Minutes – Executive Policy Committee – June 18, 2014

Minute No. 392
Report – Standing Policy Committee on Infrastructure Renewal and Public Works – June 3, 2014

Item No. 4 **2013 Annual Report - Winnipeg Sewage Treatment Program Agreement between The City of Winnipeg and Veolia (VWNA Winnipeg Inc.)**

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

The Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works and submitted the following to Council:

1. That this report be received as information.

Minutes – Executive Policy Committee – June 18, 2014

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – June 3, 2014

DECISION MAKING HISTORY:

Moved by Deputy Mayor Swandel,

That the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works be concurred in and forwarded to Council.

Carried

David Sanders submitted a communication dated June 18, 2014 with respect to the 2013 Annual Report - Winnipeg Sewage Treatment Program Agreement between The City of Winnipeg and Veolia (VWNA Winnipeg Inc.).

STANDING COMMITTEE RECOMMENDATION:

On June 3, 2014, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

Further on June 3, 2014, the Standing Policy Committee on Infrastructure Renewal and Public Works received from David Sanders a presentation dated June 3, 2014, with respect to the 2013 Annual Report - Winnipeg Sewage Treatment Program Agreement between The City of Winnipeg and Veolia (VWNA Winnipeg Inc.).

ADMINISTRATIVE REPORT

Title: **WINNIPEG SEWAGE TREATMENT PROGRAM 2013 ANNUAL REPORT PROGRAM AGREEMENT BETWEEN THE CITY OF WINNIPEG AND VEOLIA (VWNA WINNIPEG INC.)**

Critical Path: **Standing Policy Committee on Infrastructure Renewal and Public Works - Executive Policy Committee – Council**

AUTHORIZATION

Author	Department Head	CFO	CAO
Moira L. Geer, CA Manager of Finance	Diane P. Sacher Director of Water and Waste	M. Ruta	D. Joshi A/CAO

RECOMMENDATIONS

That Council receive this report as information.

REASON FOR THE REPORT

A thirty-year consultant services agreement with Veolia was executed on April 20, 2011. This agreement requires the City to report on results of the Program to City Council on an annual basis.

IMPLICATIONS OF THE RECOMMENDATIONS

This Annual Report to Council summarizes the accomplishments and financial results that were realized in 2013, the third year of the thirty year program, as well as the plans and objectives that have been set for 2014.

Veolia continues to deliver value to the City of Winnipeg and 2013 was another successful year for the program. This report summarizes the:

- 2013 accomplishments
    - Progress on capital program
        - Achievement of 2013 deliverables reported to Council
        - Achievement of 2013 key performance indicators reported to Council
        - Savings of approximately $600,000.00 ($450,000 in consultant savings plus $150,000 due to Veolia taking 50% of the “pain” share).
- 2013 financial results
- 2014 deliverables and key performance indicators

In 2011, the inaugural year for the Program, the focus was to set up a foundation of policies and procedures that would facilitate day to day activities, communication, and reporting relationships. There was also a need to define an end-to-end process to deliver capital projects, develop a detailed user manual and establish management information systems and procedures that would carefully measure Program results and manage Program risks. In 2012 the WSTP focused on advancing the large capital projects and identifying and implementing operational improvements.

In 2013 the WSTP continued to focus on improvements to capital planning, operations, reporting and process control. The 2013 accomplishments and 2014 objectives are described in further detail in this report.

HISTORY

On April 20, 2011, the City entered into a consulting services agreement with Veolia. The scope of the agreement includes advice on operations and capital upgrades at the City's three sewage treatment plants for the duration of the 30 year agreement.

The City retains full ownership and control of the sewage treatment plant system. The City-Veolia contractual relationship abides by the following Program principles:

- City employees are managing and operating the facilities
- Decisions are being made on the basis of whole-life costs
- Best for job and best for Program decisions are being made
- Full open book accounting and audit of direct costs is occurring
- The City and Veolia work collaboratively, openly and honestly within a no fault/no blame culture
- Compensation is based upon performance

The contract has been implemented by key participants from the Department's Engineering, Wastewater Services and Finance Divisions, who along with dedicated on-site Veolia staff members, form the Winnipeg Sewage Treatment Program (WSTP).

The WSTP day-to-day operations are governed by the Management Team (MT). The MT provides advice and recommendations on the WSTP activities to the Director and on the administration of the WSTP to the Leadership Team (LT).

The LT meets monthly and is comprised of senior leaders from Veolia North America as well as Divisional Managers from the Water and Waste Department. The LT makes recommendations to the Director of the Water and Waste Department on matters including WSTP activities, objectives, budgets and compliance with licences. It is the Director who has the ultimate authority to approve all decisions related to the WSTP.

(See Appendix 1 for the current composition of the MT and LT)

PROGRAM ACCOMPLISHMENTS – 2013

	2013 Program Deliverables Reported to City Council	Status
1	Process Control Management Plan (PCMP)	✓
2	Operation Improvements	✓
3	Maintenance Facility Schedule	✓*
4	Consumables	✓*
5	Procurement Optimization	✓*
6	Wastewater Services Organization	✓*
7	Plant Compliance Improvement	✓
8	Biosolids and Nutrient Master Plan	✓
9	NEWPCC Master Plan	✓
10	Asset Replacement and Refurbishment Plans	✓
11	Completion and Implementation of Consultant Administration Manual and Standards	✓
12	Capital Project Delivery	✓

✓ Completed
✓* Partially Completed –Discussion as per the following section.

OPERATIONS:

1. Process Control Management Plan (PCMP)

   The PCMP was fully completed and implemented in all three sewer treatment plants – all unit process strategies have now been completed and key performance and process control reporting practises are in place.
   The staff have been trained in the PCMP and there has been a significant reduction in the amount of effort required to capture operating data and retention of records.

2. Operations Improvement

   Operational improvement business cases (OIBC) were prioritized and completed in 2013.

   OIBCs were completed for:
   - Optimization of the processes for water usage, polymer usage and operation of the sequence batch reactors at the NEWPCC
   - Energy demand management at all sewage treatment plants with a trial to be conducted at WEWPCC
   - Process control optimization though development of pumping strategies for the WEWPCC and SEWPCC

3. Maintenance Facility Schedule

   A maintenance schedule for the plants was not completed in 2013 but work is ongoing on this initiative. Limited progress was made because the plan requires Veolia to have limited access to the Department's Oracle Work Management System which is a complex information technology project that is underway. Veolia can only have access to sewage treatment plant data which requires segregation of the database so they cannot view water system or sewage collection asset data.

4. Consumables

   A methodology was developed to track operational parameters and was integrated into the reporting procedures in the PCMP. Parameters included: NEWPCC chemical usage; electricity and natural gas usage at three facilities. This will help understand and potentially control the major variable costs in the sewage treatment plant operations. Full Implementation is scheduled for 2014.

5. Procurement Optimization

   A review of existing City contracts was undertaken in order to identify potential savings through operational procurement. In 2014 the program team will review procurement savings in area of sludge hauling, polymer, ultra violet lamps and maintenance materials.

6. Organization Structure for the Operations Facilities

   The organizational design for the sewage treatment operations is developed and awaiting full implementation. Some delay occurred due to an unforeseen vacancy in the senior wastewater engineer position. This position was filled in late 2013 and will lead the organization design for the sewage treatment plant facilities. Work continues on this plan.

7. Plant Compliance Improvement

Since the 2011 process upset at the SEWPCC the WSTP program team and plant operations team have regular onsite meetings to monitor plant performance and implement process changes. Early signs of a potential plant upset were identified in fall 2013 through the PCMP, and the team was successful in proactively managing plant performance.

A study on WEWPCC pond effluent commenced in 2012 and the scope of research was expanded in 2013 to address more effluent parameters.

The level of effluent monitoring at NEWPCC was increased in 2013 to investigate effluent quality and risk factors for events of non-compliance.

In addition to the operational changes that have improved compliance, there are capital projects underway that will further improve overall plant performance. These include raw sewage pumping/flow equalization strategies for both the SEWPCC and WEWPCC, and flow measuring for the WEWPCC. The polymer system at WEWPCC will also be upgraded which will help with the final effluent results.

8. Biosolids and Nutrient Recovery Strategy

The Biosolids Master Plan (BMP) activities in 2013 focused on determining marketability of biosolids end products and evaluating the interest of the private sector in participating in a biosolids program. The following associated deliverables were produced in 2013:

- Created project charter and plan, and conducted a biosolids marketing analysis study to determine viable markets.
- Issued and evaluated a request for information (RFI) to assist in determining private sector interest and participation.
- Issued a process selection report on digester pretreatment options which recommended thermal hydrolysis (TH) as an advanced pretreatment system.
- SEWPCC digestion business case determined the benefit of centralizing the biosolids treatment in the NEWPCC as opposed to having a digestion facility in the SEWPCC.
- Report on NEWPCC digester reuse options examined the ability to modify the existing NEWPCC digestion facility to accommodate the NEWPCC BNR upgrade, future growth, enhanced pretreatment, and additional wet weather flow from the CSO program. Public engagement on biosolids management was initiated in 2013 and will conclude in 2014. A stakeholder advisory committee was established that includes industry members, technical experts and citizen representatives. The public engagement process is published on the City of Winnipeg website at http://wwdengage.winnipeg.ca/biosolids/.
- The WSTP signed a project charter with the Brady Road Resource Management Facility to conduct a two year biosolids composting pilot. The pilot project will be commissioned in 2014.

9. NEWPCC Master Plan

The NEWPCC Master Plan was initiated and completed in 2013 as required by the Save Lake Winnipeg Act: Part 5 - The Water Protection Act.

The NEWPCC Master Plan objective was to:

- Establish a long-term vision for the facility
- Establish a plan for the facility development
- Comply with the regulatory requirement to submit the Master Plan to the Province before October 2, 2013.

As required, The NEWPCC Master Plan was submitted to the Province of Manitoba by the deadline of October 2, 2013 and included:

- The conceptual design for the upgrade and expansion of the NEWPCC.
- The estimated schedule, capital and operating costs for the upgrade and expansion.

10. Asset Refurbishment and Replacement Plan (ARRP)

The ARRP created a risk based asset investment profile (for the NEWPCC and the WEWPCC) based on the program maintenance model, asset criticality and the City asset register. In 2013 a desktop exercise was performed. In 2014 there will be further progress to optimize the asset investment profile for extreme risk assets based on current condition assessments and operational experience. This project also created a business process for annual update of the ARRP for facilities.

11. Capital Program Delivery

South End Sewage Treatment Plant Upgrades

SEWPCC RFP for consultant services was awarded in April 2013. The scope of the services included project definition design, preliminary design, detailed design, contract administration and additional services. The project definition phase was complete at 95% and the preliminary design activities have been initiated. The SEWPCC project, since its inception, has changed and the project was re-defined as a result of the Environmental Act License requirements, expanding population in the south end of the City, technological advances and implementation of the consulting services contract with Veolia.

E&IC Standardization

In continuation of the automation master planning, the overall objective for the E&IC standardization is to (1) provide a comprehensive automation design guide and associated technical standards to ensure consistent high-quality automation installations and (2) standardize, via standing orders, critical electrical and automation components. In 2013, the Program Team issued a standing order RFP for the uninterruptible power supply (UPS) and the programmable logic controllers (PLC) and motor control center (MCC). Award is planned for 2014.

Other Capital Projects

Progress was made on a variety of capital projects at the sewage treatment plants as follows:

- DCS Stabilization: DCS Hardware Maintenance Plan
- NEWPCC Raw Sewage Pump Maintenance Plan
- NEWPCC hauled liquid waste facility improvements

- NEWPCC Digester 11 Rehabilitation and holding tank restoration
- NEWPCC Secondary Clarifiers Refurbishment (3 year program)
- SEWPCC Monitoring: Effluent Sampling
- SEWPCC Asbestos Abatement
- SEWPCC Ventilation Upgrades
- WEWPCC Raw Sewage Pump Replacement

12. Standard Procedures and Manuals for Capital Projects

- Consultant Administration Manual – a standardized tool for City project managers to administer a consultant services contract. It provides guidance and standardization in the areas of document management, change management, cost management, performance management and quality management.
- Capital Project Reporting Standard– a standardized project reporting tool for City project managers to report on project activities, schedule, risk mitigation, safety and financial results.
- Scheduling Awareness – provides project managers with an awareness regarding the development and analysis of schedules submitted by consultants and contractors.
- Orientation Manual – a manual for new and existing City staff to use in understanding the mandate of the WSTP, City versus Veolia role and project delivery standards.

2013 KEY PERFORMANCE INDICATORS (KPI) AND RESULTS:

2013 KPI Category	KPI Indicator	Progress
Program administration	• Internal Communication: Develop internal communication process and newsletter template; issue internal newsletter.	• Completed process and template. Issued one of two newsletters.
	• Management Program Standards: Process development and implementation of naming convention for program technical and engineering standard.	• Completed naming convention and process for maintenance and ownership of standards at program level. Postponed launching of system (validation related to IMS documents) and implementation of naming convention for all eligible documents.
	• Orientation Manual: Develop orientation documents and implement process.	• Completed development of orientation documents and launched system through validation of related IMS works.
	• Safety Initiatives: Audit lock-out tag-out program; develop safety promotion program; implement corporate contractor safety program; implement job safety program.	• Completed audit of lock-out/tag out program and developed safety promotion program. Implemented corporate contractor safety program in WSTP. Implemented a job safety planning program for the WSTP which included templates and processes as appropriate. Postponed the development and implementation of reporting, investigating and learning from close calls; development of a safety and health report for WSTP operations; development of a plan to highlight and deal with problem areas.

Operation	• Operational Improvements: Improvements that have either risk reduction or staff time savings. • PCMP: Continued development and implementation of unit process strategies.	• Completed SBR optimization; OWAM gap analysis; maximum demand management; water efficiency and pumping strategy. • Completed the following as planned: UPS NEWPCC; reports common and specific to 3 WPCCs; solids balance reports at 3 WPCC; training WPCC and branch.

Construction	• Capital Project Reporting: Standardization of capital report format for Program project managers. • Scheduling Awareness and Training: Increase knowledge and awareness for Program project managers regarding scheduling aspects of a project whether prepared internally or by external consultant. • Capital Management Plan NEWPCC and WEWPCC. • Operation Process Data Management: Develop a plan to implement process data management which would identify stakeholders and propose a delivery strategy including resources, IT, and procurement constraints.	• Completed template; trained project managers; piloted report format and implemented resulting improvements; launched document for implementation in all projects. • Completed and validated final document. Training scheduled early 2014. • Developed and implemented 2013 WEWPCC and NEWPCC capital minor projects schedule. • Developed implementation plan which included: procurement strategy, Veolia work packs and draft user requirements document. Postponed agreement to and issuance of system architect document.

2013 FINANCIAL RESULTS

Veolia earns the majority of its compensation in three ways – margins applied to direct costs, gain sharing (or pain sharing) on operations and capital target costs, and meeting key performance indicators. The earnings of Veolia in any given year are credited to the Earnings At Risk Account (EARA). The EARA is compared to the At Risk Amount (ARA) to determine if Veolia is entitled to withdraw any of those earnings. Veolia also earns an interest rate on the funds being held that are not eligible for withdrawal.

The financial results for 2013 are summarized in the following table:

Financial Summary as at December 31, 2013	
Reimbursement of Veolia Direct Costs	$3.1 million
Earnings At Risk	$2.9 million
At Risk Amount	$49.4 million
Performance Security posted by Veolia	$50 million

The Earnings At Risk Account categories are further itemized in the following table:

Earnings At Risk Account Summary		
Balance, beginning of year		$ 1,841,458
Compensation earned in 2013		
Margin	$ 467,072	
Share of pain on operations	(147,229)	
Key performance indicators	712,250	
Interest on funds held	66,661	1,098,754
Balance, end of year		$ 2,940,212

As at December 31, 2013, the ARA balance was $49.4 million and the EARA balance was $2.9 million. Veolia is again not eligible to draw compensation from the EARA account.

As required by the agreement, Veolia has posted $50 million security ($25 million letter of credit and $25 million performance bond). There is also a Parental Guarantee in place to protect the City.

2014 ANNUAL PLAN PROGRAM DELIVERABLES AND KEY PERFORMANCE INDICATORS (KPI):

Objective	
Operations	
Facility compliance	Develop and implement methodology for investigating, reporting and making recommendations for non-compliances at facilities.
Wastewater Information Management System Performance Dashboard	Develop and implement a key operational performance measurement system, including training of operations staff.
PCMP improvement	Continued improvements targeting solids balance reports and sampling strategies.
Operational participation in capital projects	Ensure operation knowledge is transferred with a target to develop a plan to improve communication between capital projects teams and operating staff in conjunction with new operations team organization structure development.
Maintenance planning	Develop methodology for the production of a schedule and its integration into OWAM and the demand on operational resources.
Improve use of CMMS	Prioritize and implement recommendations within OWAM gap analysis that only affect the sewage treatment plant operations. Develop communication protocol for OWAM change management.
Operational documentation	Improve management of operational documentation to provide relevant information for the safe operation and maintenance of facilities. (1) identify existing operational documentation (2) develop a vision of organizational information (3) document new or recommend changes to existing business processes (4) document a hierarchy of documentation to achieve vision.
Procurement optimization	Identify operational contracts, target contracts where Veolia can apply its expertise to achieve savings for the City.
Operational improvement business cases	Continue development of the following business cases, including, once approved, implementation of actions. • WEWPCC Optimization of raw sludge hauling • NEWPCC Optimization of biosolids cake hauling Develop a business case for operational cost control reporting and recommended reporting systems.
Operational safety planning	Continued implementation of best practices in workplace health and safety. Improve the sewage treatment plan safety strategy, including implementation of enhanced reporting.
Capital Planning and Project Delivery	
Biosolids master plan (BMP)	• Select struvite vendor. • Determine proposed NEWPCC layout including wastewater upgrade, expansion and biosolids. • Determine critical path for biosolids upgrades and NEWPCC BNR upgrades. • Select biosolids final product options for the master plan.

	• Complete public engagement meetings and consultation. • Complete and commission pilot compost facility, award wood chip supply contract and production of first compost. • Consolidate information and develop final BMP report. • Submit Biosolids Master Plan to Province. • Identify critical path and dependencies between NEWPCC upgrades and develop plan to accommodate critical dates and milestones.
Facility planning continuation	Progressively update NEWPCC facility plan to reflect current activity including: • asset refurbishment and replacement planning • Integration of new projects • Complete updated facility plans for all facilities at end of 2014 for contribution to the capital planning cycle. Subject to resource availability, develop WEWPCC facility plan including design flows and loads, actual plant capacity, requirement for capital projects.
Asset Refurbishment and Replacement Planning	To assist in managing asset risk at the NEWPCC, complete second integration of the Plan to feed the City budget planning process.
Hauled Liquid Waste and Leachate Receiving Facilities Long Term Plan	Develop and agree on a long term strategy for HLW and leachate including sampling and pretreatment strategy, and receiving facility.
Arc Flash Management Plan	Develop a process to update WWTP arc-flash documents having one master study in each facility.
NEWPCC BNR projects delivery - Power supply	Upgrade the NEWPCC power supply. Produce and approve procurement strategy, project charter and project plan, issue and award consultant RFP for NEWPCC power supply project.
Document management system (DMS)	Complete the DMS project and have operational for major capital projects.
E&IC Standardization	Complete E&IC standardization project with the following categories: • Documents and Systems: automation design guide; tagname identification standard; HMI layout and animation plan; historical data retention standard. • Critical Electrical and Automation: UPS; control system selection; motor control equipment; protocol converters/gateways; instrumentation; electrical power meters; valve actuators; industrial grade Ethernet switches; gas detection system.
SEWPCC Upgrade and Expansion - BNR project	• Complete project definition phase including award of tendered contracts for IFAS media and high clarification vendors. • Complete preliminary design phase including project delivery strategy. • Complete target cost evaluation. • Begin detailed design. • Award preliminary earth works for site preparation,

	excavations and piling.
HMI Stabilization Project	Sign off DCS hardware maintenance plan and develop project charter.
Tailor the consultant RFP process	Develop a standard RFP process to guide users through available tools and templates to manage the multiple RFPs to be issued over the next few years. Validate RFP process and associated templates and launch them into the IMS.
Major capital project cost control	Develop a financial report that can be used for the major capital projects reporting process for capital projects over $10 million.
Program team design build (DB) training program	Mitigate risk due to lack of experience with DB projects. Develop and implement DB training program for Program team members.
Program Administration	
• Communication	Issue two Program newsletters and organize site specific workshops at each facility to improvement communications between WSTP, engineering and operations staff.
• Projects dashboard	Develop and produce a Program activity dashboard, including project status (projects with project charters) by plants with regular updates.

FINANCIAL IMPACT

Financial Impact Statement

Date: April 28, 2014

Project Name:

WINNIPEG SEWAGE TREATMENT PROGRAM 2013 ANNUAL REPORT - PROGRAM AGREEMENT BETWEEN THE CITY OF WINNIPEG AND VEOLIA

COMMENTS:

There is no financial impact associated with the recommendation of this report. Financial implications are discussed in the Financial Results section of the report.

Original Signed By
Moira L. Geer, C. A.
Manager of Finance and Administration

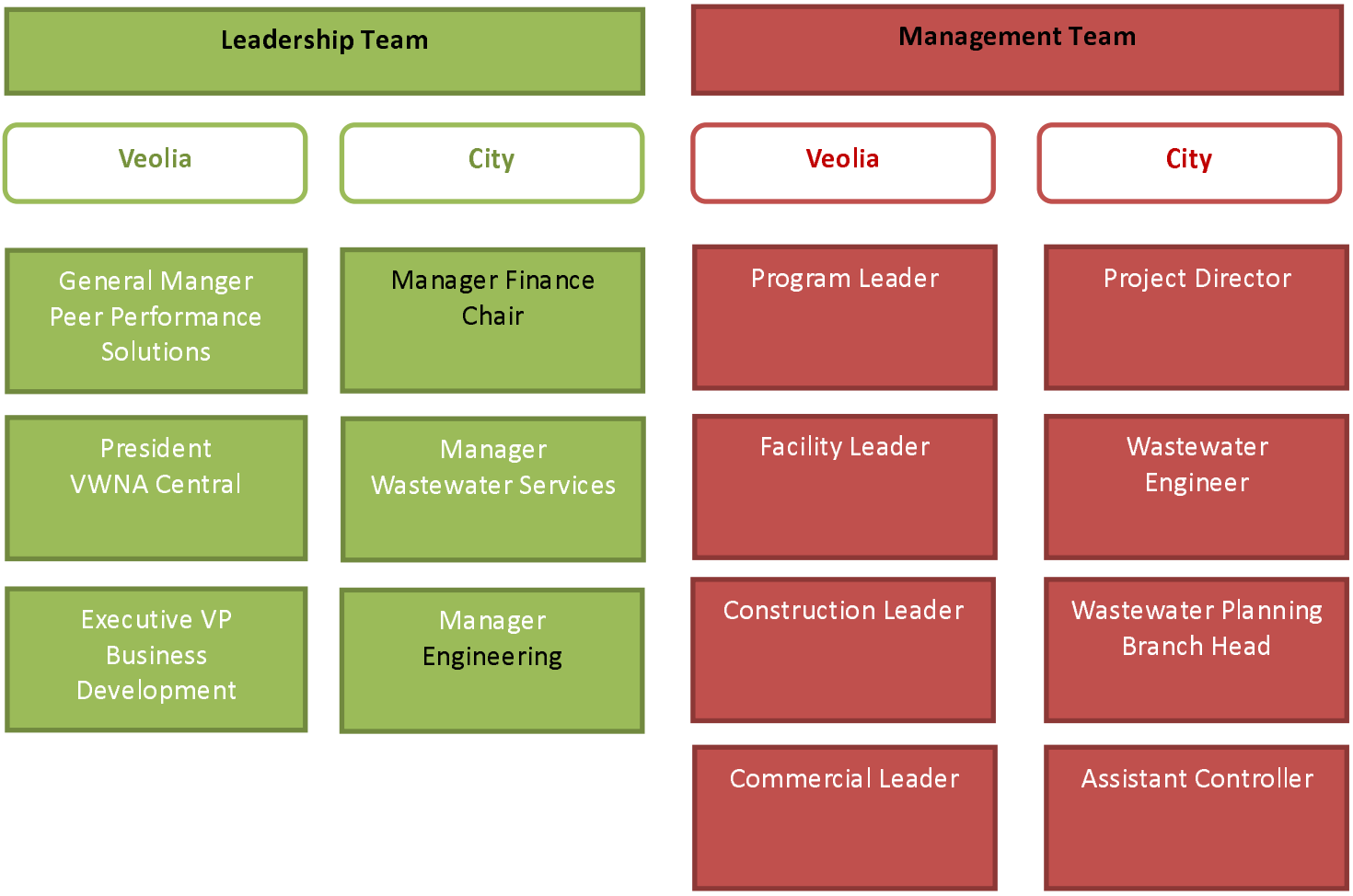
CONSULTATION

In preparing this report there was consultation with:

WSTP Leadership Team

SUBMITTED BY

Water and Waste Department Finance and Administration Division
Prepared by: Lucy Szkwarek, CGA
Date: April 22, 2014
File No. 020-17-06-10-01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