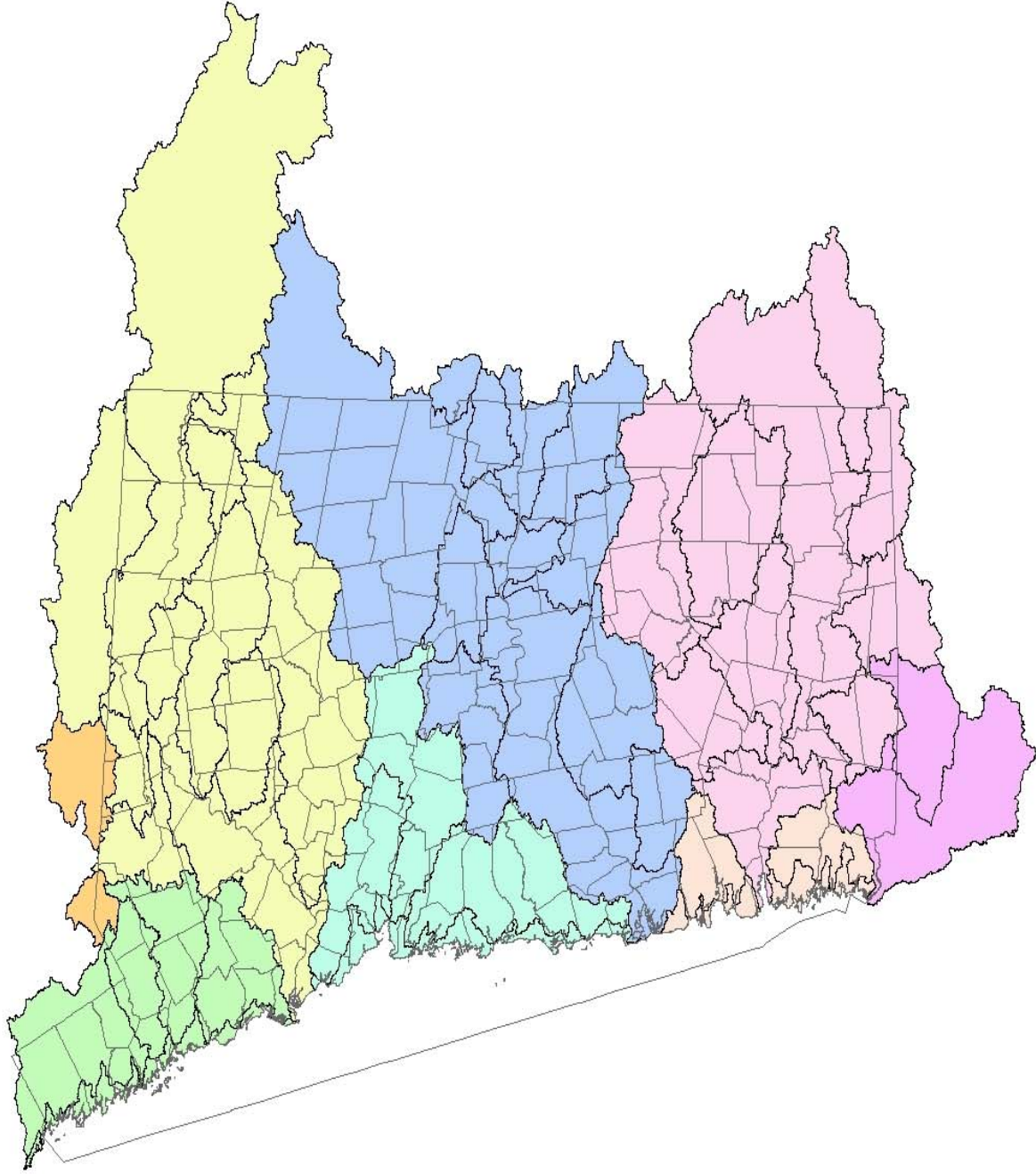


Connecticut Association of Zoning Enforcement Officials

MaryAnn Nusom Haverstock - DEP
Bureau of Water Protection & Land Reuse
April 6, 2011

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Watershed Management

Watershed Management is an integrated approach addressing all aspects of water quality and related natural resource management, including pollution prevention and source control.

(2004 CT-DEP Stormwater Quality Manual)

LOW IMPACT DEVELOPMENT

LID is a site design strategy intended to maintain or replicate predevelopment hydrology through the use of small-scale controls integrated throughout the site to manage runoff as close to its source as possible. (2004 CT-DEP Stormwater Quality Manual)

Low Impact Development

- Residential LID design strategies include:
 - Residential rain gardens
 - Shared driveways
 - Alternative pavement surface
 - Stormwater disconnects
 - Green roof applications

Low Impact Development

- Municipal LID design strategies include:
 - Reduction in road width/one-way cul-de-sac
 - Elimination of curb and gutter
 - Green Roof alternatives
 - Depressed island (bioretention) in cul-de-sac
 - Grassed Swales in right of way
 - Elimination of sidewalks

DEP

Municipal Assistance

New DEP Web Page: www.ct.gov/dep/watershed
Watershed Municipal Outreach

http://www.ct.gov/dep/cwp/view.asp?a=2719&q=464958&depNav_GID=1654

Includes:

- LID Library – DEP will update
- Rainfall as a Resource Brochures
- DEP Stormwater Program information
- LID Resources – Technical assistance and funding sources

DEP

Municipal Assistance

- Current Municipal Initiatives
 - Green Capitols Project
 - Part of EPA initiative to assist States to encourage Low Impact Development
 - LID projects installed throughout Capitol Grounds
 - Pervious pavement (3 types)
 - Rainwater cistern
 - Rain gardens (2 types)
 - Green Roof
 - Brochure for a walking tour of the project:
http://www.ct.gov/dep/lib/dep/water/watershed_management/wm_plans/lid/green_capitols_brochure.pdf

Porous Asphalt



Rainwater Harvesting



Rain Gardens



Green Roof



DEP Municipal Assistance

- Farmington River Enhancement Grant
 - Municipal Land Use Evaluations
 - Received funding from Supplemental Environmental Project (SEP) from previous enforcement action
 - Funding to benefit the Farmington River Watershed and all towns in the watershed

Farmington River Enhancement Grant

- Municipal Land Use Evaluation
 - Request for municipal proposals in 2008
 - Review of local Regulations and Ordinances
 - Remove barriers to low impact development in current regulations
 - Revise regulations and ordinances to encourage LID techniques in future development

DEP Municipal Assistance

- Municipal Land Use Evaluations
 - 10 towns in the Farmington River Watershed
 - Evaluate current local regulations and ordinances
 - Revise regulations to remove barriers to low impact development
 - Hold workshops with guest speakers including DEP programs, NEMO and University of New Hampshire Stormwater Center

Municipal Land Use Evaluation

- Municipalities subcontract expertise as needed by town:
 - Legal/Regulatory
 - Facilitation
 - Environmental science
 - Planning
 - Engineering
- Town approved all submittals by their subcontractor. DEP approved all Project deliverables as specified in scope of work.

Municipal Land Use Evaluation

- Farmington River Watershed
 - Ten Towns submitted applications and granted funding (recommended upper limit of \$50,000 in RFP):
 - Avon - \$50,000
 - Barkhamsted - \$44,305
 - Colebrook - \$35,000
 - East Granby - \$37,000
 - Harwinton - \$35,000
 - New Hartford - \$47,100
 - Plainville - \$50,000
 - Simsbury - \$25,000
 - Torrington - \$25,000
 - Winchester - \$35,000

Municipal Land Use Evaluation

- Typical DEP/Municipal Scope of Work
 - Form local land use committee
 - Contract with services as appropriate for town
 - Review municipal regulations as specified when drafting scope with DEP. (Focus on zoning, subdivision and wetlands)
 - Draft regulatory revisions with municipal committee and consultant
 - Present findings / vote to adopt regulatory revisions

Municipal Land Use Evaluation

- Additional project work within some scopes include:
 - Town specific Engineering Standards
 - LID and stormwater management design manual
 - Ecological and Resource Assessment

Summary - Town of Avon Municipal Land Use Evaluation Project

- \$50,000 – Village Center focus
- Hired Milone & MacBroom, Inc., in association with The Cecil Group,
- Meetings with Planning & Zoning Commission, Inland Wetlands Commission, Natural Resources Commission, representatives of Ensign Bickford (significant land owner), and the public.
- Draft regulations have been prepared for future adoption, to include: Proposed Regulations for Avon Village Center (AVC) Zone, Proposed Design Guidelines, Proposed Changes to Zoning Regulations and Subdivision Regulations to facilitate use of LID.
- Draft Master Mixed Use Development Plan and proposed changes to the Plan of Conservation and Development were also prepared for future adoption by the Planning & Zoning Commission.



Summary - Town of Barkhamsted Municipal Land Use Evaluation Project

- \$44,305 - municipal land use regulatory evaluation, road ordinance evaluation and biodiversity study.
- Group included First Selectman, members from Planning and Zoning Commission, Inland/Wetlands Commission and Conservation Commission and volunteer town residents.
- Hired Dr. Michael Klemens, Cary Institute, to do the biodiversity study and Martin Connor, AICP and Tom Grimaldi, PE as professional consultants for technical review of desired regulation and ordinance changes.
- Enacted changes to Inland Wetlands Regulations to incorporate LID definitions and practices.
- Will present amendments to the Planning and Zoning Commission and Board of Selectmen in April for their action to incorporate LID practices in the zoning regulations and in the construction of roads and driveways in Town.
- Potential resistance for proposed private road regulations.

Summary - Town of East Granby Municipal Land Use Evaluation Project

- \$37,000
- Created a Land Use Committee made up of the regular members of IWC and PZC
- Hired Glen Chalder of Planimetrics & Steve Trinkaus PE as professional consultants to aid in the technical review
- Consultants are drafting changes to Zoning & Inland Wetlands Regulations & Engineering Standards:
Changes included impervious surface coverage, parking requirements, driveway standards & added a new Stormwater Management section including maintenance agreements
- Considering changes to Ordinance to allow the Town to charge the developer for a professional review of build LID features to ensure their proper functioning
- Encounter some resistance by consultant engineers

Summary - Town of Harwinton Municipal Land Use Evaluation Project

- \$35,000
- Stakeholders included our First Selectman, land use commission members, a member of the Land Conservation Trust, Harwinton's Highway Supervisor and two members from a local contracting business.
- Contracted with professional consultants Glenn Chalder of Planimetrics and Steve Trinkaus, Trinkaus Engineering to assist in the review of desired regulation changes.
- Enacted changes to the Inland Wetlands & Watercourses Regulations, Subdivision Regulations and Zoning Regulations.
- Changes in the regulations were minimal as the land use commissions also endorsed a *Recommended Low Impact Development Techniques – Design & Construction Standards Manual*. A Stormwater Maintenance Agreement with the facility owner provides for long term maintenance and continuation of stormwater control/treatment measures.



Summary -Town of Plainville Municipal Land Use Evaluation Project

- \$50,000
- Consulting firms of Planimetrics & Trinkaus Engineering
- Established a Land Use Committee consisting of the P & Z Commission members
- Held stakeholder meetings with local contractors, design firms, land use attorneys & with Plainville Engineering, Public Works and Roadways
- Reviewed local ordinances, zoning, subdivision and wetland regulations for factors that limit low impact development techniques
- Adopted “Low Impact Development and Stormwater Management Design Manual”
- Reorganized, revised and adopted Zoning, Subdivision and Wetland Regulations to remove “LID” barriers and require adherence to the new Low Impact Development and Stormwater Management and Design Manual

Summary -Town of Simsbury Municipal Land Use Evaluation Project

- \$25,000 - part of Town Center charrette planning process.
- Established Board of Selectmen charrette subcommittee to oversee process including MLUE work including 8 members, land use chairs and First Selectman.
- Included LID work in charrette process. Enabled LID inclusion into Town Center Code by inclusion into final charrette Report (June, 2010) and final draft of Town Center Code (February 18, 2011).
- Worked with Univ of New Hampshire Stormwater Center and held LID workshop for Town Engineers in Simsbury.
- Solicited 3 proposals for completion of detailed LID and Light Imprint work to finish MLUE requirements.
- Town Center Code to be adopted by Zoning Commission April, 2011 which will enable completion of LID/LI MLUE work by engineering firm.

Summary -Town of Simsbury Municipal Land Use Evaluation Project

Illustrative Master Plan



Summary - Town of Torrington Municipal Land Use Evaluation Project

- \$25,000
- Created a 12 person stakeholders group Group included City staff, Mayor, City Planner, ZEO, business leaders & commission members (1 per board)
- Hired Planimetrics & Ken Hrica PE as consultants
- Enacted changes to Zoning & Inland Wetlands Regulations & Engineering Standards: Changes included Conservation Subdivision, impervious surface coverage, parking requirements, driveway standards & added a new Stormwater Management section including maintenance agreements
- Enacted changes to City Ordinance to allow the City to charge the developer for a professional review of build LID features to ensure their proper functioning
- Encounter some resistance by City staff (engineering) - Avon and University of NH meeting helped

Summary - Town of New Hartford Municipal Land Use Evaluation Project

- Received \$47,000 grant from the Farmington River Enhancement Grant to review our Zoning, Subdivision, and Wetlands Regulations, our Town Ordinances, and our Plan of Conservation and Development to incorporate LID where possible and remove any barriers which would prevent LID.
- We established a 12 member stake holder's group with consultants, consisting of Planning and Zoning, Inland Wetlands, Economic Development, Board of Selectman, MDC, Conservation Commission (2), a local farmer, a local business owner (2), and our Fire Chief. Staff included Zoning/Inland Wetlands Officer, and Highway Supervisor.
- We hired Martin Connor AICP, as our Planner and Lenard Engineering as our Engineer.
- We held a joint meeting with Planning and Zoning and Wetlands Commissions and invited Chet Arnold from UCONN CLEAR program to come and explain the benefits of LID and answer the question "what is LID?" Several members of the public attended this meeting as well.
- The Inland Wetlands Commission Adopted changes to their regulations to incorporate Stormwater management. Also the upland review area was increased from 50 ft to 100 ft. The Adopted changes were based on DEP's Inland Wetland and Watercourse Department's suggestions and publication, "Guidelines – Upland Review Area Regulations Connecticut's Inland Wetlands & Watercourses Act.
- Proposed changes to the Zoning and Subdivision Regulations were presented to the Planning and Zoning Commission. The Commission is currently in the process of rewriting their entire set of regulations. The LID regulations were written to be incorporated into these new regulations. The Commission views these changes favorably.

Summary - Town of New Hartford Municipal Land Use Evaluation Project

- Some of the proposed changes to the Zoning Regulations include:
 - Stormwater Management Plan requirements,
 - reduced front yard minimum yard setback requirements,
 - changes to landscaping requirements,
 - reduced parking requirements,
 - allowing a fee in lieu of parking add LID terms to definitions,
 - increase amount of impervious surface.
 - A new Section, “Stormwater Management Standards,” is proposed to be added to the Zoning Regulations.

Summary - Town of New Hartford Municipal Land Use Evaluation Project

- Proposed changes to the Subdivision Regulations include:
 - Requirements for Stormwater Management Plans,
 - changes to Subdivision Map Requirements,
 - Site Plan Requirements,
 - Construction Plans and Grading Plans to incorporate LID,
 - reducing pavement widths for new streets and replacing bituminous curbs with grass swales where appropriate.
 - Changes have been proposed to Subdivision Regulations, Appendix A, Roadway Construction Standards updating Roadway Cross Sections to include LID and eliminate inconsistencies.
 - Changes have been proposed to Subdivision Regulations, Appendix D Road Ordinance regarding raising inspection fees for new streets.

DEP NPS PROGRAM

[HTTP://WWW.CT.GOV/DEP/CWP/VIEW.ASP?A=2719&Q=325628&DEPNAV_GID=1654&DEPNAV=|](http://www.ct.gov/dep/cwp/view.asp?a=2719&q=325628&DEPNAV_GID=1654&DEPNAV=|)

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