

# Dewatering and Bypass Pumping Procedure

## 1. Purpose

The purpose of this Procedure is to provide a summary of tasks, responsibilities, tools and templates applicable to renewals programs delivered by the Project Delivery Group, relevant to dewatering and bypass pumping.

## 2. Scope

<input type="checkbox"/> Planning	<input checked="" type="checkbox"/> Delivery	<input type="checkbox"/> Handover
<input type="checkbox"/> Program Management	<input type="checkbox"/> Procurement	<input type="checkbox"/> Community & Stakeholder
<input type="checkbox"/> Safety	<input checked="" type="checkbox"/> Environment	<input type="checkbox"/> Quality

This Procedure steps through the processes for dewatering and bypass pumping for projects and programs delivered by TasWater. This procedure covers water discharge via the two methods:

- Dewatering
- Bypass pumping

The Procedure also includes bypass pumping related to sewage infrastructure.

This Procedure should be read in conjunction with the following documents:

- Environmental Management Plan
- Working in and Around Water Procedure
- Site Environment Plan
- Dewater or Bypass Pump Permit
- Plume Observation Form

## 3. Definitions

This Procedure should be read in conjunction with the Project Delivery Group Acronyms and Glossary document.


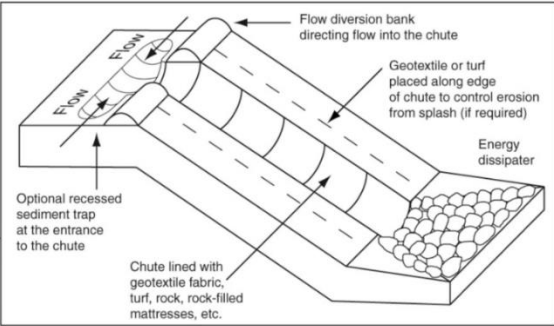


**This is not an exhaustive list. It provides step-by-step guidance. Please refer to the relevant management plan or tools for detailed information.**

## 4. Dewatering

The likely dewatering scenarios for TasWater PDG Projects will be:

- Dewatering ponded water from site to receiving waterways (incl. stormwater).
- Dewatering ponded water, or wastewater to licenced pump truck and waste transporter.

The following methodology for dewatering will be used.

PROCEDURE	RESPONSIBILITY
<b>STEP 1: OBTAIN PERMIT</b>	
<ul style="list-style-type: none"> <li>The TasWater Environmental Advisor shall be consulted before any dewatering commences to ensure that dewatering is consistent with the accepted <b>Site Environmental Plan</b></li> <li>A <b>Dewater or Bypass Pump Permit</b> must be issued by the TasWater Environmental Advisor (or approved delegate) prior to commencement of pumping.</li> <li>Controls agreed within the permit must be implemented prior to commencement of pumping.</li> </ul>	Contractor Environmental Advisor
<b>STEP 2: DEWATERING SETUP</b>	
<ul style="list-style-type: none"> <li>Ensure the dewatering pump and hose is free from leaks (sealed) and the inlet is not able to draw in mud / debris e.g. fitted with a float.</li> <li>Ensure the pump outlet has suitable energy disperser such as rocks and/or geofabric to prevent scouring and soil erosion.</li> <li>Discontinue dewatering if the surrounding area is showing signs of instability or erosion</li> <li>If dewatering from a known fish habitat, ensure pump inlet is fitted with a fish exclusion cover (&lt;5mm holes).</li> <li>Regular inspections of the pumping infrastructure must be undertaken by site personnel once the pump has been turned on to confirm:               <ol style="list-style-type: none"> <li>Pump is operating;</li> <li>Pump is not drawing in mud/debris/oily water;</li> <li>Water quality monitoring equipment is working, where required.</li> </ol> </li> <li>Alarmed telemetry or similar shall be considered.</li> </ul>	Contractor
<div style="display: flex; align-items: center;">   </div> <p style="text-align: center;"><b>Figure 8 – Typical components of a temporary drainage chute</b></p> <p><b>Geofabric energy dissipaters at pump outlets &amp; design for geofabric/rock energy dissipation</b></p> <div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;"><b>Figure Pump inlet on float and lifted from bottom of ponded water, therefore not drawing in mud/debris</b></p>	
<b>STEP 3: WATER TREATMENT</b>	
<ul style="list-style-type: none"> <li>If the water does not meet the water quality parameters specified in the <b>Site Environment Plan</b>, the water shall be:               <ol style="list-style-type: none"> <li>Used where practicable for dust suppression, and / or</li> </ol> </li> </ul>	Contractor


PROCEDURE	RESPONSIBILITY
<ul style="list-style-type: none"> <li>ii. Pumped to a grassed area where it cannot enter a watercourse; and /or</li> <li>iii. Pumped to a stormwater drain.</li> <li>• Site affected (dirty) water must not leave the Project site unless authorised by the PEMR in accordance with the <b>Dewater or Bypass Pump Permit</b>.</li> <li>• If the above options are not feasible, and site water must be discharged offsite, the water may need to undergo treatment to reduce turbidity or alter pH via TasWater PDG accepted methods, as listed in the Site Environment Plan (e.g. flocculation with gypsum, increasing pH with calcium carbonate, etc.).</li> </ul>	
<ul style="list-style-type: none"> <li>• The turbidity of ponded water to be dewatered to receiving waterways shall be equal to or better than the turbidity in the receiving waterways.</li> <li>• The pH of ponded water to be dewatered shall be within the range of 6.5 – 8.5.</li> <li>• No oil or grease sheen to be visible on surface of water.</li> <li>• Refer to the <b>Site Environmental Plan</b> and/or <b>Dewater or Bypass Pump Permit</b> for further information on water quality parameter requirements for each site.</li> </ul>	Contractor
<b>STEP 4: WATER MONITORING</b>	
<ul style="list-style-type: none"> <li>• Water quality monitoring shall be undertaken when dewatering ponded water to receiving waterways or offsite drainage infrastructure. At a minimum the following parameters should be measured: pH, turbidity, Electrical Conductivity (EC), Dissolved Oxygen (DO) and temperature.</li> <li>• Water quality monitoring equipment must be calibrated in accordance with manufacturers requirements.</li> <li>• When dewatering, water quality monitoring shall be undertaken at: <ul style="list-style-type: none"> <li>i. The ponded water at the pump intake; and</li> <li>ii. In the receiving waterways, immediately upstream and downstream of the discharge point (within the mixing zone of the discharged water); or</li> <li>iii. At the pump outlet where dewatering occurs.</li> </ul> These locations shall be detailed in the <b>Site Environmental Plan</b> and/or the <b>Dewater and Bypass Pump Permit</b>.</li> <li>• When dewatering over an extended duration to a watercourse, it shall be monitored in accordance with the parameters and frequency as listed in the <b>Site Environmental Plan</b> and/or the <b>Dewater or Bypass Pump Permit</b>. Acceptance criteria for the discharge and receiving environment must be established and documented on the <b>Site Environmental Plan</b>.</li> <li>• If turbidity monitoring exceeds the trigger value or a visible plume is detected in the receiving water: <ul style="list-style-type: none"> <li>i. Cease dewatering and contact the Environmental Advisor.</li> <li>ii. Investigate the cause, utilise the <b>Plume Observation Form</b>; and</li> <li>iii. Consult with the Environmental Advisor if further treatment will be necessary before continuing with the discharge.</li> </ul> </li> </ul>	Contractor
<b>Step 5: INCIDENT REPORTING</b>	
<ul style="list-style-type: none"> <li>• All unauthorised water discharge and pumping must be reported to the TasWater Environmental Advisor, recorded as an environmental incident and entered to IRIS for action tracking and closeout.</li> </ul>	All


## 5. Bypass Pumping

The likely bypass pumping scenario for TasWater PDG Projects are:

- Clean water pump around at waterway crossings
- Bypass pumping for live pipelines, sewer mains, etc.

The following methodology for bypass pumping will be adopted.

PROCEDURE	RESPONSIBILITY
<p><b>STEP 1: OBTAIN PERMIT</b></p> <ul style="list-style-type: none"> <li>• The TasWater Environmental Advisor and Project Manager shall be contacted before any bypass pumping to ensure that bypass pumping is consistent with the accepted <b>Site Environmental Plan</b>.</li> <li>• A <b>Dewater or Bypass Pump Permit</b> must be authorised by the PEMR prior to commencement of pumping.</li> <li>• Controls agreed within the permit must be implemented prior to commencement of pumping.</li> <li>• Sewerage bypass pumping will incur additional controls, these will be identified in the <b>Site Environmental Plan</b> and agreed with the Environmental Advisor.</li> </ul>  <p style="text-align: center;">Sewerage Bypass Pumping Example</p>	<p>Contractor Environmental Advisor</p>
<p><b>STEP 2: PUMP SET UP</b></p> <ul style="list-style-type: none"> <li>• Ensure the bypass pump and hose is free from leaks (sealed) and the inlet is not able to draw in mud / debris (e.g. fitted with a float).</li> <li>• Ensure the pump outlet has a suitable energy disperser to prevent scouring.</li> <li>• If bypassing pumping from a known fish habitat, ensure pump inlet is fitted with a fish exclusion cover (&lt;5mm holes).</li> <li>• Regular inspections of the pumping must be undertaken by site personnel once the pumping has commenced to confirm:             <ol style="list-style-type: none"> <li>Pump is operating</li> <li>Pump is not drawing in mud/debris/oily water</li> <li>Water quality monitoring equipment is working, where required</li> </ol> </li> <li>• Alarmed telemetry or similar shall be considered.</li> </ul>	<p>Contractor</p>

PROCEDURE	RESPONSIBILITY
 <p data-bbox="568 792 842 824" style="text-align: center;">Bypass Pumping Example</p>	
<b>STEP 3: MONITORING</b>	
<ul style="list-style-type: none"> <li>• Water quality sampling (pH, turbidity, EC, DO and temperature as a minimum) must be measured immediately upstream and downstream of the pumping activity in the waterway at the commencement of pumping. For information regarding water quality sampling locations and parameters, please refer to the site-specific <b>Site Environmental Plan</b> and/or <b>Dewater or Bypass Pump Permit</b>.</li> <li>• A calibrated water quality monitor may be set both upstream and downstream of the pumping activity and left in field to record water quality at intervals defined in the <b>Site Environmental Plan</b> and/or <b>Dewater or Bypass Pump Permit</b>.</li> <li>• Monitoring equipment calibration must comply with manufacturers requirements.</li> </ul>	Contractor
<ul style="list-style-type: none"> <li>• If turbidity monitoring exceeds the trigger or a visible plume is detected in the receiving water as a result of the site dewatering activities, cease dewatering and contact the Environmental Advisor.</li> <li>• Investigate the cause, utilise the <b>Plume Observation Form</b> and consult with the Environmental Advisor to determine if further treatment will be necessary before continuing with the discharge.</li> </ul>	Contractor
<b>STEP 4: INCIDENT REPORTING</b>	
<ul style="list-style-type: none"> <li>• All unauthorised water discharge and pumping must be reported to the TasWater Environmental Advisor and Project Manager, recorded as an environmental incident and entered to IRIS for action tracking and closeout.</li> </ul>	All

## 6. References

- Environmental Management Plan
- Working in and Around Water Procedure
- Site Environment Plan (Template)
- Dewater or Bypass Pump Permit
- Plume Observation Form.