

Capital District Regional Planning Commission Green Infrastructure Model Local Law Project

Summary Report: Process, Findings, and Implementation



July 2016

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Executive Summary

In 2007, the Albany Water Board, cities of Cohoes, Rensselaer, Troy and Watervliet and the Village of Green Island (the “Albany Pool Communities,” or “APCs”) joined in a comprehensive intermunicipal venture, led by the Capital District Regional Planning Commission (“CDRPC”) to develop a Phase I Combined Sewer Overflow (“CSO”) Long Term Control Plan (“LTCP,” or “Plan”). The APCs collectively own and operate 92 CSOs that discharge to the Hudson and Mohawk Rivers and their tributaries. Each of the APCs contribute combined sewage flow to a wastewater treatment plant owned and operated by either the Albany County Sewer District or the Rensselaer County Sewer District (“Districts”).

The Albany Pool Communities Combined Sewer Overflow Long Term Control Plan is implemented in accordance with a New York State Department of Environmental Conservation (“NYSDEC”) Order on Consent, DEC Case #CO 4-20120911-01 (the “Order”) was entered into by the NYSDEC, the Albany Pool Communities, and Districts on January 15, 2014. Within the Long Term Control Plan are several Green Infrastructure projects and programs. The task GI-07, Performance of a Codes and Local Law Review, is described in the Long Term Control Plan’s schedule of compliance as follows:

“Educate land use decision makers, municipal and/or municipal designated engineers in green infrastructure techniques; Inventory existing Comprehensive Plans and Local Laws for Green Infrastructure strategies and Smart Growth principles; Research other green infrastructure local laws and develop a Model Local Law or guidelines beneficial to the unique needs of the APCs; and Present these model local law(s) or guidelines to the land use decision makers associated with each APC.”

The purpose and benefit of this task is:

“In general, these efforts set in motion the necessary outreach to land use decision makers, reinforced with targeted educational programs, to begin the process of re-tooling existing laws to embrace green infrastructure strategies.”

This task was included in the LTCP in large part because it was in the late stages of being undertaken by four of the six Albany Pool Communities at the time the Long Term Control Plan’s Supplemental Report was being developed, in response to Department Comments on the Long Term Control Plan submitted June 11, 2013. The Communities felt there was great value in adding the task to the list of projects and programs in the LTCP because they could capitalize on the work the Albany County Stormwater Coalition was undertaking, and then use the same approach to work with the remaining two Albany Pool Communities, Troy and Rensselaer.

Through the 2015 round of Consolidated Funding Applications, CDRPC applied to the NYS Department of State for Local Government Efficiency for a grant to provide funding assistance to carry out several elements of CSO LTCP. Among the elements required is that APC municipalities who were not involved in the Albany Stormwater Coalition's 2013 Green Infrastructure (GI) Local Law Project must perform a similar codes and local law review. This mandate applies to the Cities of Rensselaer and Troy.

With funding awarded in 2015 and a commitment to carry out this and other elements of the LTCP, in late summer CDRPC put out an RFP for a consultant team to assist with, and carry out, the Green Infrastructure Planning Project which included:

- Educate land use decision makers, municipal and/or municipal designated engineers in green infrastructure techniques.
- Inventory existing Comprehensive Plans and Local Laws for Green Infrastructure strategies and Smart Growth principles by using a modified Water Quality Scorecard.
- Identify green infrastructure local law “gaps” by reviewing the scorecards.
- Research other green infrastructure local laws, and develop a Model Local Law or set of Laws beneficial to the unique needs of Troy and Rensselaer.
- Present these model local law(s) to the land use decision makers associated with Troy and Rensselaer.
- Solicit feedback from land use decision makers regarding the content of the model local laws and their intentions.

In addition, the project scope included performing a follow-up survey of the Village of Green Island, and the Cities of Watervliet, Albany, and Cohoes. The survey was intended to glean feedback regarding the product deliverable from the previous GI code review process these municipalities went through with the Albany County Stormwater Coalition, and their feedback was taken into consideration in the APC process.

The selected Consultant Team consisted of Barton & Loguidice, D.P.C.; Harris Beach, PLLC; Ryan Biggs | Clark Davis Engineering & Surveying, P.C.; and O'Brien & Gere, Inc.

The methodology, findings, and results of the local code review portion of the Green Infrastructure Planning Project are presented herein.

1.0 Albany Pool Communities

The Albany Pool Communities (APC) is comprised of six municipalities, and was formed in 2007 as a means for local CSO communities to pool resources to prepare a joint LTCP. Led by the CDRPC, the members of the APC are as follows:

1. City of Albany
2. City of Cohoes
3. Village of Green Island
4. City of Watervliet
5. City of Troy
6. City of Rensselaer

Of these six members, four are also members of the Albany County Stormwater Coalition and previously participated in a similar effort. These are the Cities of Albany, Cohoes, and Watervliet and the Village of Green Island. Because of their previous effort with the Albany County Stormwater Coalition in 2013, they were not committed to participate in this current effort to the full extent required of the Cities of Troy and Rensselaer.

2.0 Albany County Stormwater Coalition Green Infrastructure Model Local Law Project

From the Albany County Stormwater Coalition Green Infrastructure Model Local Law Project Executive Summary:

The Stormwater Coalition of Albany County (Coalition) is comprised of 11 municipalities, Albany County, and the University at Albany (SUNY) who each provide mutual support and assistance in implementation of the New York State Department of Environmental Conservation (NYSDEC) Municipal Separate Storm Sewer System (MS4) Permit requirements.

In 2010, the Coalition applied for a NYSDEC Water Quality Improvement Grant to provide funding assistance to carry out several elements of the NYSDEC MS4 Permit. Among those elements is that municipalities are encouraged to review and revise, where appropriate, local codes and laws which preclude green infrastructure and, to the maximum extent practical, consider the principles of Low Impact Development, Better Site Design, and Green Infrastructure when developing planning documents and updating regulations. While MS4s already oversee compliance with the Construction Activity Permit and related green infrastructure requirements, these additional program elements further support the use of green infrastructure at the local level.

With funding awarded, in September 2011 the Coalition put out an RFP for a consultant team to assist with, and carry out, the Green Infrastructure Model Local Law Project which included:

- Step 1: Educate land use decision makers, Town and/or Town Designated Engineers in green infrastructure techniques. This will be accomplished by conducting a survey of all land use decision makers in each Stormwater Coalition municipality. The survey instrument will serve to identify knowledge gaps. From that, training workshops targeting the identified priority concepts will be developed and conducted. The workshops will be designed such that they also provide the required 4-hour NYSDOS Planning Board member training. Expanding the core knowledge of municipal leaders will encourage a more in-depth review of development proposals, and assist in efforts to update local land use laws to encourage green infrastructure.
- Step 2: Inventory existing Comprehensive Plans and Local Laws for Green Infrastructure strategies and Smart Growth principles. This assessment may utilize guidance documents such as the list of New York State Smart Growth Principles, Code Ordinance Worksheet, LEED for Neighborhood Development (2009), and

U.S. EPA Managing Wet Weather with Green Infrastructure Municipal Handbook-Water Quality Scorecard (April, 2009).

- Step 3: Research other green infrastructure local laws. Based on the results of the local law inventory and research, as well as input from Coalition members and others, develop a Model Local Law or set of Model Laws beneficial to the unique needs of Coalition members.
- Step 4: Within the context of the MS4 Permit requirements and anticipated changes to the Construction Activity Permit and NYSDEC Design Manual, present these model local law(s) to the land use decision makers associated with each Coalition member municipality. At that point, ask the Coalition member governing board members to consider adopting the green infrastructure model law(s), and solicit feedback regarding their intentions, both immediate and long term.

To help manage this project, a sub-committee of Stormwater Coalition members, generally municipal staff with a background in planning and land use law, was convened to develop the Land Use Decision Maker Survey, analyze Survey results, develop and finalize the content of workshop training events, help develop the local law inventory tool, guide the inventory process, and participate in meetings with the consulting or law firm, to include at times, the developer community.

In January, 2012 the consulting firm, Barton and Loguidice, with legal support from Young/Sommer services, was selected to work on the Green Infrastructure Model Local Law Project. The roles of these consulting and law firms the Coalition selected to assist in carrying the project forward was to critique the land use law inventory tool, analyze the results of the local law inventory, research other model laws, and develop a multi-faceted green infrastructure template for land use law related changes.

Rather than recreate the executive summary and content of the Albany County Stormwater Coalition report within the body of this document, the full Coalition report is attached to this report as **Appendix A**. The Coalition report fully summarizes the methodology, gap analysis, gap identification and selection, drafting of local laws, and presentation and implementation aspects of the project. The APC member communities that are also part of the Coalition include the City of Albany, the City of Cohoes, the City of Watervliet, and the Village of Green Island.

3.0 Albany Pool Communities Project Background

Recognizing the depth and quality of work that the Albany County Stormwater Coalition invested in education, survey, and model code development for four of the six Albany Pool Communities, and that many of the “west bank” communities had taken action to implement some of the model codes drafted by the Coalition, CDRPC and the communities did not undertake efforts to repeat the education, audit, and code development for these four communities. Instead, efforts were concentrated on working with Troy and Rensselaer to undertake the audit and work with these communities on specific code or guidelines to suit their needs. For the “west bank communities” a follow-up survey was developed to chart their implementation of GI code in the wake of the Coalition Code Audit.

In July, 2014 CDRPC, on behalf of the Pool Communities, applied for a Consolidated Funding Application grant from the New York State Department of State for the Performance of a Codes and Local Law Review and two additional discrete GI tasks within the LTCP. The grant request was not awarded, however the Pool reapplied in 2015.

In August of 2014, CDRPC met with DEC and shared a “road map” of the task GI-07 Performance of a Codes and Local Law Review project. This document illustrated a timeline of the Coalition project and deliverables alongside the timetable and program that the Pool Communities envisioned developing as an extension of the Coalition program. This road map (**Appendix B**) illustrated the similarities and differences between the Coalition Project and Pool Communities Project.

In 2015, CDRPC re-applied for a grant from the NYS Department of State for Local Government Efficiency through the Consolidated Funding Application. The purpose of the grant was to fund elements of the CSO LTCP, including the performance of a “Codes and Local Law Review” for the Cities of Rensselaer & Troy, modeled after a similar audit performed in 2013 by the Albany County Stormwater Coalition. This aspect of the project includes the following steps:

Step 1: Educate land use decision makers, Town and/or Municipal Designated Engineers in GI techniques. This was accomplished via a workshop held at the Capital Roots Grow Center in Troy on July 25, 2016. The workshop commenced with a tour each Troy, for both Troy and Rensselaer describing various GI measures and how they may serve to benefit the current condition of CSO events.

Step 2: Inventory existing Comprehensive Plans and Local Laws for Green Infrastructure strategies and Smart Growth principles. This assessment included review of existing, and “in-development”, plans, codes, and guidelines for both Troy and Rensselaer to preliminary determine GI and Smart Growth needs. This

was performed by both the Consultant Team and Troy & Rensselaer independently, with Troy & Rensselaer utilizing the provided GI scorecard to guide their research.

Step 3: Research other green infrastructure local laws. Based on the results of the local law inventory and research, as well as input from, CDRPC, Troy, and Rensselaer, the Consultant Team developed a set of model laws and guidelines beneficial to the unique needs of the two communities.

Step 4: Present these model local law(s) to the land use decision makers associated with Troy and Rensselaer. At that point, ask their governing board members to consider adopting the green infrastructure model law(s), and solicit feedback regarding their intentions, both immediate and long term.

Step 5: Conduct a follow-up survey with Albany, Cohoes, Green Island, and Watervliet to determine what, if any, model laws drafted during the Albany County Stormwater Coalition's GI Model Local Law Survey program have been adopted. Based upon responses from these communities, identify reasons and barriers for the lack of adoption of the model local laws as well as strategies to overcoming barriers.

It should be noted that while these steps appear chronological (1, 2, 3, etc.) they were accomplished in a different order than numerically. While in part the decision was made to deviate from the order of tasks so that the APCs could delay Code development until grant funds were secured, the project team chose to conduct the "west bank" follow-up surveys (Step 5) prior to surveying the "east bank communities" for code gaps. This allowed for the model code authors to take the survey responses into consideration prior to authoring or modifying draft code and guidelines language. In addition, Step 1 was held at the close of the program – and in this manner the results of the code audit and development of model code could be presented to the land use decision makers in concert with education about GI practices.

In the summer of 2015 a Request for Proposals was developed and distributed by the Pool Communities. By November, 2015 the consulting firm, Barton and Loguidice, with legal support from Harris Beach, PLLC and additional engineering support from Ryan Biggs | Clark Davis Engineering & Surveying, P.C. and O'Brien & Gere, Inc., was selected and soon under contract to begin work on the Green Infrastructure Planning Project. Once hired, the Team most directly involved with all aspects of the project took shape and it included Brad Grant and Nadine Medina, PE, CPESC, LEED AP from Barton & Loguidice, D.P.C.; Gene Kelly, from Harris Beach, PLLC; Doug Clark, PE, LEED AP, from Ryan Biggs | Clark Davis Engineering & Surveying, P.C.; and Brian Whittaker, PE and Catherine Fiorello, PE, LEED AP from O'Brien & Gere, Inc.

Because the “east bank communities” of Troy and Rensselaer would be conducting the self-audit and code development process from the ground up, Martin Daley, CDRPC Project Manager and both Chris Wheland, Commission of Public Works (City of Troy) and Mark Hendricks, Engineering Aide (City of Rensselaer) actively participated throughout the duration of this phase of the project in their various roles.

The need for attentiveness to green infrastructure is based on well-documented research regarding various water quality, energy conservation, and flood mitigation benefits. Better site design encourages a careful look at the natural conditions of a site, suggesting ways to work with natural systems to manage stormwater. By directing rooftop runoff to nearby rain gardens, stormwater is held back allowing pollutants and sediment to settle out and reducing the impact on combined sewers and aging infrastructure. Evapotranspiration associated with plants also moves water up and out into the atmosphere, reducing the amount of stormwater entering the conveyance system. The alteration of street design and parking requirements can potentially reduce impervious cover, which reduces the amount of stormwater runoff. Together these strategies address a variety of pollutants of concern, as well as control stormwater at its source and reduce the quantity of stormwater requiring treatment at the sewer treatment plants as well as reduce the incidences and/or volume of combined sewer overflows. The value of these technical considerations is the driver behind the push to utilize more green infrastructure.

4.0 Follow-up Surveys for the “West Bank” Pool Communities

At the completion of the Albany County Stormwater Coalition project a Decision Matrix was developed for Coalition members to assess their reception of the model local codes and interests in adoption or development of guidelines. CDRPC utilized this Decision Matrix (**Appendix C**) to survey the APC communities that had been part of the Stormwater Coalition project: Albany, Cohoes, Watervliet, and Green Island. Responses of the survey varied between communities. For example, Green Island responded that several minimum and best management level code might be more likely to be included in local land use code as guidelines, rather than as a requirement. The city of Cohoes amended several sections areas of their local code to include GI requirements and guidelines (**Appendix D**). Albany, in the midst of a comprehensive overhaul of city code, the first since 1968, is considering significant changes to local code for requirements and encouragement of Green Infrastructure practices – thus instead of completing the survey, Albany submitted their draft model code relating to stormwater and CSO controls (**Appendix E**).

Overall, the adoption of GI in the communities having gone through the Coalition audit had varying degrees of adoption. Some preferred to rely on guidelines and encouragement, some proposed fairly aggressive changes to code, and some were waiting until comprehensive code changes would take place before modifying code relating to stormwater.

Because significant changes to local code are typically considered in the wake of a Comprehensive Plan update, in Albany, for example, a natural review and adoption process for GI codes and guidelines like those developed in the Coalition and Pool Communities process may be performed at any time, but the results of the projects may best incorporated into comprehensive local land-use law changes, like an overhaul of local code, to be most palatable for local communities to consider.

5.0 Code Audit and Development Project Methodology

5.1 Scorecard Evaluation

The scorecard is the analytical tool that was used to evaluate existing land use laws. The purpose of the scorecard was to evaluate existing municipal zoning ordinances, comprehensive plans, review procedures, and local laws against recognized green infrastructure practices. The Albany County Stormwater Coalition GI Code Scorecard drew from the Center for Watershed Protection Code and Ordinance Worksheet; the Code and Ordinance Worksheet for Development Rules in New York State (developed by the NYSDEC Hudson River Estuary Program, NYS Water Resources Institute in Cooperation with the Center for Watershed Protection); and the USEPA Managing Wet Weather with Green Infrastructure Municipal Handbook – Water Quality Scorecard, October, 2009. Prior to distributing the scorecard to Troy and Rensselaer, CDRPC made slight revisions. The revised scorecard (**Appendix F**) was slightly revised to focus on “city gaps,” those land use policies most likely to affect dense urban areas, as opposed to rural villages and towns. Other modifications included a breakout of questions involving a range of items. It was distributed to, and filled out by, Troy and Rensselaer in early 2016.

By completing the scorecard after an inventory of local land use plans and laws, both Troy and Rensselaer also simultaneously fulfilled various requirements detailed in Part VII.A.5.a.iv of the NYSDEC Municipal Separate Storm Sewer Systems (MS4) SPDES Permit, GP-0-15-003. The overall intent was to identify obstacles to using green infrastructures and, based on information provided within the scorecard, to develop language to remove those obstacles. This serves to actively encourage the use of green infrastructure independent of NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity, GP-0-15-002 requirements.

Troy and Rensselaer were provided with both the Scorecard, and a guidance document providing insight as to how to complete the Scorecard. They were instructed to first identify all the development rules that apply in their municipality. They were instructed to then identify the local, state, and federal authorities that administer or enforce the development rules within their municipality. The final instruction provided was to answer the questions within the scorecard and to score themselves according to their answers.

Filling out the scorecard resulted in an overall “Green Score” given to each municipality. In addition to overall scores, the total score was broken out into sub- scores for various green infrastructure topic areas within the Scorecard, as follows:

- Reduction of Impervious Cover

- Preservation of Natural Areas and Conservation Design
- Design Elements for Stormwater Management
- Promotion of Efficient, Compact Development Patterns and Infill

The goal of the scorecard was not to achieve a high score, as laudable that goal may be. The goal was to accurately self-assess and identify opportunities, barriers, and gaps in code that require, encourage, or promote GI practices.

Completed scorecards were provided to Martin Daley and B&L, at which point the scorecards were reviewed for any math and/or consistency errors (**Troy Appendix G**) (**Rensselaer Appendix H**).

5.1.1 Scorecard Analysis Process

B&L inputted scores for each answer into a spreadsheet to determine which scorecard questions received an achievement rate of 0%, 50%, and 100%. Questions for which both Troy and Rensselaer indicated the item was already included in local law received a score of 100%, and were therefore noted as currently satisfied. The remaining scorecard questions were those that were considered to be potential “gaps” in current code, as they were not addressed by the codes of either or both Troy or/and Rensselaer.

5.2 Gap Analysis

As previously discussed, the Consultant Team decided to use a numeric approach, based on percent of positive responses (response of “yes”), to analyze the data. From this, the gap analysis spreadsheets were developed that display the percent of all municipalities who answered a question in the “positive”. As there were only two municipalities, the percent is either 0% (neither answered in the positive) 50% (one answered in the positive) or 100% (both answered in the positive). There are four separate Microsoft Excel “workbooks”, one for each scorecard category as previously identified. Each contains a master list of scorecard response, and multiple spreadsheets that illustrate the results for each subcategory (**Appendix I**)

5.3 Gap Identification and Selection

B&L reviewed all scorecard questions for which there was a 0% and 50% attainment rate and grouped like questions together, essentially forming grouping of questions that were similar enough to be addressed under one local law. This was called the “Gap Groupings and Selection Spreadsheet” (Appendix C). The purpose was to provide a more manageable presentation to the Troy and Rensselaer from which to select their final 8 gaps from the resulting 12 gaps (groupings of questions to be addressed as one deliverable). These were provided to CDRPC for review, at which time the spreadsheet was revised to reflect suggested modifications such as whether each

gap presented would be addressed by development of a law or guideline. From this, a “Gap Ranking Spreadsheet” was created and provided to Troy and Rensselaer with the request that they rank, in order of importance from 1-12 (1 being the most important), the gaps. Each municipality provided their completed ranking spreadsheets to CDRPC who, in turn provided them to B&L. Both CDRPC and B&L reviewed the rankings, and developed an average rank for each gap (**Appendix J**). The average rank was used to determine which gaps were the top eight priorities. While this process worked for the top 7 selections. However, three gaps were scored such that their averages were all calculated to have a final rank of “8”. As such, CDRPC and B&L discussed the merits of each of the three gaps and decided that the gap illustrating the least difference between ranking priorities would be selected. As such, the individual rankings for these three gaps (originally named Gap 3, Gap 8, and Gap 10) were reviewed and the original Gap 10 was selected as the final gap as it was ranked “9” by Rensselaer and “7” by Troy, illustrating less disparity in each municipality’s ranking when compared to the other two options. The final gap selections, renamed to indicate their priority ranking (i.e. original Gap 12 was ranked #1, and was renamed “Gap 1” accordingly), include, in order of ranking:

1. Infill (code)
2. Locating Sites in Less Sensitive Areas (code)
3. Parking Lot Design (pervious materials and landscaping – guideline)
4. Density (accessory dwelling units - guideline)
5. Parking Lot Design (ratios and compact car spaces – code)
6. Open Channels and Rooftop Runoff (guideline)
7. Parking Lot Design (shared parking – guideline)
8. Density (minimum lot coverage – code)

5.4 Gap Research and Draft Language

With the gaps selected, the Consultant Team began to research relevant guidance, laws, and design standards throughout the state, as well as to document those that the Team has learned or developed through industry experience. The search included, but was not limited to, the following resources:

- Codes Developed through Albany County Stormwater Coalition GI project
- Follow-up survey results from APC communities who participated in the Albany County Stormwater Coalition GI project
- City of Chicago, IL “Green Alleys” and Stormwater/GI Code
- Maryland:
 - “Models and Guidelines for Infill Development”:

- EPA:
 - “Smart Growth And Economic Success: Investing In Infill Development”
 - “Attracting Infill Development In Distressed Communities: 30 Strategies”
- Georgia (Department of Community Affairs): “Infill Development Program”
- Nashville, TN: Low Impact Development GI Design Sheets and Infill GI and Stormwater requirements
- City of Portland, OR: Accessory Dwelling Unit Standards
- Washington State Municipal Research and Services Center
- Accessory Dwelling Unit guidance
- City of Seattle, WA: Accessory Dwelling Unit standards
- Pima County, AZ: Guest House Code
- Alexandria, VA: “Del Ray Parking Study” Sample Shared Parking Agreement
- Utica, NY: Long Term Control Plan
- New York, NY: GI Language (Construction Code, Zoning, GI Program)
- City of Philadelphia Stormwater Management Guidance Manual, Version 3.0, Dated July 2015
- Buffalo Sewer Authority Stormwater Program

Standards and guidance were recorded for each gap, and various Consultant Team members were tasked with reviewing, and reporting on, different resources.

5.5 Drafting of Local Laws

Once research was complete, B&L began drafting language for each gap. Early in the drafting process, it became clear that the intent of some of the scorecard questions may not have been consistently interpreted between both Troy and Rensselaer, and therefore B&L held separate meetings with representatives of each of the municipalities (including those persons responsible for completing the scorecards) to review those gaps in question and gain a greater understanding of their wants, needs, barriers, and successes. This proved very helpful, as the question relating to Gap 1: Infill, was intended to encourage infill by providing incentives to development. Upon meeting with both municipalities, it was clear that they were not experiencing difficulties encouraging infill yet they wanted code in place to require infill development to include green infrastructure. Under current regulations, only projects disturbing one acre or more are subject to implement green infrastructure, yet many infill projects are smaller than the one-acre threshold. Therefore, these meetings proved insightful and the gap

language was drafted with these new insights in mind. Once drafting of the 8 gaps was completed, initially by B&L, each gap was reviewed by every member of the aforementioned Consultant Team. This review served to refine the language, ensure consistency between the various gaps, and add significant insights from each of the unique Team Member's backgrounds.

CDRPC, Troy and Rensselaer were also asked to review the draft gap language. Comments were provided by CDRPC and Rensselaer via e-mail, and were considered and incorporated as feasible into the final documents.

After addressing all comments, the Consultant Team organized the language, where feasible, to ensure that the tiered approach ("plug-and-play") the Team committed to at the onset were honored, and to increase customization opportunities for the municipalities. This system of organization included separating the various requirements identified in each local law into one of three categories. The three tiers are as follows:

- Minimum Action Level (minimum industry standard)
- Best Management Action Level (generally progressive standards)
- Model Community Action Level (standards that go above and beyond, and are considered highly progressive)

Additionally, several numbers (dimensions, ratios, percentages, etc) within the local law language are bolded. This indicates that the number represents the gold standard based on known industry principles and precedent set by progressive municipalities, and can be modified to best suit the municipality. It can be relaxed or made more stringent based on their existing code, future needs, community context and implementation feasibility.

In this way, the gap language represents a collection of codes and guidelines that can be pulled from as deemed applicable, or used as a whole. Sections can be relaxed or made more stringent, and not all sections are necessary to use if not pertinent to a particular municipality. It is the goal of the project to provide user-friendly, customizable language to provide the level of action each municipality desires and can support internally. The final local law and guidance language is in **Appendix K**.

The expansion of GI guidelines as opposed to Code (greater emphasis on "should" than "shall") was a slight deviation from the Albany County Stormwater Coalition project code development results. This was in part driven by the lessons learned for the Decision Matrix and also as a response to the individual needs to Troy and Rensselaer. Thus, the tiered menu of code and guideline options remained, but greater flexibility for these communities resulted – driven by their review and request for balance and fear of eliminating redevelopment opportunities in cities that aren't under intense development pressure.

6.0 Presentation and Implementation

After the gap language was created, a presentation was provided to representatives from Troy and Rensselaer at a workshop held on July 25, 2017 at Capital Roots Urban Grow Center in Troy, NY. The workshop began with a meet and greet, followed by a tour and description of the onsite green infrastructure practices (cistern, green roof, bioretention area, and porous parking). This gave the opportunity for attendees of both communities, a mix of land use decision makers, municipal and/or municipal designated engineers, in the real world employment of green infrastructure techniques. Of particular benefit, the opportunity to see these practices function and operate within the private sector, and not a municipal application.

A presentation to the attendees summarized the CSO LTCP program, background of the GI Code Audit project, the development of survey instruments and assessment, the gap identification and ranking, and finally an overview of the model code developed by B&L in concert with municipal representatives. The presentation is included in **Appendix L**. Additionally, a Decision Matrix similar to that used by the “west bank” Pool Communities, was provided to Troy and Rensselaer (**Appendix M**) to solicit feedback as to whether they intended to adopt the local law language. Once the decision matrices are returned to CDRPC, the Consultant Team will review the results to determine opportunities to future education to municipal representatives. These educational opportunities will take place during development of the Green Infrastructure Toolbox, a future task under the overarching project.

7.0 Summary and Thanks

The goal of this project was to reach out to the Pool Communities on the west side of the Hudson and assess their efforts since the implementation of the Albany County Stormwater Coalition, and to “catch up” the “east bank” communities of Rensselaer and Troy. The opportunity to capitalize on the great work that the Coalition had made previously saved the communities great time and expense to implement this LTCP project. As each of the Pool Communities continues to work on separate LTCP GI projects, the GI Technical Design Guidance and the GI Credit and Banking system tasks, it will be interesting to see how code and guideline changes influence or encourage the adoption of additional GI in the private sector – either by requirement, encouragement, or within a market based program.

As this project was a collaborative effort, individuals with a wide variety of relevant professional experience and a diverse set of skills provided insight throughout the process. This served to enhance the project approach and ensure a thorough deliverable that represents a summation of the valuable input provided throughout the project duration. In addition to the report authors, a big thanks to the following individuals that helped make this report possible:

- Nancy Heinzen – Albany County Stormwater Coalition Program Coordinator
- William Simcoe – Deputy Commissioner, CSO LTCP representative, City of Albany Dept. of Water and Water Supply
- Mary Davenport - Engineer and former Stormwater Officer, CSO LTCP representative, City of Albany Dept. of Water and Water Supply
- Cornelius O’Connor - Engineer and Stormwater Officer, City of Albany Dept. of Water and Water Supply
- Bradley Glass - Senior Planner, City of Albany
- Chris Wheland - Superintendent of Public Utilities, CSO LTCP representative, City of Troy
- Mark Hendricks - Engineering Aide, CSO LTCP representative, City of Rensselaer
- Charles Moore – Planning Director, City of Rensselaer
- Mike Brown - Engineering Aide, CSO LTCP representative, City of Rensselaer
- Garry Nathan - City Engineer and Stormwater officer, CSO LTCP representative, City of Cohoes
- Melissa Cherubino - Director of Building and Planning, CSO LTCP representative, City of Cohoes

- Sean Ward Executive Assistant to Mayor, CSO LTCP representative, Village of Green Island
- Maggie Alix – Code Enforcement Officer, CSO LTCP representative, Village of Green Island
- Jeremy Smith – City Clerk, CSO LTCP representative, City of Watervliet
- Dave Dressel - Water Treatment Plant Operator, Stormwater Coordinator, City of Watervliet
- Andrew Gillcrist – CDRPC Intern
- Kimberly Moshier - CDRPC Intern
- Amy Klein – Executive Director, Capital Roots (Formerly Capital District Community Gardens)
- Matt Schuler – Planner, Capital Roots (Formerly Capital District Community Gardens)