



**PROJECT:**

**Vartry Water Supply Project - Water Treatment Plant &  
Reservoir Upgrade Contract**

(IW Ref 16/085)

**DOCUMENT:**

**Method Statement – Surface Water & Stormwater dewatering  
MS0004**





**Document Control Sheet**

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<b>Project Title:</b>	Vartry Water Supply Project – Water Treatment Plant & Reservoir Upgrade Contract (IW Ref 16/085)
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## 1. Introduction / Scope

The purpose of this method statement is to give an overview of the methodology involved in the dewatering from site/ excavations **of both surface water and stormwater for the Vartry Water Supply Project.**

The scope of this Method Statement applies to; dewatering of excavations of surface water & stormwater through settlement units including a Siltbuster HB50 settlement unit, Silt bag and a stone filtered lagoon prior to entry into a nearby watercourse.

## 2. Programme

The works are planned to commence October 2018. The works relevant to this Method Statement may extend for the duration of the civil works as scheduled.

## 3. Health & Safety

All works will be carried out in accordance with BAM Health & Safety Policy and Health and Safety legislation.

BAM Health & Safety Statement shall be in place.

All subcontractors shall have a Site Specific Safety Statement.

P.P.E. will be worn by all personnel at all times to include a minimum of high visibility vest, hard hat, safety glasses, gloves and safety boots. When required, additional items of P.P.E. such as ear defenders, dust masks, harnesses, etc. will be used.

All items of plant will be certified and in good order and mobile plant will be equipped with flashing beacons, movement alarms, and other relevant items such as reversing cameras where necessary.

Noise and vibration monitoring will be carried out regularly as deemed required with measurements recorded and logged. Mitigation measures will be employed should any adverse effects arise from the work activities.

### 3.1 First Aid / Emergency Contacts

**Cyril Staunton and Trevor McMoreland** are trained first aiders. A First Aid Kit will be located in the BAM project offices/site vehicle.

Emergency Contact details will be available from the BAM project office and provided at induction.

### 3.2 Risk Assessments

BAM are aware of the risks involved while completing various elements of work on the project. BAM have made an assessment of the risks associated with this activity using the Company knowledge base and previous experience, and have identified these risks. Staff involved in the works will be briefed of their content; and a complete copy of the Risk Assessment will be maintained in the appropriate Company files maintained on site.

**List of particular risk assessments in relation to this method statement as follows;**

- **Site Access**
- **Housekeeping**
- **Plant and People Segregation**
- **360 Deg. Excavator**
- **Loading / Unloading Plant**
- **Safe Working of Vehicle Banksman with Machinery**
- **Excavation – Trench work**
- **Manual Handling**
- **Noise**
- **Working on, near or above water**

### 3.3 Corporate Social Responsibility

BAM operate the policy of waste segregation to the following categories, and where necessary skips will be provided and clearly marked to signify the types of wastes for which they are intended;

- Dry Mixed Waste
- Metal
- Wood
- Inert material.
- Other identified waste streams.

The disposal of any waste materials (including excavated soil) from the site will comply with all EU, EPA, legislative and Employer requirements.

It is BAM's policy to reuse excavated materials on the Project when possible.

### 3.4 Housekeeping

Housekeeping will be maintained to a high standard throughout the works. Regular informal inspections of the site will be completed by the General Foreman and Site Management. Areas requiring attention will be addressed immediately as appropriate.

### 3.5 IMPACTS Policy

Any excavation work required will follow BAM IMPACTS policy which is as follows:

- Inspect site location, look for indicators to services.
- Mark the location of services at the surface before digging.
- Plan and Maps should be available and used on site before digging.
- Always assume that there will be more services than you can find.
- Cable locator should always be used (in power and radio modes) before starting work and throughout the course of work.
- Take care. Wherever possible hand dig close to buried services. Observe Safe Digging Practice.
- Supervision.

### 3.6 Hoisting and Lifting – Cranage Plan

A qualified Crane Coordinator will be nominated to organise the logistics of bringing any cranes to site and review prior to lifting, the required Lift Plan for each task/lift. Work areas will be assessed prior to use and only authorised personnel are permitted to operate cranes & sling/signal loads.

### 3.7 Work Permits

BAM's Engineer responsible for the relevant task will complete the following permits before any of these works take place:

- Hot Works - for welding etc.
- Dig - for any excavation work
- Overhead line - for working/ travelling underneath overhead lines
- Ladder – for ladder used on site.

Risks associated with the above activities will be assessed and briefed to employees associated with the task at the works progress.

### 3.8 Existing Overhead and Underground Services

When working near overhead services, Goal Posts complete with warning signs will be erected in accordance with the ESB guidelines "Avoidance of Electrical Hazards When Working in Proximity to Overhead Electric Lines".

A CAT detector will be available on site to aid service location and a CAT scan will be carried out in all locations prior to commencement of works. The positions of services will be marked out.

If a main cable or service is damaged by accident, work is to cease immediately and the area cordoned off. The appropriate statutory body will be notified immediately and BAM will co-operate where required to facilitate the repair of the service.

### **3.9 Material Stores / Movement**

Materials will be delivered and stored as close as possible to the area where the task will be completed. Where necessary material will be appropriately protected until they are required for the task.

### **3.10 Traffic, Parking and Pedestrian Walkways**

A Contract Traffic Management Plan will be developed by BAM - this includes provision for interface with traffic at the site entrances and pedestrian management. It details procedures for deliveries to site and working arrangements.

Cleaning of roadways and parking areas will be undertaken on a regular basis.

### **3.11 Communications**

Mobile phones will be the main means of communications between site personnel. BAM will maintain an up-to-date list of key project participants and their phone numbers to facilitate communications and display this on the site notice board.

### **3.12 Working Hours**

In accordance with the contract documents, the contract working hours will be adhered to. Specific tasks may require working outside of these hours, at which time BAM will notify the Employer and seek consent under separate cover outlining the specific activity and required hours of work.

### **3.13 Health & Safety Authority Inspections**

BAM welcome site inspections undertaken by the Health & Safety Authority on a periodic / random basis, at which time a member of Site Management will accompany the Representative to provide any information or documentation required.

### 3.14 Inductions

Site Specific Inductions will be given to every worker, visitor, etc. before they are permitted on site. The Induction will be carried out by one of the BAM Site Management Team.

The Induction will highlight the current risks that are present on site at that time and potential new risks which will be encountered.

They will also be made aware of Designated Walkways, Assembly Points, First-Aid stations and Emergency exits on the site where applicable.

### 3.15 Operative Involvement

Prior to the commencement of individual tasks, Task members complete a **Safe Work Plan** specific to the task with all operatives involved.

The objective of the Safe Work Plan's are to encourage all operatives associated with the task to actively contribute to the assessment of risks and determination of a safe methodology for completing the task.

**Tool Box Talk's** will be carried out on an ongoing basis, relevant to the various risks associated with the completion of the works.

## 4. Quality and Environmental Control

BAM have an internal Quality Procedure system established; the objectives of which are as follows:

- Operate to Best Construction Practice
- Meet and Exceed Quality Requirements
- Safe and Secure Work Environment
- Assess Hazards and Minimise Risks
- Provide Training to meet identified needs
- Adhere to Programme & Budget
- Continuous Improvement
- Assess Environmental Impacts and Meet Objectives
- Prevent Pollution
- Minimise Waste – Reuse and Recycle

The Environmental Management Plan and Waste Management Plan shall be referred to when assessing the impact of the activities contained within this Method Statement.

Environmental protection measures including silt curtains, sedimentation ponds, silt busters and filtration measures will be adopted during any dewatering of excavations.

Diesel fuel or heavy oils will be stored in specific bunded areas.

BAM are aware of the sensitive nature of works and will take diligent precautions relating to contamination, safety and environmental concerns relevant to this particular location.

All personnel will be made aware of their responsibility to notify site management about potential and obvious environmental hazards.

Spill kits will be available and kept in the works area for the duration of the works. The spill kits will contain absorbent granules, spill mats and oil booms. Operatives will be instructed on the location and use of the spill kits prior to any work commencing

## 5. Audits

Complimentary to BAM's Safety, Quality and Environmental procedures, internal audits are conducted on each project on a quarterly basis.

External Company audits are undertaken by the relevant certification body periodically, and facilitated by the individual projects as required.

## 6. Interface with Third Parties

BAM will work closely with service providers to identify particular hazards associated with excavations in specific areas where interface with existing services occur.

BAM will advise other Contractors of activities undertaken which may involve them or affect their works; and would expect this to be reciprocated throughout the works.

- **Wicklow Co. Council**
- **Irish Water**
- **Airtricity**
- **Inland Fisheries**
- **Veolia**



## 7. Resources

### 7.1 Proposed Personnel

The Personnel proposed for use on these works are outlined below. Additional roles not listed here may be required as the methods of work are developed.

Role	Name
Supervisor	
Excavator Operator	
Banksman	
G.O	
G.O	

### 7.2 Proposed Plant List

The Plant proposed for use on these works are outlined below. Additional items of plant not highlighted/listed here may be required as the methods of work are developed.

Plant Item	Size
<b>360° Excavator</b>	<b>5T – 30T</b>
Slings	NA
Generator	Diesel / Petrol
<b>Pumps</b>	<b>4 inch</b>
Lifting Chains	Varies with Lift
<b>Delivery trucks</b>	<b>Varies</b>
Articulated truck & Hi-Ab	Varies

## 8. Works Methodology and Procedure

**Prior to commencement of the works the contents of the method statement will be briefed to all operatives involved.**

Throughout the build Works, BAM will take into account the mitigation measures outlined in the Appropriate Assessment Screening Reports & Invasive Species Survey Reports prepared for the Works.

BAM will ensure that no deleterious discharges are released from the Site to the surrounding watercourses during excavation de-watering, testing, flushing or washing activities.

BAM will also take account of relevant legislation and best practice guidance including but not limited to the following:

- C532 Control of Water pollution from Construction Sites
- C648 Control of water pollution from linear Construction Projects
- SP156 Control of Water pollution from Construction Sites.

### 8.1 Dewatering

A dewatering sump shall be installed within the excavation, but outside the footprint of the permanent works.

- A sump hole shall be excavated down below formation level.
- The base of the sump shall be filled with clean stone.
- A sump sleeve, with slots to allow the inflow of ground water, shall be installed and held in place.
- A 4 inch pump will be set up nearby and to the top of the excavation with a drip tray underneath. It will be set up on solid footing and a safe distance from the edge of the excavation and will be used to pump water from the sump.
- The pumped water will be fed into 2 No. settlement tanks with internal baffle walls which in turn will be fed to a Siltbuster HB50 Settlement Unit to aid initial large to medium sized particle settlement.
- Sludge from the Sludge hopper outlets in the base of the Siltbuster unit will be drained into a nearby skip. Solids from this skip will be cleaned out and taken to the tip area for disposal.
- The water will then flow by gravity into a manmade geotextile lined lagoon. The dimensions of the lagoon floor shall be 8m wide X 15m long with a 1.2m high berm soil surround.
- The lagoon will be divided into 3 No. equal portions with only the middle portion containing 1.5 inch clean stone which will be surrounded in a geotextile membrane for further filtration of suspended materials (see Appendix I Drawings).
- Immediately inside the lagoon the water will feed into a silt bag via a hose pipe. Water escaping from the silt bag will then filter through the middle third of the lagoon where it will be filtered further through the clean stone.
- The water will then flow into the final section of the lagoon where it will be taken by gravity to the nearby watercourse.
- If the water exiting the silt bag is unsuitable, pumping shall be stopped and the water allowed rest within the sump to settle out large sediments – excavation works may be halted if required.
- Following a period the pump shall be switched back on and the water exiting the silt bag reassessed – if suitable, pumping shall continue, if not, the pump will be switched off and a further settling time allowed.
- Flows into the filtration system will be monitored continuously for increased filtration capacity or off-site removal.
- The Suspended Solids will be monitored to ensure no deleterious discharge to the Vartry river
- Water testing of the discharge will be carried out on a regular basis.



## **Appendix I**

### Drawings



## Appendix II

### Risk Assessments



### **Appendix III**

Siltbuster HB50 Settlement Unit