ENVIROMENTAL CONSTRUCTION METHOD
STATEMENT
Dewatering

Project: Hunter Expressway– Kurri Kurri to Branxton

1. Summary/Purpose of Activity:
This CMS describes how water from site excavations is to be removed and disposed of so as not cause environmental pollution or harm. Also addressed in this CMS is dewatering of clean stormwater/creek water (ie. Water that hasn’t travelled through construction works).

2. Objectives of this CMS:
The objectives of this CMS are to:
- provide guidance on how to dewater excavations in order to prevent environmental pollution or harm;
- ensure that suitable controls are implemented to prevent dirty water from entering the excavation and subsequent dewatering into the environment; and
- provide guidance on how to pump clean water around construction areas.

3. Area/Location of Activity/Site:
The works will occur throughout the project corridor at several locations in conjunction with project construction areas as part of the approved project.

4. Timing of works/Expected duration:
The expected duration is subject to the duration of dewatering activities and clean water pumping.

5. Approvals Required:
The works are permitted under the approved Abigroup CEMP.

6. Consultation Requirements:
The proposed works will take place within the approved construction Boundaries.

7. Incident Response:
In the event of an incident that may potentially impact waterways and surrounding sensitive areas, such as ASS run off, the discharge of polluted water or sedimentation downstream, the Foreman will give directions to stop work and will contact the Environmental Manager immediately. The Environmental Manager or their delegate will respond to the incident in accordance with the Incident and Emergency Response Procedures outlined in Attachment 1 below.

8. Risk Assessment:
The below risk assessment framework shall be used to determine risks associated with each of the activities in the Work Method Table.

9. Related documents:
The information included in this CMS has been drawn from the Construction EMP and the relevant Sub Plans. For additional information related to this CMS refer to the following documents:
- Ministers Conditions of Approval 30, for the project;
- Construction Environmental Management Plan; and Sub Plans
- Soil and Erosion Control Plan
- EPL 13352.

---

### Work Method and Risk Assessment

#### Sequence of Work Activities
(How will work be done?)

<table>
<thead>
<tr>
<th>#</th>
<th>Activity</th>
<th>Potential Hazards</th>
<th>Risk</th>
<th>Safeguards/controls</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excavation is opened and works are commencing.</td>
<td>Excavation filling with water.</td>
<td>Medium (C2)</td>
<td>Prior to opening an excavation, where necessary install a clean water diversion around it to prevent creating dirty water and flooding the excavation.</td>
<td>Foreman</td>
</tr>
<tr>
<td>2</td>
<td>Inform personnel of the options on how to dewater.</td>
<td>Non-compliance with this WMS.</td>
<td>Low (D2)</td>
<td>Toolbox personnel and subcontractors involved in the dewatering of excavations with the requirements of this WMS. In situations where sub-contractors require areas of work to be dewatered, they must inform the appropriate HEx Project supervisor (foreman or general foreman) of their work in an area and when the excavations require dewatering. The HEX Project supervisor will then implement the appropriate dewatering method for the circumstance.</td>
<td>Earthworks Engineer/Foreman</td>
</tr>
<tr>
<td>3</td>
<td>Establish method of dewatering.</td>
<td>Non-compliance with this WMS.</td>
<td>Low (D2)</td>
<td>The HEX Project supervisor (foreman or superintendent) will determine the most appropriate method of dewatering excavation by adopting the options identified in this WMS. Water must not be dewatered in any other way than that stated within this CMS unless approved by the Environmental Manager.</td>
<td>Foreman</td>
</tr>
<tr>
<td>4</td>
<td>Transfer into Water Cart for dust suppression or construction usage.</td>
<td>Dewatering resulting in environmental pollution.</td>
<td>Low (D2)</td>
<td>Water pumped into a water cart can be used for dust suppression or for construction purposes. When pumping water into the water carts from the excavations, the operator needs to ensure the hoses are connected without leaks to prevent any potential for water to be discharged off site, and when removing the uploading hose and stopping pumping to ensure any excess water falls back into the excavation and not elsewhere. When spray out water, ensure no dirty water is sprayed directly into drainage lines Ensure the spray is light so that there is no run-off from the construction works.</td>
<td>Operator/Subcontractor/Foreman</td>
</tr>
<tr>
<td>Sequence of Work Activities (How will work be done?)</td>
<td>Potential Hazards (What harm can occur?)</td>
<td>Risk</td>
<td>Safeguards/controls (How can the risk be minimised?)</td>
<td>Responsibility (Who will direct works to ensure compliance?)</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>----------------------------------------</td>
<td>------</td>
<td>------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>If filling a water cart from an excavation on a local road, the operator will need to ensure they aren’t causing any traffic disruptions or blocking pedestrian and cyclist access. They should ensure the truck doesn’t overfill and spill out onto the road surface creating a hazard, and does not spill along any guttering and into stormwater systems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Second Preference: Water transferred to a Sedimentation Basin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5</strong> Transfer into a Sedimentation Basin for treatment.</td>
<td>Dewatering resulting in environmental pollution</td>
<td>Low (C1)</td>
<td>Water can be pumped into a Sedimentation Basin for treatment. This can only be done when it does not cause the basin to overflow. You must consider the capacity available in the basin compared to volume of water required to be dewatered. During pumping ensure you keep checking the water level in the basins and turn off pumps prior to it overflowing. If draining fills with graded drains, ensure the water enters a sediment basin or trap. Water must not be directed to sediment fences etc as the controls don’t treat concentrated flows. Water that is put into the basins must be treated, tested and discharged in accordance with the requirements of the Sediment Basin Management CMS. The Environmental Officer is to authorise any water discharge off site, that is, any discharge other than to a sediment basin or water cart.</td>
<td>Environmental Coordinators Officer / Subcontractor / Foreman</td>
<td></td>
</tr>
<tr>
<td><strong>Third Preference: Complex Dewatering requiring Environmental Coordinator Involvement</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7</strong> Water transferred to an Area for Infiltration or Evaporation.</td>
<td>Discharge resulting in environmental pollution</td>
<td>High (D4)</td>
<td>Environmental Officer to approve and monitor this activity. This option can only be done when it will not cause dirty water to leave the site and enter a waterway. The extent and surroundings of the vegetated area (for infiltration) or contained area (for evaporation) should be inspected and assessed by an Environmental Officer to ensure that water is not likely to escape into a waterway.</td>
<td>Environmental Coordinator / Foreman</td>
<td></td>
</tr>
<tr>
<td><strong>Pumping of clean water around construction areas</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8</strong> Planning of pumping activity</td>
<td>Water is pumped without in approval/ testing</td>
<td>Significant (D4)</td>
<td>Contact relevant Environmental Officer prior to planned pumping. Organising testing of both water to be pumped and receivable water. Testing to include: o pH; (range 6.5-8.5 or matching receivable waters) o Turbidity; (&lt; TSS 50mg/L, correlation to be established) o Temperature; (within 5˚C of receivable waters) o Conductivity; o Dissolved oxygen; o Visual oil and grease (visual); and o No tannis (visual). Gain approval for pumping activity</td>
<td>Foreman/Environmental Coordinators Officer</td>
<td></td>
</tr>
<tr>
<td><strong>9</strong> Set up and Pumping</td>
<td>Set up allows for dirty water to be pump or creates disturbance at outlet</td>
<td>Significant (D4)</td>
<td>Inlet to be in bucket or similar to prevent pumping of sediment. Outlet to be positioned as to not cause disturbance to receivable waters (on a float, wrapping in geofabric sausage etc). Pump is to be manned at all times to monitor and ensure the pump is not pumping dirty water. If the water quality changes (ie appears to get dirty) the discharge must cease immediately and alternative arrangements need to be made for the water (eg. Use it for dust suppression or take it to a basin). Noise from pump causes disturbance to residents. Noise emission to be monitored following any complaints. Noise Shielding to be considered where attenuation required. Pollution of waterways due to spills/leaks. Pump to be placed away from residents where possible. Noise emission to be monitored following any complaints. Noise Shielding to be considered where attenuation required.</td>
<td>Foreman</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium (D3)</td>
<td>Ensure equipment / vehicles are serviced. Any refuelling to be done away from waterways. No fuel is to be stored on site overnight. Spill kit to be onsite during works. Report any spills to the EM and clean up.</td>
<td>Foreman / Engineer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Toolbox

(See also Abigroup standard toolboxes for Working Hours and Noise Control)

- Hours of operation for construction activities are as follows:
  - 7:00am to 6:00pm Monday to Friday;
  - 8:00am to 1:00pm Saturday; and
  - At no time on Sundays and Public Holidays.
- Ensure Subcontractors are aware of their responsibilities as per this WMS.
- Ensure Subcontractors know which HEX Project Foreman/Superintendent they need to contact for advice and approval to dewater their excavations.
- Water must not be dewatered in any other way than that stated within this WMS unless approved by the Environmental Manager.
- Options for excavation dewatering include (in order of preference):
  - water re-used on Site by a Water Cart for dust control or construction water;
  - water transferred to a Sedimentation Basin; and then
  - any more complex de-watering with prior approval from Environmental Officer, such as dewatering to vegetated area (for infiltration), contained area (for evaporation).
- Ensure dirty water is not pumped/discharged offsite. The OEH can prosecute individuals and HEX Project for acts that result in dirty water being discharged.
- Ensure sediment basins have sufficient capacity to take required volume of dirty water. The basins must not overflow. During pumping ensure you keep checking the water level in the basins and turn off pumps prior to it overflowing.
- If draining fills with graded drains, ensure the water enters a sediment basin or trap. Water must not be directed to sediment fences etc as the controls don't treat concentrated flows.
- Water that is put into the basins must be treated, tested and discharged in accordance with the requirements of the Sediment Basin Management CMS Only the environmental Coordinators / officer can approve a discharge from the sediment basins.
- When spraying out water in water cart, ensure no dirty water is sprayed directly into drainage lines.
- Ensure the spray from the water cart is light so that there is no run-off from the construction works.
- Ensure all hoses are maintained to prevent any leaks.
- When moving clean water around the site the following applies:
  - pumping of clean water around construction areas must be approved by the Environmental Coordinators/Office;
  - pumps are to be manned at all times when pumping clean water around site;
  - pumping clean water should use a float or bucket over the uptake hose to ensure no or minimal sediment is picked up;
  - testing of the source and receival waters must occur prior to pumping clean water;
  - steps must be taken to ensure sediments are not disturbed by pump outlet; and
  - if you notice dirty water being discharged from the project site take action and advise your supervisor immediately.