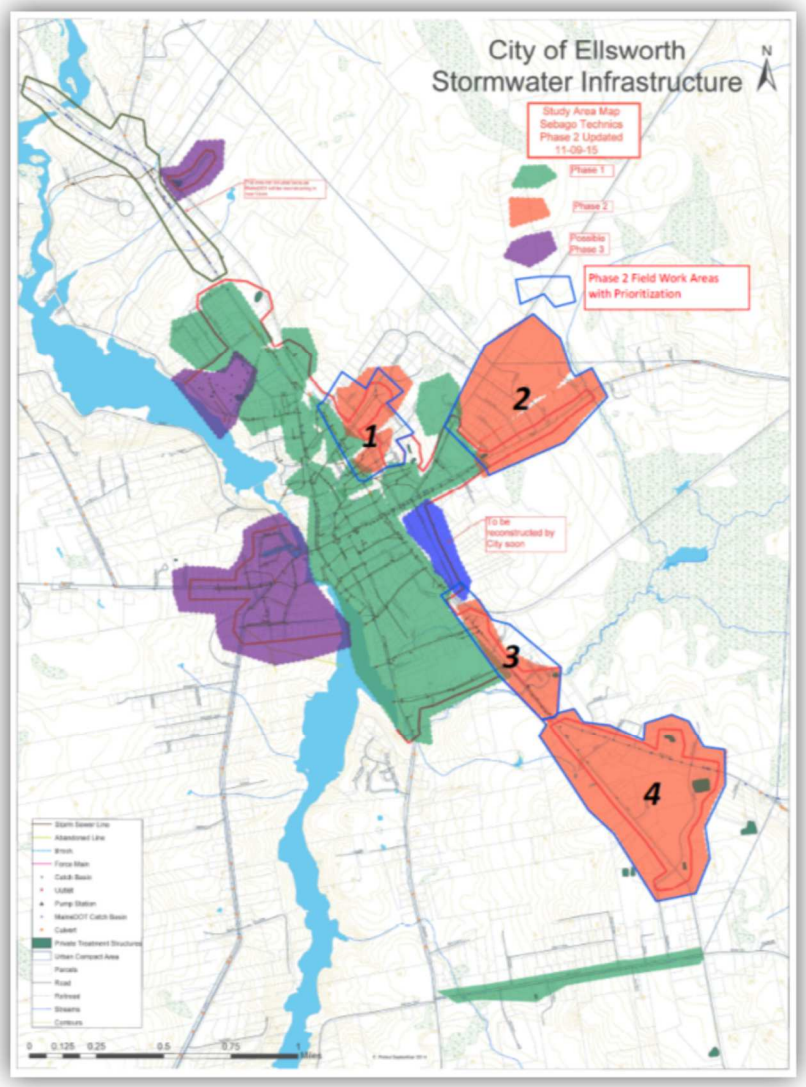
City of Ellsworth: Stormwater Management and Adaptation Planning

"It is wonderful to have accurate data to share with developers. This means better projects for the developer and for the environment"

Janna Newman, Deputy City Planner/ GIS Specialist (2016)



PARTNERS

University of Maine, Maine Sea Grant, College of the Atlantic, Maine Department of Environmental Protection and the Nature Conservancy.

PROJECT DESCRIPTION

The City stormwater system is a mix of old dilapidated and rusted undersized pipes, abandoned sewer pipes, and catch basins. This project serves to begin the process of inventorying the system so we can decide how to best manage stormwater quality and quantity.

APPROACH

Ellsworth cannot continue to grow and develop without addressing existing stormwater issues through the proper maintenance, upgrade, and overall management of the existing stormwater system. Thus, the City's first order of business was to focus on creating an accurate inventory of the existing stormwater system.

RESULTS

The City has 621 structures, 84 culverts, and 23 outfall pipes documented in a GIS geodatabase. The project has provided documentation on over 75 attributes such as the invert level, pipe size, material, overall condition, flow direction, ownership, and photographic documentation of each element

NEXT STEPS AND OPPORTUNITIES

Work will include: 1) documentation of the stormwater features of the two purple areas on the east side of the Union River using as-built and design plans. This will be captured in-house. An area located on the west side of the Union River will need to be field inventoried; 2) the addition of off-street (mostly private development) stormwater facilities and infrastructure from plans, both as-built and design plans; 3) testing (likely dye testing) to verify assumed and unknown connections including, but not limited, to the exact location and status of cross country storm drains and several large, not previously documented, pipes in the vicinity of the Bar Harbor Bank & Trust and near the Comfort Inn on Route 1 and 4) preparation of a hydrogeological model to determine the capacity of the system. Tasks #2 and #3 will be done in-house while task #4 will be done by an engineering firm.

From this point on, it is important that the City focuses on: 1) ensuring it will add to and maintain the geodatabase as stormwater management systems are built and connected to the City's system; and 2) continue pushing for the purchase and utilization of asset management software.

LESSONS LEARNED

- The longer you wait to get your stormwater inventory going, the less available institutional knowledge and consequently the more complicated and time consuming it will be – all yielding to more deferred costs.
- Have a plan for maintenance and upkeep of the data set right from the start.

APPLICABILITY FOR OTHER MUNICIPALITIES

The development of the database framework and method of data collection, as well as the process used to go from paper map, to field collection, to desktop processing, in order to review GIS map information with staff that hold a significant amount of institutional knowledge are all elements that other municipalities, especially the ones with GIS capabilities, can learn from.

For additional information

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