



**Outline Construction Surface Water  
Management Plan**

**Project:**

**Holy Cross College SHD**

**19.253**

## DOCUMENT CONTROL

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Prepared by:

**BMCE**

52-54 Lower Sandwith Street  
Dublin 2  
D02WR26

Prepared for:

**CWTC Multi Family ICAV acting on behalf of its sub-fund DBTR DR1 Fund**

Block 2  
First Floor Clanwilliam House  
Clanwilliam Place  
Dublin 2



BARRETT MAHONY  
CONSULTING ENGINEERS  
CIVIL & STRUCTURAL  
www.bmce.ie



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## APPENDIX 1 – DCC DRAINAGE DISCHARGE APPLICATION FORM

## 1. INTRODUCTION

This Outline Construction Surface Water Management Plan (hereafter referred to as the Outline CSWMP) has been prepared by Barrett Mahony Consulting Engineers (BMCE) for the purposes of the planning application for the proposed residential development at Clonliffe Road, Drumcondra, on behalf of the applicant, CWTC Multi Family ICAV acting on behalf of its sub-fund DBTR DR1 Fund. The proposed development is the subject of an SHD planning application.

This Outline CSWMP should be read in conjunction with Construction and Demolition Waste Management Plan (CDWMP) and the Construction and Environmental Management Plan (CEMP) and the Site Specific Flood Risk Assessment (SSFRA), included with the SHD application.

The requirement for this Outline CSWMP is based on the duty to ensure that surface water quality and quantity is managed throughout the construction process to mitigate impacts off site (and in particular on the nearby Tolka River). This document has been prepared to set out clear guidelines on the management of surface water during construction works to prevent impact on receiving drainage and waterbodies.

This document provides the water management principles and minimum measures to be implemented by the contractor to ensure that work is carried out with minimal impact on the water environment. The Outline CSWMP will be a key part in ensuring that all mitigation measures, which are considered necessary to protect the surface water environment, prior to construction, during construction and / or during operation of the proposed project are fulfilled. The Outline CSWMP should be considered a live document which will be adopted, amended and updated as necessary by the

Contamination of the receiving surface water environment during the construction phase has the potential to cause environmental damage mainly through the movement of silt either directly or indirectly into receiving waters. Other possible construction impacts include accidental release of oils and diesel or discharge of alkaline water during cementing works. The main aim of the construction stage surface water management plan is to ensure protection of the local receiving water and compliance with current guidance documents.

This is to be achieved through the following measures:

- Understanding of the local receiving water environment, pollutant linkage pathways and the legislative requirements.
- Implementation of measures to protect the receiving water environment.
- Set out a monitoring schedule, check list and training programme.

### 1.1 SITE DETAILS

The project involves the development of lands at Holy Cross College, Clonliffe Road, Dublin 3 and Drumcondra Road Lower, Drumcondra, Dublin 9.

The overall lands encompass a site of 14.76ha, of which 7.74ha relates directly to the residential proposed development. The remaining 7.02ha (which is outside the scope of this application) is intended for use as a GAA sports facilities and, as well as a new hotel.

The lands are located within the grounds of the former Holy Cross College seminary. The site is bounded by Clonliffe Road to the south, the Archbishop of Dublin's residence and Lower Drumcondra Road to the West, residential and private lands to the east, and the Tolka River runs the full length of the northern boundary. The site is currently predominantly green space (with trees) with a number of existing structures which formed the seminary campus. Refer Figure 1.1a for aerial view of the site. Refer to Architects schematic layout in Figure 1.1b

The development will consist of the construction of a Build To Rent residential development set out in 12 no. blocks, ranging in height from 3 to 18 storeys, to accommodate 1614 no. apartments (comprising 540 studios, 602 no. 1 bed units, 419 no. 2 bed units and 53 no. 3 bed units) including a retail unit, a café unit, a crèche, and residential tenant amenity spaces. The development will include a single level basement under Blocks B2, B3 & C1, a single level basement under Block D2 and a podium level and single level basement under Block A1 to accommodate car parking spaces, bicycle parking, storage, services and plant areas. To facilitate the proposed development the scheme will involve the demolition of a number of existing structures on the site.

The proposed development sits as part of a wider Site Masterplan for the entire Holy Cross College lands which includes a permitted hotel development and future proposed GAA pitches and clubhouse.

The site contains a number of Protected Structures including The Seminary Building, Holy Cross Chapel, South Link Building, The Assembly Hall and The Ambulatory. The application proposes the renovation and extension of the Seminary Building to accommodate residential units and the renovation of the existing Holy Cross Chapel and Assembly Hall buildings for use as residential tenant amenity. The wider Holy Cross College lands also includes Protected Structures including The Red House and the Archbishop's House (no works are proposed to these Structures).

The residential buildings are arranged around a number of proposed public open spaces and routes throughout the site with extensive landscaping and tree planting proposed. Communal amenity spaces will be located adjacent to residential buildings and at roof level throughout the scheme. To facilitate the proposed development the scheme will involve the removal of some existing trees on the site.

The site is proposed to be accessed by vehicles, cyclists and pedestrians from a widened entrance on Clonliffe Road, at the junction with Jones's Road and through the opening up of an unused access point on Drumcondra Road Lower at the junction with Hollybank Rd. An additional cyclist and pedestrian access is proposed through an existing access point on Holy Cross Avenue. Access from the Clonliffe Road entrance will also facilitate vehicular access to future proposed GAA pitches and clubhouse to the north of the site and to a permitted hotel on Clonliffe Road.

The proposed application includes all site landscaping works, green roofs, boundary treatments, PV panels at roof level, ESB Substations, lighting, servicing and utilities, signage, and associated and ancillary works, including site development works above and below ground.



**Figure 1.1a Site Location**

## **1.2 CONSTRUCTION MANAGEMENT DRAWINGS**

As part of the subject planning application, a suite of construction management drawings has been prepared to outline measures such as phasing, compound locations, temporary access routes, tower crane locations etc.

## **1.3 PHASING OF THE WORKS**

The approximate phasing of the work is indicated in Figure 1.3.

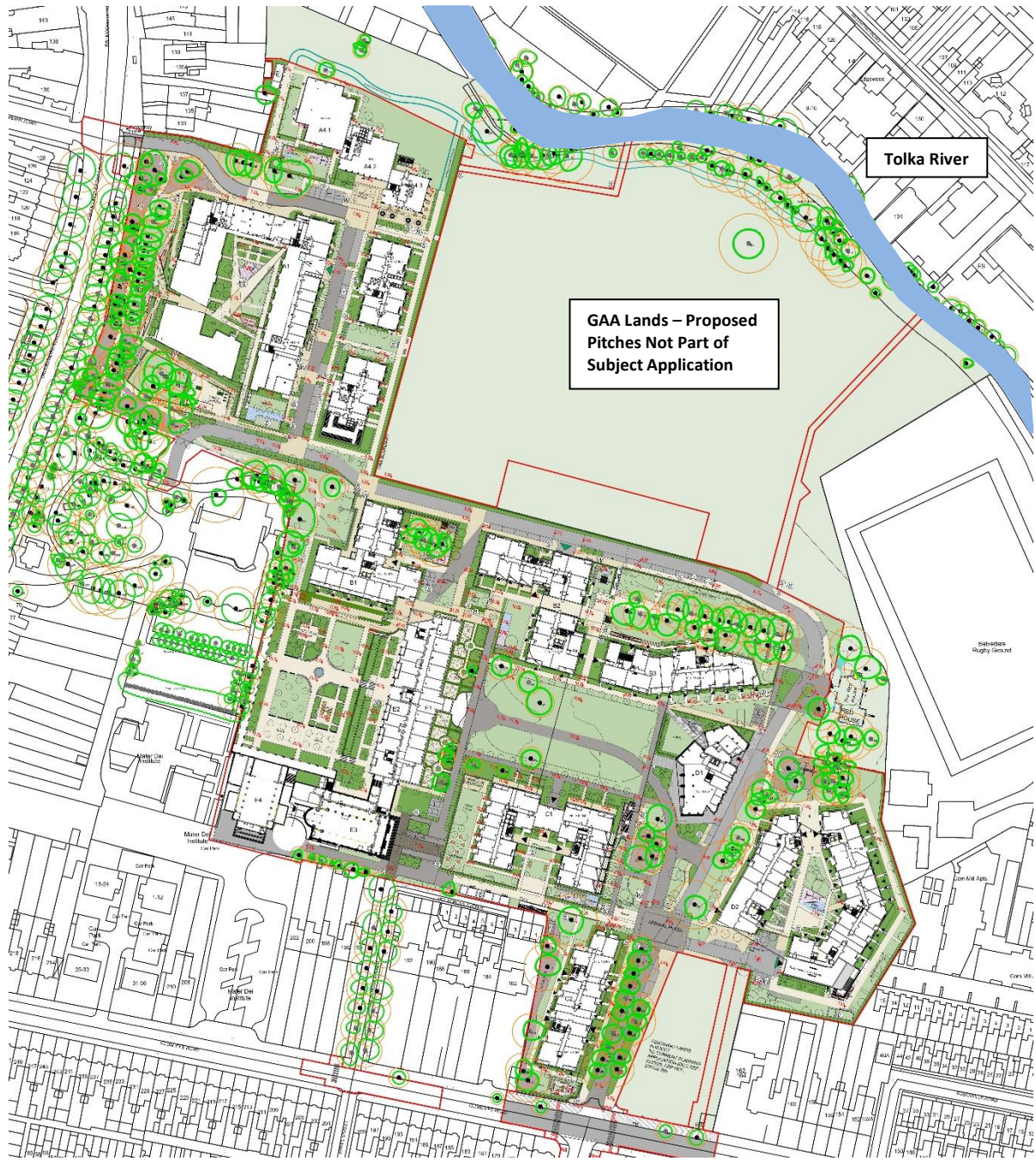


Figure 1.1b Architects Site Layout

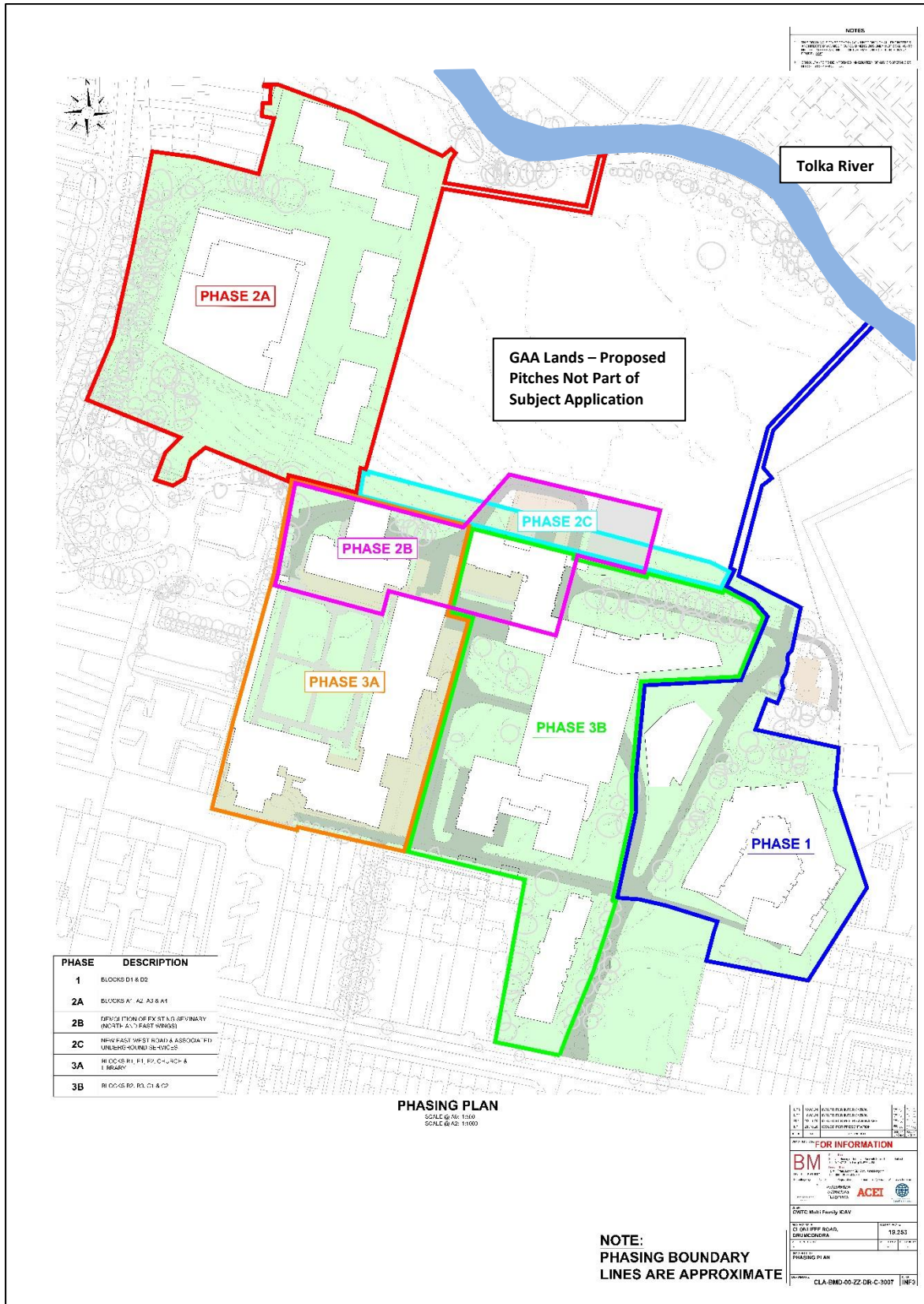


Figure 1.3 Approximate Phasing Plan



#### 1.4 EXISTING SURFACE WATER ENVIRONMENT

The Tolka River rises near Dunshaughlin Co. Meath and with a network of small tributaries flows through Batterstown, Black Bull, Dunboyne, Clonee, Mulhuddart, Abbotstown, Finglas Bridge, Glasnevin, Drumcondra, North Strand and East Wall to enter Dublin Bay at Fairview Park. The proposed development at Clonliffe is located near the southern bank of the Tolka in Drumcondra.

The overall Water Framework Directive (WFD) status of the Tolka River Water Body is “Poor” and “at risk” of not achieving “Good” status.

##### 1.4.1 Flood Risk

A separate site specific flood risk assessment has been prepared as part of this planning application (Doc Ref 19.253.IR.002). The proposed development falls in Flood Zone C. Hence, the proposed development is deemed ‘Appropriate’ in accordance with the guidelines of the OPW’s publication. Therefore, no ‘Justification Test’ and / or Stage 3 Detailed Flood Risk Assessment is required. The sequential approach outlined in the Site Specific Flood Risk Assessment recommends mitigation measures for residual risks. In addition, extract from DCC Development Plan 2016-2022 in shows the proposed development in Flood Zone C in agreement with the SSFRA - refer Fig 1.4a below.

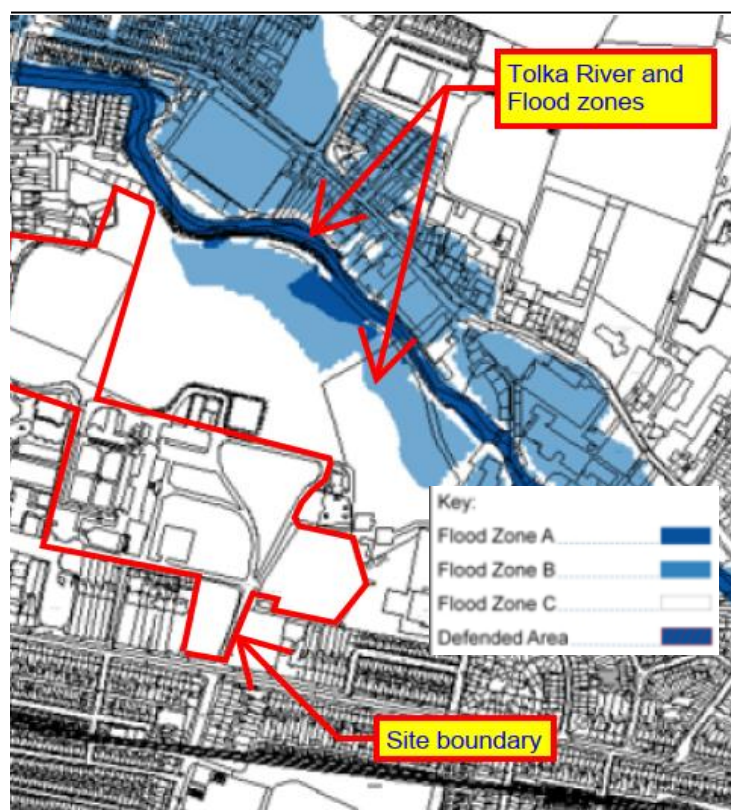


Figure 1.4a Flood Zone Mapping – Source DCC Development Plan 2016-2022

#### 1.4.2 Soils & Geology

A comprehensive ground investigation has been carried out across the site, by Ground Investigations Ireland, under the instruction of BMCE, and on behalf of the applicant. The ground conditions encountered during the site investigations are summarised below, where the sequence of strata encountered were variable across the site and generally comprised:

- Topsoil / Surfacing – encountered in the majority of the exploratory holes and was present to a maximum depth of 0.90m BGL. Surfacing was present typically to a depth of 0.20m BGL.
- Made Ground – Present to a variable depth of between 0.15m and 2.00m BGL, described generally as *brown slightly sandy slightly gravelly CLAY with some cobbles and boulders and contained occasional fragments of concrete, brick, glass, ceramic, timber, animal bone and plastic.*
- Cohesive Deposits – *Brown slightly sandy gravelly CLAY with occasional cobbles and boulders overlying stiff dark grey slightly sandy gravelly CLAY with occasional cobbles and boulders.*
- Granular Deposits – *Brown / grey clayey sandy subangular to subrounded fine to coarse GRAVEL with some subangular to subrounded cobbles and occasional boulders.*
- Bedrock – weak to medium strong *MUDSTONE interbedded with LIMESTONE*, depth to bedrock varies from 12.15m BGL to a maximum of 19.60m BGL.

#### 1.4.3 Ground Water

As part of the above-mentioned ground investigation works, a comprehensive ground water monitoring regime has been underway across the site since 2019, and this was supplemented by additional ground water monitoring points added in Jan 2021. A summary of the ground water monitoring results to date is indicated in Figure 1.4b.

#### 1.4.4 Aquifer Classification

The GSI classifies the Calp limestone as a locally important aquifer, which is moderately productive only in local zones. These aquifers have a limited and relatively poorly connected network of fractures, fissures and joints, giving a low fissure permeability which tends to decrease further with depth. In general, the lack of connection between the limited fissures results in relatively poor aquifer storage and flow paths that may only extend a few hundred metres. Due to the low permeability and poor storage capacity, the aquifer has a low recharge acceptance. Some recharge in the upper, more fractured/weathered zone is likely to flow along the relatively short flow paths and rapidly discharge to streams, small springs and seeps.

The site does not lie within a groundwater source protection area as mapped by the GSI or EPA.

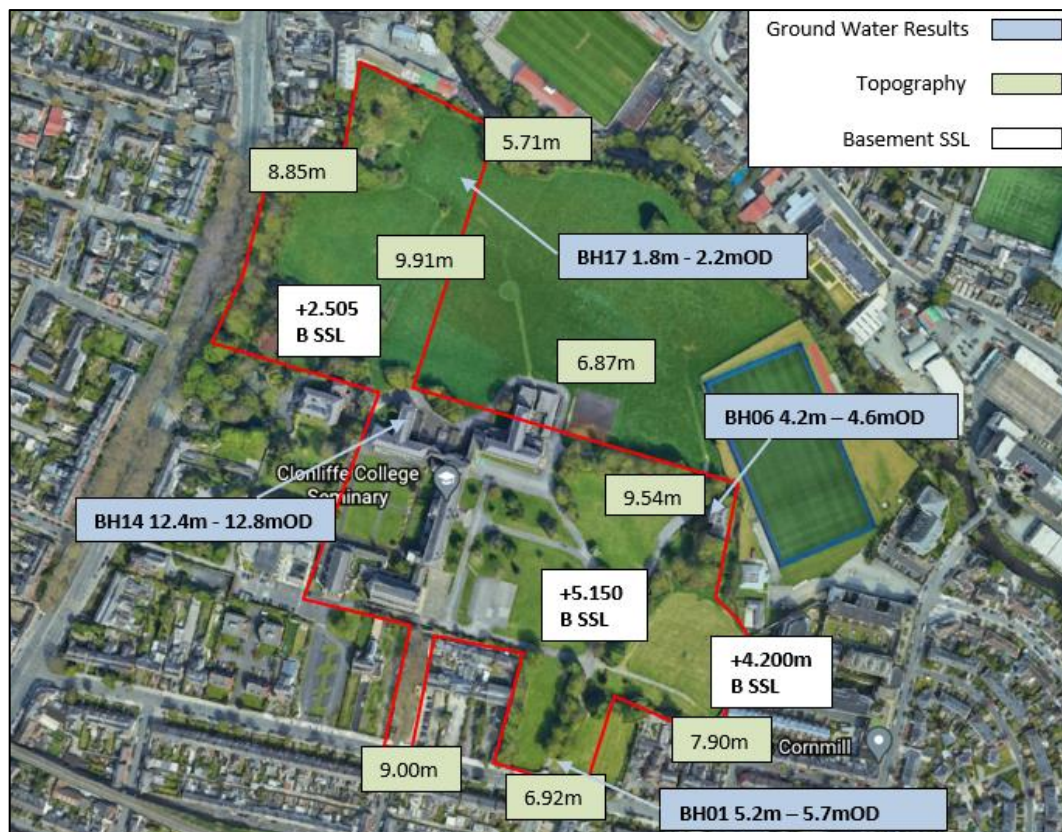


Figure 1.4b Summary of Groundwater Monitor Levels

#### 1.4.5 Sources of Water on the Construction Site

The following are the sources of water that are likely or that may be encountered during the construction works.

- **Rainwater:** The primary source of water to the site is rainwater. The anticipated average annual rainfall at the site is to be approximately 700mm annually. Heavy rainfall can have a significant effect on the site and can cause flooding and the overwhelming of site drainage systems. Flooding can have an effect on stored site materials that would not normally pose a risk. The contractor will be required to ensure that materials are therefore properly stored on site and to plan activities to ensure that works such as excavation, drainage and foundation works are postponed during adverse weather conditions.
- **Surface Water:** Surface waters tend to include watercourses and waterbodies. In the case of the proposed development site, the significant waterbody adjacent to the site is the adjacent River Tolka. While the construction works do not require any works within, or immediately near, the river (with the exception of the construction of 2No. proposed surface water outfall), the works will be taking place in close proximity to the river and the contractor will need to have regard for this during the construction works.
- **Groundwater:** Notwithstanding the summary of GW monitored levels indicated above, the Contractor shall independently assess the information provided in the Site Investigation reports and make his own assessment of the dewatering requirements and systems necessary to construct the basement structures, foundations and buried services in a water-free environment.

- Mains Potable Water: The Holy Cross site has an existing internal network of watermains which is served from the public water mains on Clonliffe Road. These are identified on the underground utilities mapping drawings included with the application. Much of the internal site network is to be decommissioned and grubbed up, to be replaced by a new watermain network. The contractor will be required to be cognisant of the location of these mains and to decommission same carefully and without significant leakage.

## 2. OUTLINE OF THE CSWMP AND LEGISLATIVE REQUIREMENTS

This document aims to set out the proposed procedures and operations to be utilised on the proposed construction site to protect water quality. The mitigation and control measures set out in this plan will be carried out on site during the construction phase.

The main areas of water related concerns covered by this document are:

- Pre-Construction and Construction Phase drainage control.
- Earthworks (i.e. basement bulk digs, infrastructure & drainage) and surface water quality protection.
- Temporary stockpiles water management and controls.
- Settlement tanks/systems.
- Stream/watercourse and drain crossings/upgrade.
- Fuel usage, storage, and management
- Working at or near existing streams / watercourses.
- Wastewater and on-site sanitation.

The CSWMP is considered a live document. The CSWMP will be taken over by the main contractor(s) for the works and will be modified and updated, as necessary, as detailed contractor method statements are developed.

### 2.1 RELEVANT LEGISLATION

It is proposed that all surface water control measures relating to the proposed development will be constructed using best practice and in conformance with the requirements of the relevant regulatory authorities. The key legislation which will be adhered to are defined as follows:

- Water Framework Directive (2000/60/EC);
- Local Government (Water Pollution) Act, 1977–1990;
- Water Quality (Dangerous Substances) Regulations, 2000;
- Arterial Drainage Act, 1945;
- S.I. No. 41 of 1999 Protection of Groundwater Regulations, resulting from EU Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances (the Groundwater Directive);
- S.I. No. 272 of 2009 and amendments (2015 and 2019) European Communities Environmental Objectives (Surface Waters) Regulations;
- S.I. No. 9 of 2010 and amendment 2016) European Communities Environmental Objectives (Groundwater) Regulations;
- Wildlife Act, 1976 (as amended 2000). National Parks and Wildlife Service;
- Flora Protection Order, 1999. National Parks and Wildlife Service;
- Fisheries (Consolidation) Act, 1959 (as amended 1999). Regional Fisheries Boards;
- EU Birds Directive (79/409/EEC) National Parks and Wildlife Service;

- EU Habitats Directive (92/43/EEC) National Parks and Wildlife Service;
- EU Freshwater Fish Directive (78/659/EEC) Local Authority;
- EU Surface Water Directive (75/440/EEC) EPA;
- European Communities (Water Policy) Regulations, 2003 Environmental Protection Agency and Local Authorities;
- Local Government (Water Pollution) Acts, 1977 and 1990;
- Local Government (Planning and Development) Act 2000.

The key drainage and water quality guidance documentation relevant to this site are defined set out as follows:

- Guidelines on Protection of Fisheries during Construction Works in and adjacent to Waters.
- Guidelines on protection of fisheries during construction works in and adjacent to waters Inland Fisheries Ireland (2016).
- Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites. Eastern Regional Fisheries Board.
- Dublin City Council (2005) Greater Dublin Strategic Drainage Study (GSDSDS): Technical Documents of Regional Drainage Policies. Dublin: Dublin City Council;
- Transport Infrastructure Ireland's Guidelines for the crossing of watercourses during the construction of national road schemes (TII, 2008).
- Pollution Prevention Guidance Notes:
  - PPG1 Understanding your environmental responsibilities - good environmental practices;
  - GPP02 Above ground oil storage tanks (2017);
  - GPP5 Works and maintenance in or near water (2017);
  - PPG06 Working at construction and demolition sites. 2nd edition (2012);
  - PPG07 Safe operation of refuelling facilities (2011);
  - PPG11 Preventing pollution at industrial sites (2000);
  - PPG18 Control of spillages and fire - fighting run-off (2000);
  - GPP20 Dewatering underground ducts and chambers (2018);
  - GPP21 Pollution Incident Response Planning (2017);
  - PPG23 Maintenance of Structures over Water (1999); and,
  - PPG26 Pollution Prevention Storage and Handling of Drums & Intermediate Bulk Containers.
- Construction Industry Research and Information Association (CIRIA):
  - CIRIA Report C502 Environmental Good Practice on Site;
  - CIRIA Report C532 Control of Water Pollution from Construction Sites;
  - CIRIA Report C648 Control of Pollution from Linear Construction Project;
  - Technical Guidance;
  - CIRIA Handbook C650 Environmental good practice on site;
  - CIRIA Handbook C651 Environmental good practice on site checklist;
  - CIRIA Report C609 - SUDS – hydraulic, structural & water quality advice; and,
  - CIRIA Report C697 – The SUDS Manual

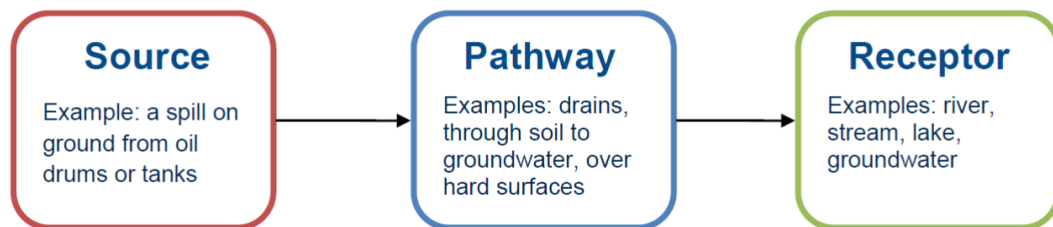
As Dublin Bay (the final receptor of the River Tolka waters) is designated as a Special Area of Conservation (SAC), it comes under the protection of the Habitats Directive 92/43/EEC which is implemented in Irish legislation as S.I. No 233/1998 – European Communities (Birds & Natural Habitats) Regulations 2011.

## 2.2 GUIDANCE FOR POLLUTION PREVENTION

Guidance for Pollution Prevention (GPP) documents are based on relevant legislation and reflect current good practice. Following this guidance aids in the management of environmental responsibilities to prevent pollution and comply with the law.

This guidance pertains to works or activities carried out in or near water environments. Such activities have the potential to cause pollution, transfer non-native species and can impact on the bed and banks of a watercourse. Potential environmental risks when working in or near water include:

- Silt
- Cement and concrete
- Chemicals and solvents
- Bridge cleaning debris
- Herbicides
- Invasive Non-Native Species
- Waste materials (including hazardous waste)



**Figure 2.1: Example of a pollution linkage using the source > pathway > receptor model.**

**NOTE: Groundwater is both a pathway and a receptor.**

The site and activities will only cause a risk to the environment or people if all three parts of the pollutant linkage are present i.e. a source, a pathway and a receptor.

Measures should be put in place to prevent, minimise, or mitigate the effects of any risks and therefore break the pollutant linkages between these three. This aids the prevention and / or reduction in the likelihood of pollution and reduces the impacts of any risks that may occur.

### 2.2.1 Potential Sources of Water Pollution

The following are a list of potential water pollutions that could arise on the construction site.

- **Suspended Solids:** The contractor is to apply measures to ensure that water pollution does not arise as a result of suspended solid pollution. Sources of suspended pollution include, excavation, earth stockpiles, plant and wheel washing, build-up of mud on site roads. Good practice construction measures are proposed above that the contractor will be required to employ to ensure that suspended sediments do not enter the River Tolka.
- **Oils & Hydrocarbons:** Oils are a potential source of pollutants on a construction site. Diesel, lubricating oil, fuel, petrol and hydraulic fluids are used quite readily on construction sites for various types of machinery, and these entail a risk of spillage or leakage. The contractor will need to employ good practice measures to prevent these potential pollutants entering the water course. These measures will include bunded areas for the storage of fuels, regular maintenance of machinery to ensure that no

leakages occur and the provision of a preselected refuelling area within the site compound on site (at the furthest point from the river) or refuelling off site.

<b>Sources of Oil Pollution</b>	
<b>Activity</b>	<b>Problem</b>
Storage Tanks	Leaking valves Leaking pipework Corrosion Frost damage
General use and maintenance	Refuelling Leaking pumps, bowsers, generators Disposal of waste oil
Accident	Spillage (greatest risk during refuelling) Mechanical failure eg rupture of hydraulic pipes Inadequate bunding of storage area or tank Vandalism

**Figure 2.2 – Sources of Oil Pollution**

- **Concrete and Cement Products:** It is important the cement products are carefully stored to withstand various weather conditions such as heavy rainfall and high winds to prevent run off and dust pollution. Concrete products can cause contaminating during wash down of the trucks which can cause a large volume of uncontrolled runoff. Good practice measures can be employed on site to prevent such uncontrolled run off by the use of a special impermeable bunded slab with a collection point and siltation for such operation.

#### 2.2.2 Indicators of Pollution

Construction site staff should be aware of the following indicators of water pollution. If such indicators are observed, further investigation should be undertaken:

- change in water colour
- change in water transparency
- oily sheen to water surface
- floating detritus
- scums and foams
- dead/decaying fauna and/or flora.

### 3. CONSTRUCTION SURFACE WATER MANAGEMENT & RISK MITIGATION MEASURES

The following suite of construction surface water management and risk mitigation measures shall be implemented by the Main Contractor.

#### 3.1 MANAGEMENT

1. The main contractor shall appoint a site environmental officer with responsibility for the subject site.
2. The site supervisory staff (contracts manager, site manager and site environmental officer) shall sign up to the Met Eireann weather warning alert system (<https://www.met.ie/weather-warning-alerting-services>)
3. In general, any works immediately near the riverbank will be subject to a specific method statement agreed in advance with the DCC, Inland Fisheries and any other relevant statutory body.

4. Two distinct methods should be employed in the management of construction surface water runoff.
5. The first method involves 'keeping clean water clean' by avoiding disturbance to natural drainage features, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations, construction areas and temporary storage areas.
6. The second method involves collecting any drainage waters from works areas within the site that might carry silt or sediment, and nutrients, and to route them towards settlement tanks prior to controlled discharge, to be agreed with the Local Authority, to the existing surface water network/ watercourses. There shall be no direct discharge to surface waters
7. Construction operations will adopt best working practices and the early establishment of the temporary construction drainage facilities will reduce the risk of pollution problems during construction.
8. A Construction Drainage Control System will be put in place so that all silt laden water will be diverted to temporary settlement storage tanks prior to discharge. This discharge, and the associated pollution control measures, will be subject to the approval of the Local Authority
9. The appointed contractor will be required to further develop this Outline Construction Stage Surface Water Management Plan, which will form part of the overall Construction Environmental Management Plan. The measures outlined below shall be included as a minimum in the Surface Water Management Plan.

### **3.2 PHYSICAL MEASURES**

1. To avoid excessive silt runoff, site clearance is not to be undertaken during very wet conditions.
2. At the northern and eastern boundary of Phase 2A (in the north west sector of the site which is nearest to the River Tolka), temporary silt fencing will be installed along site boundary. Refer to Figure 3.2a for minimum extent of silt fence and refer to Figure 3.2b for image of typical silt fence detail. The fencing will be inspected daily by the site management staff, and after and adverse conditions, for any signs of contamination or excessive silt deposits.



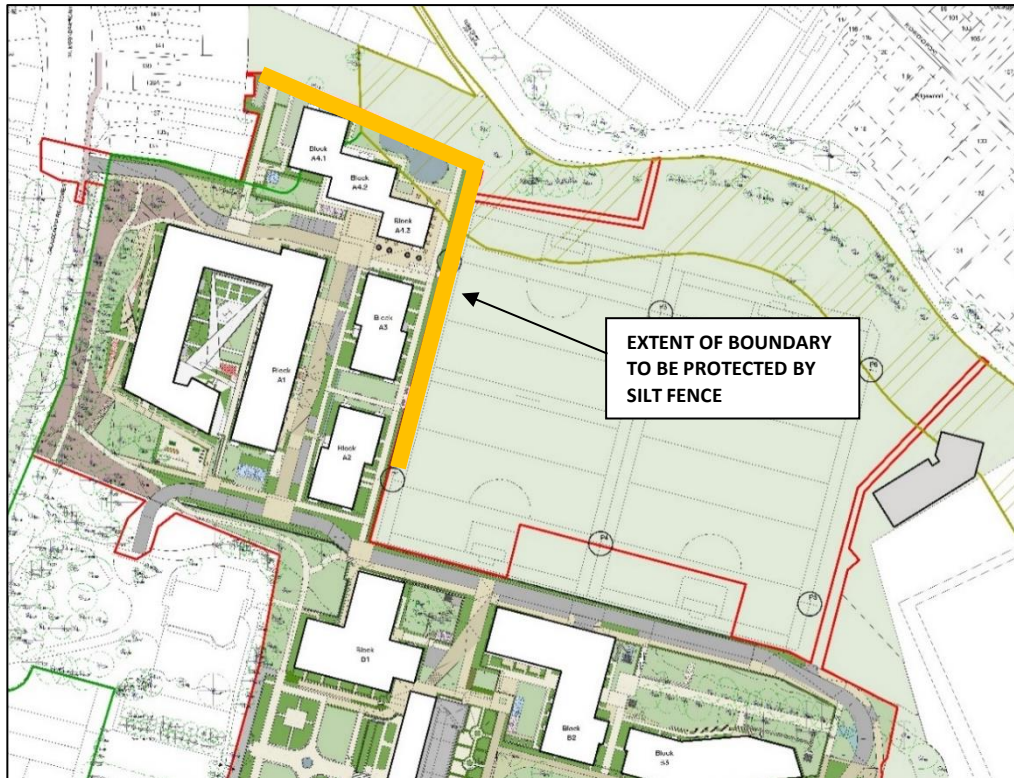


Figure 3.2a – Minimum Extent of Silt Fence

3. The subject site is outside of the flood plain of the River Tolka, therefore any soil cleared show from the site and all materials associated with the building process will be outside of the floodplain, and will be stored in designated areas.



Figure 3.2b – Typical Silt Fence Image

4. Fuels, lubricants and hydraulic fluids for equipment used on the construction site, as well as any solvents and oils etc. are to be carefully handled to avoid spillage. Properly secured against unauthorised access or vandalism, and provided with spill containment. All staff to be trained in management of chemicals and spill response.

Refer Figure 3.2c below for example of typical spill kit and oil spill drip tray to be provided on site.



Figure 3.2c – Examples of chemical spill kit and oil spill drip tray

5. As far as reasonably practicable, fuelling and lubrication of equipment is not to be carried out within 100m of the Tolka River, where sufficient working areas are available within the site boundaries.
6. On site fuel storage should be avoided if possible. However, if fuel storage is proposed to take place on site, then as a minimum the Main Contractor shall provide, operate and maintain, a proprietary self-contained and 110% self-bunded fuel store system such as that indicated in the image below (Figure 3.2d), complete with pump, dispensing hose, removable fuel particle filter, automatic shut off trigger. Fuelling should only be undertaken in designated areas with spill control measures in place.



Figure 3.2d Example of Self Bunded Fuel Tank

7. Smaller quantities of fuel may be carried/stored in clearly labelled metal jerry cans. Green for diesel and red for petrol and mixes. The Jerry cans shall be in good condition and have secure lockable lids. The Jerry cans shall be stored in a drip tray when not in use. They will not be stored within 50m of the River Tolka.
8. Any spillage to ground of fuels, lubricants or hydraulic oils is to be immediately contained and the contaminated soil removed from the site and properly disposed of.

9. Waste oils and hydraulic fluids is to be collected in leak-proof containers and removed from the site for disposal or recycling.
10. Weedkillers are not to be used within 100m of the open water.
11. The washing of any plant equipment will be carried out in designated areas to prevent potentially polluting material from contaminating soils/subsoils. No washing out of concrete trucks will be allowed on any part of the site.
12. Excavations for site services will be backfilled as soon as reasonably practicable to mitigate risk of infiltration of potentially polluting compounds to the subsurface.
13. There will be no discharge of effluent to groundwater during the construction phase. All wastewater from the construction facilities will be directly connected to the existing foul drainage within the site.
14. The appointed contractor(s) will develop a Sediment Control Plan (SCP), which will form part of the CEMP (the principles of which are detailed in this document), in advance of any construction activities commencing. The SCP will remain in place until all permanent surface finishes have been completed to ensure that silt laden water cannot enter the existing drainage system without first being treated.
15. If the contractor proposes to discharge surface water, he shall be required to apply to DCC Drainage for a discharge licence and arrange for sampling and testing of groundwater in accordance with DCC requirements. <https://www.dublincity.ie/sites/default/files/2020-10/licence-to-discharge-to-sewer-application-english.pdf> . Refer to Appendix 1.

All discharges to surface waters will be suitably treated prior to discharge. There will be no direct discharge of surface water from any element of the works without proper attenuation and treatment. Any ground water arising from dewatering operations shall pass through an arrangement of sediment settling tanks, prior to discharge.

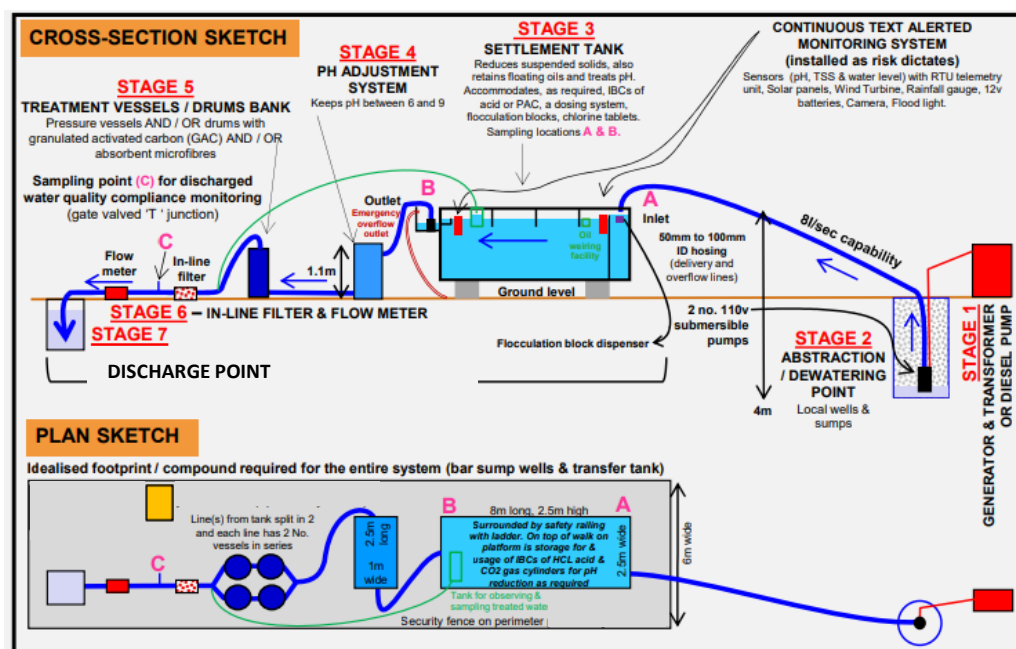


Figure 3.2e Example of Self Bunded Fuel Tank



**Figure 3.2f Example of Temporary Sediment Settlement Tank**

16. Plant and equipment will be parked in areas remote from any sensitive locations, including the River Tolka at the end of the working day.
17. Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained and have no evidence of leaks or drips.
18. No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction.
19. Regular environmental toolbox talks / briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works
20. The clearing and topsoil stripping of each phase of work will be delayed until ready to proceed, insofar as is practicable.
21. Excavation works will require works below ground levels and to control the groundwater in the areas being excavated the contractor will need to isolate the area by digging trenches to the perimeter of the foundation area with suitable falls and sumps. A berm will be erected on site, running parallel to the stream, prior to any works taking place, in order to retain and prevent any sediment or contaminants entering the stream.
22. Concrete should always be placed in a controlled method to prevent spillages as is good construction practice. Where possible concrete should be placed using a concrete pump. At the concrete delivery point it is important that measures are employed to prevent spillages from concrete delivery trucks contaminating the ground.

23. Dewatering measures should only be employed where necessary.
24. Dewatering by pumping to an appropriate treatment facility or settlement tanks in order to allow sediment to settle from solution prior to discharge.
25. Existing surface drainage systems within the site shall be retained in place for as long as reasonably practicable.
26. Regular inspections of settlement tanks will be carried out and additional treatment used if settlement is not adequate.
27. Sufficient onsite cleaning of vehicles prior to leaving the site and on nearby roads, will be carried out, particularly during groundworks. In this regard all construction site access points will have static, automated wheel wash systems in place, similar to the images in Figure 3.2e.



Figure 3.2e Example of static wheel wash systems

28. The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained.

### 3.3 MONITORING

1. Field monitoring of water quality parameters and collection of samples will be undertaken by the Contractor's Site Environmental Officer. He/she will be appropriately trained on the required monitoring methods and the use, calibration and maintenance of all monitoring equipment used.
2. The proposed monitoring for the construction phase shall include (or as otherwise directed / required by DCC and/or Inland Fisheries):
  - Daily turbidity spot checks at settlement tank(s) outfalls.
  - Weekly water sampling and testing will be carried out at settlement tank(s) outfalls.
3. Properties which can be tested include the following (the suite of properties to be tested and acceptable threshold levels will be agreed with DCC and Inland Fisheries at construction stage):
  - Dissolved Oxygen (DO)
  - Biochemical Oxygen Demand (BOD)
  - Chemical Oxygen Demand (COD)

- Ammonia
  - Acidity, alkalinity and pH
  - Hardness
  - Sediments, suspended particles and turbidity
  - Mineral oils and petroleum products
  - Colour, visual impact and odour.
  - Temperature
  - Herbicides
4. Through consultation with the Construction Manager/Site Supervisor and the Local Authority the Site Environmental Officer should draw up a Schedule for surface water quality monitoring will be finalised prior to the start of construction;
  5. Where monitored parameters are found to exceed the thresholds laid down, the Site Environmental Officer should initiate and report on corrective action(s). This may necessitate the alteration of the environmental control measures and in turn the relevant construction method statement(s).



## **Appendix 1**

# **DCC Drainage Discharge Application Form**

**DUBLIN CITY COUNCIL**

**LOCAL GOVERNMENT (WATER POLLUTION) ACTS, 1977 & 1990  
AND  
LOCAL GOVERNMENT (WATER POLLUTION) REGULATIONS 1978 & 1992**

**Application for a Licence / Licence Review to discharge  
Trade Effluent or Other Matter to a Sewer**

**Notes on completion of the application:**

1. The application should be completed in accordance with the above mentioned Acts and regulations.
2. The application should be accompanied by :
  - (a) A site location map, in **duplicate**, to a suitable scale showing premises, public roadways, and all points of discharge to the public sewers.
  - (b) A site drainage plan, in **triplicate**, to a scale of 1:100 (or other appropriate scale), and such other particulars as are necessary to describe the premises, works, apparatus or plant from which the effluent is to be discharged. The site drainage plan shall clearly indicate all drainage on site and shall be **colour coded**.
  - (c) An application fee of €380.00 (three hundred and eighty euros).
3. Completed applications should be sent to:

**Senior Engineer  
Drainage Division  
Dublin City Council  
Block 1, Floor 4  
Civic Offices  
Fishamble Street  
Dublin 8**



- 1 Name and address of Applicant: \_\_\_\_\_  
\_\_\_\_\_ Tel. No. \_\_\_\_\_
- 2 Name and address of the Premises : \_\_\_\_\_  
\_\_\_\_\_
- 3 Number of employees at premises: \_\_\_\_\_
- 4 Date of commencement of discharge: \_\_\_\_\_
- 5 Description of the process or activity : \_\_\_\_\_  
\_\_\_\_\_
- 6 Point of discharge to sewer: \_\_\_\_\_
- 7 Size and type of discharge pipe: \_\_\_\_\_
- 8 Location of sampling point: \_\_\_\_\_
- 9 Average Volume \_\_\_\_\_ m<sup>3</sup>/day.
- 10 Maximum Volume \_\_\_\_\_ m<sup>3</sup>/day.
- 11 Maximum rate of discharge \_\_\_\_\_ litres/sec.
- 12 Method of flow measurement: \_\_\_\_\_
- 13 Period or periods of discharge during day: \_\_\_\_\_  
\_\_\_\_\_
- 14 Number of days worked per annum \_\_\_\_\_
- 15 Particulars of effluent treatment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 16 Characteristics of the Trade Effluent or Sewage Effluent

Complete for all applicable characteristics giving ranges where available. Concentrations to be expressed in mg / litre.

CHARACTERISTIC	PRIOR TO TREATMENT	AS DISCHARGED
Temperature ( °C )		
pH		
Colour ( degree Hazen )		
B.O.D.		
C.O.D.		
Suspended Solids		
Settleable Solids ( ml/litre)		
Dissolved Solids		
Ammonia ( as N )		
Nitrates ( as N )		
Phosphorous ( as P )		
Sulphates ( as SO <sub>4</sub> )		
Chlorides ( as Cl )		
Phenols ( as C <sub>6</sub> H <sub>5</sub> OH )		
Detergents ( as Methylene Blue Active Substances )		
Oils, fats and grease		
Metals ( Specify each )		
Organohalogen compounds (specify)		
Organophosphorous compounds (specify)		
Organotin compounds ( specify )		
Mineral oils or Hydrocarbons of Petroleum origin		
Other toxic substances ( specify )		

Other relevant characteristics

SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

**For Office Use**

REGISTER / FILE REF: \_\_\_\_\_

DATE RECEIVED: \_\_\_\_\_

**Barrett Mahony Consulting Engineers**

**Dublin:**

Sandwith House,  
52-54 Lower Sandwith Street,  
Dublin 2,  
D02 WR26, Ireland.  
Tel: +353 1 677 3200

**London:**

12 Mill Street,  
London, SE1 2AY,  
United Kingdom  
Tel: +44 203 750 3530.

**Sofia:**

19 Yakubitsa Street,  
Lozenets,  
Sofia 1164,  
Bulgaria  
Tel: +359 2 494 9772

**[WWW.BMCE.IE](http://WWW.BMCE.IE)**