



SUPPORTING STATEMENT

Application Site: **Land By Forth and Clyde Canal off Glentanar Road, Balmore Industrial Estate, Glasgow**

Application Description: **Installation of Sustainable Urban Drainage (SUDS) Pond with Ancillary Development**

Date: **20th May 2021**

1.0 PROJECT DESCRIPTION

Scottish Water is undertaking development of a robust solution to address existing known flooding in the Shieldaig Road area of Glasgow. Shieldaig Road is a residential area located approximately 4km north of the city centre, and is part of the Lambhill area which is serviced by Dalmuir Waste Water Treatment Works. The sewerage infrastructure which serves properties in this area consists of a series of combined sewers which convey flows by gravity. Surface water from the Glentanar Industrial Estate also spills to the combined sewer on Glentanar Road. Works are to alleviate flooding, which is understood from previous incidents to be caused by overloading of these sewers.

Please note: this statement provides information to support the planning application and is not a Design and Access Statement as this development is exempt from this requirement.

2.0 PROPOSED WORKS

Scottish Water proposes to alleviate internal flooding in the Shieldaig Road area via a solution developed which involves removal of surface water from the combined sewer. This solution will intercept surface water flows from the Glentanar Industrial Estate and convey these via a new Sustainable Urban Drainage (SUDs) pond which will attenuate the surface water. The flow from the pond will be discharged to the Forth and Clyde Canal via a swale and 300mm diameter outfall. The proposed work incorporates re-profiling of ground to establish the SUDs pond basin and planting and landscaping to compensate for the tree removal needed during site clearance. The design also incorporates a new 3.5 metre wide grasscrete access track to facilitate periodic vehicular access for Scottish Water Operations Teams to monitor and maintain the SUDs Pond and outfall.

The SUDs Pond will enable capture of the run-off from the industrial estate, separating it from the combined sewer, and providing the necessary treatment and attenuation before discharging the flows to the canal. This design solution is considered to be most sustainable option in comparison to the alternative which would involve the installation of extensive new infrastructure in the area.

A previous planning application for the installation of SUDs Pond with ancillary development was submitted to Glasgow City Council and validated on 11th September 2019 (Ref No 19/02720/FUL). This application was later refused on 1st July 2020 as outstanding information on the application had not been submitted at this time.

2.1 Planning Application

The application site is situated within Balmore Industrial Estate off Glentinar Road in the Lambhill area of the city. The SUDs Pond would be located in a gently sloping area of grassland/open ground and trees adjacent to the Forth and Clyde Canal (National Grid Reference: NS58729 69751). Scottish Water has submitted a revised planning application for the site off Glentinar Road at Balmore Industrial Estate, for the following works:

- Re-profiling of ground;
- Formation of SUDs Pond basin (incorporating inlet and outlet headwalls and permeable berm);
- Formation of SUDs Pond swale;
- Formation of 3.5 metre wide grasscrete access track;
- Installation of a section of 1 metre high fence to tie into existing fenceline;
- Installation of outfall headwall to the Forth and Clyde Canal; and
- Landscaping and tree planting

2.3 Pre-Application Discussions

Glasgow City Council

Scottish Water initially engaged Glasgow City Council via pre-application form on 20th February 2019 prior to the submission of the original planning application for the SUDs Pond. The initial response from Development and Regeneration Services, dated 7th March 2019 confirmed the city-wide policies and development specific policies applicable to the development. A further response from 8th April provided pre-application comments specifically from DRS Geotechnical Team and DRS Landscaping Team.

DRS Geotechnical Team advised that supporting calculations detailing how SUDs measures have been sized and how discharge rate has been determined needed to be included with any application, along with information on how flood risk would be managed to prevent increased flood risk elsewhere. This response also recommended that scour protection measures were provided at the inlet to disperse and dissipate flows – please note that scour protection has now been incorporated at inlet to swale as per current CIRIA SuDS guidance which includes 150mm thick concrete scour protection (refer to elevation 8-8 on Drawing No DOA0003330-SN-DRA-04017104-0A).

DRS Landscaping comments highlighted that early designs submitted (which did not include landscaping) were too utilitarian, that this should be adapted to fit the existing landscape, and that tree loss should be mitigated and minimised as far as possible. A landscaping plan has therefore been included as part of this application. The pond design has been developed to reduce loss of woodland as much as possible however the volumes required to prevent flooding of local residences mean that some tree removal will be required. The response also noted that access arrangements in the area need to be considered in terms of the footpaths. We would advise that existing 'well-trodden' footpath will be locally diverted around the swale as shown on planning drawings and access to the canal will not be affected by our development.

Prior to the resubmission of this planning application, Scottish Water Flooding Team also discussed revised submission with Neighbourhood, Regeneration and Sustainability Team (Project Management and Design).

Scottish Environment Protection Agency (SEPA)

Scottish Water received initial pre-application correspondence from SEPA (Ref No PCS/164317). This response indicated SEPA would be unlikely to object to the application on flood risk grounds based on the initial draft drawings submitted at the pre-app stage.

The scope of this project is to relieve pressure on the combined system by separating surface water flows and re-routing these to the SUDS pond for attenuation and treatment. Extensive modelling of the system has been carried out to confirm no detrimental effect on the catchment. Hydraulic modelling also confirmed the top level in a 200 year event will be contained within the pond.

Scottish Canals

Scottish Water and its Alliance Partner have engaged with Scottish Canals throughout the design process to ensure the SUDS scheme complies with requirements for discharging to the canal. Discussions are ongoing with Scottish Canals to reach final agreement on future management and maintenance of the canal. The design as progressed to date in conjunction with Scottish Canals is summarised here.

Scottish Canals commissioned AECOM to carry out a study detailing the impact of surface water discharge on peak levels in the canal. Discharge rates for design of the SUDS pond were adopted based on recommendations from the AECOM study following discussions with Scottish Canals. The outflow from the SUDS pond should be restricted to 2 x Greenfield Runoff Rate (2xGF) and checks made to assess impact if the flow was restricted to 1 x Greenfield Runoff (1xGF). These peak allowable runoff rates were findings from the AECOM study for a 30year return period and were quantified as:

1x GF = 60.8l/s
2x GF = 121.6l/s

These runoff rates were then used to size the pond using MicroDrainage with initially FEH99 rainfall and 10% allowance for Climate Change. Subsequently the solution was also tested using FEH13 Rainfall with 55% Climate Change applied. It was determined that the SUDS pond would require a total of 1,031m³ storage volume. The actual excavation volume of the pond (4,812m³) is greater than the required storage volume to take account of existing drainage levels and existing topography. The solution was also tested for a 200year return period (FEH13 + 55% Climate Change) using MicroDrainage. The model predicted the pond would not overtop.

Flows from the new SUDS pond into the canal will be managed by Scottish Canals using measures being set up as part of the North Glasgow Integrated Water Management System (NGIWMS). The NGIWMS is a drainage partnership set up to manage surface water in the north of Glasgow and allow future development. Development in north Glasgow is currently constrained by capacity of the existing drainage infrastructure. It is a partnership between Scottish Canals, Glasgow City Council, SEPA and Scottish Water. The canal will be utilised as a sustainable surface water drainage tool by using remote sensing to lower the canal level in advance of predicted storm events. This will create spare capacity in the canal system so that it can accept surface water from new development areas in a controlled manner. It also has allowance for taking flows from the proposed new SUDS pond in Glentinar Road.

3.0 PLANNING POLICY

Under Section 25 of the Town and Country Planning (Scotland) Act 1997, the proposed development stands to be determined against the policies contained within the development plan, unless material considerations indicate otherwise. The extant development plan is the Glasgow City Council Adopted City Development Plan. In addition to city-wide Policies CDP1 and CDP2 which underpin all applications, the Council's pre-app response given the nature of the development cited Policies CDP5 'Resource Management', CDP6 'Greenbelt' and CDP7 'Natural Environment' as being particularly relevant. The response also highlighted Policies CDP9 'Historic Environment' and CDP11 'Sustainable Transport'.

Policy CDP5 largely relates to reducing the demand for energy and reduction in energy consumption and utilisation of cleaner sources of energy. However, the Development Plan does state that "*The Council supports an integrated approach to the planning and development of the infrastructure which can often be necessary to facilitate new development. This includes sub-surface infrastructure such as utility services, district heating, energy and broadband infrastructure and transport, SUDS and water management infrastructure.*" The SUDs pond has been specifically designed to support flood alleviation works (which will include new underground pipework) in the Shieldaig Road area.

Policy CDP6 'Greenbelt and Green Network' states that the Council will not support development which adversely affects open space unless it includes relevant mitigation. The SUDs pond will deliver enhancements to the local environment through alleviation of flooding and encouraging biodiversity. This is therefore of clear benefit to the local community and surrounding area. Landscaping has been included as an integral part of the design and the existing 'well-trodden' path at the site will be locally diverted around the swale shown on planning drawings, so access to the nearby canal will not be affected by the development, and planting of trees and marginal and aquatic planting will also further mitigate the impact of tree removal necessary for construction. "*The Green Network should, wherever possible, provide for a multitude of functions, including: an integrated habitat network; climate change adaptation; amenity; growing spaces; setting; active travel; recreation and sport; and water management, as elements of ecosystem services.*"

Policy CDP7 provides guidance on the impact of new development, stating that development should not have unacceptable impact on areas designated for landscape importance, or sites habitats, species or eco-systems designated for nature conservation or geodiversity value. Scottish Water had previously undertaken an initial ecological constraints walkover survey in September 2018. The 2018 survey recommended a pre-construction check for the presence of otter and water vole, and an additional survey for these particular species was undertaken by Scottish Water's Ecologist in April 2019. At this time the additional survey identified no water vole evidence and similarly no otter evidence was identified within the survey reach. Given the time elapsed since the submission of the previous planning application, Scottish Water will undertake an additional survey and pre-construction check of the site.

In relation to landscape, the site is located in an urban location on the edge of an industrial estate and while there are no specific designations it is recognised that there is a significant amount of tree clearance required in order to facilitate the new SUDs pond. As such landscaping forms an integral part of the design as per the submitted Landscape Plan and Scottish Water has endeavoured to retain as many existing trees as possible. This is in keeping with Policy CDP7's statement that such development where permitted "*should be designed to minimise adverse impacts and, where these cannot be avoided, suitable mitigation should be provided.*" This should assist in avoiding the development appearing too 'utilitarian' in appearance. In relation to pre-application comments on swale design, the area

where the swale is located is currently an area of undeveloped grassland and the finished swale will be grass finished to match existing condition.

Policy CDP8 'Water Environment' is applicable given the purpose of this project as a flood alleviation measure to properties in the Shildaig Road area. Included in the criteria for new development the policy states that development should avoid increasing quantity and rate of surface water run-off. As above the SUDs Pond is required specifically to capture surface water flows from the industrial estate, preventing flows from spilling to combined sewers and causing flooding. Alternative solutions considered included extensive installation of new infrastructure in the area which could require extensive excavations and a larger site footprint. Provision of the new pond is considered to be the most sustainable method of dealing with surface water flows and also can offer benefits in terms of biodiversity as noted in the policy: *"All development proposals will require to make satisfactory provision for Sustainable Urban Drainage Systems (SUDS) that should be designed to deliver enhancements for biodiversity and people."*

Policy CDP9 'Historic Environment' states the Council's intention to *"preserve and, where appropriate, conserve and/or enhance the historic environment"*. This should be considered due to the site's proximity to the canal, which is a designated Scheduled Monument. Scottish Water previously confirmed that Scheduled Monument Consent was required for the outfall works and as such a separate application for consent was submitted to Historic Environment Scotland in July 2019 and this was subsequently approved on 26th August 2019. Also, in relation to built heritage it should be noted that there are no listed buildings at the application site or in the immediate vicinity, and the proposed works do not fall within a Conservation Area.

Policy CDP11 relates to 'Sustainable Transport' is not considered relevant to the current proposal which is designed to capture run-off from an industrial estate and to alleviate flooding in the area. While the scope includes new grasscrete vehicular access off Glentana Road, this is solely for the purposes of Scottish Water vehicles to drive on to the site for maintenance and monitoring of the SUDs pond and outfall. Use of this access is anticipated to be very infrequent.

4.0 CONCLUSION

The proposed SUDs Pond is designed to alleviate internal flooding in the Shildaig Road area by capturing the run-off from the industrial estate, separating it from the combined sewer, and providing the treatment and attenuation before discharging flows to the canal. This option is considered to be most sustainable option and avoids the requirement to install extensive new infrastructure in the area.

Additional Application Documents:

Drawings:

- Drawing No DOA0003330-SN-DRA-04017101-0A (Location Plan)
- Drawing No DOA0003330-SN-DRA-04017102-0A (Site Plan)
- Drawing No DOA0003330-SN-DRA-04017103-0A (SUDs Pond Elevations)
- Drawing No DOA0003330-SN-DRA-04017104-0A (New Swale Elevations)
- Drawing No DOA0003330-SN-DRA-04017105-0A (New Outfall Elevations)
- Drawing No 5337.001 (Landscape Plan)

Additional Reports:

- Pond Sizing Technical Summary – Rev 0B
- Shieldaig Road – Mining Stability Report including Coal Mining Risk Assessment

Fee:

- **£125** advertisement fee* – this has been issued via BACs payment
*as the application is of the same character or description submitted within 12 months of the date of refusal of previous application (previous application 19/02720/FUL), then there would be no application fee.