewer	Sanitary Sewer Main Replacement Program - Priority			-	633,000	966,450		
Sewer	Bradley & Wall SS -Millstone to Terminal			50,000		500,000		
Sewer	Hammond Bay Road (@ Turner Road)			40,000				
Sewer	Fillinger Cres @ Rear of 5154 Fillinger			30,000				
Sewer	Greystone Place			25,000		250,000		
Sewer	Lake Road -Shoreline of Loudon Park			40,000		322,400		
Sewer	Garner Cres: L Emt adj Hawthorne Dev	25,000	0.0%		236,600			
Sewer	Lane 1001 RW: Robins to Woodhouse			20,000		210,100		
Sewer	Lane 1264 RW: Robins to Woodhouse				20,000		258,000	
Sewer	Victoria Rd: S to Bing Kee	20,000	0.0%		239,000			
	<b>Water Infrastructure Renewal Projects:</b>							
Water	Water Share - Road Rehabilitation	300,000	0.3%	300,000	300,000	300,000	300,000	
Water	Water Infrastructure	300,000	0.3%	300,000	300,000	300,000	300,000	
Water	Water Distribution Main Replacement Program - Priority	-		-	1,635,500	759,862	4,800,050	
Water	Water PRV Replacement Program	150,000	0.2%	150,000	150,000	150,000	150,000	
Water	Giggleswick Place WM	260,000	0.3%					
Water	Extension Rd WM: Duke Pnt Main SN103	25,000	0.0%	319,550				
Water	Cinnabar Dr WM: Stacey to End			35,000		400,950		
Water	Nanaimo Pky WM: Cranberry to Wilson - SN153			10,000		158,606		
Water	Wall St WM: Pythian Lane to Curling Club			205,000				
Water	Roberta Road E / Naylor Cres - B31 WM	10,000	0.0%		115,000			
Water	Highland Blvd WM: Cosgrove to #2596			170,000				
Water	Forest Dr Area Water	540,000	0.6%					
Water	Bruce Ave WM: Albion to Fourth	140,000	0.2%					
Water	Poplar St WM: Estevan to Stewart	35,000	0.0%		381,000			
Water	Eberts St WM: Millstone to Townsite	35,000	0.0%		357,000			
Water	Neyland Rd Area Water	75,000	0.1%	529,500	308,000			



Engineering and Public Works - Service Level Changes and Projects  
2014 - 2018 Financial Plan Review

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		Asset Renewal Projects	New Assets Projects	Asset Upgrade Projects	Strategic Projects			
		2014						
Type	Description	\$	% - 1% taxation	2015	2016	2017	2018	
Water	Turnabout View & Centenary WM			45,000		354,200		
Water	Cranberry Road WM: Extension to 14th			10,000		142,000		
Water	Bay St WM: Fandell to Keighley	25,000	0.0%		180,000			
Water	Marban Road WM: SN9 & SN158	15,000	0.0%		224,000			
Water	Howard Ave WM: 732 Howard to Sixth St			15,000		85,000		
Water	Dawkins Lane: Neil to End	35,000	0.0%					
Water	Camosun & Langara WM			10,000		125,000		
Water	College Park to Towers Supply Main					650,000		
Water	WPC - Decommissioning				100,000	-		
Water	Toilet Rebate Program	50,000	0.1%	50,000	50,000	50,000	50,000	
Water	Water Facilities - Roofing Program	79,000	0.1%					
Water	Annual Dam Safety Review	31,000	0.0%	31,000	31,000	31,000	31,000	
Water	Reservoir #1 Decommissioning	35,600	0.0%					
Water	Pryde Ave Pump/PRV Station			200,000				
Water	College Park Altitude Valve (PRV) Station Upgrade	50,000	0.1%					
Water	Towers Pump Station Upgrade					100,000		
Water	Duke Point Reservoir Upgrade				50,000			
Water	Towers Reservoir					200,000	1,600,000	
Water	Lost Lake Reservoir #2 - Rehab						500,000	
Water	Water Treatment Plant Vehicles	70,000	0.1%					
Drainage Infrastructure Renewal Projects:								
Drainage	Renfrew Lane Storm			62,000				
Drainage	Drainage Share Road Rehab Program	60,000	0.1%	60,000	60,000	60,000	60,000	
Drainage	Drainage Infrastructure	75,000	0.1%	75,000	75,000	75,000	75,000	
Drainage	Drainage Wakesiah Ave Woodstave			170,000				
Drainage	Drainage 5351 Hammond Bay Easement			75,000				
Drainage	Drainage 2465 Rosstown Rd (#3677 RoW)			65,000				
Drainage	Drainage Replacement Program - Priority				434,000		1,060,000	
Roads Infrastructure Renewal Projects:								
Transportation	Major Road Rehabilitation Program - Priority	934,261	1.1%	1,034,000	1,097,860	996,000	1,084,432	
Transportation	Local Road Rehabilitation Program - Priority	491,165	0.6%	467,100	408,461	486,000	374,700	
Transportation	Street Upgrades	-		-	125,000	70,000	780,000	
Transportation	Road Infrastructure	100,000	0.1%	100,000	100,000	100,000	100,000	
Bridge Renewal Projects:								
Transportation	Welcox Yard Trestle Maintenance	40,000	0.0%	40,000	40,000			
Transportation	Welcox Yard/Port Trestle Bridge Replacement contingent on area development							
Transportation	Bastion Street Bridge Rehab	30,000	0.0%					
Transportation	Bastion Street Bridge Repair, project scope and costs currently being evaluated							
Railway Crossings:								
Transportation	Railway Crossing Upgrades	100,000	0.1%	145,000				
Transportation	Railway Crossing Repairs	25,000	0.0%	25,000	25,000	25,000	25,000	
Street Lighting Renewal Program:								
Transportation	Sustainability - Street Lighting Reductions	6,000	0.0%	6,000	6,000	6,000		
Transportation	Street Light Upgrades Annual Program	50,000	0.1%	50,000	50,000	50,000	50,000	
Sidewalks Renewal Projects:								
Transportation	Sidewalks - Power Washing Downtown Area			35,000		35,000		
Concurrent Upgrade Projects:								
Transportation	Ped Crosswalk Curb Ext: Holly Ave @ Rosehill St				35,000			
Transportation	Ped Crosswalk Curb Ext: Townsite Rd @ Holly Ave				40,000			
Transportation	Ped Crosswalk Flashers: Bowen Rd @ Howard Ave	15,000	0.0%					
Transportation	Bowen/Wakesiah Signal Controller & Intersection Upgrade	180,000	0.2%					
Transportation	Bowen Rd (Pine St to Acacia Pl)	28,000	0.0%					
Roads Upgrade Projects:								
Transportation	Local Improvement Projects	480,000	0.5%	480,000	480,000	480,000	480,000	
Pedestrian Facilities Upgrades:								
Transportation	Traffic Counters	10,000	0.0%	15,000	15,000	15,000	15,000	
Transportation	Ped Crosswalk Curb Ext: Fitzwilliam St @ Wesley St			31,600				
Transportation	Terminal Ave (Northfield-Victoria/Esplanade) Corridor Plan	50,000	0.1%					
Transportation	Stewart Avenue Corridor Plan			50,000				
Transportation	Traffic Signal Standard Package				50,000			
Transportation	Corridor Plan					50,000	50,000	
Transportation	Ped Pushbutton & Countdown Timer: Wakesiah/Fourth					8,400		
Transportation	Audible Signals	6,000	0.0%	6,000	6,000	6,000	6,000	
Transportation	Ped Pushbutton & Countdown Timer: Aulds Rd @ Metral Dr				8,400			
Transportation	Ped Countdown Timer: Third St @ Wakesiah Ave			6,400				
Transportation	Ped Countdown Timer: Bastion @ Commercial				6,400			
Transportation	Ped Crosswalk Flashers: Cranberry Ave @ Moose Hall	15,000	0.0%					
Transportation	Ped Crosswalk Flashers: Hammond Bay @ Morningside				15,000			
Transportation	Ped Crosswalk Flashers: Hammond Bay Rd @ Lagoon Rd					45,000		
Transportation	Ped Crosswalk Flashers: DBR @ Uplands						30,000	
Transportation	Ped Crosswalk Flashers: Princess Royal @ Hemlock						30,000	
Transportation	Safer School Travel Program				3,400			



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		Asset Renewal Projects	New Assets Projects	Asset Upgrade Projects	Strategic Projects		
		2014					
Type	Description	\$	% - 1% taxation	2015	2016	2017	2018
Transportation	Traffic Calming Program				4,200	7,100	
Transportation	Departure Bay Road SW: Rock City School to Newton St				10,000		
Transportation	Ped Pushbutton & Timer: Terminal Ave @ St. George St				6,400		
Transportation	Terminal /StGeorge/Princess Signal Controller & Upgrade				80,000		
Transportation	Hammond Bay Road					15,000	
Transportation	Ped Fac: Wireless Count Station, Rutherford Rd			12,000			
Transportation	Pedestrian Facilities Improvements Program					60,000	69,000
	<b>Street Lighting Upgrades Program:</b>						
Transportation	Downtown St Lighting : Ph A - Church & Ph C - Commercial	195,000	0.2%				
Transportation	Downtown St Lighting : Ph D - Victoria					500,000	
	<b>Concurrent New Projects:</b>						
Transportation	DCC R85 Boxwood Connector			450,000		4,455,000	
Transportation	DCC R49 Northfield: Bowen to Boxwood			70,000		710,000	
Drainage	Boxwood Connector Pond Drainage			30,000		300,000	
Sewer	Boxwood Connector Sanitary			25,000		350,000	
Sewer	Rosstown Rd: Boxwood to 2227 Rosstown			20,000		310,000	
Water	Boxwood Connector WM			40,000		370,000	
Water	DCC W13 Looping Harwell/Jingle Pt/Westwd	600,000	0.7%				
Water	Harewell Loop Water						
Sewer	DCC SS19 Millstone: Buttertubs Easement	1,849,000	2.1%				
Sewer	DCC SS19 Millstone: Buttertubs Dr (Bowen to End)	994,000	1.1%				
Drainage	Drainage Buttertubs Drive: Bowen to Buttertubs Marsh	200,000	0.2%				
Sewer	Linley Valley Dr: Turner to 5101 Rutherford	340,000	0.4%				
Water	100 Line Road WM: Turner to Rutherford	210,000	0.2%				
Transportation	DCC R65 100 Line Rd (Turner to Rutherford)	1,000,000	1.1%				
Water	DCC W48: Ham Bay Rd: Prince John to Stephenson Pt			50,000		502,000	
Transportation	DCC R84 Hammond Bay			340,000		3,400,000	
Sewer	Sewer renewal needs currently being evaluated						
	<b>Sewer Infrastructure New Projects:</b>						
Sewer	DCC Unspecified Sanitary Sewer Projects	150,000	0.2%				
Sewer	DCC SS17 Millstone, Easement			1,540,000			
Sewer	DCC SS25: Bruce Ave, Deering to Webber					164,000	
Sewer	DCC SS44 HB Rd, McGirr/Kenwill/Turner/Kenning	50,000	0.1%		430,000		
Sewer	DCC SS47 Millstone Lateral						
Sewer	DCC SS18 Millstone: Easement			1,500,000			
	<b>Water Infrastructure New Projects:</b>						
Water	DCC Water Designs & Unspecified Projects	100,000	0.1%				
Water	DCC W49 Departure Bay Rd WM				147,000		
Water	Right of Way Acquisitions	20,000	0.0%	20,000	20,000	20,000	20,000
Water	Water Treatment Plant	30,711,070	34.9%	4,416,239			
Water	South Fork II				1,500,000	1,500,000	
Water	#10 Reservoir	1,347,000	1.5%			-	
Water	DCCWS36 Randerson Ridge Reservoir					600,000	
Water	Emergency Water Supply					3,000,000	
Water	DCC WS41#1 Reservoir: College Pk Dup Supply Main	200,000	0.2%		3,500,000		
Water	Energy Recovery System # 1 Reservoir	421,000	0.5%				
Water	DCC W47 College Drive Twinning WM			10,000		112,700	
	<b>Drainage Infrastructure New Projects:</b>						
Drainage	Drainage Unspecified DCC Projects	100,000	0.1%				
	<b>Roads Infrastructure New Projects:</b>						
Transportation	DCC Road Designs & Unspecified Projects	100,000	0.1%	-	-	-	-
	<b>Sidewalks New Projects:</b>						
Transportation	Sidewalks	323,900	0.4%	387,000	195,000	195,000	225,000
	<b>Sewer Infrastructure - Condition Assessment and Studies:</b>						
Sewer	Sanitary Sewer Studies				50,000	50,000	50,000
Sewer	Sewer Monitoring Calibration & Upgrades	30,000	0.0%	35,000	50,000	60,000	60,000
Sewer	Sewer Investigation / Condition Assessment Program	170,000	0.2%	190,000	200,000	215,000	240,000
Sewer	North Slope Study	50,000	0.1%				
Sewer	King Richard Drive Sewers Study	-		50,000			
Sewer	Sewer Designs	60,000	0.1%	60,000	60,000	60,000	60,000
Sewer	Sewer Design Investigations	2,500	0.0%	2,500	2,500	2,500	2,500
	<b>Sewer Equipment:</b>						
Sewer	Maintenance Equipment	35,000	0.0%	35,000	35,000	35,000	35,000
Sewer	Maintenance Equipment - Sewer Capital	39,944	0.0%				
	<b>Water Infrastructure - Condition Assessment and Studies:</b>						
Water	Water Condition Assessment Program	100,000	0.1%	100,000	100,000	100,000	100,000
Water	Water Studies				50,000	50,000	50,000



Engineering and Public Works - Service Level Changes and Projects  
2014 - 2018 Financial Plan Review

Notes:

- 1) Projects are for expenditures that do not occur every year or vary from year to year.
- 2) Most projects are related to asset management of current facilities.
- 3) Projects are either classified as operating or capital to comply with accounting standards. Larger cost projects are classified as capital.
- 4) Projects can be funded from reserve, DCC Reserves, borrowing, grants and general taxation funding.

		Asset Renewal Projects	New Assets Projects	Asset Upgrade Projects	Strategic Projects		
		2014					
Type	Description	\$	% - 1% taxation	2015	2016	2017	2018
Water	Townsite/Boundary PRV Review	50,000	0.1%				
Water	Old College PRV Review			50,000			
Water	Water Designs & Studies	60,000	0.1%	60,000	60,000	60,000	60,000
Water	Water Design Investigation	5,000	0.0%	5,000	5,000	5,000	5,000
	<b>Water Equipment:</b>						
Water	Maintenance Equipment	25,000	0.0%	25,000	25,000	25,000	25,000
	<b>Drainage Infrastructure - Condition Assessments and Studies:</b>						
Drainage	Storm Studies/Predesign	21,450	0.0%	21,450	21,450	21,450	25,000
Drainage	Storm Drainage Condition Assessment Prog	50,000	0.1%	50,000	50,000	50,000	50,000
Drainage	Fill Deposit Sites	25,000	0.0%	25,000	25,000	25,000	25,000
Drainage	Drainage Design	10,000	0.0%	10,000	50,000	50,000	50,000
Drainage	Storm Design Investigation	2,500	0.0%	2,500	2,500	2,500	2,500
	<b>Drainage Equipment:</b>						
Drainage	Storm Maintenance Equipment	20,000	0.0%	20,000	20,000	20,000	20,000
	<b>Transportation Infrastructure - Condition Assessments and Studies:</b>						
Transportation	Street Designs and Studies	100,000	0.1%	100,000	100,000	100,000	100,000
Transportation	Transportation Design Investigations	2,500	0.0%	2,500	2,500	2,500	2,500
	<b>Transportation Equipment:</b>						
Transportation	Transportation Maintenance Equipment	20,000	0.0%	20,000	20,000	20,000	20,000
Transportation	Transportation Maintenance Equipment	60,000	0.1%	115,000			
	<b>Bike Network Development:</b>						
Transportation	Bike to Work Week	7,500	0.0%	7,500	7,500	7,500	7,500
Transportation	Bicycle Network Development Program					7,500	27,500
	<b>Fleet Replacement Projects:</b>						
Fleet	Small Tools Replacement (Fleet)	9,000	0.0%	25,000	25,000	25,000	25,000
Fleet	Shop Equipment Replacement (Fleet)	18,500	0.0%	15,100	5,000	2,000	8,000
Fleet	Small Tools Relpacement	16,000	0.0%				
Fleet	Fleet Replacements	483,000	0.5%	507,000	345,000	1,077,000	715,000
	<b>Public Works Yard Renewal Projects:</b>						
PW Yard	Furniture, Computer & Software Upgrades	15,000	0.0%	15,000	15,000	15,000	15,000
PW Yard	PW Yard Upgrades	65,000	0.1%	75,500	65,000	65,000	74,500
PW Yard	PW Yard Roofing	152,650	0.2%	238,000			
PW Yard	PW Yard - Gas Kiosk	25,000	0.0%				
PW Yard	Admin Trailer Lighting Upgrade	10,000	0.0%				
PW Yard	Casting Shed - Replace Furnance			20,000			
PW Yard	Purchasing/Stores - Replace Exterior Doors			16,000			
PW Yard	Truck Barn/ Sign Shop - Replace Exterior Doors				24,000		
PW Yard	Garage - Replace Door					24,000	
	<b>Engineering Services Projects:</b>						
Eng Services	Furniture and Equipment	15,000	0.0%	15,000	15,000	15,000	15,000
Eng Services	City Orthos	25,000	0.0%	150,000	25,000	25,000	150,000
Eng Services	Integrated Survey Control Monuments	10,000	0.0%	10,000	10,000	10,000	10,000
Eng Services	GIS Development	25,000	0.0%	45,000	45,000	45,000	45,000
Total Expenditures		50,424,596	57.4%	22,317,863	18,004,371	31,053,718	15,173,182