

Clearview Channel Fort Collins, Colorado

Client: Mr. Owen Randall
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ANDERSON CONSULTING ENGINEERS, INC.
Civil • Water Resources • Environmental

Clearview Channel is an urban drainage corridor located in west-central Fort Collins that has been encroached by residential development that occurred primarily in the 1970s, prior to the establishment of drainage criteria by the City. Clearview Channel and the streets intersecting and adjacent to the channel are subject to frequent flooding due to culverts that constrict flow and the loss of overbank floodplain areas to aid in conveying flows from moderate to large storm events.

The purpose of this project was to increase conveyance along Clearview Channel west of Taft Hill Road by enlarging the channel over a 700-foot reach. The project included the replacement of the Briarwood Road crossing with a box culvert to pass 100-year flows under the collector-rated street, and the installation of an enlarged storm drain inlet and box culvert outlet to the channel to alleviate flooding on Springfield Court, an adjacent cul-de-sac.

Anderson Consulting Engineers completed construction drawings and contract documents, and provided part time construction management services for the Clearview Channel project. In addition to these efforts, ACE conducted all background analyses required to bring the project to design and construction. These tasks included the following:

- **hydrologic modeling** of the contributing drainage basin to determine discharges for a range of return period events, and to define design discharges;
- **formulation and evaluation of conceptual alternatives** for enlarging the channel, enlarging the culvert under Briarwood Road, and improving storm drainage on Springfield Court;
- **hydraulic modeling of the post-project condition, including floodplain mapping** for the study reach;
- **preparation of final design drawings and contract documents** for the selected improvement alternative;
- preparation of legal descriptions for permanent easements and temporary construction easements; and
- construction management, including conducting weekly progress meetings, and review of shop drawings.

The final configuration of Clearview Channel consists of a reach of **trapezoidal grass-lined channel**, and a reach of **earth bottom/grass-lined channel with concrete retaining wall banks** used to increase channel conveyance in a constricted area. The channel design included a **meandering trickle channel, two sloping rock drop structures, and two pre-formed pools to provide habitat for the native fish population**. The Briarwood Road culvert is a pre-cast **14'Wx4'H RCB**, whose installation required relocation of a 6-inch water main, gas, electric, telephone and cable television lines. A modified 20-foot curb inlet was installed in Springfield Court, with an outfall to Clearview Channel via a precast **7'Wx1½'H RCB**.



**Clearview Channel (Retaining Wall Reach)
and Briarwood Road Culvert**



Entrance to the Briarwood Road Culvert