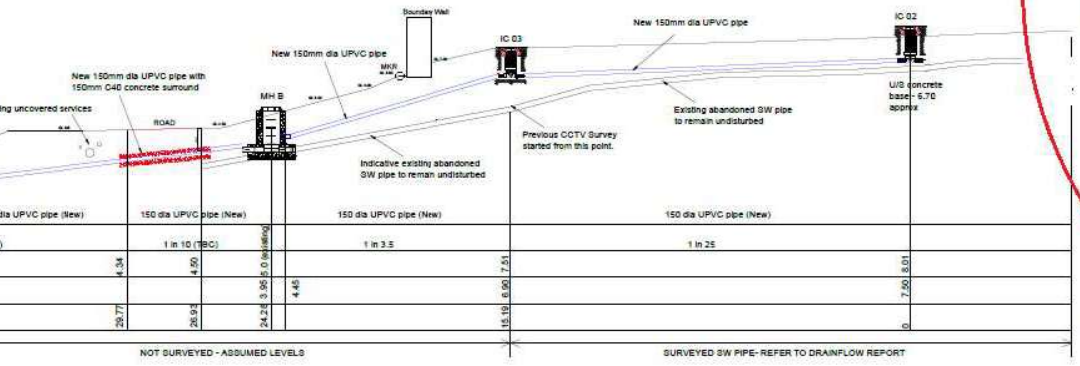
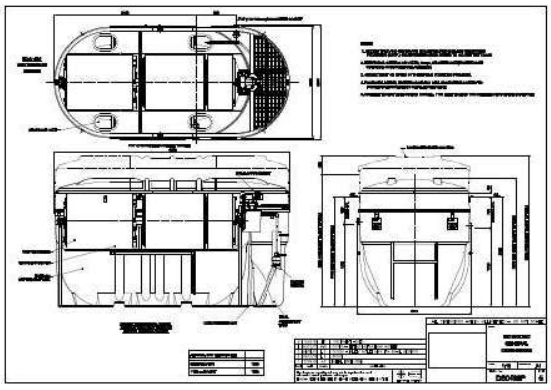


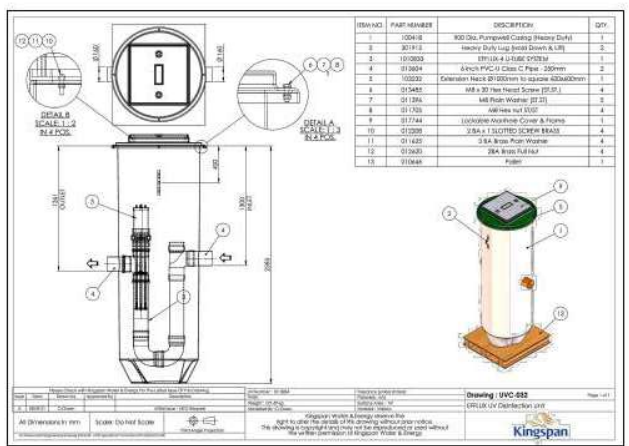
SECTION A-A 1: 100



SECTION B-B 1: 100



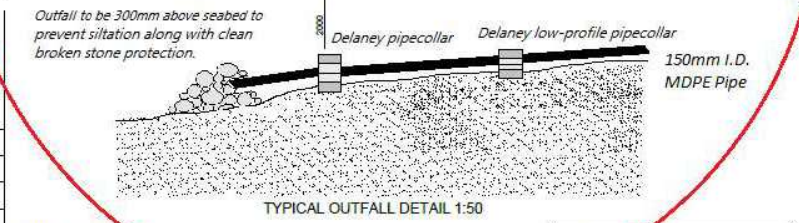
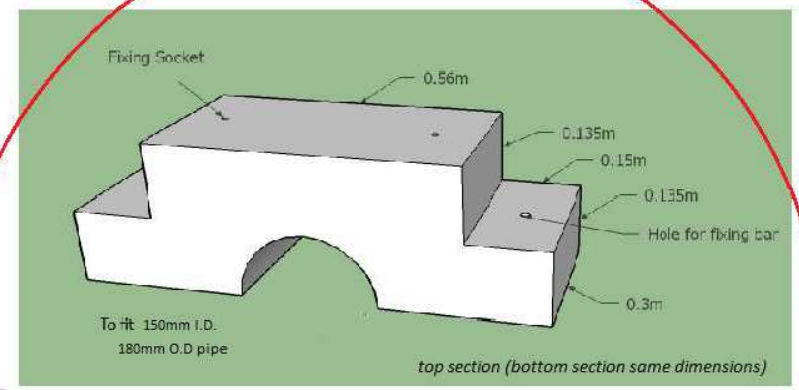
Klargester NG Biodisc Treatment Plant



Klargester UVC-032 Chamber

Concrete Reinforcement Notes:

- Minimum cover to reinforcement to be 50mm to all bars. Exposure class XS3.
- Reinforcing bars to grade BS500 A to BS 4449:2005 and supplied by a CEAS certified manufacturer. All bars to be CEAS marked.
- All concrete to be grade C40/50 to BS 5462:2000 and supplied by a CEAS certified manufacturer.
- Minimum cement content of 380kg/m<sup>3</sup> and maximum nominal aggregate size to be 20mm. Maximum free water/cement ratio to be 0.40.
- The use of high alkaline content or marine dredged aggregate shall not be permitted.
- Any significant discrepancies to be immediately reported to the Engineer.



GENERAL NOTES:

1. All Excavations must be carried out under an Archaeological watching brief.
2. The proposed works are located adjacent to a scheduled monument. The proposed works must not encroach on the scheduled area without prior permission.
3. The site is within an area with Protective species (shellfish, slow worm).
4. The slow worm habitat is long vegetation and crevices into which they can enter, rotting vegetation, tree stumps, and rocks. Open mown amenity grassland is not generally a habitat that is attractive to them. It is an offence to intentionally or recklessly kill or injure a slow worm or other amphibian. The works area should be checked before works commence just in case there is one present. There is a possibility that one may be basking on open stonework or more likely, hiding under something - sheet materials like corrugated iron are often left on the ground in slow worm habitat areas to attract them so they can be studied. Open trenches left overnight should also be checked in the morning in case something has fallen in and can't escape. Should a slow worm, or any other amphibian like a frog or toad, be found, it should be moved to a more suitable habitat, or lifted using gloves, put in a bucket and moved to an area of long grass away from the work area, or seek further advice from a suitably qualified person if required. The works area, any sheet materials or open trenches should be checked before works commence on a daily basis by the works staff or contractors.
5. The outfall is located within a shellfish water protection area. The contractor must ensure appropriate measures are in place to prevent pollutants entering the bay during the works. The contractor must comply with the SEPA licence and all regulatory guidelines.

Archaeology / Anticipated Work Methodology:

1. Stripping the turf under archaeological watching brief with the archaeologists monitoring where we have reached the previous septic tank install cut.
2. Following the previous disturbance and removing the septic tank. This will be done by a backhoe excavator sitting on ground protection mats adjacent to the septic tank, with the machine collapsing the tank walls into itself and then the debris being lifted out for onward disposal. Spoil to be used in backfill will be kept separate on geotextile membrane adjacent to the working area.
3. The footprints of the treatment plant and UV unit will then be marked out and excavated by machine, but subject to an archaeological watching brief. As much of the replacement infrastructure will be located within previously disturbed ground as possible. If bedrock is reached before the required depth is achieved, then this will be achieved by pecking rather than blasting, and will not be subject to archaeological oversight. Any stepping of the trench sides, as an alternative to a temporary works solution such as trench boxes or shoring, to accommodate archaeological personnel working at depth will be kept to a minimum.
4. Note that the install of the new treatment units will likely cause fresh ground disturbance around the area of the tank, but this is the least interventionist approach and will be carried out under archaeological supervision.
5. We are anticipating an element of bedrock removal, although we do not know the depth where this may be encountered.
6. An element of microtunneling will be allowed for, should the archaeological work encounter significant in-situ archaeological features or deposits.
7. The treatment plant and UV unit will be delivered to site and lifted into place using a telehandler running on ground protection mats. Spoil removed from the excavation will then be used to backfill, with excess material used to grade the ground surface surrounding the infrastructure.
8. The same approach of dropping the turf, identifying the previous disturbance, re-excavating the service trench under an archaeological watching brief will occur over the abandoned Scottish Water pipe to form the new pipe routes allowing for manhole, and inspection chamber as per the engineers drawings.

AREA  
This area is to be excavated to a depth of 1.0m below the existing ground level. The excavation is to be carried out in accordance with the requirements of the Health and Safety Regulations 1988 and the Construction (Design and Management) Regulations 2015. The excavation is to be supported by sheet piling and bracing. The excavation is to be backfilled with concrete to a depth of 1.0m below the existing ground level. The excavation is to be backfilled with concrete to a depth of 1.0m below the existing ground level. The excavation is to be backfilled with concrete to a depth of 1.0m below the existing ground level.

**Residual Risks**

1. Excavation for installation of proposed drainage line, treatment plant, UV Chamber and IC
2. Working near road
3. Existing services
4. Abandoned SW pipe
5. Coastal works/Tidal conditions

Control Measures: Excavation Survey and Asset Register Date: 01/08/2022  
Between Development Section 01/08/2022 and 01/08/2022  
Excavation Survey 01/08/2022 @ 09:00hrs

Excavation Safety Date: 01/08/2022  
This area is to be excavated to a depth of 1.0m below the existing ground level. The excavation is to be supported by sheet piling and bracing. The excavation is to be backfilled with concrete to a depth of 1.0m below the existing ground level. The excavation is to be backfilled with concrete to a depth of 1.0m below the existing ground level.

SMC / TENDER

PROJECT: DUNSTAFFNAGE CASTLE  
PROJ: PROPOSED DRAINAGE SYSTEM AND DETAILS (SECTIONS)

HISTORIC ENVIRONMENT SCOTLAND | ARAINNEACHD EACHDRAIDHEIL ALBA

PROJECT NUMBER: PIC055-2021-CE-04

DATE: 20.09.2022  
DRAWN BY: A. KAMARUDDIN

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