



AKSward

Lapstone Culvert Extension, Eastleigh

Method Statement

Prepared for
Eastleigh Borough Council

26/06/2023

Job No: X232306

Seacourt Tower West Way Oxford OX2 0JJ

Tel: 01865 240 071

oxford@aksward.com

www.aksward.com

Contents

1.0 Introduction.....	1
2.0 Preparation of Works.....	1
3.0 Installation Methodology	6
4.0 Monitoring	6

Revision	Amendments	Prepared By	Checked	Date
P01	First Issue	GK	GK	26.06.2023

1.0 Introduction

- 1.1 This method statement covers all activities involved in the construction of the extension of the existing 600mm concrete culvert and a brick headwall at a new outfall location downstream.
- 1.2 The proposed storm water system consists of the following drainage components:
- A new manhole connecting the existing and the proposed sewer
 - A new concrete culvert
 - A new brick headwall
- 1.3 This document is to read in conjunction with AKSWard's drainage drawings "9201 Drainage design layout", "9250 Drainage Details", "9925 Culvert Sections". Reference should also be made to the detailed landscape proposals for the proposed treatment / maintenance regime for all landscape features.

2.0 Preparation of works

2.1 Access / Egress & Deliveries

All routes will be in accordance with the latest site TM plan utilising designated access points.

2.2 Receipt of Goods

On receipt, the delivery should be checked for the following:

- The delivery note corresponds to the goods on the consignment.
- Inspect all materials for any sign of damage, which could compromise performance.
- The above products are stamped with the production date.

2.3 Handling

Unloading and handling on site must be undertaken with care to avoid damage to products.

Particular care must be taken to avoid damage to the toe end. Once off-loaded, products should be placed evenly on timber beams.

Where possible, off-loading should occur at the location nearest to installation.

Concrete culvert and headwall are to be off-loaded using 4No. lifting anchors cast into the units. Suitably checked and rated lifting loops will affix to cast-in anchors; these will be used in conjunction with a suitably rated four-legged chain-set to move and place the units.

Under no circumstances should lifting loops be used to facilitate rotation of the units.

2.4 Lifting

The lifting points design has been carried out following the recommendations of the lifting systems suppliers

2.5 Storage

Materials should be stored on firm, even ground with timber supports to avoid damage to the toe. Under no circumstances are units to be stacked.

2.6 Significant Health, Safety & Environment Risks:

- Working adjacent to water
- People/Plant Interface
- Lifting operations
- Fuel spill
- Concrete burns

2.7 Personnel:

To be confirmed by the contractor.

2.8 Plant & Equipment:

To be confirmed by the contractor.

2.9 Tree Protection

Tree protection fencing will be installed in accordance with the approved Arboricultural Method Statement and Tree Protection Plan to ensure retained trees in proximity to the works are protected throughout its duration.

2.10 Prevention of Watercourse contamination

Preventing contamination of the watercourse is essential during these works.

Three simple principles will be followed to minimise the volume of contaminated run-off being generated.

- DIVERT clean water away from exposed soils and working areas.
- MINIMISE erosion of exposed soils.
- PREVENT contaminated water from entering watercourses untreated

2.10.1 DIVERT clean water away from exposed soils and working areas

It should be noted that the extent of water discharged from the existing outfall is very low, particularly in drier months. However, the working area will be isolated using a temporary upstream barrier spanning the width of the watercourse. Surface water from the existing outfall location will then either be transferred downstream of the working area through gravity fed pipes or 'over-pumped' as required, to divert the water around the working area and then be discharged back into the watercourse downstream of the works. This will:

- i. facilitate the dewatering and isolation of the working area
- ii. significantly reduce the volume of water contaminated with sediment on site thus reducing the risk of pollution.
- iii. Not adversely affect the hydrology of the watercourse downstream of the ditch.

2.10.2 MINIMISE erosion of exposed soils

Biodegradable geotextile membrane will be used to cover exposed soil on the banks of the existing ditch following vegetation removal to minimise soil erosion and prevent run off into the watercourse. Also see 2.11 Vegetation clearance below.

2.10.3 PREVENT water polluted with sediment from leaving the site

Silt fencing will be located along the width of the ditch and around the working area to prevent sediment from entering the watercourse. A silt curtain shall also be fitted within the watercourse, immediately downstream of the working area as an additional precautionary measure so that should any silt enter the watercourse, it is contained behind the curtain and prevented from being transferred downstream.

2.11 Vegetation Clearance

Prior to commencement of the culvert extension works, the ditch to be culverted must be cleared of the surrounding trees and vegetation. This will be carried out in a 2 stage process to ensure clearance works are carried out in the correct ecological windows to minimise impact on habitat.

Trees with the potential to support nesting birds will be removed outside of bird nesting season (late Feb – August) to avoid the destruction of active bird nests and hence comply with the law (*Wildlife and Countryside Act 1981* (as amended)). These will be cut 30cm above ground level. This will then be followed by ground level clearance between March and April under the terms of European Protected Species Licences from Natural England for Great Crested Newts and Dormice. The clearance will take place under the supervision of an appointed Ecological Clerk of Works. Please see Ecological Appraisal, Great Crested Newt Report (HES, 2022b) and Dormouse Survey Report (HES, 2022a) for full details.

No unnecessary vegetation clearance will take place, to protect habitats and minimise the risk of sediment pollution from run-off.

Removed vegetation and debris from the removal operations will be prevented from entering the watercourse. This will be done by removing vegetation from behind the bank and pulling it away from the water. The placing of screens or nets between the vegetation and the water is impractical in this location, so a boom will be located immediately downstream of the vegetation to be removed to collect any floating debris so that it can then be easily removed. All vegetation will be removed off site or repurposed onsite away from the water course to create log piles as part of the sites wider ecological mitigation strategy.

Vegetation removal can destabilise banks and increase the risk of soil erosion or sediment run off into the watercourse. Whilst the very limited flow of this watercourse is unlikely to cause this – not least because its been diverted, a biodegradable textile will be used to stabilise the bank during installation of the culvert to minimise any erosion or silt run off caused should a heavy rain event occur.

2.11 Timing

The timeframes of the vegetation removal in advance of the works will then facilitate the installation of the new culvert in favourable ground and weather conditions in May-June, where water levels and flow in the ditch will be minimal. These works will be scheduled promptly after the vegetation clearance to minimize the period of exposed ground.

3.0 Installation Methodology

- Install the concrete manhole at the location of the existing headwall at the fall of the existing pipe.
- Install and cut the final section of pipe that will meet the headwall.
- It will be necessary to 'over-pump' the surface water from the outfall location of the existing pipe whilst works takes place.
- Make sure the pipe is fully fitted, leaving the first (or last) section uncovered from backfill to facilitate installation of the headwall.
- Check headwall hole diameter and outside diameter of pipe are compatible.
- Excavate to the required formation level (for toe and base slab) and place bedding material appropriate to site conditions (to be advised by the Project Engineer).
- Use the cast in lifting anchors and associated lifting loops with a suitably rated chain-set to lift and install the unit(s).
- Where a separate toe is being used ensure that it is set to the correct distance both horizontally and vertically from the pipe.
- Ensure back fill is well compacted up to the face of the headwall toe
- Install the headwall onto the end of the pipe.
- Set the headwall onto the bedded surface, aligning the headwall to the centre of the hole. To ease positioning, use of a shim is recommended to ensure the correct central location.
- The pipe is to be sealed to the headwall opening by mortar, or similar, by others.
- Ensure the backfill is well compacted up to the headwall.
- When completed all excess materials shall be removed and the site cleared.
- Silt fencing and silt curtains will remain in place until works area has settled and ground established.

4.0 Monitoring

Monitoring will be undertaken regularly throughout the works and particularly after heavy rainfall to ensure the effectiveness of the control measures implemented and the need for maintenance or replacement with alternative measures. This will ensure protection of the environment and no increased flood risk as a result of the works.

Following completion of the works, and the defects liability period, the maintenance of the new culvert shall be the responsibility of the landowner, undertaken as detailed in the accompanying maintenance statement.