

4th Street Storm Sewer System and Best-Way Detention Pond Project Greeley, Colorado

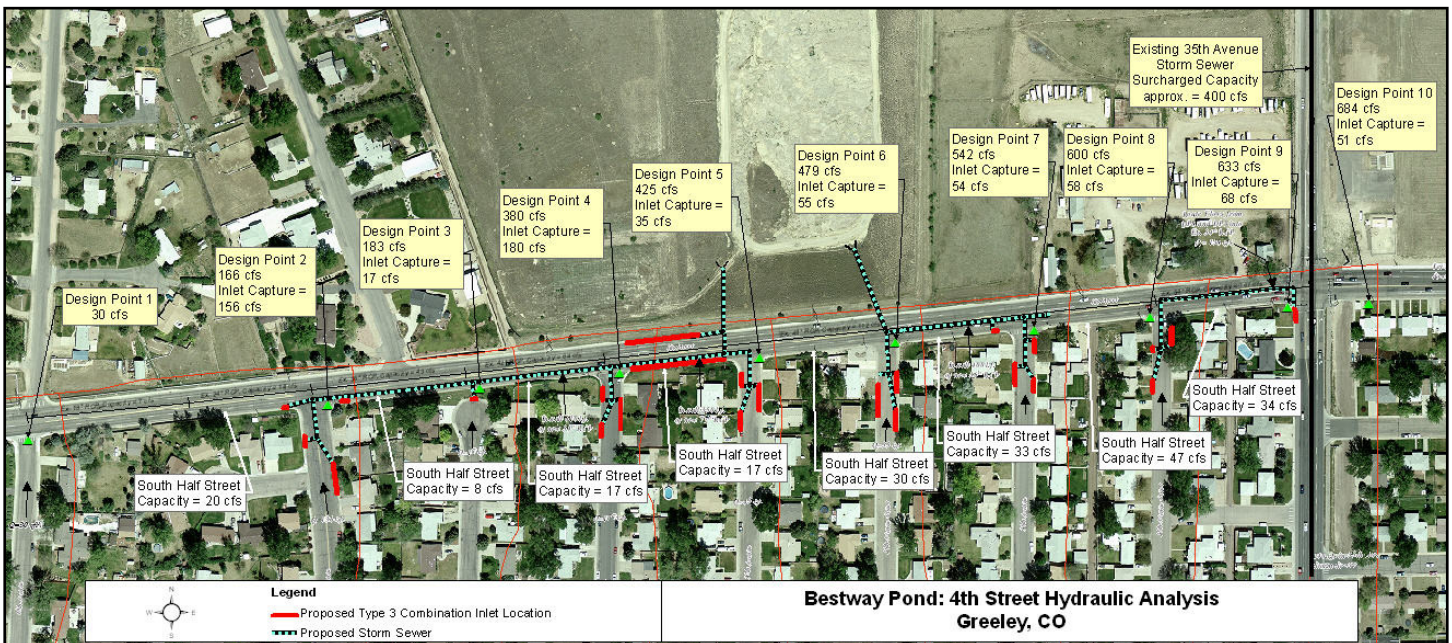
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This ongoing project, which was identified as a major capital improvement in the City of Greeley Master Drainage Plan (completed by ACE in 2006), includes the capture and conveyance of stormwater flows from the Grapevine Basin in a complex inlet and storm sewer system to the Best-Way Regional Detention Pond northwest of the intersection of 4th Street and 35th Avenue, in Greeley, Colorado.

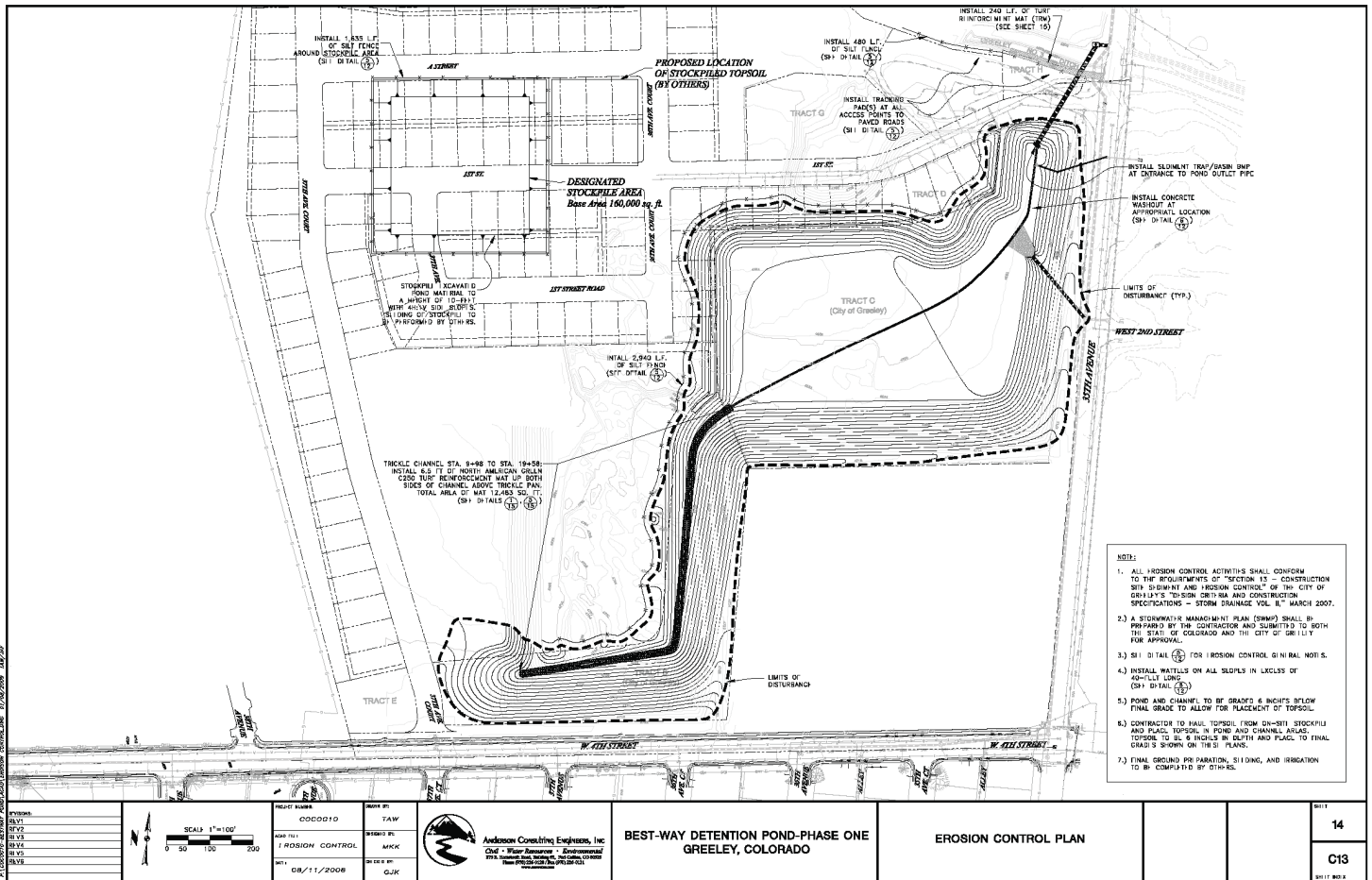
The purpose of the project is to capture stormwater flows on 4th Street and adjacent side streets in numerous banks of inlets, convey the flows along 4th Street in a storm sewer system to the Best-Way Detention Pond, where the flows are detained and released in a controlled manner to the existing 35th Avenue storm sewer system. This project consists of the following components:

- Hydrologic modeling of the tributary drainage basin to define design discharge points to the 4th Street inlet system.
- Hydrologic modeling of the proposed detention pond to ensure that it meets City of Greeley release criteria.
- Hydraulic design of the 4th Street system of curb inlets using UDFCD's UDInlet program; the inlet system includes 24 banks of CDOT Type R inlets with a total inlet length of more than 760 feet that will collect the 100-year storm runoff of approximately 680 cfs.
- Hydraulic design using Haested's StormCAD™ of the 4th Street storm sewer system and the pond's inlet and outlet pipes; the storm sewer system includes nearly 2,800 linear feet of reinforced concrete pipe ranging in size from 36-inches to 72-inches in diameter which will convey the 100-year discharge of approximately 680 cfs into the Bestway Regional Detention Pond.



4th Street Storm Sewer System and Design Flows

- Final design of the 4th Street inlet and storm sewer system including the design of curb inlets, storm sewer pipes, manholes, utility conflict resolution, and street infrastructure replacement.
- Final design of the design of the Best-Way Regional Detention Pond including pond grading, new 24-inch and 72-inch diameter storm sewer inlet pipes, an 8-foot wide by 2-foot high concrete box culvert outlet pipe, a concrete junction box, concrete manholes, an irrigation ditch crossing, concrete trickle pans, concrete headwalls and wingwalls, an emergency spillway, and erosion protection.
- Integration of the pond design within the constraints imposed by a planned residential development around the pond site.
- Integration of the inlet and storm sewer design within the constraints of the existing grades and alignment of 4th Street and the adjacent avenues.
- Preparation of final construction plans, technical specifications, and contract documents for the 4th Street inlet and storm sewer system and the Best-Way Regional Detention Pond.



Best-Way Regional Detention Pond Design.