

Strategic Operating Plan FY2011



Engineering & Property Management Balanced Scorecard FY 2011								
Corporate Objective	KBU Initiative ***Focus Area Initiative	Measure (\$ = Incentive Goals)	Prior Year Actual FY2010	Lead and/or Lag	Performance Data			Comments/Explanation
					FY 2011 Target	YTD	Status	
Promote Economic Opportunity	***Promote SBE participation in informal contracting.	Manage contracts so that 85% of low bidders meet the established SBO goals or GFEs for duration of project.	88%	Lag	85%			
Strengthen Neighborhoods	Manage City resources to improve quality of life in neighborhoods.	Utilize seasonal mowing and maintenance crews to clear and clean sidewalks in transitioning and challenged neighborhoods.	24.18 Miles of sidewalk	Lag	20 miles of sidewalk			
Provide Transportation Choices	***Effectively manage transportation projects to improve safety, neighborhood livability and transportation choices.	Manage transportation related projects so that 90% of projects are completed within the targeted duration of less than 1.5 years for small to medium sized projects and less than 3 years for large projects. Advance Streetcar preliminary engineering to 30% for key elements. Complete a minimum of 10 miles each of new sidewalk and new bikeways annually.	1) 88.1% 2) 95.7%	Lag	90%			
Save the Customer Perspective	***Protect natural ecosystems and habitats, including the tree canopy.	Maintain a significant and healthy tree canopy. - Present "Charlotte's Crown Tree Awards" in June to developers and persons for exceptional tree preservation, planting and advocacy that enhances Charlotte tree canopy. - Adopt an overall tree canopy goal and measure effectiveness of the newly revised tree ordinance toward meeting the goal. - Establish a methodology for measuring the effectiveness of tree ordinance in meeting the tree canopy goals.	N/A	Lead	June, 2011			
		Protect stream corridors, ponds and wetlands through public acquisition of additional conservation easements and enhancing existing buffers. - Meet mitigation requirements through local rather than state-level restoration efforts 100% of the time when streams are negatively impacted by City projects.	100%	Lead	100% of the time			
		***Support environmental sustainability by making wise decisions regarding growth and development.	Collect data on approved sites that quantify environmental benefits of the Post Construction Controls Ordinance, including natural areas protected, impervious area treated and stream buffers protected.	100%	Lag	100%		
	***Adopt sound environmental practices in City facilities and operations.	Incorporate environmentally responsible elements in the design, construction and operations of City facilities and in other operating practices.	EUI 63.7	Lag	Overall EUI<68			
		Maintain energy use practices so that City facilities compare favorably with available benchmark information in the South Atlantic region (measured in thousands of BTUs per square foot). Support successful implementation of the Council-adopted Policy for Sustainable City Facilities: - Report annually regarding facility design, construction, and operation, as required by the Policy for Sustainable City Facilities. - Benchmark facilities against common benchmarks as required by the Policy for Sustainable City Facilities.	N/A	Lag	June, 2011			
		- Establish the City's targets to reduce Greenhouse Gas Emissions for City facilities and operations. - Reduce greenhouse gas emissions from City facilities and operations.	N/A	Lead	June, 2011			
Safeguard the Environment	***Adopt sound environmental practices in City facilities and operations.	Have funding for all seven Energy Efficiency and Conservation Block Grant Program (EECBG) projects obligated by January 27, 2011.	N/A	Lag	Jan., 2011			
		Conduct an annual survey to benchmark existing community awareness of the City's growth strategy.	Not Met	Lag	June, 2011			
Deliver Collaborative Solutions	***Advocate business facilitation/business process improvements	Conduct "competitive advantage" analysis of permitting systems and processes.	N/A	Lag	June, 2011			
		Complete all LD permitting submissions within an average of less than 2.5 reviews.	1.9	Lag	<2.5 Reviews			
		Implement 100% of permitting report initiatives.	80%	Lag	100%			
		Eliminate system barriers/conflicts/impediments in application of regulations.	N/A	Lead	June, 2011			
		Implement adopted citizen service and 311 strategies in business operations, focusing in the following areas: Each Division will implement a customer service plan that uses citizen feedback to drive the Division to: 1. Identify a practice or process to intentionally continue (so that our citizen's experience will continue to be positive), and 2. Identify a new or improve an existing practice or process so that our citizen's experience will be better.	N/A	Lead				
Enhance Customer Service	Improve internal and external customer service	Develop a communication strategy that emphasizes the benefits of the CIP to the public and encourages citizen participation and feedback.	N/A	Lead	June, 2011			
Optimize Business Processes	Plan and implement technological solutions that support the business.	Support the enterprise Work and Asset Management solution including the completion of Phase 2 of the project which includes implementation of the infrastructure to support Cityworks.	N/A	Lead	Complete Phase II			
Maintain AAA Rating	Balance bond and pay-as-you-go funding of the Storm Water Capital Program.	Increase pay-as-you-go funding of the Storm Water Capital program reducing dependency on bond proceeds.	\$6M	Lead	Increase by \$1 M/ per year			
Deliver Competitive Services	Maximize public resources through benchmarking, competition, privatization and optimization.	\$ - Ensure that services provided by E&PM are competitive by annually benchmarking selected services with the private sector. Services to benchmark in FY 2011 include: Surveying & Mapping In-house Project Design CMGC Management and Maintenance	Met	Lead	Benchmark			
Invest in Infrastructure	***Improve the safety and appearance of neighborhoods with infrastructure improvements.	Complete neighborhood, transportation, storm water and area plan projects each year.	24		36 in 2011			
		Manage projects to meet major milestone and completion dates.	83%	Lag	90%			
		Manage projects so that at least 90% meet major milestone and completion dates. Manage projects so that at least 90% are completed at a cost less than or equal to the approved budget. Start six new storm water capital improvement projects in FY 2011.	96%	Lag	90%			
Achieve Positive Employee Climate	Manage safety program that keeps employees and facilities safe.	Achieve Arbor Foundation's "Tree City USA" status.	Met	Lag	Achieve status			
		\$ - Correct facility and operational safety hazards within 10 working days.	100%	Lag	95%			
		\$ - Provide information to employees offering education and motivation for healthy living using accessible media and updating at least quarterly.	Met	Lag	Quarterly posters			
Recruit and Retain Skilled, Diverse Workforce	Encourage employee wellness.	\$ - Each division will display and/or present a health/wellness activity three times / year.	Met	Lag	3 displays or presentations			
		Identify work opportunities that enhance employee growth, development & agility	Provide work opportunities that increase departmental agility, meet organizational goals and promote employee development.	N/A	Lead	Document occurrences		
Promote Learning & Growth	Plan and implement employee development and training.	100% of divisions will develop and implement annual training plans. Develop strategies for cost-effective provision/implementation.	Target Met	Lead	June, 2011			

ENGINEERING & PROPERTY MANAGEMENT

The City of Charlotte's Engineering & Property Management (E&PM) department manages the design and construction of City infrastructure projects, provides regulatory services for development, oversees real property, enables sustainability and manages facilities. The projects and services provided by E&PM enhance the quality of life for more than 716,800 Charlotte citizens, every day.

Projects managed include neighborhood improvements, storm water and water quality systems, transit, roadway improvements and vertical construction such as fire stations and the NASCAR Hall of Fame. For FY2010-11, appropriations for E&PM active projects in planning, design or construction total \$995 million, with another \$222 million to be added over the next three years.

Services provided by E&PM staff:

- Professional contracting, planning, design, project management, survey services and construction inspection services to achieve the City's capital investment plan goals



E&PM Leadership Team:

(Picture, left to right)
Mike Nail, Business Services Division Manager
Dave Weekly, Land Development Division Manager
Tim Richards, Deputy City Engineer
John Lojko, Landscape Division Manager (Interim)
Gina Shell, Deputy Director

- Environmental protection services, including water quality and erosion control oversight, and protection of our tree canopy
- Management and maintenance of public buildings and parking decks
- Beautification through landscaping of public areas and installation and maintenance of public trees
- Economic analysis of land values and uses in areas targeted for growth
- Real Estate acquisition for public purposes, land asset management and surplus land sales
- Permitting and regulation of single-family subdivision and commercial development
- Maintenance and improvement of the City's storm drainage infrastructure
- Leadership, facilitation and support of key collaborative initiatives for sustainable growth and citizen service

Jeb Blackwell, City Engineer
Jennifer Smith, Storm Water Services Division Manager
David Meachum, Engineering Services Division Manager
Sue Rutledge, Building Services Division Manager (Interim)
William Haas, Special Projects Division Manager (Interim)
Jeff Reid, Real Estate Division Manager

E&PM Strategic View

How is Charlotte to grow and prosper over the next 10 and 25 years?

This is the question that drives the people of Engineering & Property Management to maintain strategic focus, even as fiscal realities create uncertainties over what that future may hold.

Though economic tides still present a challenge, we have not shifted our strategic intent. Rather, these times underscore the importance of staying the course we embarked on in 2008 and manifested in E&PM's three major strategic goals:

- Promote and Preserve Business Vitality** - Economic development drives Charlotte's growth, and a vibrant business climate is development's lifeblood. The quality of our regulatory processes, infrastructure projects, property transactions and contracting for goods and services can all have a positive impact on the City's business environment.
- Champion Sustainability** - To reinforce the long-term livability of this community, our decisions must protect and enhance our environment, provide transportation choices and conserve our resources.
- Deliver Outstanding Citizen Service** - The linkage between our community and City Council's Focus Areas is made stronger by comprehensive citizen service. How we serve citizens helps them better understand how to serve themselves and their neighbors. Every time we engage citizens, they see our people as the voice and face of the City organization.

The work we do today - facilities, roads, neighborhoods, regulatory, environment, maintenance and more - affects the lives of future Charlotte citizens.

Will today's measure of "citizen service" meet tomorrow's standards? Fully integrated, comprehensive projects are the best way to serve residents and visitors for decades to come. We must better engage citizens, seeking input in new ways, then balance the project portfolio to fix today's problems, build for anticipated needs and design to fit the lives of future citizens.

In the coming year we will continue to streamline processes, alter approaches and shift resources to respond to changing fiscal conditions. To advance our strategic objectives, we will seek out opportunities that have arisen in response to the economy, such as the availability of stimulus and grant funding and the cost reductions resulting from increased competitiveness in the construction industry. As we do this, we will rely on our employees' proven agility and adaptability to lessen the impacts budget cuts might otherwise have on the citizens we serve.

The budgetary constraints E&PM expects to face in the near future will be a reflection of what the City organization and the community will experience. While we anticipate tough times ahead, we also expect that encountering and overcoming the challenges will forge a stronger organization. As the recovery takes hold, we expect to emerge as a more agile, resilient group, prepared to help build an even better Charlotte.



Mission & Principles

E&PM's mission:

Experienced and engaged employees are the essential ingredients of a strong organization that responds quickly, flexibly and creatively to address community needs.

Our guiding principles:

- Provide collaborative, courteous, accessible, responsive and seamless services.
- Find ways to apply our resources to achieve City Council's priorities.
- Build our competitive edge through learning, innovation and continuous improvement.
- Find the optimum balance of cost, schedule and quality that achieves the City's capital investment and operational goals.
- Create an environment that values the contributions of individuals, recognizes their diverse contributions and encourages them to develop to their full potential.

Map-Based Software Produces Rapid Response

Landscape Management staff can now be more nimble in all aspects of their business. Cityworks, recently implemented at LM by the Business Services technology group, is a GIS-based work management system that tracks service requests, work orders and asset inventory.

Since its implementation last October, Landscape Management staff has been able to respond fast and efficiently to service requests around the City, including fallen or dead trees and overgrown vegetation in medians and along rights-of-way. When a customer calls, Cityworks lets the LM staff pinpoint exactly where a location is on a digital map.

"This work management system benefits not only Landscape Management staff but also the citizens of Charlotte," said John Ljoko, Landscape Management Division Manager. "With Cityworks, we are able to react immediately to a customer call."

Cityworks uses a GIS database made up of features such as trees, right-of-way medians, City-owned property and storm drainage pipes. It also manages the cost of maintaining such assets. Service requests are linked to work orders and labor hours, so materials and equipment costs can be tracked. Cityworks then uses data stored in a geodatabase and seamlessly combines asset data with the work orders created.

E&PM's recent success with Cityworks has other City departments interested in the software. Charlotte-Mecklenburg Utilities is now seeking the expertise of E&PM technology staff to see how Cityworks can help serve both their KBU's internal and external customers.

Big Picture Unfolds Across Division Lines

In E&PM, agility is often seen at the intersection of responsive and resourceful. And a benefit of adeptness in one team can be increased capability for another work group.

On separate tracks, Building Services was rethinking its management team alignment at the same time the Charlotte Streetcar Project (CSP) was forming its engineering team. Building Services leaders wanted to reorganize their team to provide every-day, on-site building management at the Government Center Complex. Concurrently, the CSP group identified a critical need to bring a deputy project manager on board to partner with the CSP project manager.

"We figured out a way to provide the coverage we needed while using one less position," said Sue Rutledge, Building Services Division Manager. "Our own staff said we could give it up, and let it do someone else some good."

Building Services released the position and opened the door to addressing the CSP's need. It allowed CSP Manager John Mrzygod to hire Tonia Wimberly as the team's Deputy Project Manager, assuring strong leadership of the critically important project.

"This is one example of what we see frequently in E&PM," said Mrzygod. "It's the ability of our people to see and support the big picture, even when it unfolds across division lines."



E&PM Staffing and Budgeting Summary			
	FY 2010 Budget	FY 2010 Actuals	FY 2011
Funded Staff Positions	General Fund	329.25	329.25
	Storm Water	82	82
	E&PM Total	411.25	411.25
Operating Budget	General Fund	\$36,491,000	\$34,055,000
	Storm Water	\$52,500,000	\$51,800,000
	E&PM Total	\$88,991,000	\$85,855,000

Key Accomplishments

E&PM's ultimate role is to serve citizens and enhance the business climate of Charlotte. Our accomplishments are linked through our three major goals to the City's Corporate Objectives and Council Focus Area Plans.

- Promote and Preserve Business Vitality** - E&PM's work intersects with Charlotte's business community in a multitude of ways, and how we perform impacts the business climate today and into the future. This year:
- The NASCAR Hall of Fame opened May 11, establishing the second anchor to the Brevard Street corridor and another key element in Charlotte's brand identity.
 - Discovery Place's \$32 million redesign was completed, reopening to much acclaim on June 25.
 - The Solid Waste Administration Building on Otts Street was completed.
 - Completed several major infrastructure projects facilitating development, including I-277/Caldwell interchange, City Boulevard/IKEA and the Elizabeth Avenue Business Corridor.
 - Introduced digital submittal of development plans, easing the permitting path for developers.
 - Set the stage for business growth with land sales and property leases that generated \$2.73 million in revenue for the City.
 - Charlotte Streetcar Project Team applied for and won the FTA Urban Circulator Grant of \$25 million to help fund the Streetcar Starter Project from Presbyterian Hospital to the Charlotte Transportation Center.

Champion Sustainability, Environmental Leadership - These efforts support the long-term livability of this community and position the City as a leader in sustainability efforts:

- Completed the Urban Ecosystem Analysis, which will help us set goals for maintaining Charlotte's tree canopy.
- Applied for and won \$4.4 million in stimulus funding for four high-profile projects.
- Facilitated the approval by City Council of the Policy for Sustainable City Facilities.
- Participated in the development of the City's energy strategy and energy/greenhouse gas action plan, which were required for the City to receive its \$6.78 million Energy Efficiency and Conservation Block Grant.
- Cut energy use at E&PM-managed City facilities to levels well below benchmark public and private buildings in the state and southeast US.
- Completed the City's first greenhouse gas inventory, setting a baseline for measuring future reductions in emissions created by City operations.
- Introduced the "Charlotte's Crown Tree Awards" program to recognize planting, preservation and advocacy efforts by citizens and businesses.
- Applied for and won Charlotte's selection by the EPA for a \$400,000 Brownfield Community-Wide Assessment Grant to assist in redevelopment of contaminated industrial sites.

Deliver Outstanding Citizen Service - To build value for Charlotte, our work must responsibly serve the needs of citizens. Everything we do has an impact on citizens' impressions of City operations. Our vision is to have citizens say they are living in the best-run city in America. To that end, this year E&PM staff:

- Launched a comprehensive Citizen Service section on our intranet site and produced a training video for all E&PM employees.
- Completed construction of the Metro Police Station on Beatties Ford Road, a high-visibility contribution to a community that felt underserved.
- As stewards of citizens' tax dollars, held facilities management costs well below those of benchmark partners. At the same time, outstanding operational practices earned the Charlotte-Mecklenburg Government Center the EPA's Energy Star status, as well as BOMA's "360 Award" for optimal building operations.
- Storm Water Services resolved 302 high and medium priority maintenance service requests and reduced the backlog of repairs.

Electronic Plan Submittals Save Time, Money

E&PM's Land Development Division has begun accepting commercial site development plans electronically, saving their customers time and money.

"In the past, developers submitted multiple sets of paper plans for review," said Brendan Smith, Senior Engineer for Land Development. "This electronic initiative will save printing and courier costs. It will also streamline the review process."

Customers submit PDFs of commercial site plans and design calculations. Once fees are received, the review process begins with engineers making on-screen comments. The program has been successful with designers, architects and engineers providing positive feedback.

"I thought the process worked very well and it certainly saved time and gas," said Gerald Burke, engineer with WSP Sells. "I wasn't sure if I would like the process at the beginning but I am hard pressed to come up with why it isn't superior to the previous way of doing things."

Working in partnership with Mecklenburg County's Code Enforcement team, this is an interim step leading up to a comprehensive Electronic Plan Management system that will allow electronic submittal, tracking, review and commenting.

A bonus of electronic submittal is both Land Development and CDOT reviewers can now simultaneously conduct an EPLAN review. Staff and customers continue to submit comments to each other electronically, culminating with the final review and "approval stamp." This electronic copy of the approved plan will then be archived in the Accela permitting software.



To achieve its strategic goals over the next year, E&PM must address three key issues:

- Promote sustainable, strategic growth
- Increase organizational efficiencies
- Manage expanding portfolio of major projects

Promote Sustainable, Strategic Growth

- Implementation of the Policy for Sustainable City Facilities - City Council's new policy sets an expectation for sustainability to be integrated into budgeting, design, bidding, construction, renovation and maintenance. Common facility performance metrics and clear statements of payoff and life-cycle analysis will begin to demonstrate the benefits of sustainable facilities.
- Comprehensive Growth Strategy - A collaborative team of City, County, CMS and community stakeholders meets regularly to guide Charlotte's growth. They create policy and infrastructure solutions aimed at sustainable community development, development which provides locational and transportation choices to citizens and business, development which ensures a strong, safe, vibrant Charlotte for decades to come.
- Management of Natural Resources - The City's most environmentally sensitive areas have been mapped so that City staff and citizens can use information about the natural assets of an area to make appropriate decisions about protection, mitigation, and development. With the second tree canopy analysis complete, changes and losses since the 2001 analysis are evident. All of this consolidated information leads to the important work of establishing goals and the methodologies for balancing environmental and economic goals.
- Economic Development vs. Environment - Finding the right balance between being supportive of business/development and being good stewards of the City's natural assets is a key City Council goal. Through informed and sensitive policy-making and policy application, Council and staff can bring insight and steadiness to a potentially fractious debate.

Increase Organizational Efficiencies

- Project Management Excellence - We need to improve cost accounting/estimating, advance our technology and data management, develop ongoing training for project/program managers and expand in-house planning and design capabilities. A strategy for reducing project impact on citizens needs to be developed and, in partnership with client KBUs, refine the CIP collaboration and planning process.
- Facility and Workspace Management - There are opportunities for increased standardization, innovation and cost-effectiveness across the portfolio of City-owned and leased facilities. The optimization of workspace and operating systems has ties to employee motivation and productivity, environmental stewardship and efficient service operations of our buildings.
- Work and Asset Management System and Strategy - The full implementation of the CityWorks asset management system will reduce the future life-cycle cost of capital assets and improve service delivery through better-planned maintenance and repair. To fully realize its potential, the software implementation must be accompanied by robust asset management strategy and governance.

Manage Portfolio of Major Projects

- Road Construction - Over the next year a number of big projects will be in the public spotlight: 29/49 Connector, Fred D. Alexander, Freedom Drive and street resurfacing city-wide. We need to actively discuss project benefits and construction practices with the community, involving citizens who will encounter the projects in their daily commutes.
- Citizen Engagement - We want to broaden engagement so that citizens are more involved in the infrastructure process. This means rethinking public meetings, project communications, media relations and other touch points. Process improvements could reach deeper, generate richer feedback and provide more validation for citizens and Council.
- Storm Water Infrastructure and Billing - More frequent and larger flood events are straining older drainage systems and driving up the number of citizen requests. These newer requests compete with a backlog of lower-priority requests for limited funding. In FY10, Mecklenburg County Storm Water moved from a 2-tier to a 4-tier billing system to more equitably distribute costs to property owners. We continue to analyze impacts and timing for a similar change to our rate structure within five years.
- Charlotte Streetcar Project - Managing this broad and deep project will place pressure on staff and finances, with emphasis on KBU collaboration and communication with citizens and businesses.

Looking Over the Horizon

Within the coming budget year we will have a better understanding of when the economy may rally. Looming questions are: How do we prepare to maintain staff when the private sector (which will rebound before government) begins hiring again? What can we do now to strengthen our organization and solidify staff? How can we ensure we have the right structure in place to support both City and employee success? If we can address these concerns we will have laid the groundwork for organizational success well into the future.

Quick Reaction Solves Difficult Site Problem

When the Charlotte Fire Department initially selected property near Eastland Mall as the location for future Fire Station #42, it complied with the redevelopment and revitalization initiatives of the area. But during the planning process the Special Projects staff discovered complicating factors including a rezoning issue, excessive grade buildup and the need for a retaining wall.

These obstacles would add \$1 million to the project cost. Another problem was the property owner wanted \$600,000 more than the appraised value.

Special Projects' engineers shared their concerns with Real Estate staff, who moved quickly to find an alternative. "We felt these additional costs were excessive," said Project Manager Bruce Miller. "Over that same weekend, Bob Drayton and the Real Estate team found a site directly across from the Mall."

Two parcels at 5620 Central Avenue, an ideal location, were acquired by Real Estate within three weeks.

"No rezoning was required, the topography was more appropriate for access, and the land sale offer was within our appraised value and in line with our project budget," said Bruce. "The response from Real Estate was quick and seamless. Their actions allowed us to overcome previous hurdles and select a perfect site for Fire Station #42."



Staff Moves Fast to Get Stimulus Funds for Charlotte

In 2009, Charlotte and local government leaders were interested in Federal Stimulus Funding and the potential it had for the Charlotte community. E&PM learned in October three projects had been identified for potential funding.

Shasta Lane Sidewalk, Muddy Creek Stream Restoration and Revolution Park Water Re-use Pond were the projects and the state wanted the projects authorized by City Council within 90 days, contracted in 180 days and completed within 36 months.

The pressure was on. Those project managers and the Business Services' contracts staff had to change gears to meet these timeline requirements. Extensive coordination took place between state agencies and E&PM to have bid documents prepared and approved. E&PM staff reacted quickly to push these projects forward. And it worked.

"I reviewed the project manual for the Shasta Lane Sidewalk Project that you sent and it looks like all the federal provisions and anything else I was worried about is covered. We'll have to give you an 'A+' on this one," said Ritchie Hearne, District Manager with the North Carolina Department of Transportation.

E&PM staff coordinated with NCDOT every step of the way to advance these projects and secure stimulus funding. It was a collaborative effort that, in the end, will benefit the entire Charlotte community.



Storm Water Responds Quickly When Rains Hit Hard

The last year has seen several heavy rain and flood events. These contributed to the collapse of a stadium seating bowl. As Mecklenburg County's Park and Recreation Department prepared to demolish and then rebuild the collapsed stadium section, Storm Water Services (STW) quickly moved to create a design that would replace the failed portion of the 1930s-era storm tunnel below the seating bowl. STW accelerated the design and construction activities to help get the stadium back operating. Construction of the storm water portion of the stadium was slated for completion in February.

When one of the summer's heavy rains washed out the deteriorating drainage system on Sam Drenan Road, STW replaced and upgraded the system. It was classified as a "high priority request" and assigned to Blythe Development, with which Storm Water's Maintenance Team has an ongoing contract. Blythe immediately set up traffic control and worked quickly to provide cost estimates to the City. STW began designing the repairs while keeping both the neighborhood and City Council informed.

"By mobilizing the contractor first, we were able to remove the blockages and clear the area before another hard rain hit," said Steve Carter, Maintenance Team Area Supervisor. "Our partnerships with contractors like Blythe allow us the flexibility to respond immediately to high priority situations like the washout on Sam Drenan."

Last summer in another community, STW began working with citizens in the Hunter Acres Park neighborhood to repair the dam on Hunter Acres pond. The dam was in poor condition and presented a safety concern if it failed. STW decided the dam needed to be breached until a long term repair could be completed. Crestland Avenue runs across the top of the dam so STW notified CDOT immediately. CDOT closed the road in June as STW started working simultaneously on a plan to both breach and repair the dam.

"Due to the severity of the situation, we chose to modify the normal project process to make things happen quicker," said Project Manager Greg Cole.

STW conducted citizen meetings and talked about the proposed improvements and need for drainage easements. They developed an approach for quickly obtaining the breach plan, repair design and permit permits. While the design was underway and approval was being requested from regulatory agencies, the dam deteriorated more as dirt was washed from underneath the roadway. Since STW had reacted with haste in the beginning, the breach plan was ready and necessary state approvals were quickly obtained. STW had a contractor on site to drain the pond within two days of notification.

"It's not out of the ordinary for us to readjust our work when the severity of a problem changes," said Jennifer Smith, Storm Water Manager. "Our program was set up to solve the worst problems first, allowing us the flexibility to respond quickly to a collapsed culvert or failing dam."