

## Groundwater Dewatering System Permitting Requirements for Sewer Use & Drainage Permits (SUDP)

<b>Authority:</b>	<ul style="list-style-type: none"> <li>• Denver Revised Municipal Code, Chapter 56 - Utilities</li> <li>• Department of Transportation and Infrastructure (DOTI) Rules &amp; Regulations Governing Sewerage Charges, Fees &amp; Management of Wastewater</li> <li>• Denver Building Code Amendments to the adopted I-Codes</li> </ul>
<b>Document Date:</b>	04/21/2025
<b>Customer Interface:</b>	<p><b>Permits are issued by</b></p> <ul style="list-style-type: none"> <li>• Wastewater Permits: <a href="mailto:wastewaterpermits@denvergov.org">wastewaterpermits@denvergov.org</a> or 720-865-3060.</li> <li>• State of Colorado Water Quality Control Division (WQCD) <a href="#">CDPHE Dewatering General Permit Program</a> online application portal <a href="#">CEQS portal</a></li> <li>• Environmental Protection Agency (EPA) Region 8 Underground Injection Control</li> </ul> <p><b>Enforcement of dewatering system compliance is performed by</b></p> <ul style="list-style-type: none"> <li>• Neighborhood Inspection Services (NIS): 311 in coordination with DOTI WW Plumbing Inspection</li> <li>• Denver Department of Public Health and Environment (DDPHE) <a href="#">Department of Public Health Environment</a></li> </ul>
<b>Affiliated Departments:</b>	<p>Other departments that may require permits or submittals:</p> <ul style="list-style-type: none"> <li>• Building Department - <a href="#">E-Permits / planreview@denvergov.org</a></li> <li>• Development Engineering Services / Wastewater Site Engineering</li> <li>• Landmark (all proposed work to a designated landmark/historical structure) (720) 865-2944</li> <li>• Construction Engineering – Right of Way Services construction of sidewalks, driveways, setbacks, etc. (303) 446-3469</li> </ul> <p>Licensing for work and inspections:</p> <ul style="list-style-type: none"> <li>• Contractor Licensing: <a href="#">Licensing Information</a></li> </ul>
<b>Applying for a Permit:</b>	<ul style="list-style-type: none"> <li>• Upload all plans and documents for the entire project to <a href="#">E-Permits</a>. (see page 2 for <b>Submittal Requirements</b>)</li> <li>• All submittals are made online via E-Permits.</li> <li>• SUDP requires a separate permit for each building or structure.</li> <li>• A “Licensed Contractor” is not required to submit a SUDP application. SUDP permits are for the entire project and scope(s) of work, not by contractor. The applicant is submitted in E-Permits is the contact for the SUDP and must be the property owner’s “Local Authorized Agent”.</li> <li>• SUDP review does not require PE or Architect signed and stamped plans, except for Grading/Plot Plans, Groundwater Management Plan, work in a Floodplain (see page 2) or as requested by the plan reviewer. The plans must be “For Construction.” cannot be marked “Draft”, “Not for Construction” or similar markings Plans marked for anything other than “For Construction” cannot be reviewed.</li> <li>• Any site plan and/or architectural floor plans revised for another department must also be submitted to SUDP for review.</li> <li>• Other information may be required to ensure proper and complete evaluation.</li> <li>• All submittals become the property of DOTI Wastewater.</li> </ul>
<b>Approval Process:</b>	<ul style="list-style-type: none"> <li>• The application and plans will be reviewed for Sanitary Sewer, Storm Drainage and Sanitary and Storm Quality Control devices (as appropriate).</li> <li>• If additional information is required to complete the review, the local authorized agent will be e-mailed a copy of the Review Comments which must be met prior to issuance of the Sewer Use &amp; Drainage Permit. The requested information must be submitted via E-Permits only.</li> <li>• Upon approval, the invoice for fees due will be sent to the applicant / authorized agent.</li> </ul>
<b>Fees: Make checks payable to Manager of Finance (all fees subject to change)</b>	<p>See <a href="http://www.denvergov.org/SUDP">www.denvergov.org/SUDP</a> for the current SUDP and DOTI fee schedules</p> <ul style="list-style-type: none"> <li>• Any revised plans submitted for review <b>after</b> a Sewer Use &amp; Drainage Permit (SUDP) has been issued will require a Supplemental Sewer Use and Drainage Permit</li> <li>• (SUDP) fees for permit issuance must be paid prior to December 31 of the invoice year. Additional fees at the new calendar year current rate shall be assessed and payment required.</li> </ul>

## Groundwater Dewatering System Permitting Requirements

NOTE: Required Forms can be obtained at [www.denvergov.org/sudp](http://www.denvergov.org/sudp)

<b>Purpose and Definition:</b>	<ul style="list-style-type: none"> <li>The regulation of groundwater dewatering discharge to protect public and private property.</li> <li>Groundwater Dewatering System means a permanent well, drain, perimeter drain, sump or other excavation constructed for the purpose of keeping the water table below a desired level or elevation where the water produced is not put to beneficial use.</li> </ul>
<b>Permitting Requirements:</b>	<p>A Wastewater Sewer Use and Drainage Permit (SUDP) must be obtained for any proposed groundwater dewatering system. Any system proposed outside of four (4) feet of the water table may not require a permit at DOTD's discretion. Proper submittal and log in through <a href="#">E-Permits</a> under the original or new building log is required.</p> <ul style="list-style-type: none"> <li><b>Commercial, Mixed Use and Multi-Residential of 3 or more unit buildings</b> require a separate groundwater dewatering SUDP review and permit. CDPHE and/or EPA review for permit determination may be required.</li> <li><b>Single family and Duplex (2 unit) only</b> groundwater dewatering reviewed and permitted as part of the building construction SUDP permit.</li> </ul>
<b>Submittal Requirements:</b>	<p>The initial SUDP submittal must include:</p> <ul style="list-style-type: none"> <li>Future Owner Notification Letter signed by the current owner and / or developer and must include:             <ul style="list-style-type: none"> <li>Narrative that the site is in or near the groundwater table level and failure to maintain the system will require a new groundwater dewatering system be designed and installed.</li> <li>Description and location of complete groundwater dewatering system to be maintained.</li> </ul> </li> <li>Groundwater Management Plan, prepared by a geotechnical engineer licensed in the State of Colorado that must include:             <ul style="list-style-type: none"> <li>Elevations in NAVD88 of the existing groundwater level, lowest construction point (example: bottom of footers) and dewatering capturing device (example: perforated pipe)</li> <li>Pre-construction ground elevation in NAVD88 utilized in the submitted Geotech Soils report.</li> <li>Anticipated highest post-construction groundwater elevation in NAVD88 for the life of the structure.</li> <li>Anticipated frequency of discharge (example: daily, seasonal, monthly)</li> <li>Designed discharge rate (in gallons per minute or cubic feet per second) including soil filtration rate.</li> <li>Complete plans and details of the system to include the entire site with structure(s) with distances, location, size (minimum 4-inch diameter) and material of all piping, connections and/or discharge point to structures and property lines, in conformance with the Groundwater Discharge Criteria (outlined below)</li> </ul> </li> </ul> <p>After review and upon SUDP reviewer approval and direction, the applicant must record the following as an Agreement with Denver's Clerk and Recorder's office. A copy of the recorded document must be submitted after recording.</p> <ul style="list-style-type: none"> <li><b>Single Family and Duplex projects:</b> <ol style="list-style-type: none"> <li>the approved future owner notification of the groundwater dewatering system,</li> <li>geotechnical prepared groundwater management plan</li> </ol> </li> <li><b>Commercial, Mixed Use and Multi-Residential of 3 or more unit buildings:</b> <ol style="list-style-type: none"> <li>the approved future owner notification letter,</li> <li>CDPHE permit or determination letter if applicable.</li> <li>EPA determination letter or permit if applicable.</li> </ol> </li> </ul>
<b>Groundwater Discharge Criteria</b>	<p><b>Water:</b>          No storm or surface water (open to sky water) shall be allowed or directed to enter a groundwater dewatering system. Storm water may be discharged from the property by alternate means that meet Wastewater requirements and standards for storm drainage. For example, roof drains and downspouts/splash blocks shall be designed in a way to minimize this storm water from reaching the underground building perimeter drain. Exception: Overflow drains within non-hardscaped window wells may drain to the perimeter drain and groundwater dewatering system.</p>

**Sanitary Sewer:**

In no case may ground water be discharged to the sanitary sewer system.

**Design Criteria**

- No discharge will be permitted to cross the property lines and impact adjacent private property or the public Right-of-Way.
- All discharge methods must be designed so that there is no impact to adjacent properties or to the Right-of-Way. If this is not possible, then the groundwater dewatering system may not be installed.
- The depth of the lowest construction point of the structure shall be designed and water capturing device or system shall be designed to be greater than 4 feet minimum above the water table for the life of the structure, (requires future owner notification letter and P.E. signed/stamped design plans) OR
- The lowest construction point shall be designed to allow for a high-water table without the need to dewater for the life of the structure (requires future owner notification letter only)
- The lowest construction point and structure designed to be waterproofed and/or bath-tubbed to allow the high-water table without the need to pump and/or dewater for the life of the structure (requires future owner notification letter only)

**Groundwater Discharge Methods:**

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1. Hard-piped connection to a storm sewer system. (may also require a CDPHE and/or EPA review and an additional state or federal permit)
2. Injection back into the ground, in a manner different than method 3 as approved by DOTI DES Engineering and EPA review (requires EPA review and may require an additional federal permit and may also require CDPHE review and an additional state permit)
3. To a drywell that is wider than it is deep, measured from the finished grade and have setbacks a minimum of five (5) feet or the depth of the drywell from the outside edges, whichever is greater from all property lines and structures and foundations measured from the greater discharge distance from property line or crest top edge of 10% or more grade change.
4. To the surface within the property following stormwater minimum distance discharge criteria.
5. Waterproofing /Bath Tubbing all below grade construction

**1. Discharge of groundwater to a storm sewer system**

Requires demonstration that the other options for maintaining groundwater discharge and flows listed below are not feasible. If, after demonstrating all other options are not feasible and there is an existing public storm sewer or major drainage channel located within proximity to the site, the sump pump may be permitted to discharge or connect directly to the public storm sewer system. DOTI review and approval of signed and stamped flow calculations showing the storm main or major drainage channel has available capacity to include the proposed additional groundwater discharge flows prepared by a Colorado licensed Professional Engineer (PE) is required and may, at the discretion of DOTI, require copy of EPA and/or CDPHE review, system plans and permit determination. DOTI review and approval of the details and connection location to the public storm pipe, manhole, inlet, box culvert, or open channel is also required. For larger projects with a storm system with water quality, anticipated connected groundwater flows must be disclosed and included with the storm project review. The DOTI approved groundwater dewatering connection shall not be routed thru the water quality device and MUST connect on the downstream/outbound side of the water quality device (vault, filters, etc) or in a separated location as directed by DOTI. Connection may involve obtaining written permission to connect and discharge to a private storm sewer system that then discharges to a public storm sewer system. Discharge rate to a public storm sewer system from direct connection or from a private storm sewer system may not exceed 0.10 cubic feet per second (44.9 gallons per minute) or at a rate as determined by DOTI Wastewater.

**2. Discharge of groundwater via Injection into the ground**

Injection location must be within the site and shall not be located within or in close proximity to any public or private utility easement with below grade public piping, devices or fixtures and will require a copy of EPA review and permitting determination and CDPHE review. A copy of a CDPHE review, system plans and permit may

also be required as determined by CDPHE review. Note that drywells that are deeper, measured from finished grade, than they are wide are considered an injection well

**3. Discharge of groundwater to a drywell**

The groundwater dewatering system may discharge to a drywell, that is wider than it is deep, measured from finished grade and have setbacks a minimum of five (5) feet or the depth of the drywell from the outside edges, whichever is greater from all property lines and structures and foundations measured from the greater discharge distance from property line or crest top edge of 10% or more grade change with P.E. signed and stamped flow and filtration calculations and design that demonstrate the design will not result in compromising the integrity of any new or proposed structures or result in surface flows over drywell overflows to any adjacent property or public Right-of-Way or cause a rise in the water table of neighboring property for the duration of the life of the structure. An example drywell detail, including certain minimum requirements, is shown below. Drywells that are deeper, measured from finished grade, than they are wide are considered an injection well and will require EPA and CDPHE reviews as stated above.

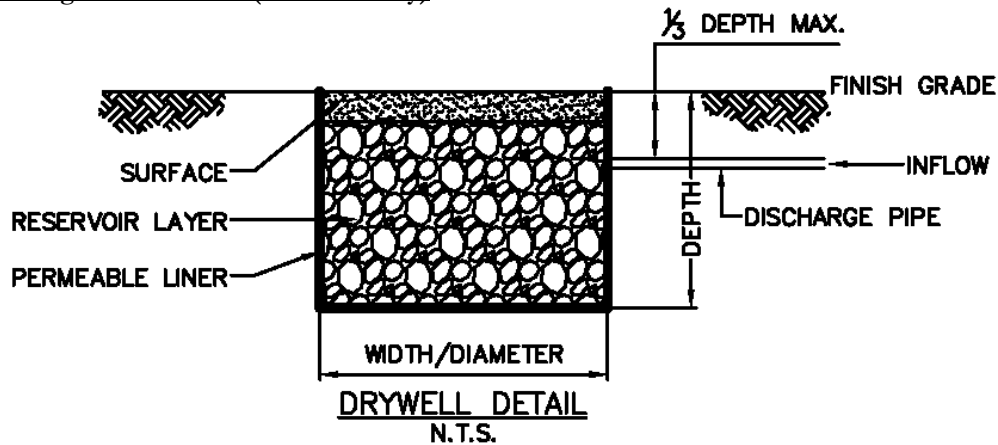
**4. Discharge of groundwater to the surface**

The groundwater dewatering system may discharge to the surface following stormwater minimum distance discharge criteria, with P.E. signed and stamped letter that certifies that the surface flows will not result in surface flows to any adjacent property or public Right-of-Way for the duration of the life of the structure.

**5. Waterproofing / Bath Tubbing**

May be utilized with Architectural and Structural approval of the design. No perimeter or under drain piping, system or pump is allowed to be installed when waterproofing or bath tubbing.

Drywell design criteria detail (reference only)



**NOTES:**

1. **Dimensional ratio:** Drywell depth must not exceed the drywell width/diameter.
2. **Volume:** Must contain a minimum volume, based on soil permeability and pump discharge rate (maximum discharge capacity of the pump) to ensure adequate capacity without overflow.
3. **Reservoir Layer:** Shall use rock of uniform size in order to maximize volume.  $\frac{3}{4}$ " river rock or  $\frac{3}{4}$ " crushed rock is recommended.
4. **Surface:** The surface shall be designed in a way that prevents sediment migration into the top of the drywell, which would reduce void volume and permeability.
5. **Liner:** The drywell should be lined in order to prevent sediment migration into the reservoir from adjacent soil. The liner shall have the proper permeability rate to allow the drywell to drain in the appropriate time based on the drywell size and rate.
6. **Discharge pipe:** It is recommended that the discharge pipe be placed no deeper than  $\frac{1}{3}$  the depth of the pit.
7. **All water piped to the drywell shall be groundwater sump pump discharge only; all stormwater run off must be routed through a separate system. Any stormwater run off from roofs or ground surface will clog the fabric and native soils.**