

Proposed Foul Water Drainage Report
FNC001 | Site Infrastructure
Full Sutton 2

664015-1275-PEV-FNC001 | -ZZ-RP-C-0554

Issue Number P01

S3 – Suitable for Review and Comment

08/07/2021



Ministry of
JUSTICE

Security Classification:

OFFICIAL

Document History

Issue	Date	Comment	Author	Chk'd
P01	08/07/2021	First issue. RMA submission.	PCA	MHA

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1.0 Introduction

This Foul Water Drainage Report has been produced to support the reserved matters application and discharge of conditions application associated with the proposed development of a new Category C Adult Male prison on land adjacent to HMP Full Sutton.

Extensive consultation and communication has been held with Yorkshire Water regarding the foul water drainage proposals for this site. Further comment is provided in the subsequent report sections.

2.0 Site Description

2.1 Existing Site

The proposed site is located to the west of the existing HMP Full Sutton site, and is around twice as long in the north to south dimension than the east to west dimension.

The site is bounded to the north and west by public highway (Moor Lane) with open fields beyond, and to the east by the existing HMP Full Sutton site. To the south lies open fields. The village of Full Sutton lies to the north east of the proposed development site.

A review of the topographical survey indicates minimal level change across the site, with a maximum of 500mm level difference across either the north-south or east-west axis.

2.2 Proposed Site

The site is to be developed to provide a new Category C Re-Settlement prison. Accommodation will be provided in 6 houseblocks, with a number of additional support buildings providing all necessary facilities. While there will be a requirement for site roads, and areas of hardstanding, there will also be areas allocated to planting and green spaces. The proposed site layout plan has been used to develop the proposed foul water drainage details, and is shown on the drawings in the Appendices.

For clarity and reference in the text below, the site has been split into two areas;

- Car Park and Access Road – located to the north of the main site, and providing 388 parking spaces, along with a bus stop, cycle parking, and entrance route for all vehicles to the main site access point.
- Main Site – located to the south of the car park, and housing the support buildings and 6 houseblocks.

3.0 Foul Water Drainage Proposals

3.1 Existing Foul Water Drainage

As the proposed site currently comprises open fields laid to grass, there is no existing foul water drainage serving the proposed development site. However, analysis of the existing Yorkshire Water records show that an existing 200mm diameter foul water pumped rising main crosses the north eastern corner of the site. The rising main originates at a Yorkshire Water owned pumping station located to the east of the

proposed development area. This asset receives flows from the existing HMP Full Sutton as well as the village of Full Sutton itself.

After crossing the development site, the rising main continues in a generally northerly direction for around 1km, before discharging into the foul water sewer network serving the village of Stamford Bridge. This network discharges to a terminal pumping station, which in turn discharges to Stamford Bridge Waste Water Treatment Works, located to the west of the village.

3.2 Proposed Foul Water Drainage

The proposed foul water flows from the development will be collected via a series of private inspection chambers, manholes and drains. Flows from the “Main Site” will be collected via a new private sewer, running within the central area between the houseblocks leading in a northerly direction. Flows from the support and ancillary buildings will be served by a similar arrangement of private drainage.

Currently there is insufficient capacity in the local Yorkshire Water foul water drainage network to receive flows from the new site, however Yorkshire Water are obliged to provide sufficient capacity for this development. There are two options which both address the capacity issue, either of which are required to be delivered in time to commission the new prison in early 2025.

Both options are feasible, viable, and deliverable, and the site layout can accommodate whichever option is jointly agreed with Yorkshire Water. In advance of final confirmation from Yorkshire Water regarding which option is to be taken forward, this report provides details of both options;

- Yorkshire Water undertake works to provide increased sufficient capacity at the existing adjacent foul water pumping station, the downstream gravity foul sewer network within Stamford Bridge, the existing foul water pumping station within Stamford Bridge, and the Waste Water Treatment Works at Stamford Bridge.
- A new foul water pumping station is constructed to serve the proposed site. Yorkshire Water construct a new connection directly to the existing Waste Water Treatment Works at Stamford Bridge, via a new rising main. Yorkshire Water undertake works to provide sufficient increased capacity at Stamford Bridge Waste Water Treatment Works.

It is anticipated that Yorkshire Water will be in a position to confirm the option to be taken forward by 20th August 2021.

3.3 Drawings

The following drawings have been prepared to support the drainage design for the site. However, due to file size, only those drawings with an asterisk are included within this report. For all others, reference should be made to the Viewpoint file sharing platform. Details are provided below;

*664015-1275-PEV-FNC0011-ZZ-DR-C-0550 – Proposed Foul Water Drainage

664015-1275-PEV-FNC0011-ZZ-DR-C-6507 – Drainage Details–Sheet 01

664015-1275-PEV-FNC0011-ZZ-DR-C-6508 – Drainage Details–Sheet 02

664015-1275-PEV-FNC0011-ZZ-DR-C-0551 – Proposed Foul Water Drainage-Sheet 01

664015-1275-PEV-FNC0011-ZZ-DR-C-0552 – Proposed Foul Water Drainage-Sheet 02

664015-1275-PEV-FNC0011-ZZ-DR-C-0553 – Proposed Foul Water Drainage-Sheet 03

664015-1275-PEV-FNC0011-ZZ-DR-C-0554 – Proposed Foul Water Drainage-Sheet 04

664015-1275-PEV-FNC0011-ZZ-DR-C-0555 – Proposed Foul Water Drainage-Sheet 05

664015-1275-PEV-FNC0011-ZZ-DR-C-0556 – Proposed Foul Water Drainage-Sheet 06

664015-1275-PEV-FNC0011-ZZ-DR-C-0557 – Proposed Foul Water Drainage-Sheet 07

664015-1275-PEV-FNC0011-ZZ-DR-C-0558 – Proposed Foul Water Drainage-Sheet 08

664015-1275-PEV-FNC0011-ZZ-DR-C-0559 – Proposed Foul Water Drainage-Sheet 09

664015-1275-PEV-FNC0011-ZZ-DR-C-0560 – Proposed Foul Water Drainage-Sheet 10

664015-1275-PEV-FNC0011-ZZ-DR-C-0565 – Proposed Foul Water Drainage-Sheet 11

664015-1275-PEV-FNC0011-ZZ-SH-C-0551 – Proposed Foul Water Drainage-Schedule 01

664015-1275-PEV-FNC0011-ZZ-SH-C-0552 – Proposed Foul Water Drainage-Schedule 02

664015-1275-PEV-FNC0011-ZZ-SH-C-0553 – Proposed Foul Water Drainage-Schedule 03

664015-1275-PEV-FNC0011-ZZ-SH-C-0554 – Proposed Foul Water Drainage-Schedule 04

664015-1275-PEV-FNC0011-ZZ-SH-C-0555 – Proposed Foul Water Drainage-Schedule 05

664015-1275-PEV-FNC0011-ZZ-SH-C-0556 – Proposed Foul Water Drainage-Schedule 06

664015-1275-PEV-FNC0011-ZZ-SH-C-0557 – Proposed Foul Water Drainage-Schedule 07

664015-1275-PEV-FNC0011-ZZ-SH-C-0558 – Proposed Foul Water Drainage-Schedule 08

664015-1275-PEV-FNC0011-ZZ-SH-C-0559 – Proposed Foul Water Drainage-Schedule 09

664015-1275-PEV-FNC0011-ZZ-SH-C-0560 – Proposed Foul Water Drainage-Schedule 10

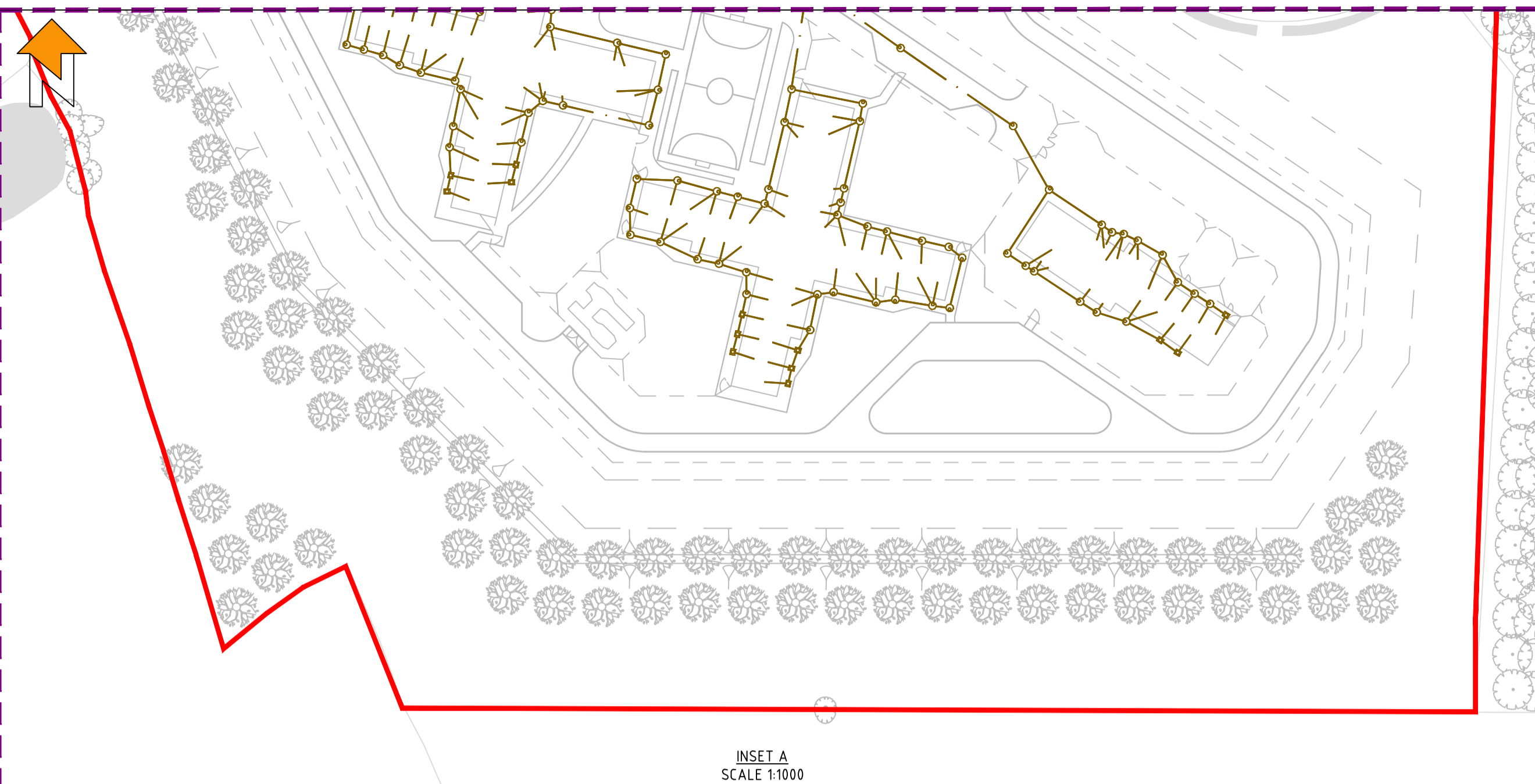
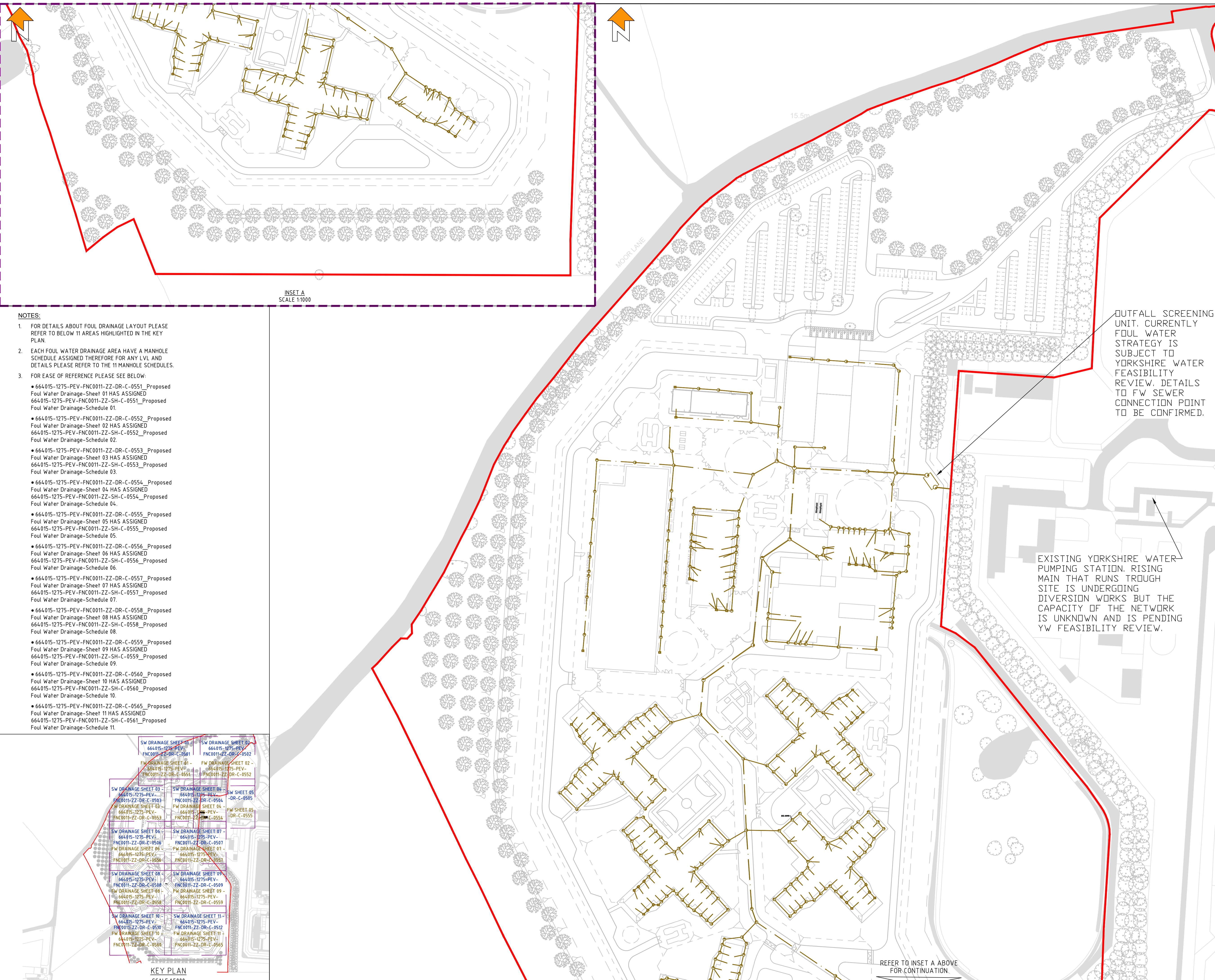
664015-1275-PEV-FNC0011-ZZ-SH-C-0561 – Proposed Foul Water Drainage-Schedule 11

4.0 Conclusions

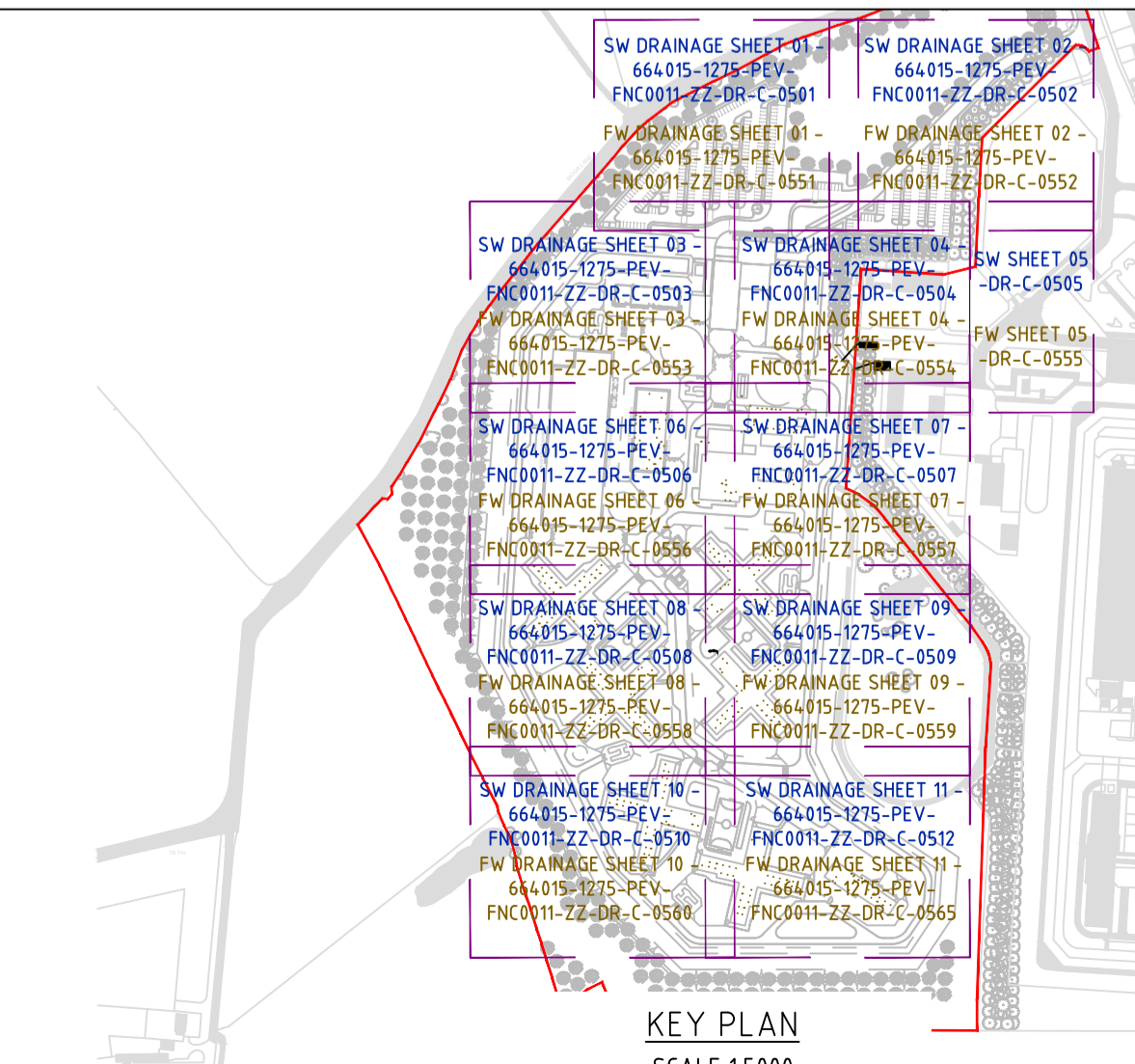
The foul water drainage proposals for this site have been developed to enable either of two feasible, deliverable options for the final discharge route to be taken forward. We anticipate that Yorkshire Water will agree that either option is viable, and therefore are confident that the requirements of Condition 8 have been met.

Appendix A

664015-1275-PEV-FNC0011-ZZ-DR-C-0550 – Proposed Foul Water Drainage



- NOTES:**
- FOR DETAILS ABOUT FOUL DRAINAGE LAYOUT PLEASE REFER TO BELOW 11 AREAS HIGHLIGHTED IN THE KEY PLAN.
 - EACH FOUL WATER DRAINAGE AREA HAVE A MANHOLE SCHEDULE ASSIGNED THEREFORE FOR ANY LVL AND DETAILS PLEASE REFER TO THE 11 MANHOLE SCHEDULES.
 - FOR EASE OF REFERENCE PLEASE SEE BELOW:
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0551_Proposed Foul Water Drainage-Sheet 01 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0551_Proposed Foul Water Drainage-Schedule 01.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0552_Proposed Foul Water Drainage-Sheet 02 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0552_Proposed Foul Water Drainage-Schedule 02.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0553_Proposed Foul Water Drainage-Sheet 03 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0553_Proposed Foul Water Drainage-Schedule 03.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0554_Proposed Foul Water Drainage-Sheet 04 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0554_Proposed Foul Water Drainage-Schedule 04.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0555_Proposed Foul Water Drainage-Sheet 05 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0555_Proposed Foul Water Drainage-Schedule 05.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0556_Proposed Foul Water Drainage-Sheet 06 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0556_Proposed Foul Water Drainage-Schedule 06.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0557_Proposed Foul Water Drainage-Sheet 07 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0557_Proposed Foul Water Drainage-Schedule 07.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0558_Proposed Foul Water Drainage-Sheet 08 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0558_Proposed Foul Water Drainage-Schedule 08.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0559_Proposed Foul Water Drainage-Sheet 09 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0559_Proposed Foul Water Drainage-Schedule 09.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0560_Proposed Foul Water Drainage-Sheet 10 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0560_Proposed Foul Water Drainage-Schedule 10.
 - 664015-1275-PEV-FNC0011-ZZ-DR-C-0565_Proposed Foul Water Drainage-Sheet 11 HAS ASSIGNED 664015-1275-PEV-FNC0011-ZZ-SH-C-0561_Proposed Foul Water Drainage-Schedule 11.



OUTFALL SCREENING UNIT. CURRENTLY FOUL WATER STRATEGY IS SUBJECT TO YORKSHIRE WATER FEASIBILITY REVIEW. DETAILS TO FW SEWER CONNECTION POINT TO BE CONFIRMED.

EXISTING YORKSHIRE WATER PUMPING STATION. RISING MAIN THAT RUNS THROUGH SITE IS UNDERGOING DIVERSION WORKS BUT THE CAPACITY OF THE NETWORK IS UNKNOWN AND IS PENDING YW FEASIBILITY REVIEW.

REFER TO INSET A ABOVE FOR CONTINUATION.

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Do not scale from drawings. Verify all dimensions on site prior to construction. This drawing is to be read in conjunction with all relevant documents and drawings. Report all discrepancies to MoJ immediately.

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Residual Risk
This symbol identifies a Residual Risk that is recorded on the Design Risk Register and is relevant to this drawing.
This drawing must be read in conjunction with the following project CDM documents:
664015-1275-PEV-FNC0011-XX-HS-C-0003_Design Risk Assessment-Stage 3

Derogation
This symbol identifies a Derogation that is recorded on the Derogation Schedule and is relevant to this drawing.
This drawing must be read in conjunction with the following project Derogation documents:
N/A

The above symbols can only be read when this drawing is in colour print

PRINT IN COLOUR

- NOTES:**
- ALL DRAINAGE WORKS TO BE CONSTRUCTED TO DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS, BUILDING REGULATIONS PART H, MOJ TECHNICAL SPECIFICATION STD/X/SPEC/010 ISSUE 06 AND PICK EVERARD DRAINAGE SPECIFICATION.
 - ALL SEWERS AND DRAINS TO HAVE A CLASS Z BED AND SURROUND AT A DEPTH OF COVER TO PIPE SOFFIT OF LESS THAN 1.2m UNDER PAVED AREAS AND BUILDINGS AND 0.9m IN VERGE. IN ALL OTHER AREAS, ALL SEWERS AND DRAINS SHALL HAVE A CLASS S BED, UNLESS STATED OTHERWISE ON THE DRAWINGS.
 - ALL SEWERS TO BE BACKFILLED WITH TYPE 1 GRANULAR MATERIAL UNDER PAVED AREAS, ROADS AND HARDSTANDINGS OR AS-DUG MATERIAL IN VERGE AREAS.
 - MANHOLE COVERS AND FRAMES WITHIN VEHICULAR LOADED AREAS TO BE D400 RATED AND C250 IN ALL OTHER AREAS TO BS EN 124-1994. ALL COVERS TO BE DUCTILE IRON.
 - SVP LOCATIONS AND LATERALS ARE NOT SHOWN. TO BE CONFIRMED BY THE M&E ENGINEER AT THE DETAIL DESIGN STAGE.
 - DRAINAGE SYSTEM TO BE SUBJECT TO INSPECTION INTERIM AND FINAL TESTS IN ACCORDANCE WITH MOJ TECHNICAL SPECIFICATION STD/X/SPEC/010 ISSUE 6 AND BS EN 75
 - ALL PIPEWORK:
 - VITRIFIED CLAY UP TO 225mm DIAMETER
 - OVER 225mm - CONCRETE TO BS EN 1916 AND 1911
 - BELOW CONCRETE FLOOR SLABS - CAST IRON TO BS 43 OR DUCTILE IRON TO BS 598
 - SAMPLE CHAMBER TO BE BUILT DOWNSTREAM OF DOG KENNELS
 - ALL SOLID DOG FAECES TO BE REMOVED AND DISPOSED OF APPROPRIATELY BEFORE ENTERING INTO THE FOUL DRAINAGE SYSTEM
 - FOUL WATER STRATEGY IS SUBJECT TO YORKSHIRE WATER APPROVAL. FOR DETAILS REFER TO FOUL WATER DRAINAGE STRATEGY REPORT 664015-1275-PEV-FNC0011-ZZ-RP-C-0553

- KEY:**
- PROPOSED GRAVITY FOUL SEWER.
 - PROPOSED FW RISING MAIN.
 - MoJ PROPERTY LINE.
 - FW ACCESS CHAMBER.
 - EXISTING FW CHAMBER.
 - EXISTING YW FW SEWER.
 - EXISTING RISING MAIN FW SEWER.

Rev	Date	Description
P02	2021.06.15	DRAINAGE AND SITE LAYOUT UPDATED.
P01	2021.03.16	FIRST ISSUE FOR RIBA STAGE 3 APPROVAL.

Project Status
RIBA Stage 3

Client
Ministry of Justice

Project
New Prisons Programme

Ministry of Justice, 102 Petty France, London, SW1H 9AJ

Project Description / Site
New Prisons Programme
Full Sutton 2

Project Address
Land at Moor Lane
Full Sutton
York, YO41 1PS

Building Type
Site Infrastructure

Drawing Title
Proposed Foul Water Drainage

Originator Logo PICK EVERARD	Drawn By	MHA	Date	16.03.21
	Checked By	PCA	Date	16.03.21
	Approved By	PCA	Date	16.03.21

Drawing Number
664015-1275-PEV-FNC0011-ZZ-DR-C-0550

Sheet No.	Scale	Orig. Sheet Size	Rev.
01 of 01	1:1000	@ A1	P02

Data Security Classification
OFFICIAL

Suitability
S3