



Aberdeen Harbour Expansion Project

Construction Environmental Management Document

11th May 2017

DRAGADOS

Contents

Chapter 1	Introduction
Chapter 2	Roles and Responsibilities of Staff
Chapter 3	Construction Method Statement
Chapter 4	Archaeology Plan
Chapter 5	Construction Lighting Management Plan
Chapter 6	Construction Traffic Management Plan
Chapter 7	Dredging and Dredge Spoil Disposal Management and Monitoring Plan
Chapter 8	Fish Species Protection Plan
Chapter 9	Habitat Management Plan and Otter Protection Plan
Chapter 10	Landscape Mitigation Compensation Plan
Chapter 11	Marine Mammal Mitigation Plan
Chapter 12	Marine Invasive Non-Native Species and Biosecurity Management Plan
Chapter 13	Noise and Vibration Management Plan
Chapter 14	Piling Management Plan
Chapter 15	Pollution Prevention Plan
Chapter 16	Nigg Bay Site of Special Scientific Interest Management Plan
Chapter 17	Vessel Management Plan
Chapter 18	Waste Management Plan
Chapter 19	Existing Abstractions and Discharges
Chapter 20	Ground Gas and Groundwater Report: Phase II Site Investigation Risk Assessment

Chapter 19

Existing Abstractions and Discharges

Contents

	Page
19 Existing Abstractions and Discharges	1
19.1 Introduction	1
19.2 Marine Scotland Intake	1
19.3 United Fish Industries Outfall	3
19.4 East Tullos Burn	3
19.5 Girdleness Outfall	4

19 Existing Abstractions and Discharges

19.1 Introduction

This documents the plan to protect and appropriately locate existing abstractions and discharges in the vicinity of the licensed activities. The primary abstraction is the Marine Scotland abstraction point, and the three primary discharge assets are: UFI (United Fish Industries) outfall, East Tullos Burn and Girdleness Sewer outfall.

The requirement to produce this document is listed under the Marine Construction Licence Condition 3.2.4 and 3.2.17, the Marine Dredging and Disposal Licence Condition 3.2.4 and 3.2.11.

19.2 Marine Scotland Intake

Dragados will relocate the Marine Scotland Intake from its current position in Nigg Bay to a new location just south of Nigg Bay out-with the harbour South Breakwater (Figure 19.1). The new solution will be implemented in two different stages: temporary and permanent. Both solutions have been agreed in principle with Marine Scotland, subject to the design development and final agreement.

Temporary Marine Scotland Intake Regime

Whilst Dragados are constructing the new, permanent MS intake, the existing MS intake will continue to be used. Dragados will implement a monitoring regime to maintain the quality of the water (more specifically PH, turbidity and dissolved oxygen) received by MS from the existing intake location. An action plan will also be agreed and implemented to provide an alternative supply of water using tankers to transport sea water to a temporary tank.

Permanent Marine Scotland Intake

Construction of the permanent intake and pipeline will commence in September 2017 with a completion of date of June 2018. A pump will draw seawater through a twin filter unit which is protected by a south facing rocky outcrop. The pipeline will be secured by concrete into the rock face to protect against increment weather. The pump will be located within a pumping station building as detailed in Figure 19.1. The pump station will be secure and accessible from the South Breakwater track. The intake water will be routed along a buried 80mm pipeline towards Greyhope Road and then directed northerly along the underground utilities pipelines route to join in with existing pipeline that transports water from Nigg Bay to the MS aquarium.

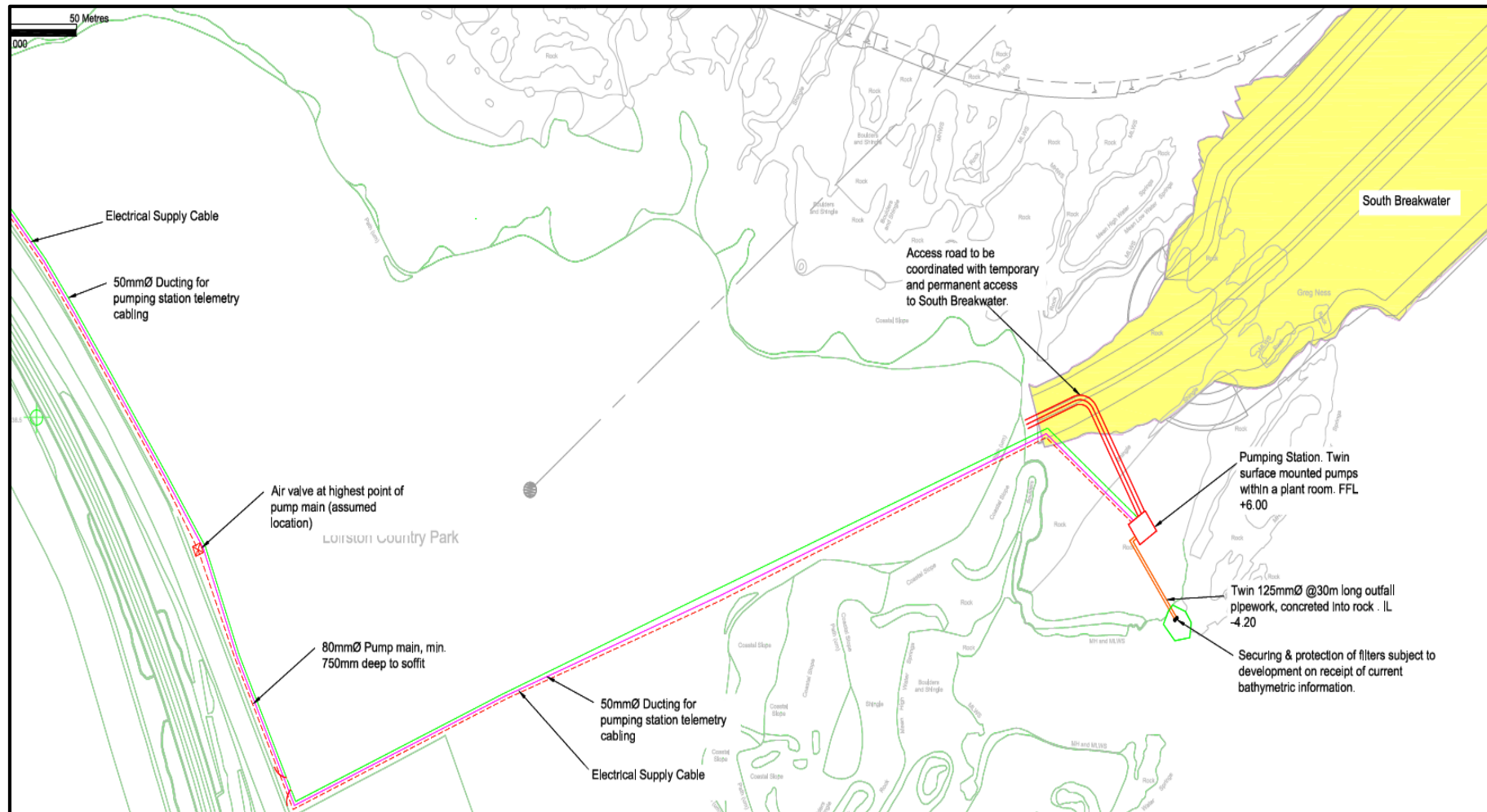


Figure 19.1: Location of relocated MS intake

19.3 United Fish Industries Outfall

Dragados will install a temporary and permanent solution for the United Fish Industries (UFI) outfall discharging into Nigg Bay. The full outfall system originates in the UFI premises situated on Greenwell Place within the East Tullos industrial estate, running east towards the bay through a series of inspection chambers. The final chamber is located to the east of the Coast Road. Dragados will modify and realign the pipeline from this point moving eastwards through to the outfall location (Figure 19.2 current, Figure 19.3 new pipe route).

The proposals for the temporary and permanent outfalls have been agreed in principle with UFI, subject to design development and final agreement.

The outfall will be protected during the early phase of construction via the installation of a designated plant crossing point, this crossing will be subject to weekly visual monitoring to ensure stability and structural integrity.

The temporary diversion and the West Quay open piles will be installed simultaneously. The sequence of works will be: new route excavation, new pipeline installation and connection (this last activity will require a 24 hour shutdown operation). Flow will be established again on the same day. The system will run in its temporary state until the installation of the transversal beams of the West open quay.

Programmed for installation in November 2018, the permanent outfall will transition over from the temporary on successful installation of the 9th transversal beam of the West open quay. The transition also requires a 24 hour shutdown. The activation of the new solution will also be carried out on this same date.

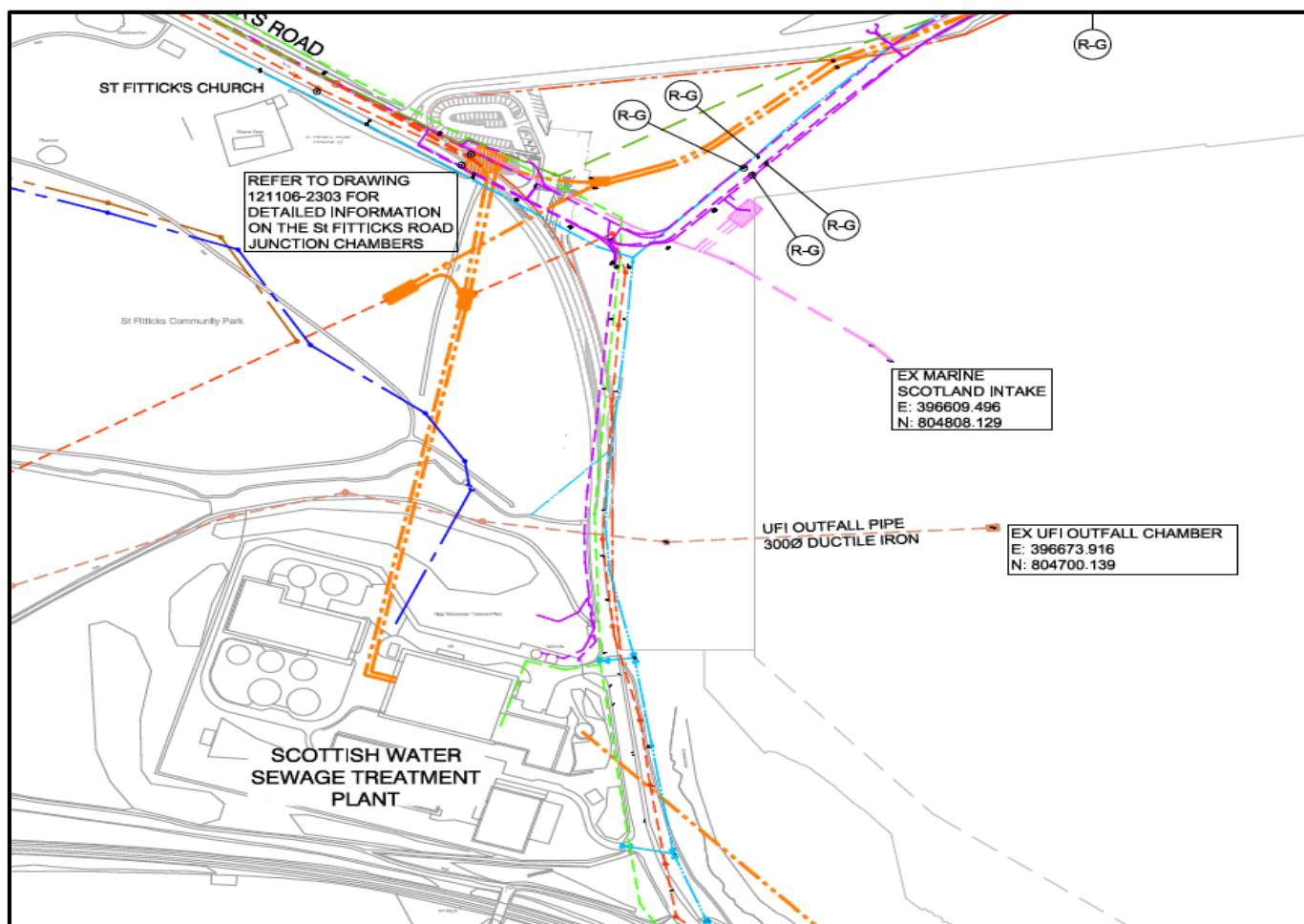


Figure 19.2: UFI outfall current location

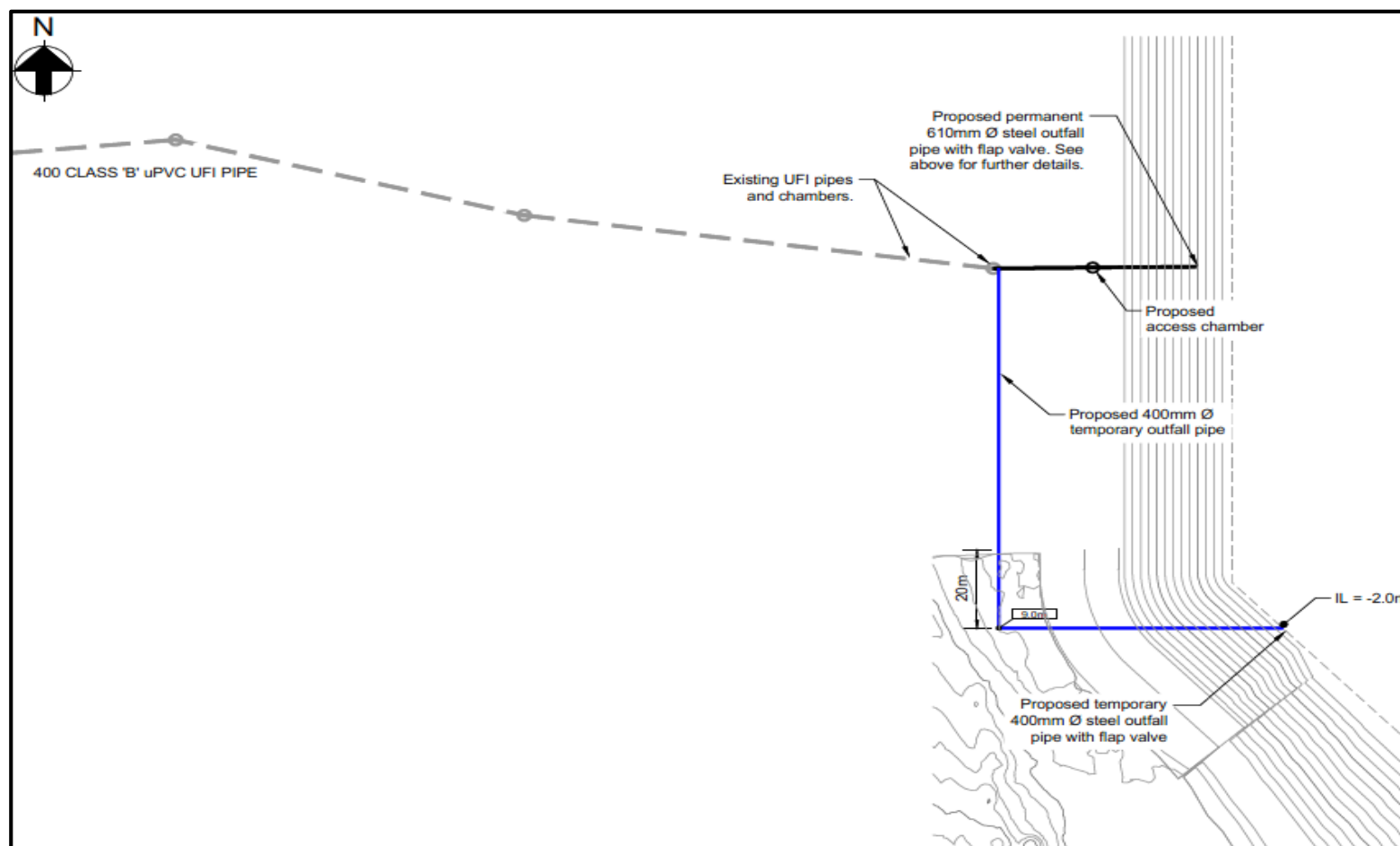


Figure 19.3: New Outfall location (temporary and permanent)

19.4 East Tullos Burn

Dragados will modify and realign the East Tullos Burn which currently flows under the Coast Road at the west end of Nigg Bay through a system of 900mm culvert pipes, discharging and filtering through the Nigg Bay beach. Modification is required by removing the existing headwall unit to expose twin concrete 900mm diameter pipes. On exposure, realignment will be carried out with the installation of a drop chamber to achieve the required levels of discharge under the West Quay open piled structure. The drop chamber will connect to twin 900mm diameter concrete pipes, protected with a headwall at the outfall.

The current system will be maintained until works on the West Quay in Q1 2019 require that the new proposal is installed.

Removal of the existing apparatus will be limited to only the headwall unit as the remainder will be used as part of the permanent works.

Dragados is in discussion with Aberdeen City Council to agree the detailed design.

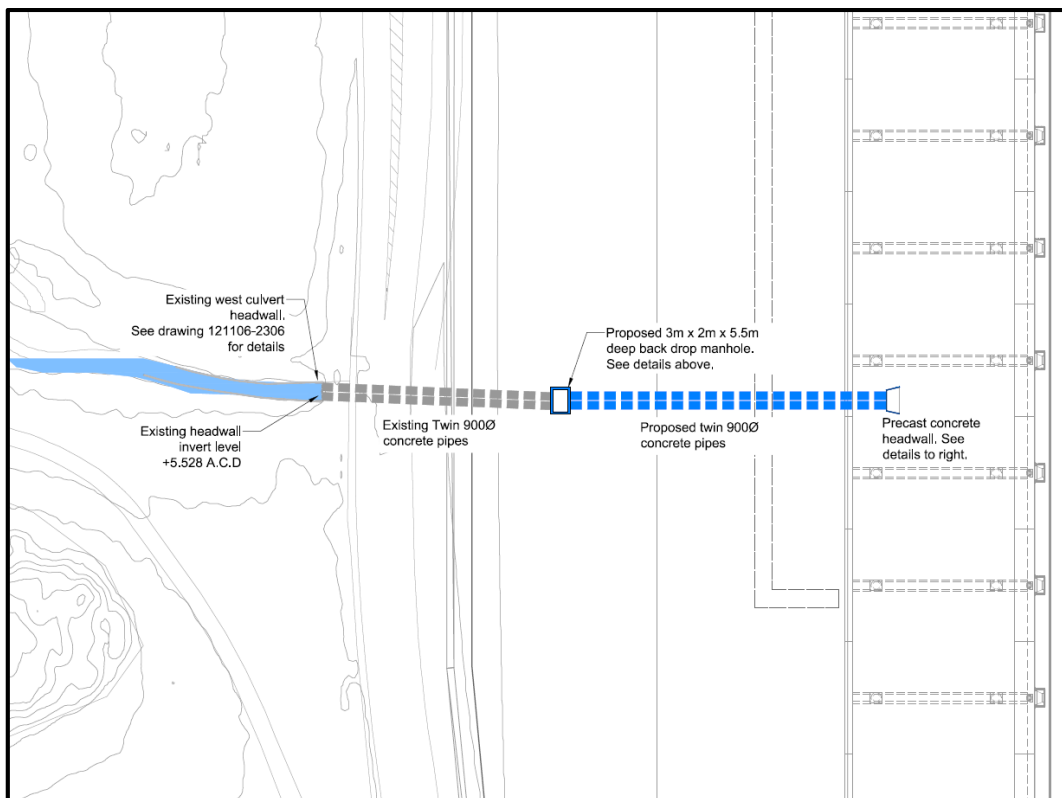


Figure 19.4: ETB existing and future location

19.5 Girdleness Outfall

Dragados will protect a third party combined sewer outfall which is used during periods of increased capacity which the nearby water treatment works cannot process for discharge through the long sea outfall (Griegness). Used rarely, the system is an old brick built system, and an increase in loads tracking over the outfall requires the utility's core strength to be increased for areas which run below paved areas.

During construction stage and until the permanent solution is provided, protection slabs will be put in place in any crossing over the outfall, as discussed with Scottish Water.

For the permanent solution, the existing apparatus will be adapted to increase its core strength. The proposal to achieve this will be to concrete line the existing structure with a thickness of 250mm of concrete through a spray applied system which will be self-supporting without the requirement for formwork.

Incorporating this system will then allow the progression of works to continue over the apparatus under an approved "build-over agreement"

The installation activities will be carried out during Q4 2017.

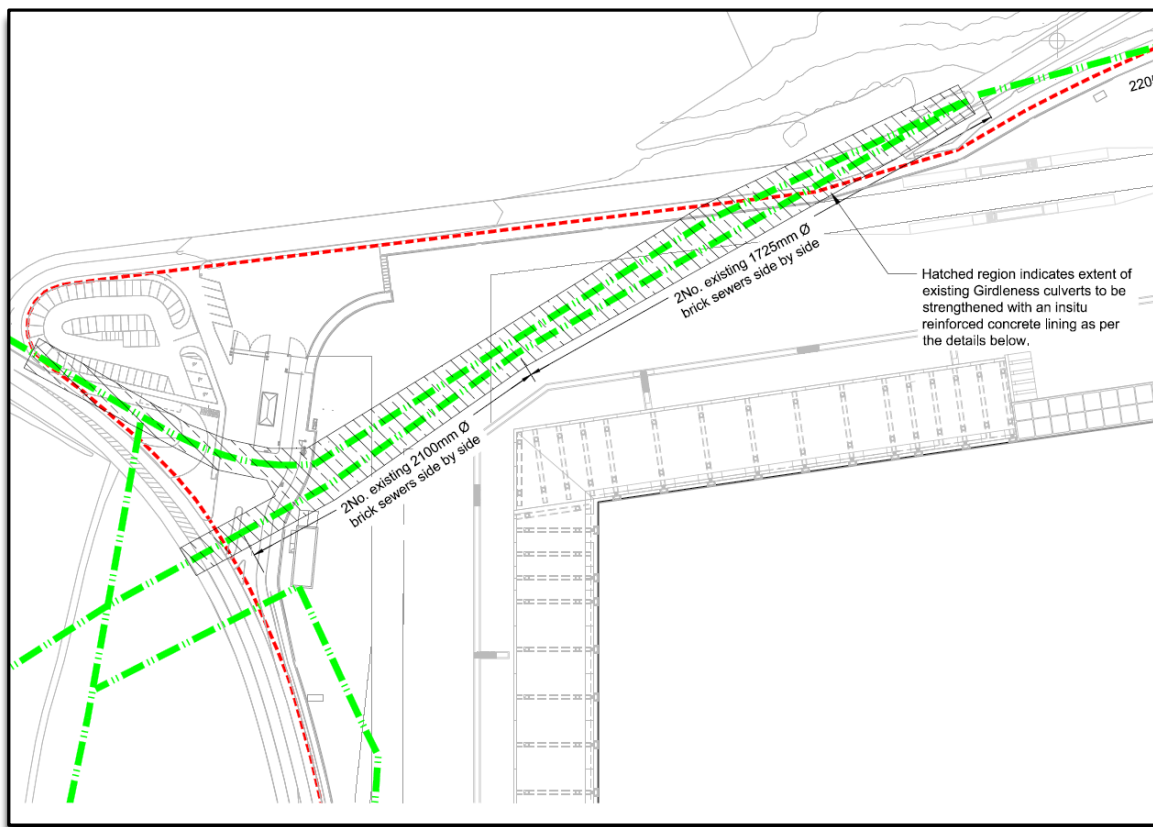
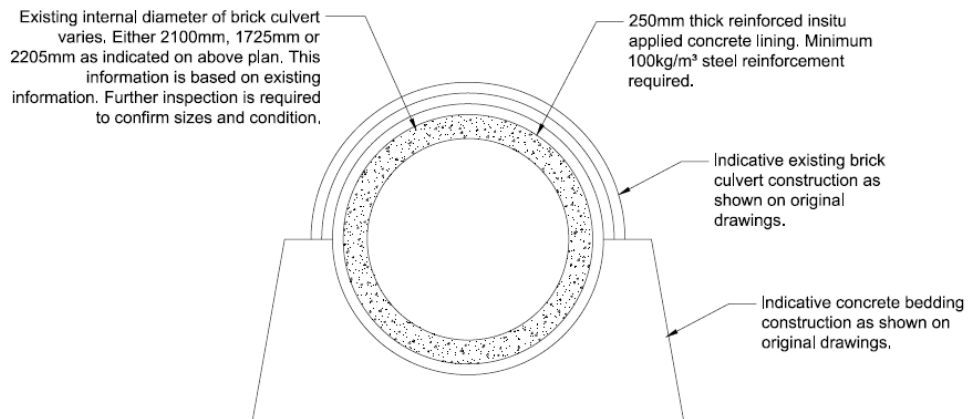


Figure 19.5: Girdleness lining protection plan



Typical Girdleness Strengthening Detail

Scale 1:50

Figure 19.6: Girdleness lining protection cross section