NEW Water

The brand of the Green Bay Metropolitan Sewerage District

2016 Strategic Plan

Our Vision:

Protecting our most valuable resource, water.

Our Mission:

Leading water quality improvements for the bay of Green Bay through operational excellence, resource recovery, education, and watershed management.

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Commissioners' Message

For over 84 years, the Green Bay Metropolitan Sewerage District, now branded as NEW Water, has served municipalities and industrial users in Northeast Wisconsin through high quality wastewater conveyance and treatment services that have enabled economic development while protecting the environment. We are careful stewards of public resources including community, environmental, and financial/economic resources. As Commissioners, we have had the privilege to see NEW Water become an industry leader in the delivery of innovative, cost-effective, and reliable clean water services to our customer communities. We are very proud of the recognition and awards that NEW Water has received from regional, state, and national associations for innovation and excellence, realizing that those awards represent the dedication and competence of its staff. We are gratified to know that we, and our colleagues before us, have built a strong foundation to effectively deliver environmental services. As reflected in our Vision Statement, we have a clear understanding of our responsibility to:

Protecting our most valuable resource, water.

In 2009, a strategic plan was created to address economic and environmental challenges throughout the region. We realized that regional industries had been heavily impacted by changing market conditions and the global economic crisis. Despite the exceptional performance of our conveyance and treatment system, improvement in regional water quality continued to be elusive largely due to non-point pollutant sources. To respond to these challenges, the Commissioners emphasized the importance of extending NEW Water's reach and supported regional collaboration to ensure sustainability. We also use outreach and education to convey the value of our infrastructure and environmental services that protect the area's natural resources.

Even before the development of the strategic plan in 2009, NEW Water has relied on fundamental principles of transparency and service to its customers. With adoption of the 2009 Strategic Plan, NEW Water continued to rely on these existing fundamental principles and explicitly stated that it will also rely on the precepts of sustainability, leadership, collaboration, and education to implement its strategic plan. Based on the 2009 Strategic Plan and consistent with these precepts, NEW Water then established a risk-based asset management program, a new cost-of-service rate model, enhanced resource recovery, and a watershed-based adaptive management program. In 2016, we wholeheartedly endorse these precepts again as we face current and future challenges. We know that collaborative leadership is essential to achieve sustainability and ensure economic vitality in the region. Based on experience, we also know that education and communication are essential to support economic growth and promote environmental stewardship.

The Mission Statement for NEW Water is:

Leading water quality improvements for the bay of Green Bay through operational excellence, resource recovery, education, and watershed management.

Although NEW Water's 2016 Strategic Plan is built upon the success of the 2009 plan, we have adopted new goals, objectives, and a revised portfolio of strategic investments. We are confident that the 2016 Strategic Plan will enable NEW Water staff to collaborate with regional stakeholders and develop cost-effective solutions that protect the watershed and enhance our community.

Message from Executive Director Tom Sigmund

In 2009, NEW Water published a Strategic Plan that was based on a comprehensive planning process. That plan has guided NEW Water's work and directed its initiatives. At that time NEW Water already had a solid foundation of effective service delivery and stewardship of public resources, yet it faced unprecedented economic and environmental challenges, including: aging infrastructure, meeting more stringent environmental regulations while maintaining affordability of its services, and a changing workforce. The 2009 Strategic Plan set NEW Water on a course to address the challenges and capture opportunities.

A significant portion of NEW Water's critical infrastructure assets were originally placed in service more than 35 years ago. Asset renewal and replacement needs, therefore, represent a substantial portion of current and projected costs. Accordingly, NEW Water began developing an asset management program in 2012 to minimize the life-cycle costs of assets while delivering optimal service at acceptable levels of risk. The program is a risk-based management approach to capital assets that recognizes the implications of aging infrastructure.

NEW Water has an outstanding performance record for delivery of wastewater conveyance and treatment services. However, storm water runoff from urban and agricultural areas has continued to degrade regional surface waters. In 2012 a phosphorus and sediment water quality attainment strategy, known as a Total Maximum Daily Load (TMDL), was adopted for the Lower Fox River. TMDLs seek to constrain the amount of pollutants discharged to receiving streams and may impose specific restrictions on point sources including NEW Water's two water resource recovery facilities. An analysis of potential plant upgrades, whose costs for NEW Water are more than $200 million dollars, concluded that the Lower Fox River cannot attain these phosphorus and sediment standards through point source facility upgrades alone. Based on this information and with the support of its customers, Wisconsin DNR, and the US EPA, NEW Water began an innovative regional collaborative program with non-traditional partners including the agricultural community. These initiatives are designed to test an alternative watershed-based regulatory compliance framework that could more cost-effectively address regional water quality issues. This program is referred to as Adaptive Management, in recognition that there is a process of testing and improving the framework to determine if this approach will provide desired water quality.

Beginning in 2008, facing an aging solids handling system that was not able to reliably comply with future air pollution requirements, NEW Water chose instead to recover resources from the biosolids including energy in the form of electricity and heat, and nutrients. Over the next few years NEW Water staff will have a concentrated focus on the construction and successful start-up of the Resource Recovery and Electrical Energy (R2E2) facility. When completed in early 2018, it will supply more than 50 percent of the heat and power needs of the Green Bay Facility, reducing the cost to purchase utility-produced energy by about $2 million each year.

NEW Water is committed to the delivery of cost-effective, high-quality environmental services, and its customers and communities recognize and value the progress the organization has made. In 2009 NEW Water's Commission identified:

Collaborative regional leadership, education, and sustainability as operating principles to guide how NEW Water addresses its challenges. These precepts were endorsed again in 2015 as the Commissioners reviewed the 2009 Strategic Plan and the precepts guided the development of a new plan to set strategic direction for future success. NEW Water adopted three new strategic goals in the 2016 plan, each with at least two new objectives and an accompanying portfolio of strategic investments over the next three to five years. NEW Water's new strategic goals support sustainability and are based on the triple-bottom-line model of accounting for social (community), environmental, and financial (economic) values.

Throughout NEW Water's 84-year history it has built a reputation for excellence through focused development and operation of its conveyance and treatment system. NEW Water has been recognized for excellence in facility performance and meeting regulatory requirements with exceptional consistency. Going forward, NEW Water will not only continue to attain regulatory compliance but also – through collaboration with its customers, regulators, and regional stakeholders - align its activities and services to meet the broader challenges of today and tomorrow. The 2016 Strategic Plan reflects NEW Water's emerging role in the region as a Utility of the Future to protect the environment beyond the boundaries of its facilities and support economic vitality while continuing to pursue operational optimization and resiliency.

Thomas W. Sigmund

Brief History of NEW Water

The Green Bay Metropolitan Sewerage District (GBMSD) was formed in 1931 to address the significant pollution in local waterways. At the time, the East and Fox Rivers were so heavily polluted that, despite the Great Depression, concerned citizens raised approximately $1.8 million to construct a wastewater treatment facility. In 1935, the City of Green Bay and Towns of Allouez and Preble opened the area's first wastewater treatment plant, treating 2.5 million gallons per day (mgd). Soon after, with area growth and the desire for cleaner water, other municipalities joined GBMSD. In 1955, to accommodate new growth and provide for a higher level of treatment, secondary treatment was added and treatment capacity was increased to 22 mgd. Also during the 1950s, the process of separating storm sewers and sanitary sewers began so treatment could be applied to the more concentrated wastes.

With the passage of the Clean Water Act in 1972, GBMSD constructed a new, more effective wastewater treatment plant. In 1975, with the help of State and Federal grants, GBMSD opened a state-of-the-art wastewater treatment facility, the first in the country to simultaneously treat municipal and paper mill wastewater. In 1992, the facility was expanded to meet new stringent nitrogen regulations, and in 2008 GBMSD acquired a second treatment facility and the interceptors from the City of De Pere.

In 2012, GBMSD established NEW Water as its brand in recognition of the fact that despite its various forms there is only one water. Regional collaboration, leadership, sustainability, and education are precepts under which it operates. NEW Water strives to be a progressive utility reaching beyond transport, treatment, and discharge of wastewater. NEW Water is on the journey of transforming itself into a "Utility of the Future" that recovers and manages valuable resources, develops partnerships to encourage local economic development, and provides leadership to deliver maximum environmental benefit at the lowest cost to its community.

Today, NEW Water serves over 230,000 residents within a 285 square mile area through the operation of 85 miles of interceptor sewers as a wholesale provider of clean water services. Municipal customers include: the Cities of Green Bay and De Pere; the Villages of Allouez, Ashwaubenon, Bellevue, Hobart, Howard, Luxemburg, Pulaski, and Suamico; and Sanitary Districts serving the Towns of Green Bay, Humboldt, Lawrence, Ledgeview, Pittsfield, Red River, and Scott. On average, the two water resource recovery facilities treat approximately 39 mgd with an annual capital and operating budget of about $38 million.

2016 NEW Water Strategic Plan

The 2016 Strategic Plan is comprised of several elements: a vision statement for NEW Water, a mission statement, and precepts under which NEW Water will operate in order to achieve its goals, objectives, and strategic investments. All of these elements are aligned and coordinated to provide a cohesive strategic direction for NEW Water.

Purpose

The purpose of NEW Water's Strategic Plan is to document and communicate its strategic direction for the community of internal and external stakeholders. The Strategic Plan charts NEW Water's course into the future and describes how operations will continue to be successful and identifies opportunities to enhance the organization and the communities it serves.

Structure

The structure of the Strategic Plan provides a framework, starting with the vision and mission statements and leading to the specific areas for strategic investment over the next three to five years.

The Vision Statement defines why the utility exists and its aspirations to achieve over time. The NEW Water Vision Statement is: **Protecting our most valuable resource, water.**

The Mission Statement characterizes the present state and focuses on what the utility does, who it does it for, and how the work gets done. The Mission Statement for NEW Water is: **Leading water quality improvements for the bay of Green Bay through operational excellence, resource recovery, education, and watershed management.**

The Precepts are the principles or tenets under which the utility operates and continue for 2016 to be: **Collaborative Regional Leadership, Sustainability, and Education.**

The Goals are the desired results or end points of the utility's actions and investments. NEW Water's goals are organized by, and aligned to, the triple-bottom-line framework of sustainability. Specifically, goals delineate end points or outcomes in terms of social, environmental, and financial/economic results.

Goals

People

Engage the community and strengthen our workforce

Environmental Leadership

Deliver environmental improvements

Economic Vitality

Support a vital, growing economy

The Objectives are measures of progress or actions that will support the achievement of the goals. Together the precepts, goals, and objectives form the strategic direction for NEW Water.

Objectives

Collaborative Regional Leadership, Sustainability, and Education

People Engage the community and strengthen our workforce	Environmental Leadership Deliver environmental improvements	Economic Vitality Support a vital, growing economy
Advance community and workplace health and safety	Prevent and mitigate pollution	Ensure equitable rates
Promote and utilize collaboration and partnerships	Recover resources and extract inherent value	Assure system reliability and capacity
Recruit, develop, and retain a high quality workforce	Sustain an excellent record of regulatory compliance	Manage risk across the entire utility
	Achieve regional water quality improvements	Assess and communicate the value of clean water: costs, opportunities, and successes

Strategic Investment Portfolio

The goals and objectives are intended to provide direction for the next three to five years. Over that time period NEW Water has identified how it intends to focus the talent, time, and passion of its employees as well as the other resources of the utility on the most significant opportunities and challenges without compromising delivery of high-quality environmental services. The portfolio of Strategic Investments represents the ranking and synthesis of numerous alternatives that were suggested during interactive work sessions with both NEW Water's Commissioners and Management Team. These strategic investments either render new services, change the way an existing service is delivered, or provide a mechanism for managing risks. In all cases the strategic investments enhance the value of NEW Water's service to its customers.

NEW Water's 2016 Strategic Plan focuses investments in three areas: (1) Operational Resiliency and Optimization; (2) Regional Water Quality Improvements; and (3) Resource Recovery. As shown in Exhibit 1, within each of the three focus areas two strategic investments are identified for NEW Water:

Exhibit 1

Strategic Investments

Operational Resiliency and Optimization	Regional Water Quality Improvements	Resource Recovery
Develop and implement a utility-wide plan to mitigate and reduce both asset based and non-asset based risk	Evaluate cost-effectiveness, collaborations, and long-term viability of adaptive management and water quality trading	Complete construction and successful startup of the R2E2 Project
Enhance safety culture and staff expertise through focused training and development	Implement and evaluate the impact of optimization efforts	Investigate resource recovery opportunities at treatment facilities, with customers, and within the watershed

Operational Resiliency and Optimization

There are two key elements for assurance of operational resiliency and optimization; these are physical assets such as interceptors, pumps, and treatment trains and non-physical assets such as staff, programs, policies, customers, and community. Consistent with all three goals of the strategic plan, People, Environmental Leadership, and Economic Vitality, the focus of the operational resiliency and optimization strategic investment is to address both the physical and non-physical assets by: furthering the existing risk-based asset management program for NEW Water physical assets; initiating a new non-asset risk assessment to identify and develop a utility-wide resiliency plan; and enhancing and developing staff expertise.

Regional Water Quality Improvements

Water quality improvements will result from a combination of optimization of NEW Water's water resource recovery facilities and the success of the adaptive management program in the watershed. Both of these approaches will be implemented by NEW Water and will be evaluated to determine the cost-effectiveness and viability as a strategic investment. This strategic investment supports the Environmental Leadership and Economic Vitality goals.

Resource Recovery

The largest capital investment for NEW Water is the Resource Recovery and Electrical Energy (R2E2) Project. NEW Water staff will have a concentrated focus on the construction and start-up of the R2E2 facilities with the goal of completing this critical project on time and on budget. Successful operation of R2E2 will recover electrical energy, heat energy, valuable nutrients for commercial purposes, and reduce air pollution. NEW Water will explore the potential of other resource recovery opportunities, both at the water resource recovery facilities and with its customers, to maximize the benefit to the community consistent with both the Environmental Leadership and Economic Vitality goals.

Implementation

Exhibit 2 (on the next four pages) provides specific actions, schedules, and measures to assess the success of the strategic investments identified above.

Exhibit 2

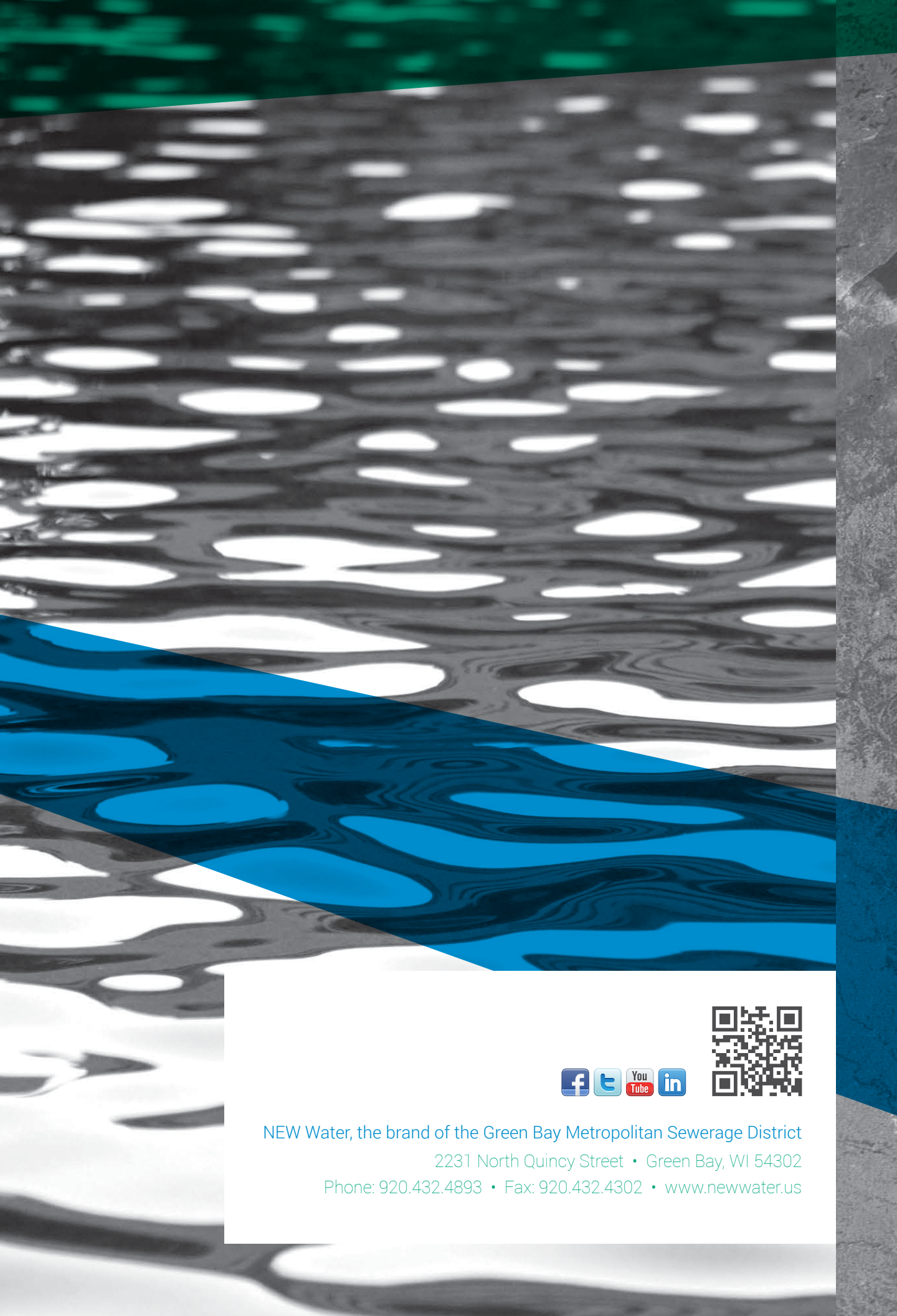
Strategic Investment Implementation Plan

Strategic Investment Category	Strategic Investment	Implementation Actions	Schedule and Measurements
Operational Resiliency and Optimization	Develop and implement a utility-wide plan to mitigate and reduce all risk	Utilize the Maximo software to include data on condition and criticality assessment for risk-based infrastructure asset management	January 2017: Develop and finalize project scope and cost to evaluate and score all NEW Water assets based upon condition and criticality June 2018: 50% of the existing physical assets areww entered and condition and criticality are updated to Maximo June 2019: 100% of the existing physical assets are entered and condition and criticality are updated to Maximo June 2020: All new assets associated with the R2E2 Project will be assessed, scored, and entered into Maximo
		Develop and implement utility-wide risk assessment including: • Potential risks and impacts • Value of risk impact	January 2017: 25% of critical non-asset risks have been identified and 50% of identified critical risks valued
		Develop multi-year mitigation plan, which identifies costs and priorities and includes Key Performance Indicators (KPIs)	September 2018: 50% of non-asset risks included in multi-year risk mitigation plan
		Evaluate Capital Improvement Plan (CIP) and implement process improvements	June 2016: Identify and establish 5 KPIs for the CIP program December 2016: Formal CIP process documentation developed
		Produce a reliable short and long-range CIP	June 2018: 90% of CIP KPIs meet desired level
	Enhance safety culture and staff expertise through focused training and development	Survey Management Team to determine training needs and identify staff for training and development	July 2016: 100% of Management Team is surveyed
		Develop multi-year training plan with training priorities for each staff category or classification	March 2017: Training plan is complete December 2017: 100% of the highest priority training is completed by the end of each fiscal year
		Develop, formalize, adopt, and implement an organization-wide safety strategy that supports staff, visitors, and business partners	April 2017: Develop and formalize an organization-wide safety strategy June 2018: Complete assessment of NEW Water safety policies and procedures, performance coaching, 100% employee engagement
		Complete R2E2 readiness training for Engineering, Maintenance, and Operations staff	March 2018 (prior to start-up): 90% of staff have completed R2E2 training

Summary and Conclusion

The 2009 Strategic Plan drove NEW Water to rebrand, invest in risk-based asset management, investigate operational optimization and enhance its regional leadership roles through collaboration and education. The 2016 Strategic Plan will continue to drive these efforts as well as fuel innovation that will advance NEW Water toward its strategic goals and realize its vision and mission.

Strategic Investment Category	Strategic Investment	Implementation Actions	Schedule and Measurements
Regional Water Quality Improvements	Evaluate cost-effectiveness, collaborations, and long-term viability of adaptive management and water quality trading	BMPs inventoried, prioritized, and implemented to prevent pollution to surface waters in Silver Creek watershed	December 2017: Measure BMP implementation by field and total for watershed December 2017: 95% of planned sampling and analysis is completed each year June 2017 and June 2020: Submit multi-year status and trends report December 2017: Determine annual cost per pound of surface water pollution prevention
		Develop framework to conduct full scale Adaptive Management and gain DNR acceptance of WPDES Permit path	September 2016: Framework implementation process developed March 2018: Submit compliance alternative plan to DNR
	Implement and evaluate the impact of optimization efforts	Identify baseline parameters of electricity cost and use, chemical costs, other operational costs, large equipment replacement costs, and resource management and disposal costs prior to start-up of R2E2 Project	September 2017: 100% of baseline measurements are completed prior to startup of R2E2
		Evaluate impacts of improvements made related to Optimization Evaluation Report (OER)	Annual 2% reduction of electricity, chemicals, and natural gas usage compared to baseline Achieve 100% compliance with the requirements set forth in the OER related to schedule, impact evaluation, and project implementation
Resource Recovery	Complete construction and begin successful operation of R2E2	Track budget and schedule for construction of R2E2 Project	Produce monthly and quarterly reports tracking schedule and budget; develop close out report Communicate with stakeholders about the status of budget and schedule on a regular basis
		Develop high strength waste program for addition to anaerobic digesters	December 2017: Critical program elements identified with roles established December 2017: Cost of service parameters established December 2018: Viable program in place
		Monitor and manage R2E2 electricity cost and use, chemical costs, other operational costs, large equipment replacement costs, and resource management and disposal costs	Transition project status reports into an annual report on operation of R2E2 to communicate cost-effectiveness and sustainability benefits of project
	Investigate resource recovery opportunities at treatment facilities, with customers and within the watershed	Identify at least three viable candidates for resource recovery based on adopted criteria, which includes Triple Bottom Line (TBL) benefits	June 2017: 100% of potential candidates vetted
		Select at least one resource recovery candidate; develop implementation plan	June 2018: TBL value of selected candidate resource recovery



NEW Water, the brand of the Green Bay Metropolitan Sewerage District
2231 North Quincy Street • Green Bay, WI 54302
Phone: 920.432.4893 • Fax: 920.432.4302 • www.newwater.us