

Rocky Mountain Water Company

Engineering & Design Guidelines

It is strongly encouraged that all applicants consult with the Rocky Mountain Water Company (“Ditch Company”) prior to design of any alterations or potential encroachments of the Rocky Mountain Ditch easement in order to determine whether an agreement with the Ditch Company is required, and if there are any special requirements of the applicant. The following guidance is subject to change as conditions warrant and is meant to serve as an aid in the design and decision making process of the applicant. Each proposed alteration and/or agreement will be subject to review by the Ditch Company.

General Process

- Discuss project with Ditch Company personnel to determine requirements
- Fill out Ditch Company License Agreement form: <http://www.rockymtnditch.com/doc/license-agreement.pdf>
- Issue \$1,500 Ditch Company review fee
- Provide construction plan set with appropriate Ditch Company contact information included
- Provide a construction schedule for approval by the Ditch Company prior to commencing activities (All work must be performed and completed during the non-irrigation season, generally November 1-April 1)
- Ditch Company review period and comment.
- Ditch Company approval upon execution and recorded agreement
- Construction begins with Ditch Company personnel oversight
- As-built drawings provided to the Ditch Company

Easement Criteria

- The generally accepted prescriptive easement width for open sections is the ditch width plus 20 feet from the top of bank on both sides of the ditch.
- Where the ditch is relocated or enclosed in a structure, a formal easement delineating the easement boundaries shall be recorded with the appropriate county.
- No encroachments of any kind (including but not limited to fences, sheds, yard debris, ornamental plantings, irrigation equipment etc.) is to be placed within the Ditch Company easement without the written consent of the Ditch Company.

Stormwater and Drainage

- The Ditch Company does not accept stormwater or project drainage.

Ditch Enclosures

- Flow criteria for the Rocky Mountain Ditch vary greatly depending on location. Please contact the Ditch Company for further information on design flow.
- Minimum free board is 2 feet above the design flow.
- A geotechnical investigation and report to establish the foundation conditions is needed for all proposed box culvert, bridge, and retaining wall installations.
- Tubular steel handrail is required for all wing walls and headwalls.
- Unless specifically approved in advance, all piping should be Class III (or higher) reinforced

- concrete pipe or similar HDPE ADS N-12 WT pipe.
- Prefabricated, (steel reinforced concrete or HDPE) flared end sections with a sloping steel trash grate is required on on the upstream end of the piped section. (The Ditch Company can supply proposals for the fabrication of trash grates on request)
- It is preferred to utilize screened native soil instead of granular bedding for pipe projects.
- Access manholes are to be installed at 100-foot intervals. "Tee" sections with special cast iron ring and lid are acceptable.
- A minimum of 2 feet of freeboard is required in all pipe sections.
- Pipe slope is to be at least 0.3%.
- In porous soils, cutoff walls are to be installed 10 feet inward from both ends of the pipe.
- Only gasketed pipe is acceptable.
- Side slopes are not to be steeper than 2.5:1 or flatter than 4:1.
- All disturbed areas are to be revegetated with a weed free streamside acceptable mix.

Plans are to include detailed design of the proposed system complete with a water surface profile through the structure.

Crossing Exhibit

- An exhibit depicting the proposed crossing(s) should be prepared to accompany the legal agreement. This is in addition to and separate from the construction drawings.
- The exhibit should be either 8.5" by 11" or 8.5" by 14".
- The exhibit should identify adjacent property ownership and have the pertinent public land survey information (township, range, section, etc.).
- Survey property line metes and bounds information should be shown on the exhibit.
- If a new easement is proposed, ties to the parent property and the metes and bounds of the easement should be clearly shown.
- All crossings, including wet and dry utility relocations should be included.
- The ditch and any nearby public street should be clearly identified on the exhibit.
- A north arrow and a bar scale should be included on the exhibit.
- The preparer's address and phone number should be on the exhibit.

Crossing Type

Open Cut Crossings

- Maintain clearance of the pipeline or dry utility to be at least 4-feet below the invert of the ditch.
- Low permeability material is preferred to granular bedding under pipelines.
- Place a trench cut off wall on both ends of the utility at least 15 feet back from the top of bank.
- Place a Karsonite marker or fence post with a sign on both sides of the canal at the edge of the easement to identify the location of the utility.
- Utility lines crossing the ditch should be placed in a steel casing pipe under the ditch.
- Storm sewer should be fitted with gaskets to provide a watertight crossing.
- The open cut portion of the ditch should be backfilled with a minimum of two feet thick compacted clay material with at least a PI of 12 and 35% passing the #200 screen.
- Compaction of all backfill and canal banks is to meet or exceed 95% maximum dry density, +/-2% of optimum moisture content (ASTM D 698).

Bored Crossings (Under Open Channel)

- Maintain clearance of the pipeline or dry utility to be at least 3-feet below the invert of the ditch.
- Place a trench cut off wall on both ends of the utility at least 15 feet back from the top of bank.
- Utility lines crossing the ditch should be placed in a steel casing pipe under the ditch.
- The boring pit should be placed outside the ditch easement.
- If the ditch side access road is utilized, all disturbed portions will require at least 4-inches of compacted driving surface to repair the travel way. Asphalt millings, recycle concrete, CDOT Class 6 and crushed aggregates are all acceptable surfacing materials.
- Compaction of all backfill and canal banks is to meet or exceed 95% maximum dry density, +/-2% of optimum moisture content (ASTM D 698).

Bored Crossings (Under Piped Section)

- Maintain clearance of the pipeline or dry utility to be at least 3-feet below the invert of the ditch.
- Utility lines crossing the ditch should be placed in a steel casing pipe under the ditch.
- The boring pit should be placed outside the ditch easement.
- Compaction of all backfill and canal banks is to meet or exceed 95% maximum dry density, +/-2% of optimum moisture content (ASTM D 698).