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Engineering Services Statement

**Proposed Amendments to GA03 SHD
Planning Permission**

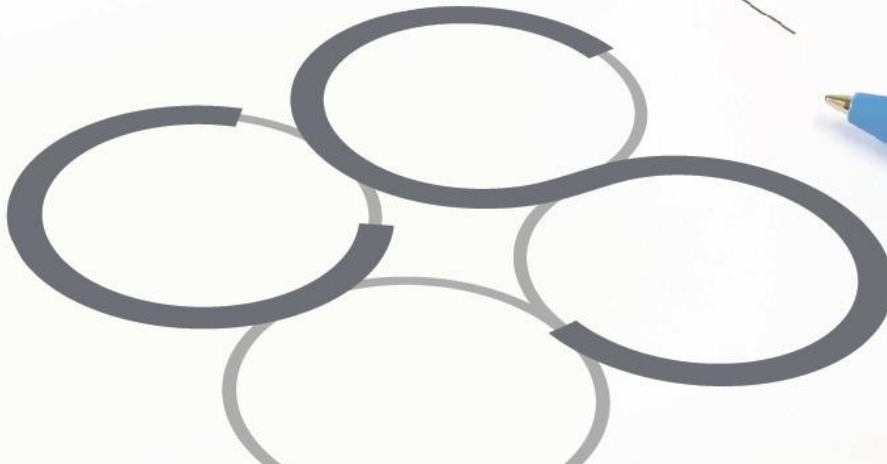
ABP Reg. Ref. 311016

Stapolin Growth Area 3, Baldoye, Dublin 13

Client: The Shoreline Partnership

Job No. R090

March 2023



ENGINEERING SERVICES STATEMENT

PROPOSED AMENDMENTS TO GA03 SHD PLANNING PERMISSION

ABP REG. REF. 311016

STAPOLIN GROWTH AREA 3, BALDOYLE, DUBLIN 13

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Appendix A: Irish Water Confirmation of Feasibility and
Statement of Design Acceptance

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File Location: Job-R090\B_Documents\C_Civil\A_CS Reports\LRD 2022 Amendment Application

BS 1192 FIELD		BD-CSC-ZZ-G3-RP-C-0101			
Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
R090	GF	OS	OS	08.03.2023	P4
R090	GF	OS	OS	28.02.2023	P3
R090	GF	OS	OS	17.02.2023	P2
R090	GF	OS	OS	24.11.2022	P1
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1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by The Shoreline Partnership to prepare an Engineering Services Statement to accompany a Large-scale Residential Development (LRD) application for amendments to a permitted Strategic Housing Development (SHD) on lands at Stapolin Growth Area 3, Baldoyle, Dublin 13 (ABP reg. ref. 311016).

In preparing this report, CS Consulting has made reference to the following:

- Fingal County Council Development Plan 2017–2023
- Fingal County Council Development Plan 2023-2029
(as adopted - to come into effect April 2023)
- Baldoyle-Stapolin Local Area Plan 2013 (as extended)
- Greater Dublin Regional Code of Practice for Drainage Works
- Local Authority Drainage Records
- Irish Water Code of Practice for Potable Water
- Irish Water Code of Practice for Wastewater
- Sustainable Urban Housing: Design Standards for New Apartments
(Guidelines for Planning Authorities), December 2022

The Engineering Services Statement is to be read in conjunction with all other documentation submitted by the project design team as part of this planning submission.

2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The proposed development site is located at Stapolin Growth Area 3, Baldoyle, Dublin 13, in the operational area of Fingal County Council. The site of the permitted SHD has a total area of c. 6.89ha. The amendments proposed under the present application covers an area of c. 3.23ha within the SHD site.

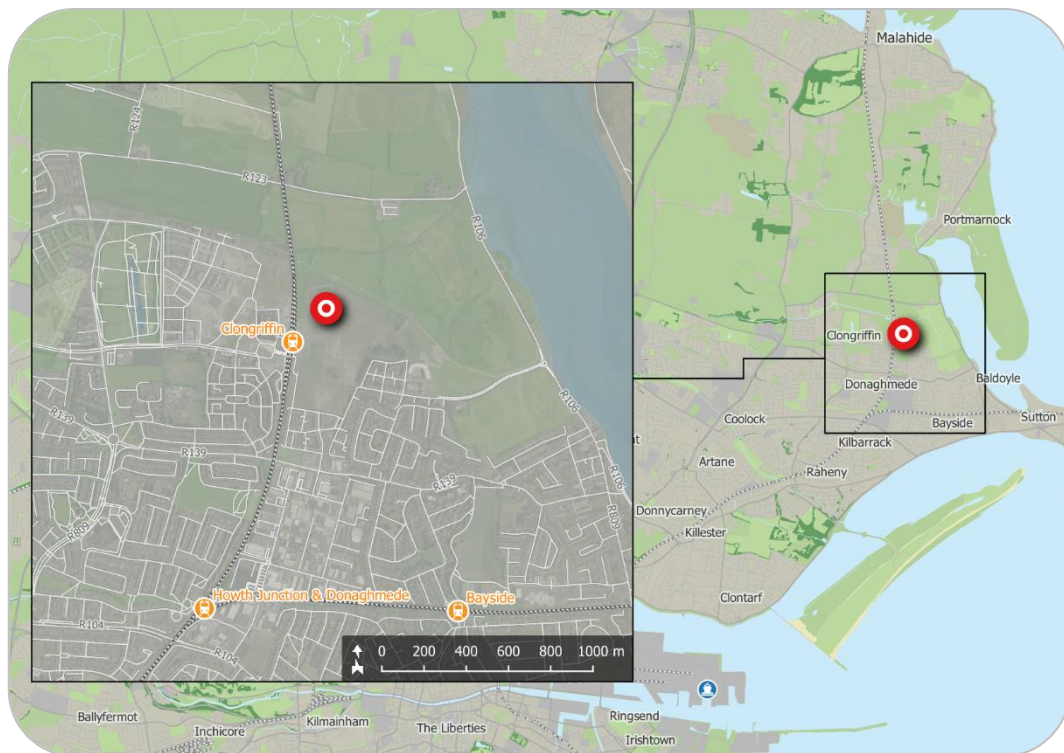


Figure 1 – Location of permitted SHD site
(map data & imagery: EPA, OSi, OSM Contributors, Google)

The location of the permitted SHD site is shown in **Figure 1** above; its extents and environs are shown in more detail in **Figure 2**, as are the extents of the areas to which the present amendment application pertains.

The overall SHD site is bounded generally to the west by The Dublin-Belfast rail line, to the south and east by further zoned development lands, and to the north by lands zoned as High Amenity.



Figure 2 – Site extents and environs
(map data & imagery: NTA, OSi, OSM Contributors, Google)

2.2 Existing Land Use

The subject lands are currently undeveloped; however, works were carried out previously to install infrastructure. These works included removal of vegetation/topsoil, construction of a road network inter linked with partially prepared site areas and installation of underground services.

The existing infrastructure has been unmaintained for some years.

2.3 Permitted Strategic Housing Development

The development site benefits from an extant planning permission for a Strategic Housing Development (SHD), granted by An Bord Pleanála on the 23rd of November 2021 (ABP reg. ref. 311016). The permitted SHD comprises the following elements:

- 1,221no. apartments (including studios and duplex units)
- a crèche with a gross floor area of 452m²
- a café unit with a gross floor area of 205m²

The permitted development has a total car parking provision of 669no. spaces and also includes 2,333no. bicycle parking spaces.

2.4 Proposed Amendments to Permitted SHD

The proposed development consists of alterations to Blocks E1, G1, G2, G3, and G5 of the permitted SHD development (ABP reg. ref. 311016) only. It is noted that Blocks E2 and G4, while falling within the red line of this application area, are not subject to change under this application, and remain as permitted.

As currently permitted, the 5no. blocks subject to change under this application comprise a total of 799no. residential units:

- 157no. apartments in Block E1
- 170no. apartments in Block G1
- 175no. apartments in Block G2
- 124no. apartments in Block G3
- 173no. apartments in Block G5

Under this application, the following altered numbers are proposed:

- 152no. apartments in Block E1
- 155no. apartments in Block G1
- 154no. apartments in Block G2
- 89no. apartments in Block G3
- 152no. apartments in Block G5

In summary, the proposed amendments to the permitted development entail a reduction of 97no. apartment units in Blocks E1, G1, G2, G3, and G5.



Figure 3 – Areas subject to amendment application
(background image: Henry J. Lyons Architects)

3.0 STORM WATER INFRASTRUCTURE

3.1 Existing Storm Water Infrastructure

An existing 1350mm diameter stormwater culvert traverses the subject site along the line of Longfield Road, flowing south to north. This culvert is a diversion of a culvert which previously ran along the western boundary of the development lands.

In addition, there is an existing 1050mm stormwater pipe running from south to north along the line of Stapolin Avenue, which discharges into the Mayne River. Based on the previous planning applications in the vicinity of the site, this pipe has been constructed by previous developers at a low level so that it can pass below the North Fringe Sewer. The depth of this pipe and associated outfall is approximately 2m below the existing ground level as it passes through to the flood plain further north. The pipe serves the existing developments constructed to date and discharges directly to the Mayne River.

It is noted that there is an existing stormwater drainage network located in the vicinity of the subject site. Due to its condition and levels, it is however not intended to make use of this existing infrastructure; this shall instead be removed and a new network constructed in its place as part of the permitted SHD development (ABP reg. ref. 311016). These proposed works are unaffected by the present amendment application.

3.2 Storm Water Drainage Arrangements of Permitted SHD

The storm water drainage arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP reg. ref. 311016. Briefly summarised, these involve:

- Discharge of all storm water to the constructed wetland located to the north of the application site, which provides attenuation storage, sediment settlement, and water treatment through organic processes.

- Bioretention areas and tree pits within the landscaping, to provide attenuation storage and initial storm water treatment.
- Green roofs atop 8no. buildings, to reduce stormwater runoff and provide initial treatment.
- Permeable paving at car parking spaces, to reduce stormwater runoff, provide attenuation storage and infiltration, and provide initial treatment.

3.3 Effect of Proposed Amendments on Permitted Storm Water Drainage

The proposed amendments to the permitted SHD are confined to Blocks E1, G1, G2, G3, and G5. These amendments shall not entail any significant change to building footprints or roof areas, and shall not require any change to the Sustainable Drainage Systems incorporated into the landscape design. In particular, it is noted that the proposed amendments shall not affect the green roofs to be implemented under the permitted SHD scheme (ABP reg. ref. 311016).

It is consequently not necessary to revise the permitted storm water drainage design as part of this application.

4.0 FOUL WATER INFRASTRUCTURE

4.1 Existing Foul Infrastructure

An existing 375mm diameter foul sewer runs in a northerly direction in Stapolin Avenue, to the south-east of the site. This infrastructure was installed by previous developers to serve the entire LAP lands.

Downstream, this existing 375mm foul sewer discharges to an existing foul pump station located on the north side of Stapolin Haggard. The foul pumping station discharges via a 300mm rising main to the North Fringe Foul Sewer, that runs around the north / north eastern boundary of the site approximately 150m away from the pump station. The pump station currently serves the existing Myrtle and Red Arches Developments, as well as serving the adjacent developments permitted under FCC reg. ref. 16A/0412 and ABP reg. ref. ABP-248970 (as amended by subsequent applications under FCC refs. F20A/0258, F21A/0046, F22A/0017, and LRD0007). Following a meeting on site with Irish Water and Fingal County Council earlier in 2022, the applicant has undertaken internal and external maintenance works to the existing foul pumping station at Stapolin Haggard, as requested by Fingal Co. Co. and Irish Water. The requested upgrade works have been completed, with some minor works yet to be undertaken. In addition, on the request of Irish Water the applicant and appointed design consultants have engaged with Irish Water to agree the appropriate further design upgrade works to the existing pumping station. The design fundamentals of the provision of emergency storage have been agreed in principle with Irish Water and a separate planning application for these works to accommodate the emergency storage is being finalised and will be lodged with the Planning Authority in 2023.

In addition to the 375mm foul sewer referred to above, there is already an existing foul drainage network located within the development lands. Due to

its poor condition, it is however not intended to make use of this existing infrastructure; this shall instead be removed and a new network constructed in its place as part of the permitted SHD development (ABP reg. ref. 311016). These proposed works are unaffected by the present amendment application.

4.2 Foul Drainage Arrangements of Permitted SHD

The foul drainage arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP reg. ref. 311016. All foul effluent generated from the permitted development is collected in separate foul pipes and flows under gravity to the existing 375mm diameter foul sewer in Stapolin Avenue, to the south-east of the site, via a new connection.

4.3 Foul Effluent Generation of Blocks E1, G1, G2, G3, and G5 as Permitted

As currently permitted, Blocks E1, G1, G2, G3, and G5 of the SHD comprise 799no. residential units. The Irish Water *Code of Practice for Wastewater Infrastructure* specifies an average foul effluent flow rate of 165 litres per person per day for domestic dwellings (150 litres per person per day, plus a 10% allowance for external infiltration) and an average occupancy of 2.7 persons per residential unit. The applicable design population of the permitted Blocks E1, G1, G2, G3, and G5 is therefore 2,157 people (2,157 pe), and the maximum average effluent flow (dry weather flow or DWF) to be generated may be calculated as:

$$DWF = 2,157pe \times 165l/day/pe = 355,905l/day = 4.119l/s$$

The peak effluent flow (Design Flow) is calculated by applying a domestic peak factor (Pf_{DOM}) of 3 (applicable to developments with a population between 1,001 and 5,000):

$$Design\ Flow = DWF \times Pf_{DOM} = 4.119l/s \times 3 = 12.357l/s$$

4.4 Effect of Proposed Amendments on Permitted Foul Drainage Arrangements

As proposed under the present application, Blocks E1, G1, G2, G3, and G5 would comprise 702no. residential units. Their design population would therefore be 1,895 people (1,895 pe), and the maximum average effluent flow (dry weather flow or DWF) to be generated may be calculated as:

$$DWF = 1,895pe \times 165l/day/pe = 312,675l/day = 3.619l/s$$

The peak effluent flow (Design Flow) is calculated by applying a domestic peak factor (Pf_{DOM}) of 3 (applicable to developments with a population between 1,001 and 5,000):

$$Design\ Flow = DWF \times Pf_{DOM} = 3.619l/s \times 3 = 10.857l/s$$

The proposed amendments to the permitted SHD shall therefore result in:

- A reduction of **0.500 l/s** in the development's **average** effluent outflow rate.
- A reduction of **1.500 l/s** in the development's **peak** effluent outflow rate.

It is consequently not necessary to revise the permitted foul water drainage design as part of this application.

4.5 Irish Water Confirmation of Feasibility and Statement of Design Acceptance

Prior to submission of the SHD planning application made in 2021, a Pre-Connection Enquiry (CDS20001785) was submitted to Irish Water, based on the foul effluent generation for a 1,200-unit residential development on the subject site. A Confirmation of Feasibility was subsequently received from Irish Water. Proposed drainage design and water supply drawings were then submitted to Irish Water for review, and a Statement of Design Acceptance was issued by Irish Water in June 2021.

The Confirmation of Feasibility (CoF) and Statement of Design Acceptance (SoDA) issued by Irish Water are attached as **Appendix A**. As the proposed amendments to the permitted SHD entail a reduction in residential unit

numbers, with no alteration to the permitted foul drainage arrangements (as reviewed by Irish Water), the CoF and SoDA previously issued by Irish Water are considered to remain applicable and it has not been deemed necessary to submit a new Pre-Connection Enquiry.

5.0 POTABLE WATER SUPPLY

5.1 Existing Potable Water Infrastructure

Existing 300mm diameter public watermain are in place in Stapolin Avenue and in Myrtle Avenue, to the east and south of the SHD site. This infrastructure was installed to serve future development within the LAP. In addition, an existing 450 diameter watermain runs along the northern edge of the SHD site.

It is noted that existing unused watermain infrastructure is already located within the SHD site. Due to its condition and the system layout, it is however not intended to make use of this existing infrastructure; this shall instead be removed and replaced, to current Irish Water specifications, as part of the permitted SHD development (ABP reg. ref. 311016). These proposed works are unaffected by the present amendment application.

5.2 Potable Water Supply Arrangements of Permitted SHD

The potable water supply arrangements of the permitted SHD are described in full within the Engineering Services Report submitted under ABP reg. ref. 311016. It is proposed to supply the permitted development via new connections to the existing 300mm watermain in Stapolin Avenue and Myrtle Avenue, and to the existing 450mm watermain to the north of the SHD site.

5.3 Potable Water Demand of Blocks E1, G1, G2, G3, and G5 as Permitted

As currently permitted, Blocks E1, G1, G2, G3, and G5 of the SHD comprise 799no. residential units. The Irish Water *Code of Practice for Water Infrastructure* specifies an average potable water demand of 150 litres per person per day for domestic dwellings, and an average occupancy of 2.7 persons per residential unit. The development's applicable design population is therefore 2,157 people (2,157 pe), and the average potable water demand of the proposed development may be calculated as:

$$\text{Avg. Demand} = 2,157\text{pe} \times 150\text{l/day/pe} = 323,550\text{l/day} = 3.745\text{l/s}$$

The peak potable water demand is calculated by applying a domestic peak factor (Pf_{DOM}) of 5, in accordance with the Irish Water Code of Practice for Water Infrastructure:

$$\text{Peak Demand} = \text{Avg. Demand} \times Pf_{DOM} = 3.745\text{l/s} \times 5 = 18.725\text{l/s}$$

5.4 Effect of Proposed Amendments on Permitted Water Supply Arrangements

As proposed under the present application, Blocks E1, G1, G2, G3, and G5 would comprise 702no. residential units. Their design population would therefore be 1,895 people (1,895 pe), and the average potable water demand may be calculated as:

$$\text{Avg. Demand} = 1,895\text{pe} \times 150\text{l/day/pe} = 284,250\text{l/day} = 3.290\text{l/s}$$

The peak potable water demand is calculated by applying a domestic peak factor (Pf_{DOM}) of 5, in accordance with the Irish Water Code of Practice for Water Infrastructure:

$$\text{Peak Demand} = \text{Avg. Demand} \times Pf_{DOM} = 3.290\text{l/s} \times 5 = 16.450\text{l/s}$$

The proposed amendments to the permitted SHD shall therefore result in:

- A reduction of **0.455 l/s** in the development's **average** water demand.
- A reduction of **2.275 l/s** in the development's **peak** water demand.

It is consequently not necessary to revise the permitted potable water supply design as part of this application.

5.5 Irish Water Confirmation of Feasibility and Statement of Design Acceptance

Prior to submission of the SHD planning application made in 2021, a Pre-Connection Enquiry (CDS20001785) was submitted to Irish Water, based on the potable water demand of a 1,200-unit residential development on the subject site. A Confirmation of Feasibility was subsequently received from Irish Water.

Proposed drainage design and water supply drawings were then submitted to Irish Water for review, and a Statement of Design Acceptance was issued by Irish Water in June 2021.

The Confirmation of Feasibility (CoF) and Statement of Design Acceptance (SoDA) issued by Irish Water are attached as **Appendix A**. As the proposed amendments to the permitted SHD entail a reduction in residential unit numbers, with no alteration to the permitted water supply arrangements (as reviewed by Irish Water), the CoF and SoDA previously issued by Irish Water are considered to remain applicable and it has not been deemed necessary to submit a new Pre-Connection Enquiry.

6.0 INTERNAL ROAD LAYOUT AND PARKING PROVISION

6.1 Permitted Internal Road Layout

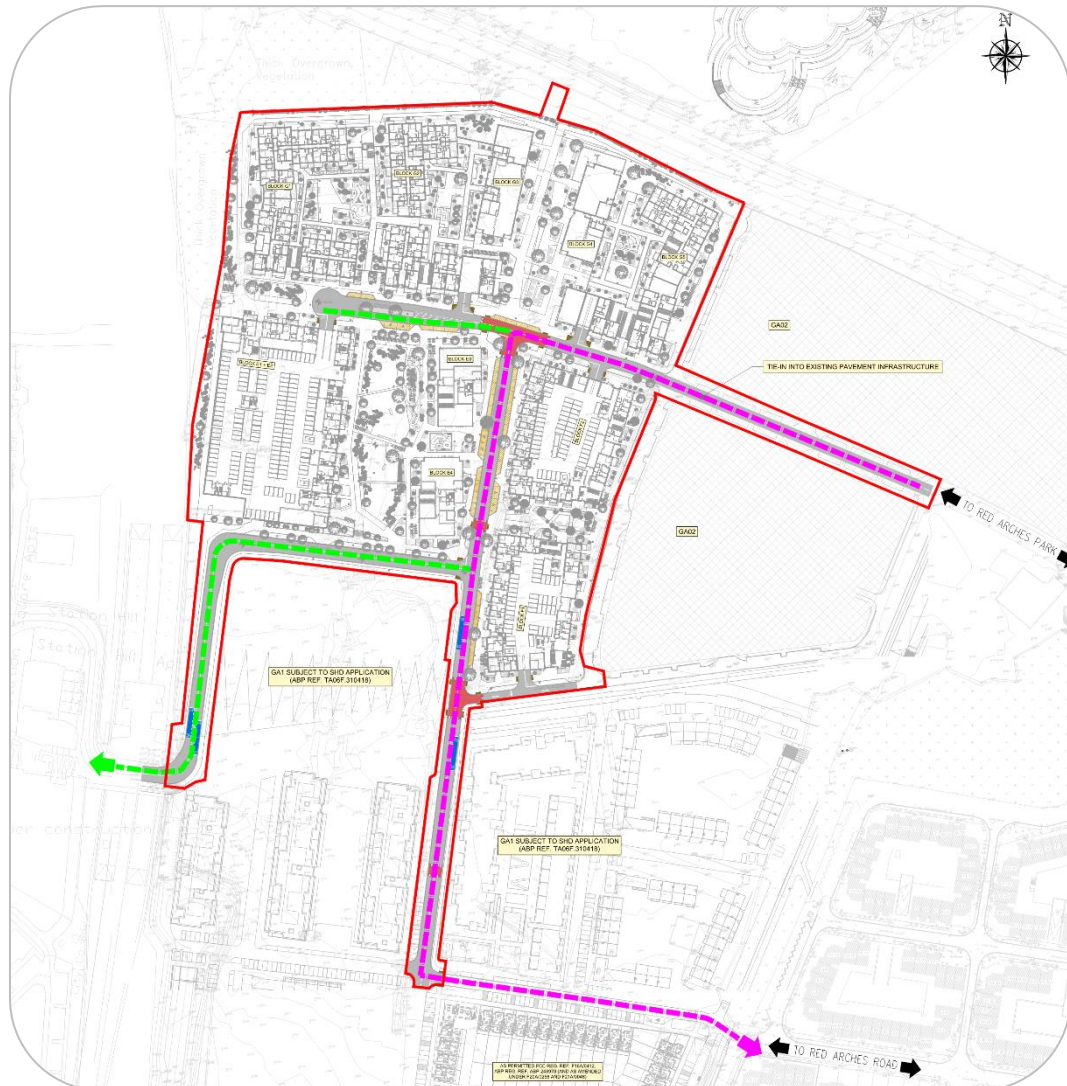


Figure 4 – Permitted SHD road hierarchy
(extract of CS Consulting drawing BD-CSC-ZZ-G3-DR-C-0134)

The internal road network of the permitted SHD has been designed in compliance with the *Design Manual for Urban Roads and Streets* (DMURS) and is described in detail within the Traffic Impact Assessment report submitted under ABP reg. ref. 311016. It comprises link roads along the north-south and east-west axes, allowing circulation into and through the development site, as

well as 2no. local streets that serve individual blocks within the development and provide a connection to Clongriffin railway station. The primary link road through the development is the continuation of Longfield Road, which shall extend northward through the site via the permitted and planned developments in Growth Area 1, immediately to the south.

6.2 Effects of Proposed Amendments on Internal Road Layout

The proposed amendments to the permitted SHD are confined to Blocks E1, G1, G2, G3, and G5. These amendments shall not entail any significant change to building footprints, and shall not require any change to the internal road layout of the permitted development.

6.3 Effects of Proposed Amendments on Car and Bicycle Parking Provisions

The proposed amendments to the permitted SHD are confined to the residential element of Blocks E1, G1, G2, G3, and G5. No change is proposed to the design of non-residential elements within these blocks, nor is any change proposed to the car parking and bicycle parking provisions for the non-residential elements.

As currently permitted, the overall SHD includes a total of 1,221no. residential units:

- 306no. apartments in Zone E
- 213no. apartments in Zone F
- 702no. apartments in Zone G

The permitted SHD includes 665no. car parking spaces to serve these residential units, equating to an overall residential car parking ratio of 0.54 spaces per unit. A more detailed breakdown is given in **Table 1**.

Table 1 – Permitted Overall Residential Car Parking Provision

Zone	Residential Quantum	Internal Spaces	External Spaces	Total Spaces	Car Parking Ratio
E	306 units	152	16	168	0.55 spaces/unit
F	213 units	101	15	116	0.54 spaces/unit
G	702 units	379	2	381	0.54 spaces/unit
TOTAL	1,221 units	632	33	665	0.54 spaces/unit

The proposed amendments to the permitted development shall result in the following revised accommodation provision:

- 301no. apartments in Zone E
- 213no. apartments in Zone F
- 610no. apartments in Zone G

The permitted quanta of car parking allocated to the residential units will not be altered, although an overall reduction of 97no. apartments is proposed. As shown in **Table 2**, the proposed amendments therefore result in slight increases in residential car parking ratios within the development.

Table 2 – Proposed Overall Residential Car Parking Provision

Zone	Residential Quantum	Internal Spaces	External Spaces	Total Spaces	Car Parking Ratio
E	301 units	152	16	168	0.56 spaces/unit
F	213 units	101	15	116	0.54 spaces/unit
G	610 units	379	2	381	0.62 spaces/unit
TOTAL	1,124 units	632	33	665	0.59 spaces/unit

The permitted SHD development includes a total initial provision of 2,327no. bicycle parking spaces. These comprise:

- 508no. secure internal long-term bicycle storage spaces for residents within Zone E (in the south-west of the site)
- 348no. secure internal long-term bicycle storage spaces for residents within Zone F (in the south-east of the site)

- 1,165no. secure internal long-term bicycle storage spaces for residents within Zone G (in the north of the site)
- 306no. publicly accessible bicycle parking spaces for visitors

Table 3 – Permitted Overall Residential Bicycle Parking Ratios

Zone	Residential Quantum	Bicycle Parking Spaces	Bicycle Parking Ratio
Long-term residents' spaces			
E	306 units	508	1.7 spaces/unit
F	213 units	348	1.6 spaces/unit
G	702 units	1,165	1.7 spaces/unit
Sub-Total	1,221 units	2,021	1.7 spaces/unit
Short-stay visitor spaces			
All	1,221 units	306	1 space per 4.0 units

Table 4 – Proposed Overall Residential Bicycle Parking Ratios

Zone	Residential Quantum	Bicycle Parking Spaces	Bicycle Parking Ratio
Long-term residents' spaces			
E	301 units	508	1.7 spaces/unit
F	213 units	348	1.6 spaces/unit
G	610 units	1,165	1.9 spaces/unit
Sub-Total	1,124 units	2,021	1.8 spaces/unit
Short-stay visitor spaces			
All	1,124 units	306	1 space per 3.7 units

Within Blocks E1, G1, G2, G3, and G5, the long-term residential bicycle parking provision shall remain albeit there is a reduction in residential units, thereby a slight uplift in residents' bicycle parking ratios throughout the development as a whole (see **Table 4**). The provision of short-stay visitor spaces shall however remain unchanged, such that the overall development's ratio of visitor bicycle parking shall increase slightly.

7.0 FLOOD RISK

A site-specific Flood Risk Assessment (FRA) was prepared by JBA Consulting at the time of the SHD planning application. This FRA assessed tidal, fluvial, and pluvial flood sources, and confirmed that the site is fully located in Flood Zone C and therefore that the proposed residential development is not at risk of flooding from these sources.

This Flood Risk Assessment has subsequently been revised and reissued by JBA in light of the proposed amendments to the permitted SHD development. The revised FRA report (KAP-JBAI-XX-XX-RP-HO-0001-A3-C07) is submitted under separate cover as part of this planning application. Among its conclusions, the revised FRA report states that:

- *“There is no [...] change to the proposed site layout or any other element that would have an impact on the findings of the FRA report submitted with the SHD application (permitted under ABP Reg. Ref. 311016).*
- *“The proposed modifications do not change the findings of the [previous] FRA report. All residential properties remain in Flood Zone C and an appropriate freeboard has been provided over the 0.5% AEP tidal design event.”*

8.0 CONSTRUCTION MANAGEMENT

A preliminary Construction Management Plan (CMP) was prepared and submitted as part of the planning application for the permitted SHD. This gives an overview of the processes to be employed during construction of this project, addressing the following:

- Site management (including vehicular access to site)
- Environmental management
- Waste management
- Traffic management
- Sediment and water pollution control
- Compound facilities and parking
- Provisions for works in proximity to railway line
- Provisions for works in proximity to Dublin Airport

The proposed amendments to the permitted SHD scheme shall not require any significant change to the above construction management measures detailed in the CMP.

9.0 FEEDBACK RECEIVED FROM PLANNING AUTHORITY

Fingal County Council has reviewed the planning documentation submitted in respect of the current amendment proposals during the pre-application consultation phase of the LRD process (including a previous version of the present Engineering Services Statement). An LRD pre-application consultation meeting of the Council and the applicant's design team was held on the 5th of January 2023.

An LRD Opinion document was issued by Fingal County Council on the 31st of January 2023. This concluded that *"the documentation submitted within the consultation request under Section 32B of the [Planning and Development Act 2000] constitutes a reasonable basis on which to make an application for permission for the proposed Large-Scale Residential Development"*.

9.1 Specific Information to be Submitted with Application

The Council's Opinion document lists several items of specific information that should be submitted with any application for permission, among which:

- *"Environmental assessments as appropriate, Statement on Biodiversity, AA, NIS and updated Environmental Impact Assessment Report, where applicable and relevant flood risk assessments."*

As previously noted, the site-specific Flood Risk Assessment (FRA) prepared by JBA Consulting at the time of the SHD planning application has since been revised and reissued by JBA in light of the proposed amendments to the permitted SHD development. The revised FRA report (KAP-JBAI-XX-XX-RP-HO-0001-S3) is submitted under separate cover as part of this planning application.

9.2 FCC Departmental Reports

Internal consultation reports from specific Fingal County Council departments were appended to the Opinion document. Among these are observations from the Transport Planning Section and the Water Services Department:

- The Transport Planning Section report notes that the proposed amendments *“would result in a slight positive uplift in both carparking and bike parking ratios, this is to be welcomed”* and that *“there would be no amendments to road infrastructure included within the proposed development”*. The internal report concludes that *“the Transport planning section would have no objections to the proposed development”*.
- The Water Services Department report summarises the flood risk assessment undertaken to date and concludes that *“the development site along with the proposed mitigation measures should not pose a flood risk”*. The report also acknowledges that the current application involves no changes to the foul drainage system, storm water system, or potable water supply proposed under the parent SHD permission (ABP reg. ref. 311016) and stipulates that the conditions imposed under this ABP permission with regard to drainage and water supply shall continue to apply.

10.0 CONCLUSION

The proposed amendments to the permitted SHD scheme entail a net reduction of 97no. apartment units within Blocks E1, G1, G2, G3, and G5. No changes are proposed to:

- the non-residential elements within these blocks;
- Blocks E2 and G4 (although within the red line of this application area);
- the other permitted blocks within the scheme;
- the permitted landscaping and SuDS design;
- the permitted internal road layout; or
- the permitted car and bicycle parking provisions.

With regard to drainage, water supply, and parking provisions pertaining to Blocks E1, G1, G2, G3, and G5, the proposed amendments shall result in:

- no significant change to storm water runoff;
- a minor decrease in foul effluent generation;
- a minor decrease in potable water demand; and
- minor increases in residential car and bicycle parking ratios.

It is consequently not necessary to revise the permitted storm water drainage design, the permitted foul drainage design, the permitted water supply arrangements, or the permitted car parking provision.

It is further noted that:

- The proposed amendments shall not have any effect on the permitted development's susceptibility to flooding or its potential to contribute to off-site flooding.
- The proposed amendments shall not require any significant change to the construction management measures previously set out for the permitted development.

Appendix A

Irish Water Confirmation of Feasibility and Statement of Design Acceptance

Owen Sullivan
CS Consulting
19-22 Dame Street
Dublin 2
D02E267

16 November 2020

Dear Owen Sullivan,

Re: Connection Reference No CDS20001785 pre-connection enquiry -

Subject to contract | Contract denied

Connection for Housing Development of 1,200 unit(s) at The Coast, Baldoyle, Dublin

13

Irish Water has reviewed your pre-connection enquiry in relation to a water and wastewater connection at The Coast, Baldoyle, Dublin 13.

Based upon the details that you have provided with your pre-connection enquiry and on the capacity currently available in the network(s), as assessed by Irish Water, we wish to advise you that, subject to a valid connection agreement being put in place, your proposed connection to the Irish Water network(s) can be facilitated.

Water:

In order to accommodate the proposed connection to Irish Water network at the Premises, upgrade works are required as follows:

- Connection main - (Approx.) 150m of new 200mm ID pipe main to be laid to connect the site development to the existing 300mm main. Bulk meter to be installed on the connection main to be linked with telemetry online. See red dashed-line below in the figure.
- Secondary connection main – (Approx.) 30m of new 200mm ID pipe main to be laid to connect site boundary to 450mm DI main. Valve to be installed on connection main, valve to be closed in normal operations. See green line in the figure below.

Irish Water currently does not have any plans to extend its network in this area. Should you wish to progress with the connection you will be required to fund this network extension.

This Confirmation of Feasibility to connect to the Irish Water infrastructure also does not extend to your fire flow requirements. Please note that Irish Water cannot guarantee a flow rate to meet fire flow requirements and in order to guarantee a flow to meet the Fire Authority requirements, you may need to provide adequate fire storage capacity within your development.

In order to determine the potential flow that could be delivered during normal operational conditions, an onsite assessment of the existing network is required.

Wastewater:

New connection to the existing network is feasible without upgrade.

All connections to the North Fringe Sewer should be sufficiently sized to cater for all new flows and to be separate foul only connections.

Connection detail to the 1600mm sewer has to be submitted and agreed at Connection Application stage. The sewer can surcharge at this location and connection detail will need to withstand any surcharging effect to the internal network.

Strategic Housing Development:

Irish Water notes that the scale of this development dictates that it is subject to the Strategic Housing Development planning process. In advance of submitting your full application to An Bord Pleanála for assessment, you must have reviewed this development with Irish Water and received a Statement of Design Acceptance in relation to the layout of water and wastewater services.

All infrastructure should be designed and installed in accordance with the Irish Water Codes of Practice and Standard Details. A design proposal for the water and/or wastewater infrastructure should be submitted to Irish Water for assessment. Prior to submitting your planning application, you are required to submit these detailed design proposals to Irish Water for review.

You are advised that this correspondence does not constitute an offer in whole or in part to provide a connection to any Irish Water infrastructure and is provided subject to a connection agreement being signed at a later date.

A connection agreement can be applied for by completing the connection application form available at **www.water.ie/connections**. Irish Water's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities.

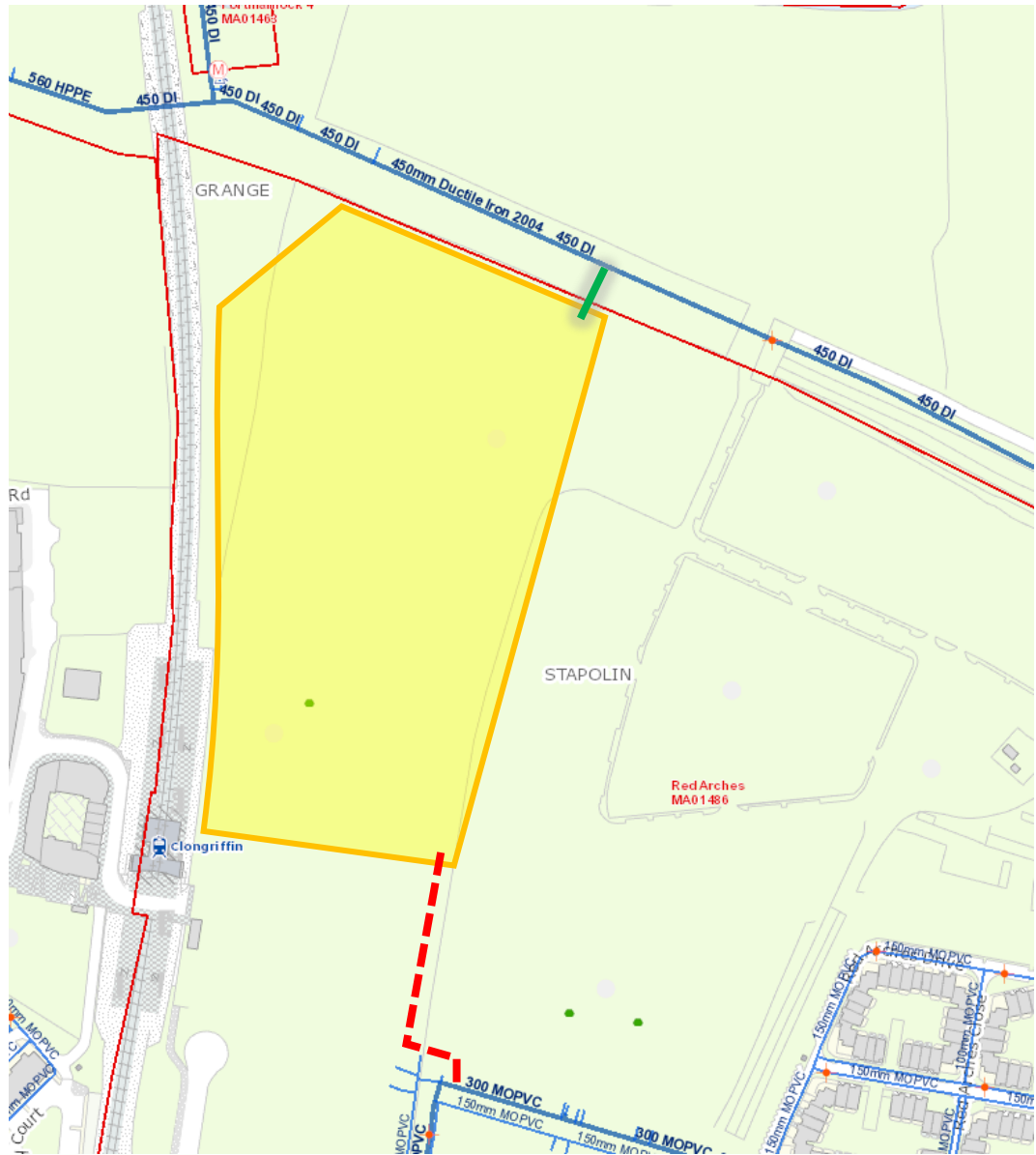
If you have any further questions, please contact Marina Byrne from the design team via email mzbyrne@water.ie. For further information, visit www.water.ie/connections.

Yours sincerely,



Maria O'Dwyer

Connections and Developer Services



Sean McCallion
Embassy house
Ballsbridge, Dublin 4
Dublin
D04H6Y0

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Irish Water
PO Box 448,
South City
Delivery Office,
Cork City.

www.water.ie

18 June 2021

**Re: Design Submission for The Coast, Baldoye, Dublin, Co. Dublin (the “Development”)
(the “Design Submission”) / Connection Reference No: CDS20001785**

Dear Sean McCallion,

Many thanks for your recent Design Submission.

We have reviewed your proposal for the connection(s) at the Development. Based on the information provided, which included the documents outlined in Appendix A to this letter, Irish Water has no objection to your proposals.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Irish Water infrastructure. Before you can connect to our network you must sign a connection agreement with Irish Water. This can be applied for by completing the connection application form at www.water.ie/connections. Irish Water's current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities (CRU) (https://www.cru.ie/document_group/irish-waters-water-charges-plan-2018/).

You the Customer (including any designers/contractors or other related parties appointed by you) is entirely responsible for the design and construction of all water and/or wastewater infrastructure within the Development which is necessary to facilitate connection(s) from the boundary of the Development to Irish Water's network(s) (the “**Self-Lay Works**”), as reflected in your Design Submission. Acceptance of the Design Submission by Irish Water does not, in any way, render Irish Water liable for any elements of the design and/or construction of the Self-Lay Works.

If you have any further questions, please contact your Irish Water representative:

Name: Alvaro Garcia

Email: agarcia@water.ie

Yours sincerely,



Yvonne Harris
Head of Customer Operations

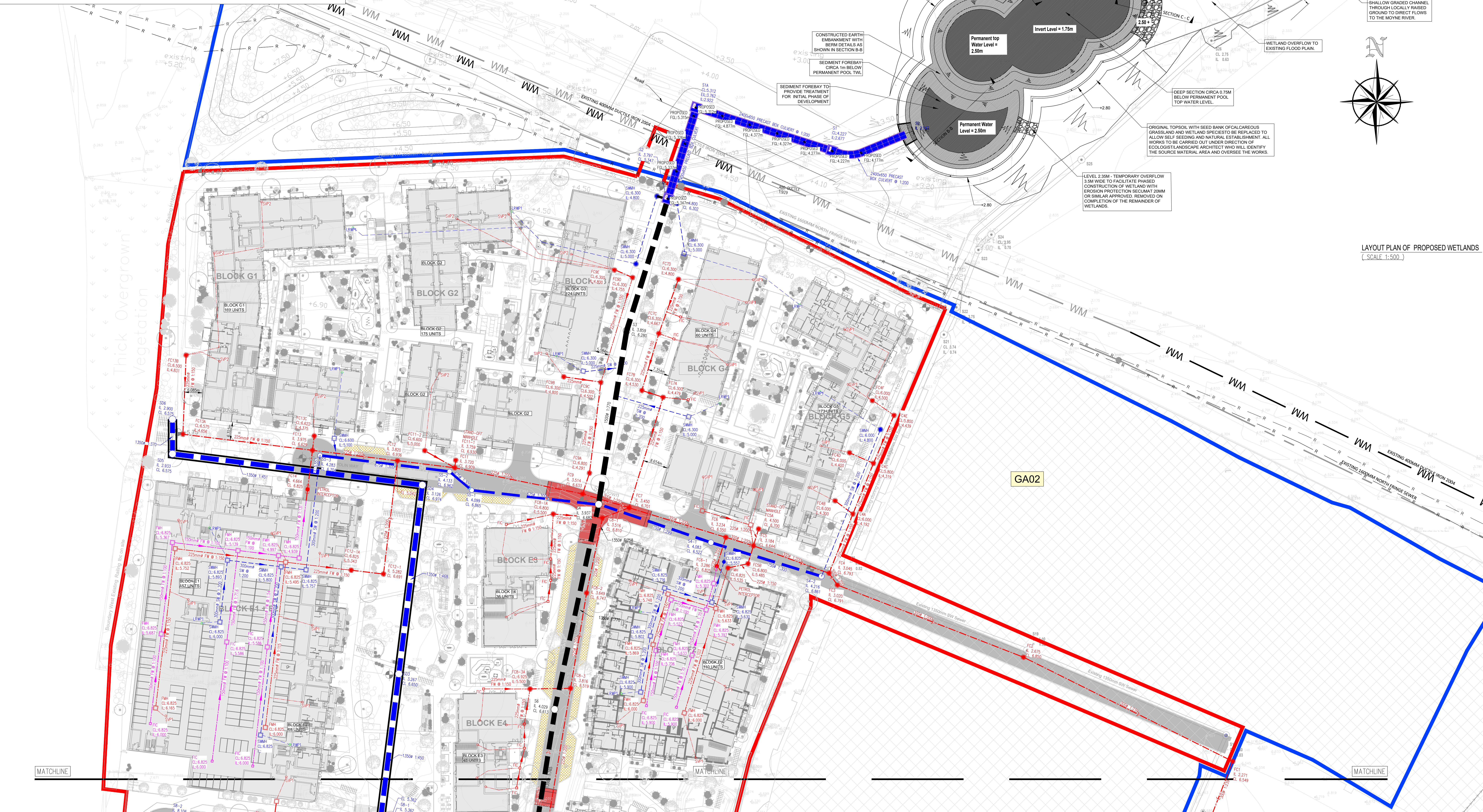
Appendix A

Document Title & Revision

BD-CSC-ZZ-G3-DR-C-0103_Proposed Drainage Layout-Sheet 1
BD-CSC-ZZ-G3-DR-C-104_Proposed Drainage Layout-Sheet 2
BD-CSC-ZZ-G3-DR-C-0105_Proposed Basement Drainage
BD-CSC-ZZ-G3-DR-C-107_Proposed Watermain Layout-Sheet 1
BD-CSC-ZZ-G3-DR-C-108_Proposed Watermain Layout-Sheet 2
BD-CSC-ZZ-G3-DR-C-0115_Foul Sewer Profiles

For further information, visit www.water.ie/connections

Notwithstanding any matters listed above, the Customer (including any appointed designers/contractors, etc.) is entirely responsible for the design and construction of the Self-Lay Works. Acceptance of the Design Submission by Irish Water will not, in any way, render Irish Water liable for any elements of the design and/or construction of the Self-Lay Works.

[illegible]


PVC MATERIALS

ALL FOUL SEWER PIPE MATERIALS SHALL BE PVC S288 OR IN COMPLIANCE WITH SECTION 3.13 OF THE IRISH WATER CODE OF PRACTICE FOR WASTEWATER.

PROPOSED SW SEWERS 450mm^Ø IN DIAMETER OR LARGER TO BE CONCRETE (EN1916(2002)), THERMOSTATIC STRUCTURED WALLED PIPES (TWIN WALL) TO PIPE DIAMETERS 225mm^Ø OR 375mm^Ø OR SIMILAR APPROVED.

R09

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02

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Rev. No.	Date	REVISION NOTE
P1	01.03.2021	Site Layout Revised
P2	17.06.2021	RED LINE AMENDMENT

[illegible]

	Des. By	Chkd. By	Architect
	JS	OS	Project
	DD	OS	
			Title
			Dwg. No.

Henry J. Lyons
GA03 Project Shoreline, Baldoye.
PROPOSED DRAINAGE LAYOUT
SHEET 1 OF 2
BD-CSC-ZZ-G3-DR-C-0103

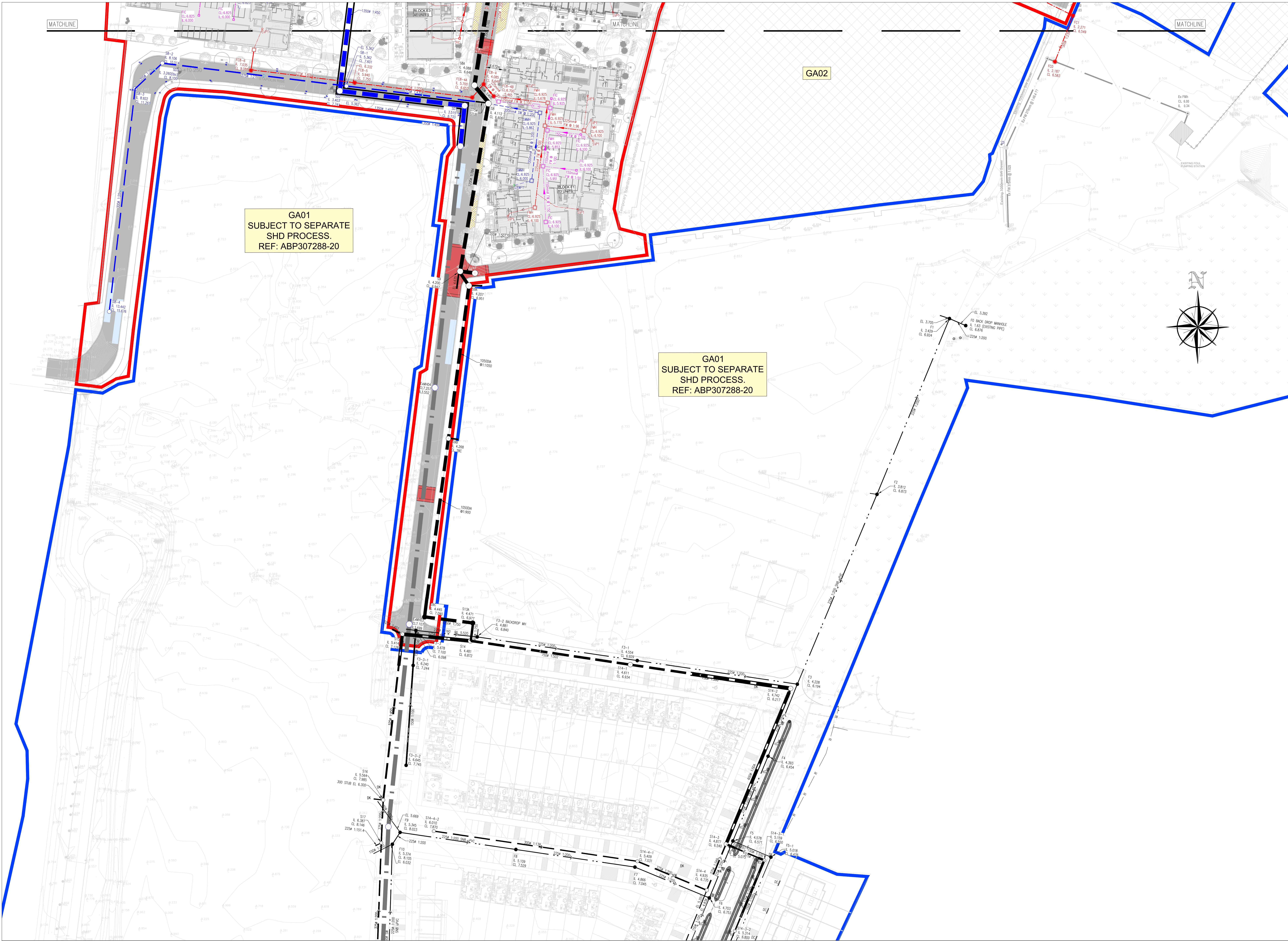
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LEGEND:

SITE BOUNDARY

LEGEND

EXISTING FOUL SEWER

EXISTING SURFACE WATER SEWER

PROPOSED STORM SEWER

PROPOSED FOUL SEWER

PROPOSED SURFACE WATER SEWER DIVERSION

UNDERCROFT PARKING LEVEL DRAINAGE

PROPOSED FOUL INSPECTION CHAMBER

PROPOSED SW INSPECTION CHAMBER

PIPE DIAMETER AND GRADIENT

PROPOSED MANHOLE NUMBER, COVER AND INVERT LEVELS

BACKDROP INVERT LEVEL

PROPOSED SWALE

PROPOSED BIO RETENTION

KERB GULLY

ROAD GULLY

PROPOSED GREEN ROOF

PROPOSED PERMEABLE PAVING

PROPOSED TREE PIT

SITE BOUNDARY EXTENTS

NOTE: LOCATIONS AND LEVELS OF ALL EXISTING SERVICES ON SITE TO BE SURVEYED AND VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS.

NOTES:

- ALL LEVELS ARE TO MAIN HEAD ORDNANCE DATUM.
- REFER TO DRAWING BD-CSC-ZZ-G3-DR-C-0109 FOR MANHOLE DETAILS.
- REFER TO DRAWING BD-CSC-ZZ-G3-DR-C-0110 FOR PIPE BEDDING DETAILS.
- ALL WORKS IN CONFINED SPACES SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH THE PROVISIONS ON "SAFE WORK" IN CONFINED SPACES' CODE OF PRACTICE FOR WORKING IN CONFINED SPACES, PUBLISHED BY THE HEALTH & SAFETY AUTHORITY.
- ALL SITE DEVELOPMENT WORKS SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH THE CONSTRUCTION DRAWINGS.
- ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY, THE PUBLICATIONS, SERIES 500, THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND THE IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTATION, INCLUDING DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING ALL EXISTING SERVICES WITHIN THE SITE BOUNDARY AND IN THE AREA AFFECTED BY THE WORKS. THE ENGINEER HAS PROVIDED INFORMATION ON KNOWN SERVICES BUT DOES NOT GUARANTEE THAT THIS INFORMATION PROVIDED BY THE THIRD PARTIES, IS CORRECT OR THAT THESE ARE THE ONLY SERVICES ON THE SITE.
- SURFACE SHORT LENGTHS OF PIPE OR ROCKER PIPES SHALL BE INSTALLED TO PROVIDE A FLEXIBLE JOINT WITHIN 100MM OF THE OUTER FACE OF THE MANHOLE ON ALL SEWERS AND BRANCHES.
- WHERE ROCK IS MET IN TRENCHES IT SHALL BE EXCAVATED AND TRIMMED TO 20MM BELOW THE UNDERSIDE OF PIPELINE.
- GRANULAR MATERIAL 5MM - 20MM NOMINAL SIZE GRADED AGGREGATE (TO COMPLY WITH TABLE 1 OF BS) TO BE USED FOR BEDDING, HAUNCHING AND SURROUND TO PIPES WHERE SPECIFIED.
- CONCRETE MIX C16/20 TO BE USED FOR BEDDING, HAUNCHING AND SURROUND WHERE SPECIFIED.
- WHERE RIGID PIPES WITH FLEXIBLE JOINTS ARE USED WITH COMPLETE BEDS FOR DRAINS AND WATERMANS, VERTICAL MOVEMENT JOINTS SHALL BE PROVIDED IN THE BEDS AT MAX. INTERVALS OF 5.0M AND ALIGNED WITH FACE OF PIPE SADDLES. JOINTS TO BE MINIMUM 12M WIDE AND FILLED WITH FLEXCELL OR SIMILAR APPROVED MATERIAL.
- SURFACE WATER AND FOUL DRAINS SHALL BE SURROUNDED BY 150 THICKNESS OF C16/20 CONCRETE IF COVER TO PIPE IS LESS THAN:-
-0.6M IN ROADS AND DRIVEWAYS
-0.9M IN OPEN SPACES AND PATHS NOT NEAR CARRIAGEWAYS.
- ALL PIPE RINGS SHALL BE LAID IN STRAIGHT LINES BOTH VERTICALLY AND HORIZONTALLY TO THE SPECIFIED GRADIENTS BETWEEN MANHOLES. NO DEVIATIONS OR BENDS SHALL BE PERMITTED.
- REFER TO THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS FOR DETAILS OF SURFACE WATER MANHOLE STANDARDS AND IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS FOR DETAILS OF FOUL MANHOLE STANDARDS.
- THE CONTRACTOR SHALL CARRY OUT A CCTV SURVEY REPORT OF THE COMPLETED STORM & FOUL NETWORK TO THE SATISFACTION OF THE LOCAL AUTHORITY AND REPORT TO BE ISSUED ON PRACTICAL COMPLETION.
- THE LOCAL AUTHORITY MUST BE NOTIFIED AT LEAST TO WORKING DAYS IN ADVANCE OF COMMENCEMENT OF WORKS.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION OUTFALL LEVELS FOR THE FOUL AND SURFACE WATER MANHOLES SHALL BE VERIFIED ON SITE.
- PROPOSED FOUL SEWERS WILL BE EITHER CONCRETE, THERMOSTATIC STRUCTURED WALLIED PIPES OR IMPLANTED PVC IN ACCORDANCE WITH SECTION 3.3.3 OF THE IRISH WATER WASTEWATER CODE OF PRACTICE. PROPOSED STORM DRAIN TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF FINGAL CO. CO.
- TYPICAL SERVICE LAYOUT DISTANCES (HORIZONTAL AND VERTICAL) AS PER IRISH WATER DETAIL STD-WH-02.
- THE EXTERNAL FACE OF PROPOSED MANHOLE CHAMBERS IN PUBLIC ROADS SHALL BE A MINIMUM OF 0.5M FROM THE PROPOSED PUBLIC ROAD KERB LINE IN ACCORDANCE WITH SECTION 1.2.2 OF THE IRISH WATER WASTEWATER CODE OF PRACTICE.
- INSPECTION CHAMBERS TO EACH HOUSE/JUNT TO BE IN ACCORDANCE WITH IRISH WATER DETAIL STD-WH-02 AND STD-WH-03.
- APPROPRIATE MEASURES ACCORDING TO SECTION 3.2.2 OF THE IRISH WATER WASTEWATER CODE OF PRACTICE WILL BE PROVIDED TO DRAINAGE INFRASTRUCTURE IN CLOSE PROXIMITY TO PLANTING TO PREVENT ANY DAMAGE TO INFRASTRUCTURE, VIA ROOT INGRESS OR NEGATIVE IMPACTS TO PLANTING SUCH AS DAMAGE OF TREE ROOTS.

PPE MATERIALS

ALL FOUL SEWER PIPE MATERIALS SHALL BE PVC SNR OR IN COMPLIANCE WITH SECTION 3.3.3 OF THE IRISH WATER CODE OF PRACTICE FOR MANHOLE.

PROPOSED SW SEWERS 450mm IN DIAMETER OR LARGER TO BE CONCRETE (SENTRIS/2002), THERMOSTATIC STRUCTURED WALLIED PIPES (CIVIL WALL) TO PIPE DIAMETERS 225mm OR 375mm OR SIMILAR APPROVED.

NOTES

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Rev No	Date	REVISION NOTE	Drawn By	Check By	Architect
P1	01.02.2021	Site Layout Revised	JS	OS	
P2	17.06.2021	RED LINE AMENDED	DD	OS	

Date	Drawn By	Check By	Approved By	Scale	Revision
13.10.2020	DD	NB	OS	1:500 @A0	P2

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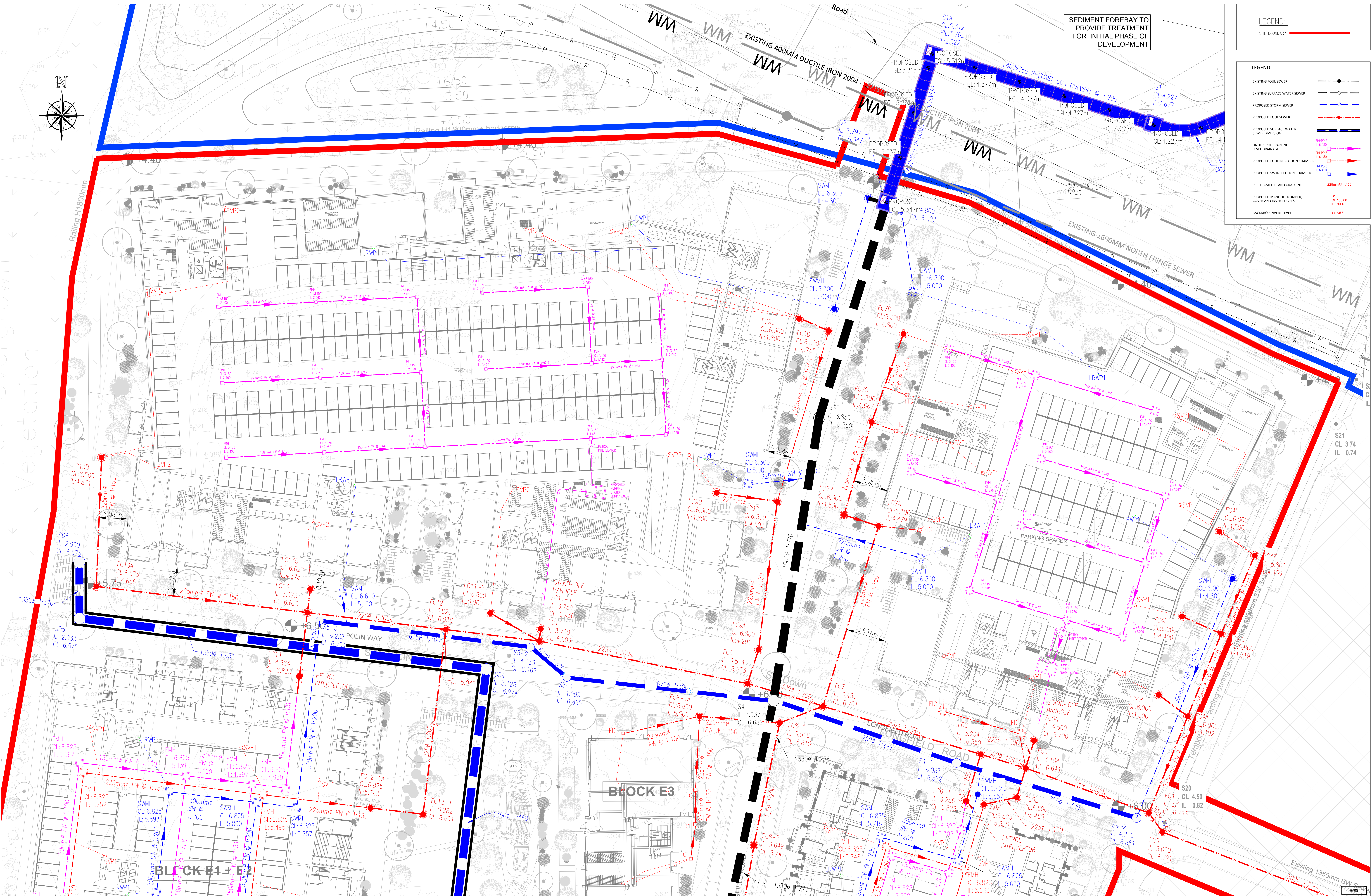
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Henry J. Lyons
GA03 Project Shoreline, Baldoye.

Title
PROPOSED DRAINAGE LAYOUT
SHEET 2 OF 2

Proj No
BD-CSC-ZZ-G3-DR-C-0104

R00



SEDIMENT FOREBAY TO PROVIDE TREATMENT FOR INITIAL PHASE OF DEVELOPMENT

LEGEND:

SITE BOUNDARY

LEGEND

- EXISTING FOUL SEWER
- EXISTING SURFACE WATER SEWER
- PROPOSED STORM SEWER
- PROPOSED FOUL SEWER
- PROPOSED SURFACE WATER SEWER DIVERSION
- UNDERCROFT PARKING LEVEL DRAINAGE
- PROPOSED FOUL INSPECTION CHAMBER
- PROPOSED SW INSPECTION CHAMBER
- PIPE DIAMETER AND GRADIENT
- PROPOSED MANHOLE NUMBER, COVER AND INVERT LEVELS
- BACKDROP INVERT LEVEL

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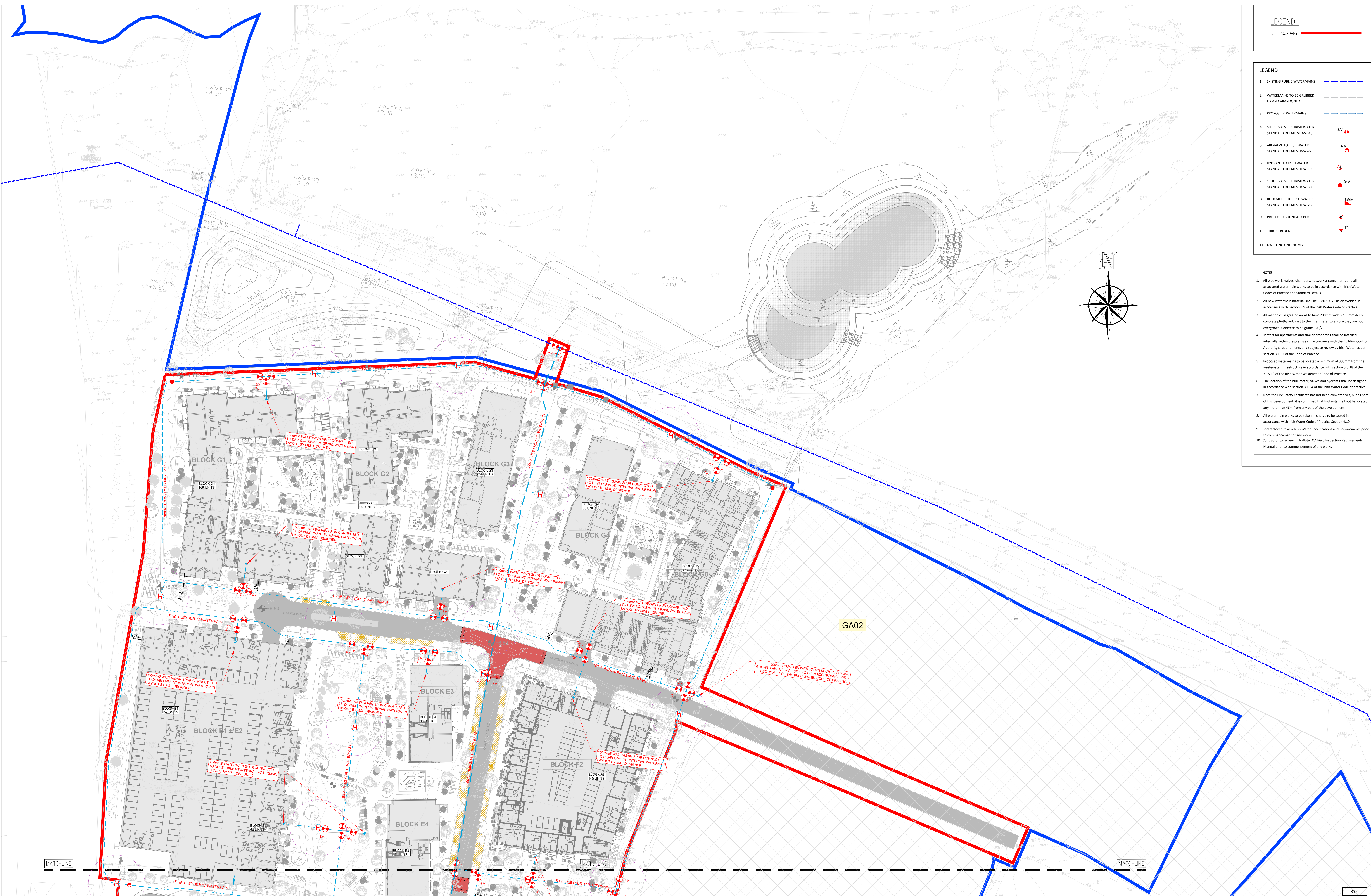
Rev No	Date	REVISION NOTE	Rev No	Date	REVISION NOTE
P1	07.03.2021	Site Layout Revised	P2	17.08.2021	RED LINE WEND

Architect	Henry J. Lyons
Project	GA03 Project Shoreline, Baldoye.
Title	PROPOSED BASEMENT DRAINAGE
Dwg No	BD-CSC-ZZ-G3-DR-C-0105
Date	13.10.2020
Drawn By	DD
Checked By	NB
Scale	OS 1:250 (A4)
Revision	P2

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LEGEND:
SITE BOUNDARY

- LEGEND
- EXISTING PUBLIC WATERMANS
 - WATERMANS TO BE GRUBBED UP AND ABANDONED
 - PROPOSED WATERMANS
 - SLUICE VALVE TO IRISH WATER STANDARD DETAIL STD-W-15
 - AIR VALVE TO IRISH WATER STANDARD DETAIL STD-W-22
 - HYDRANT TO IRISH WATER STANDARD DETAIL STD-W-19
 - SCOUR VALVE TO IRISH WATER STANDARD DETAIL STD-W-30
 - BULK METER TO IRISH WATER STANDARD DETAIL STD-W-26
 - PROPOSED BOUNDARY BOX
 - THRUST BLOCK
 - DWELLING UNIT NUMBER

- NOTES
- All pipe work, valves, chambers, network arrangements and all associated watermain works to be in accordance with Irish Water Codes of Practice and Standard Details.
 - All new watermain material shall be PE80 SDR17 Fusion Welded in accordance with Section 3.9 of the Irish Water Code of Practice.
 - All manholes in grassed areas to have 200mm wide x 100mm deep concrete plinth/berms cast to their perimeter to ensure they are not overgrown. Concrete to be grade C20/25.
 - Meters for apartments and similar properties shall be installed internally within the premises in accordance with the Building Control Authority's requirements and subject to review by Irish Water as per section 3.15.2 of the Code of Practice.
 - Proposed watermains to be located a minimum of 300mm from the wastewater infrastructure in accordance with section 3.5.18 of the 3.15.18 of the Irish Water Wastewater Code of Practice.
 - The location of the bulk meter, valves and hydrants shall be designed in accordance with section 3.15.4 of the Irish Water Code of practice.
 - Note the Fire Safety Certificate has not been completed yet, but as part of this development, it is confirmed that hydrants shall not be located any more than 46m from any part of the development.
 - All watermain works to be taken in charge to be tested in accordance with Irish Water Code of Practice Section 4.10.
 - Contractor to review Irish Water Specifications and Requirements prior to commencement of any works.
 - Contractor to review Irish Water QA Field Inspection Requirements Manual prior to commencement of any works.

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P1	01.03.2021	Site Layout Revised	JS	OS
P2	17.08.2021	RED LINE AMENDED	DO	OS

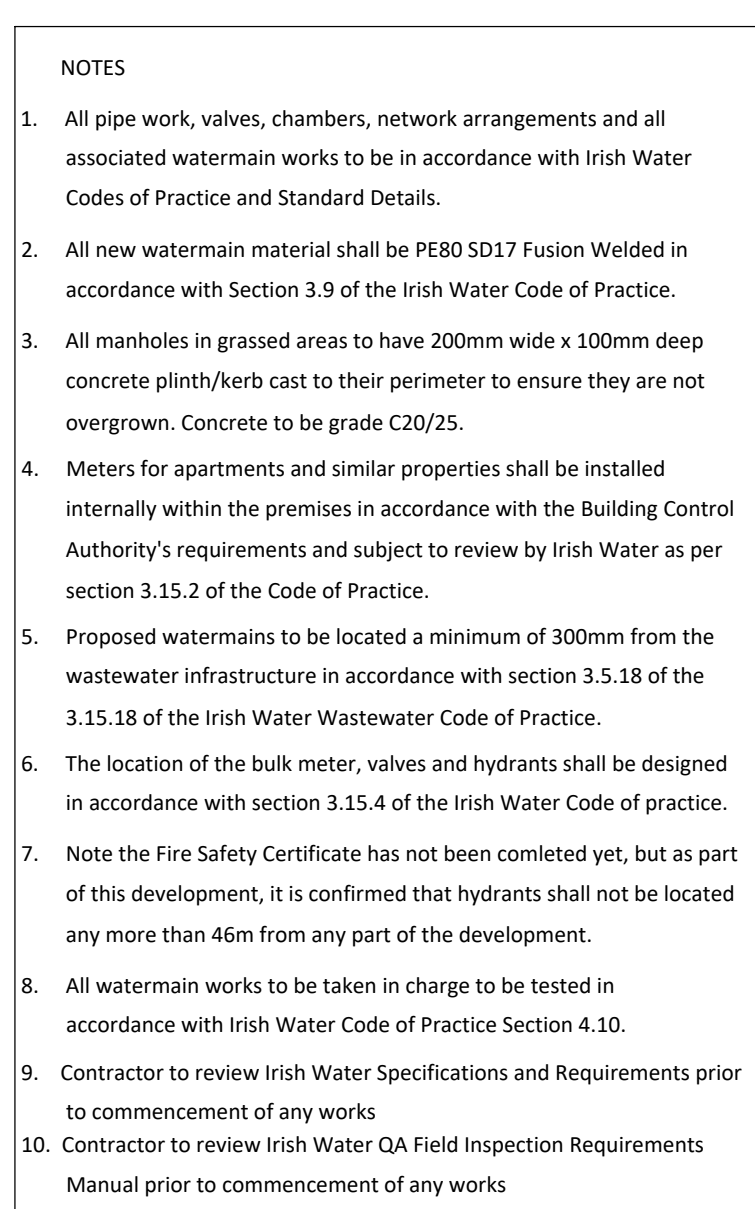
Architect	Henry J. Lyons
Project	GA03 Project Shoreline, Baldoye.
Title	PROPOSED WATERMAIN LAYOUT SHEET 1 OF 2
Dwg. No.	BD-CSC-ZZ-G3-DR-C-0107
Date	13.10.2020
Unit	DD
City	MB
OS	OS
Scale	1:500 @A0

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REF: ABP307288-20

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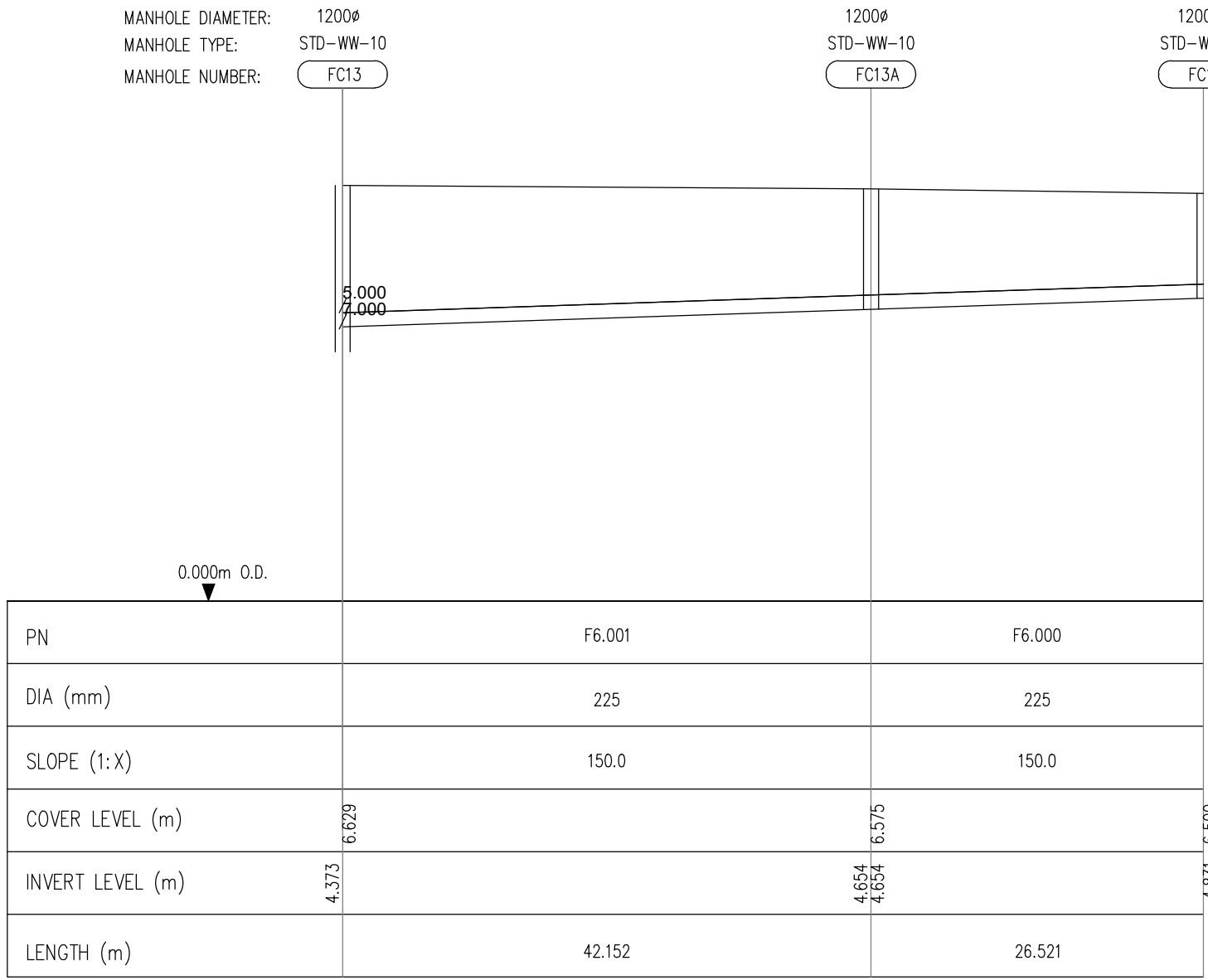
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Architect	Henry J. Lyons				
Project	GA03 Project Shoreline, Baldoyle.				
Title	PROPOSED WATERMAIN LAYOUT SHEET 2 OF 2				
Dwg. No.	BD-CSC-ZZ-G3-DR-C-0108				
Date	Dim by	Check by	Approved by	Scale	Revision

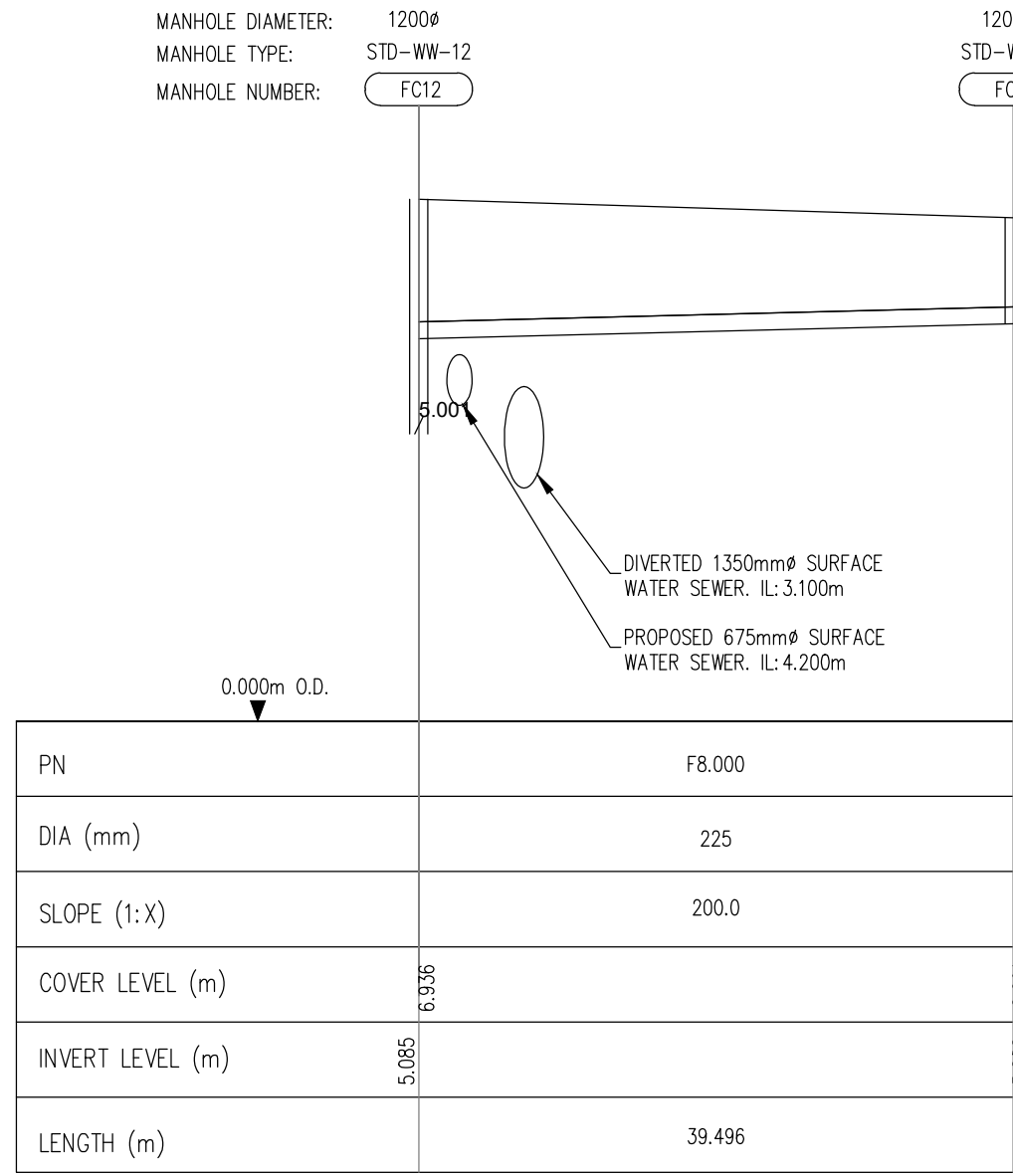
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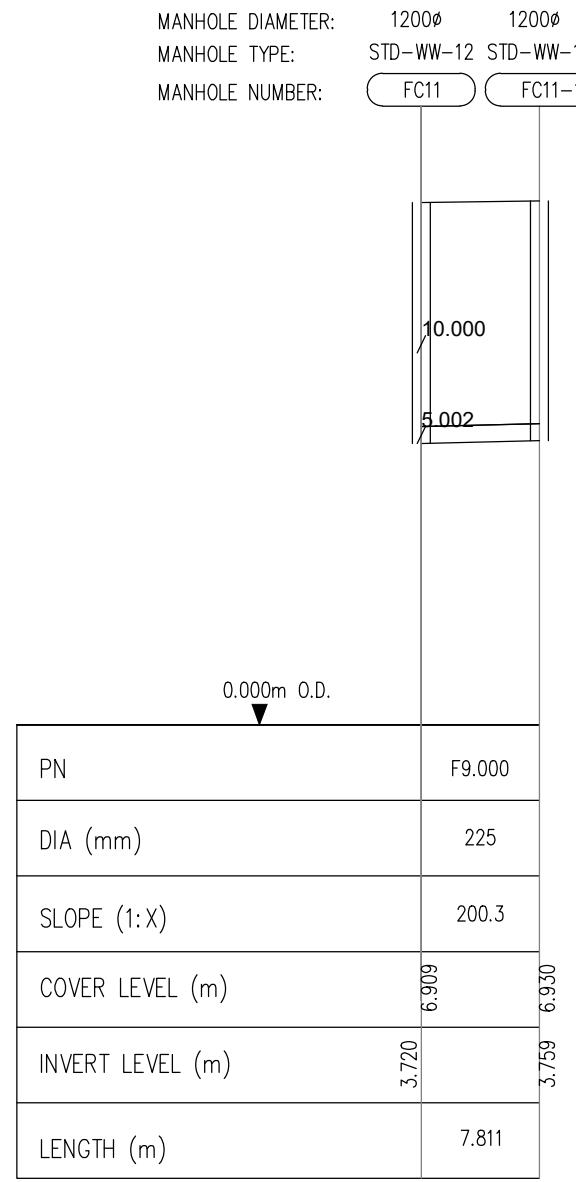
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 Environment I.S. EN ISO 14001:2004
 Energy I.S. EN ISO 50001:2011



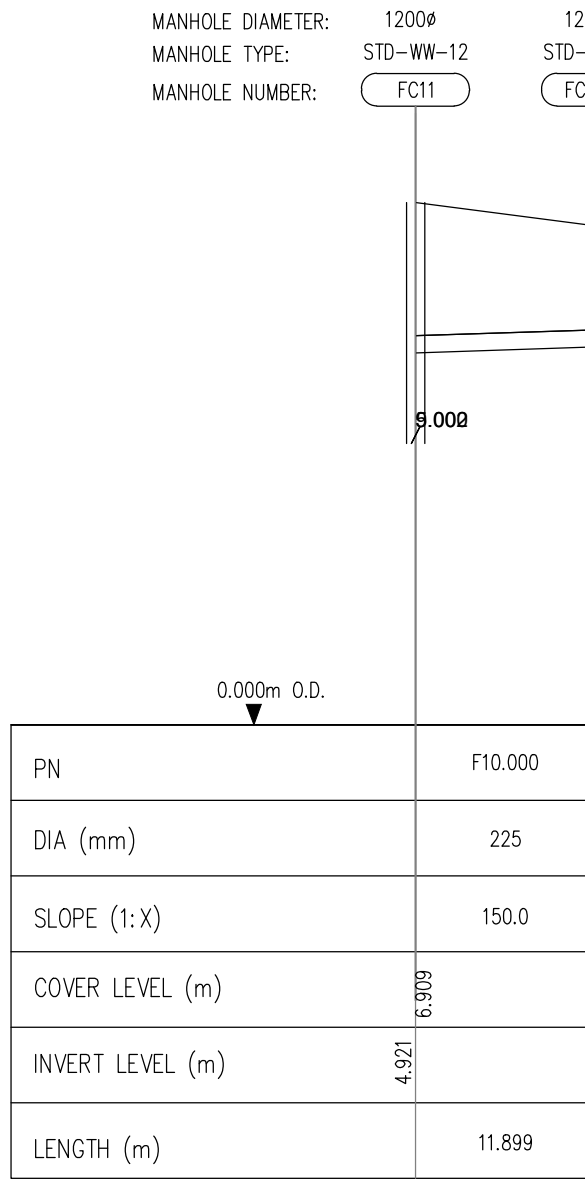
FOUL SEWER FROM MANHOLE FC13B TO MANHOLE FC13
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



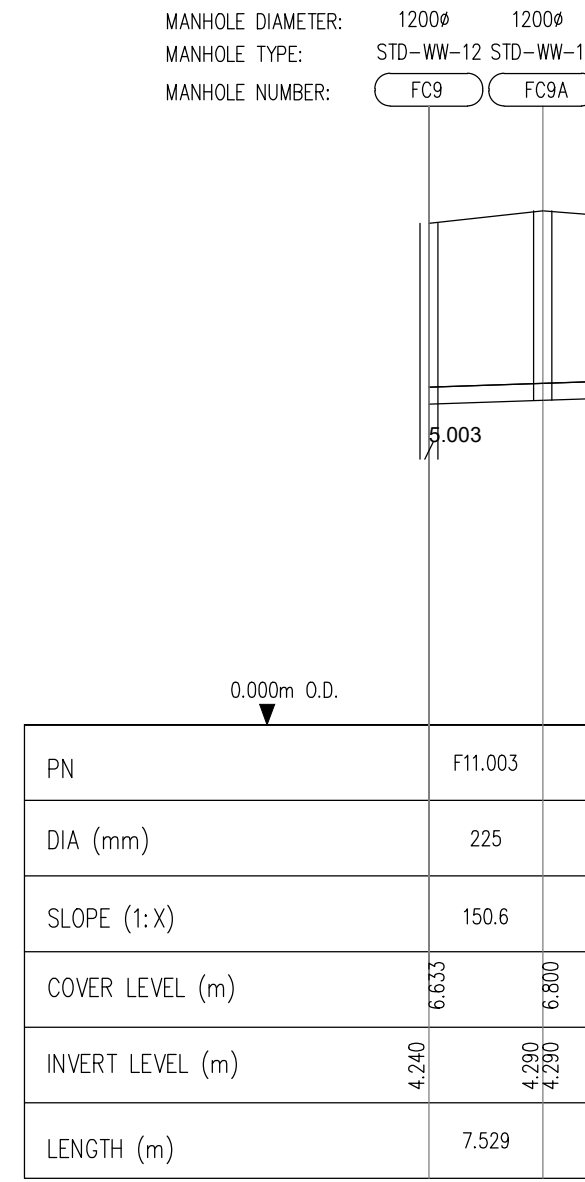
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HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



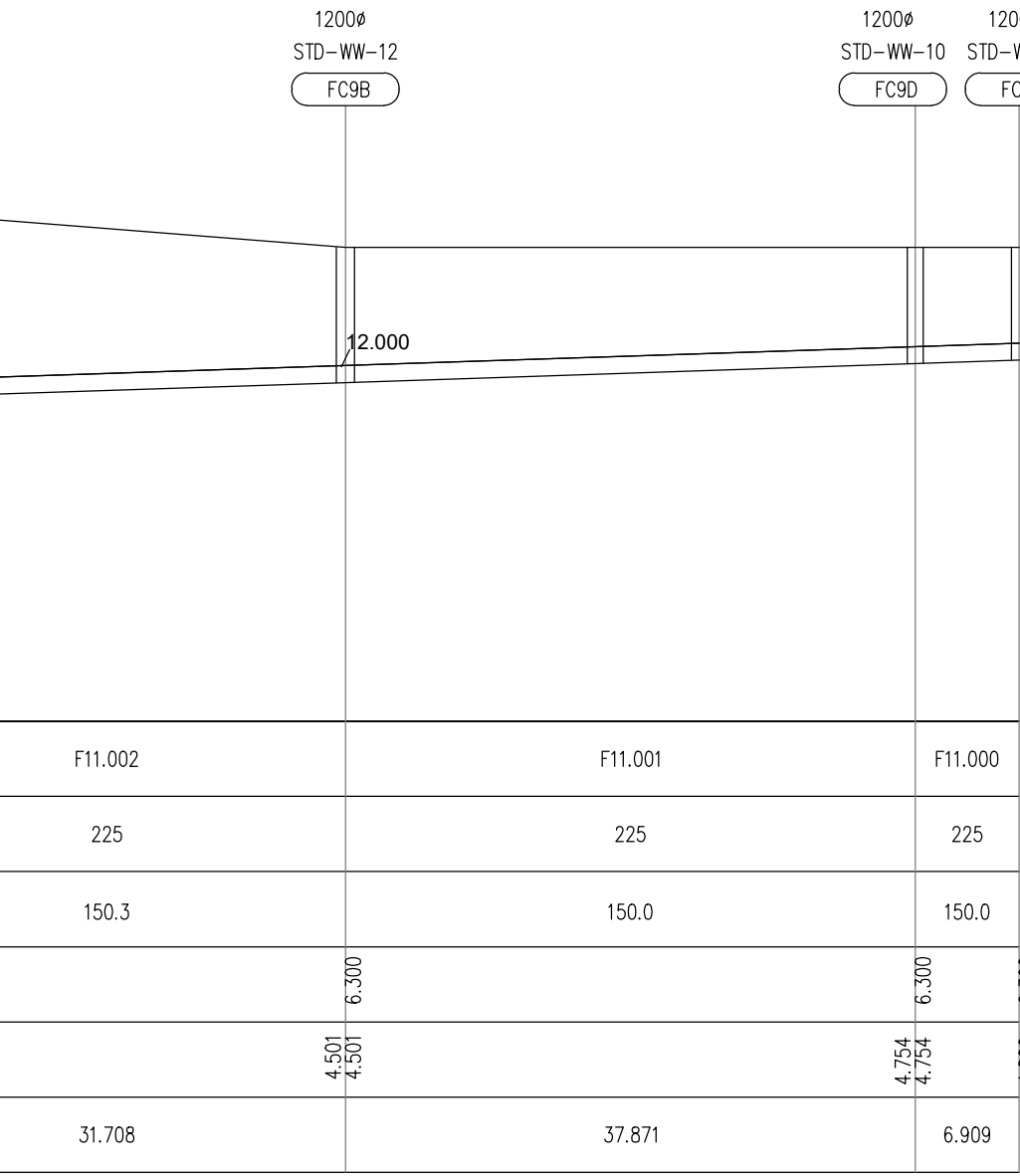
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HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



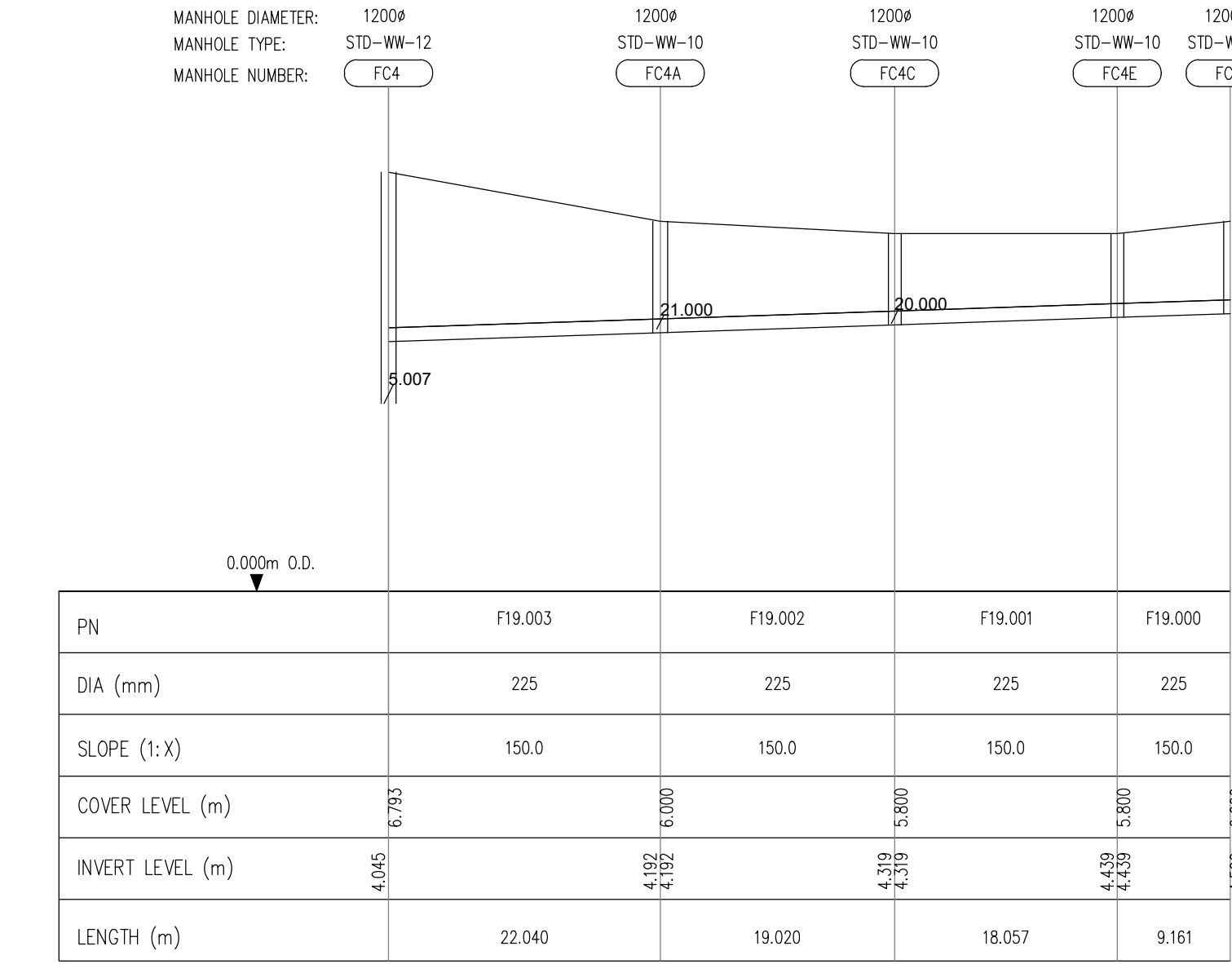
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HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



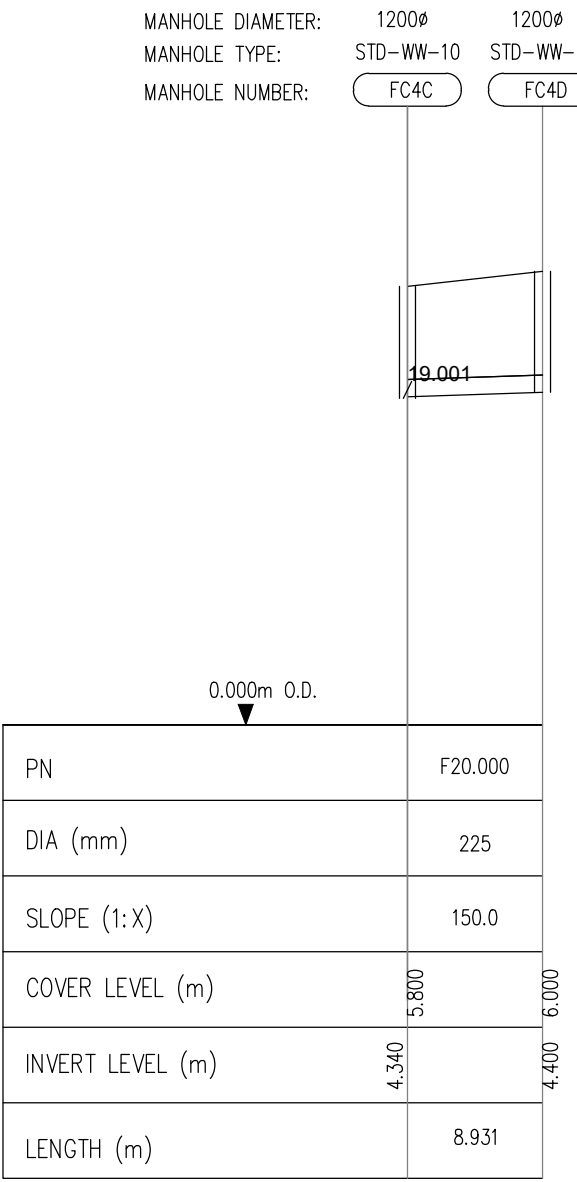
FOUL SEWER FROM MANHOLE FC9-1 TO MANHOLE FC9
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



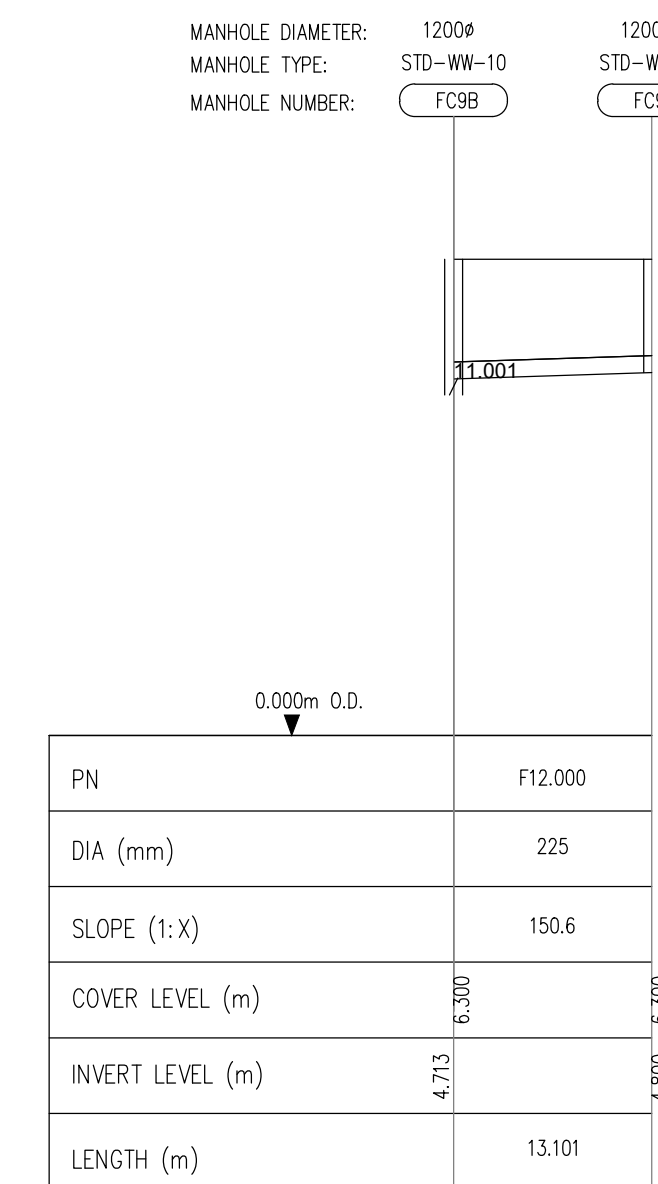
FOUL SEWER FROM MANHOLE FC8-1 TO MANHOLE FC8
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



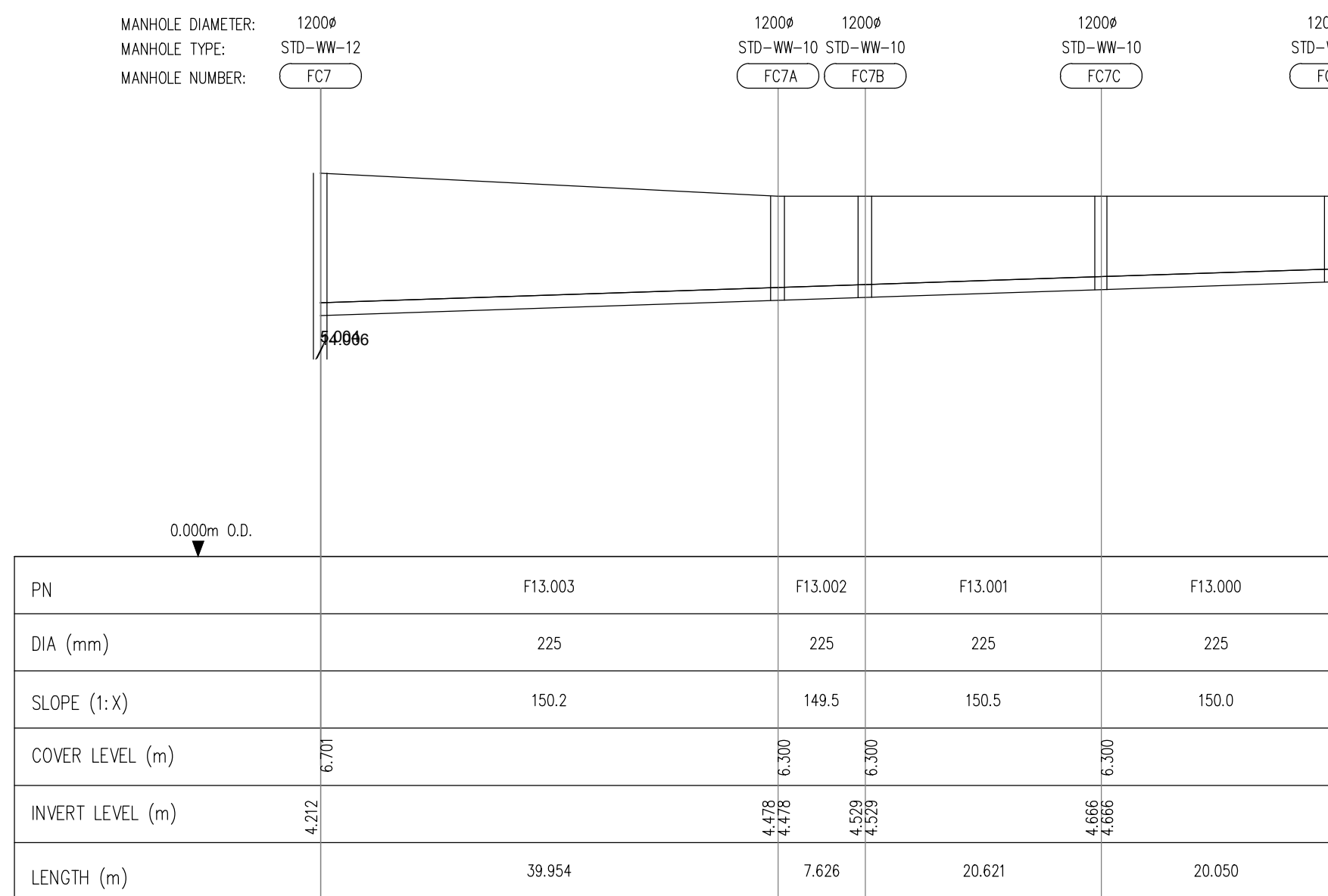
FOUL SEWER FROM FC4-1 TO FC4
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



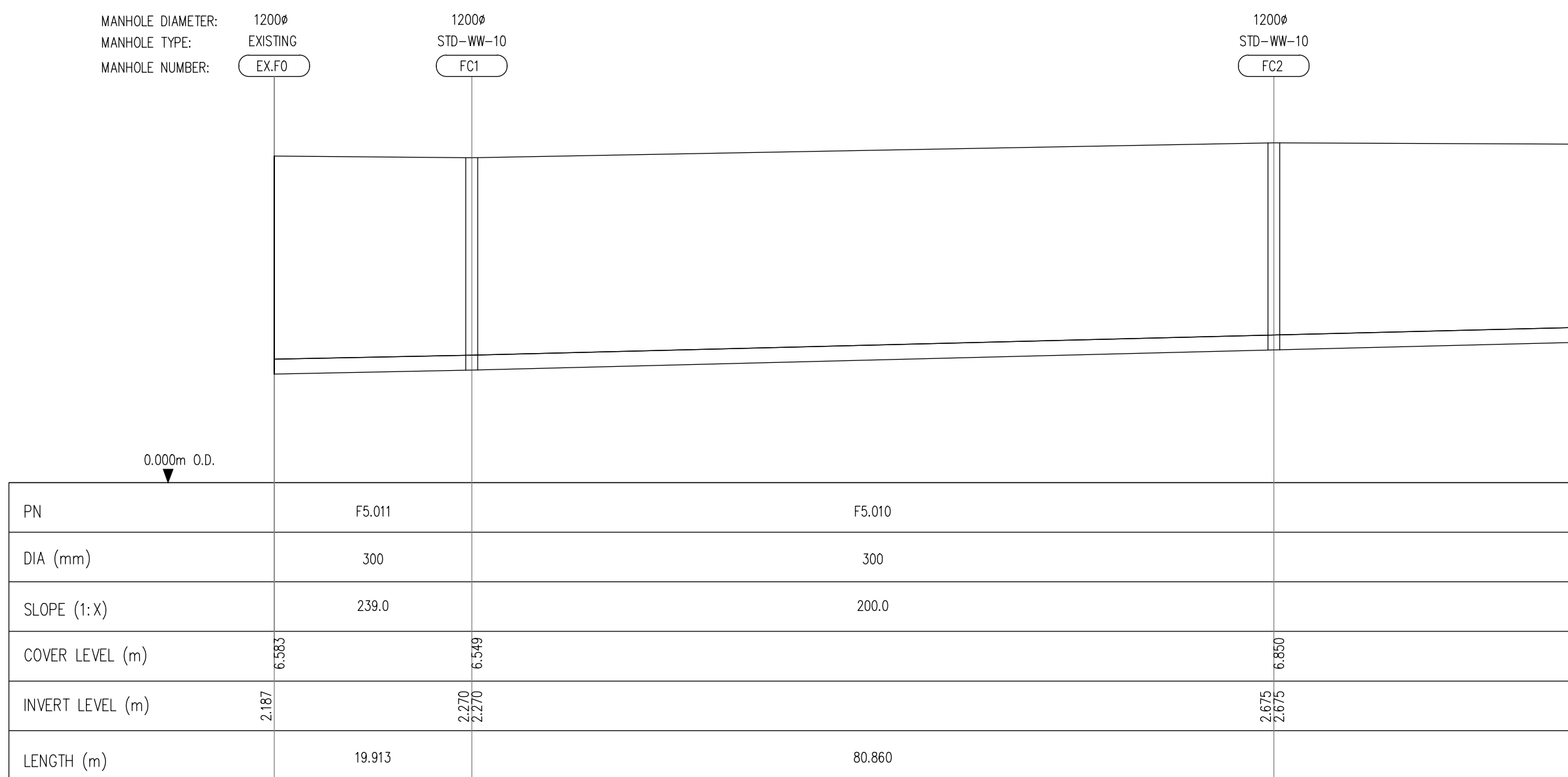
FOUL SEWER FROM FC40 TO FC40
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



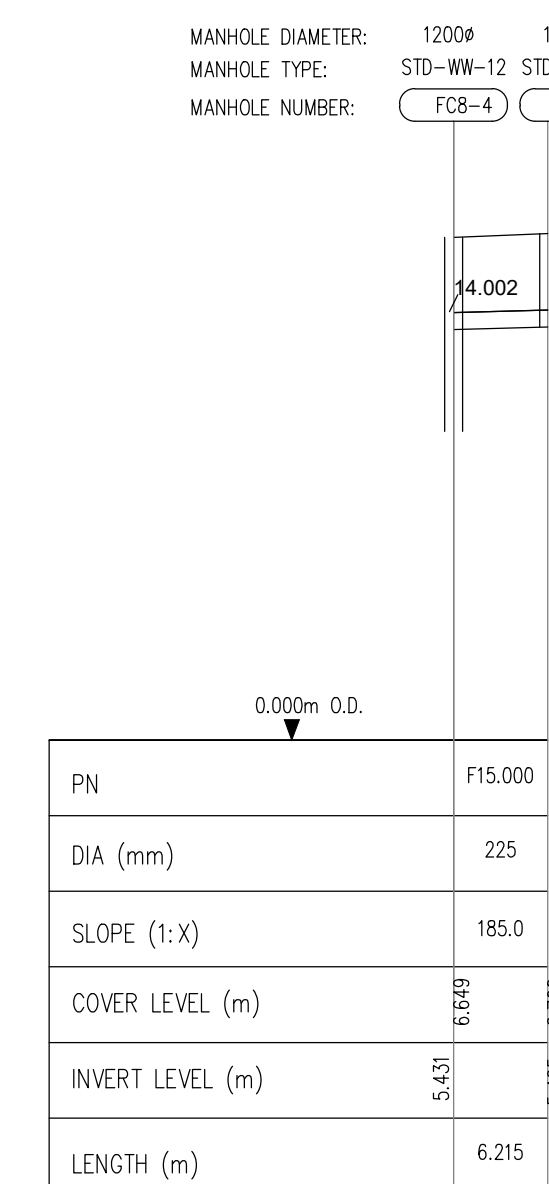
FOUL SEWER FROM MANHOLE FC5B TO MANHOLE FC5B
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



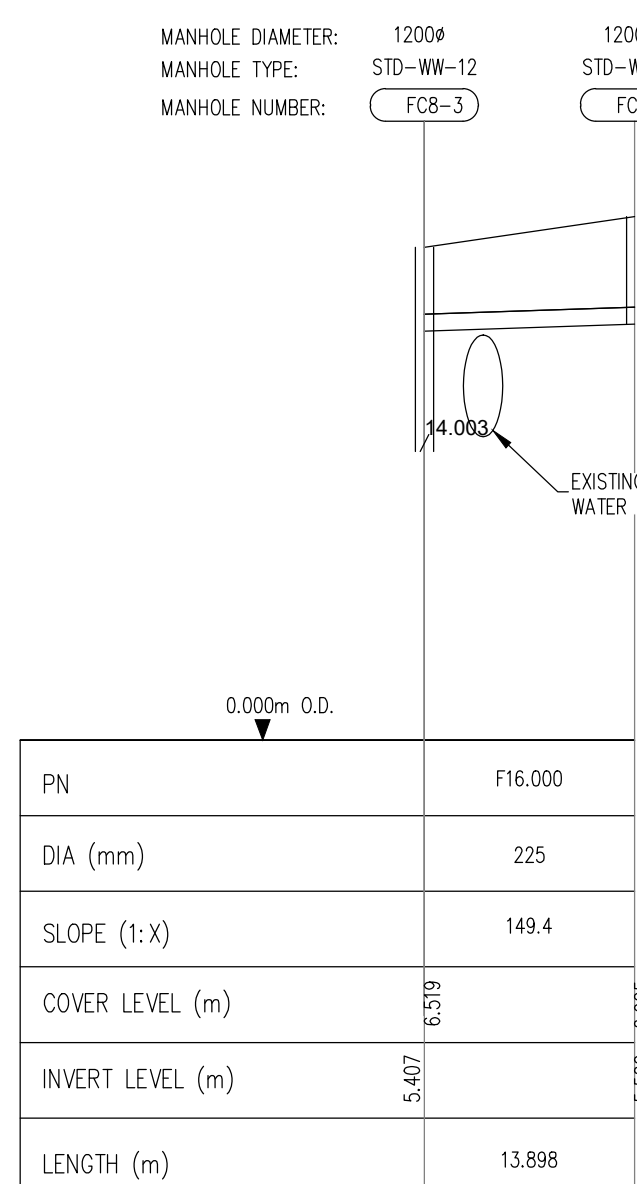
FOUL SEWER FROM MANHOLE FC7D TO MANHOLE FC7
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



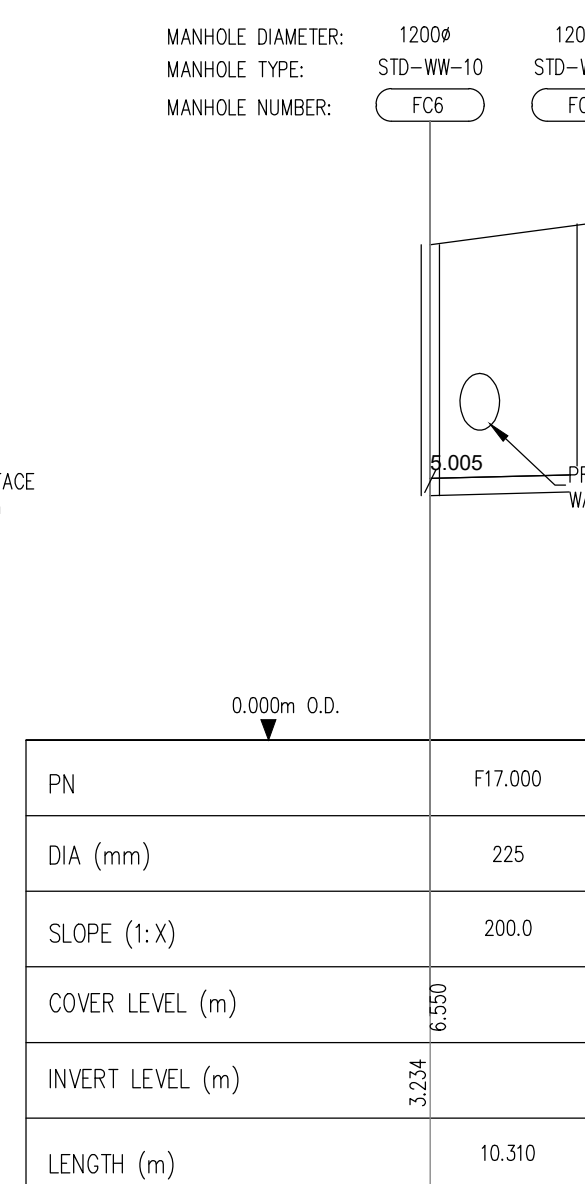
FOUL SEWER FROM EX10 TO EXISTING MANHOLE (EX10)
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



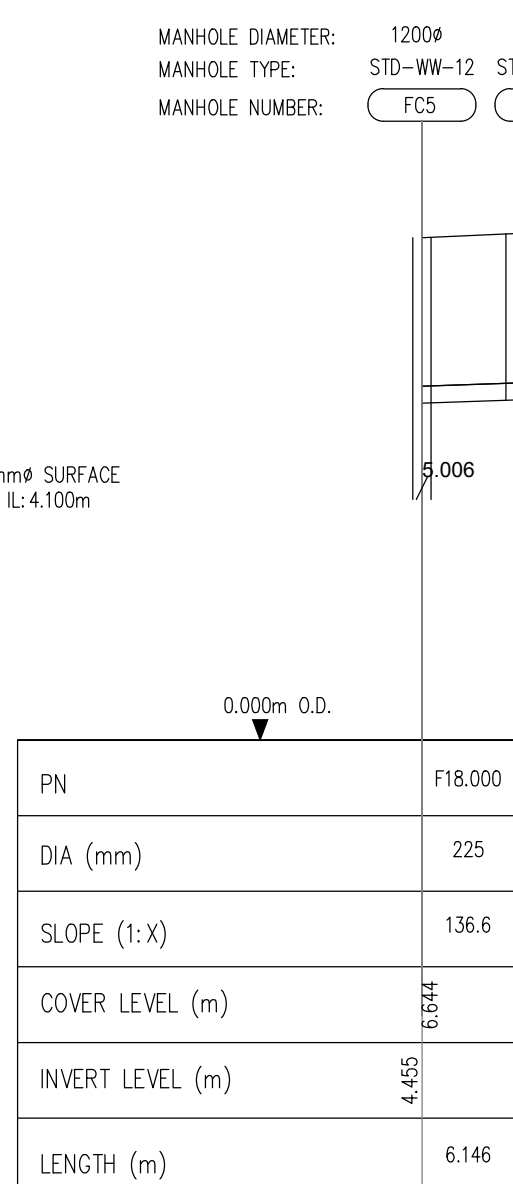
FOUL SEWER FROM FC8-4B TO FC8-4
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



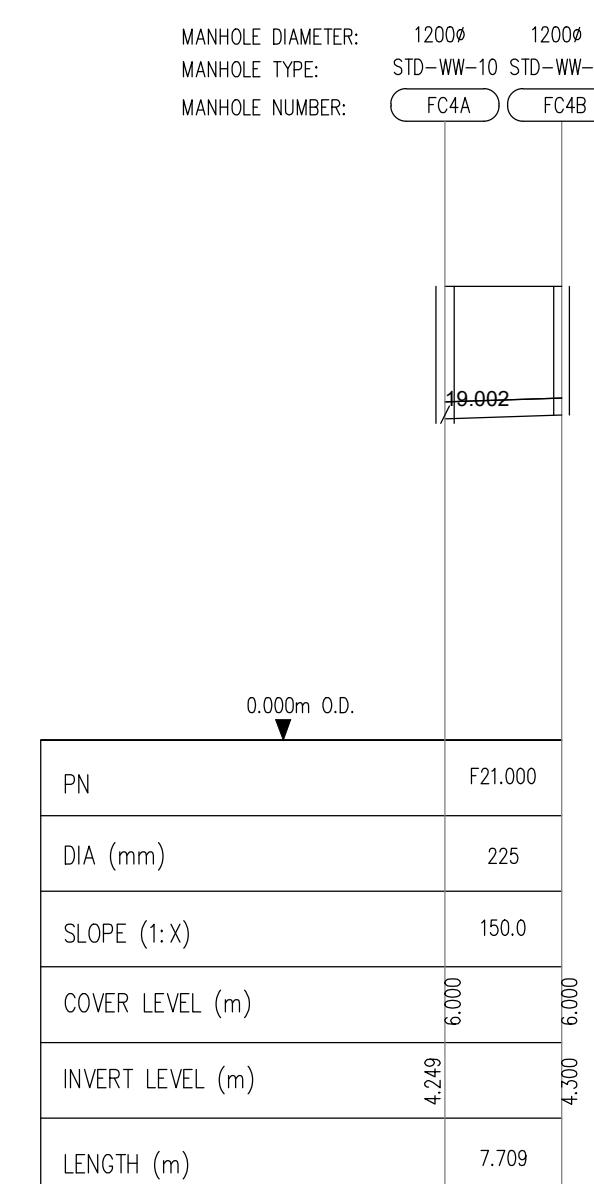
FOUL SEWER FROM FC8-3A TO FC8-3
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



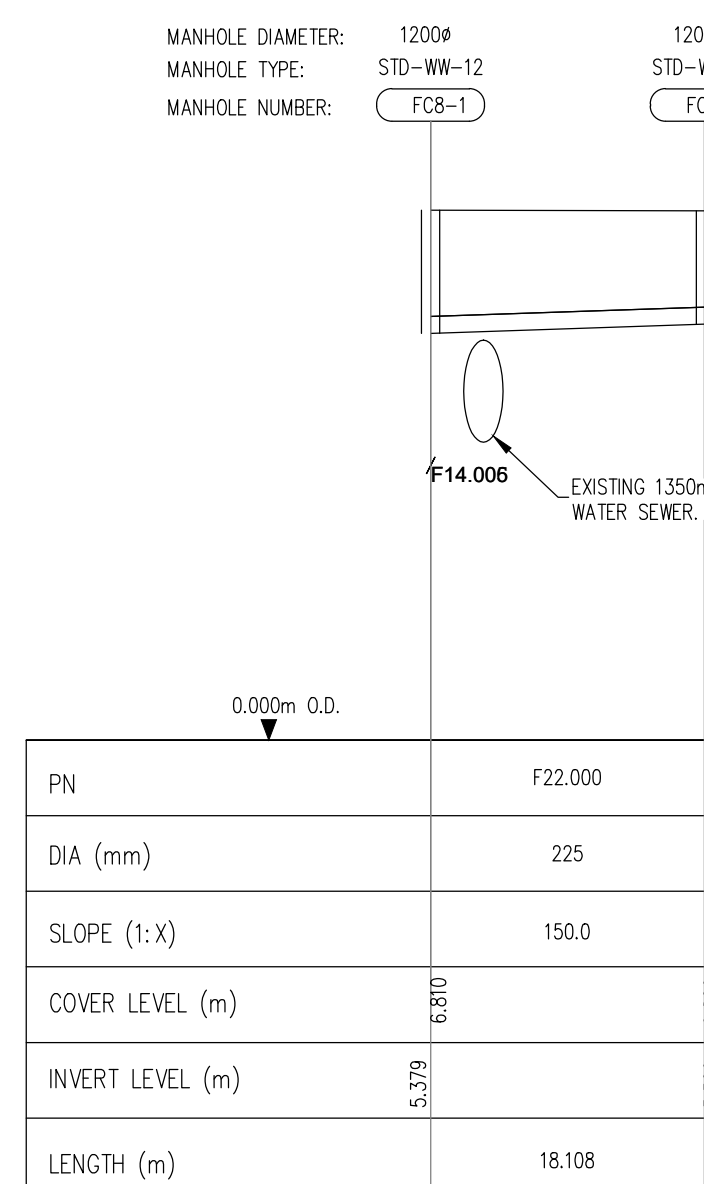
FOUL SEWER FROM FC5-1 TO FC5
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



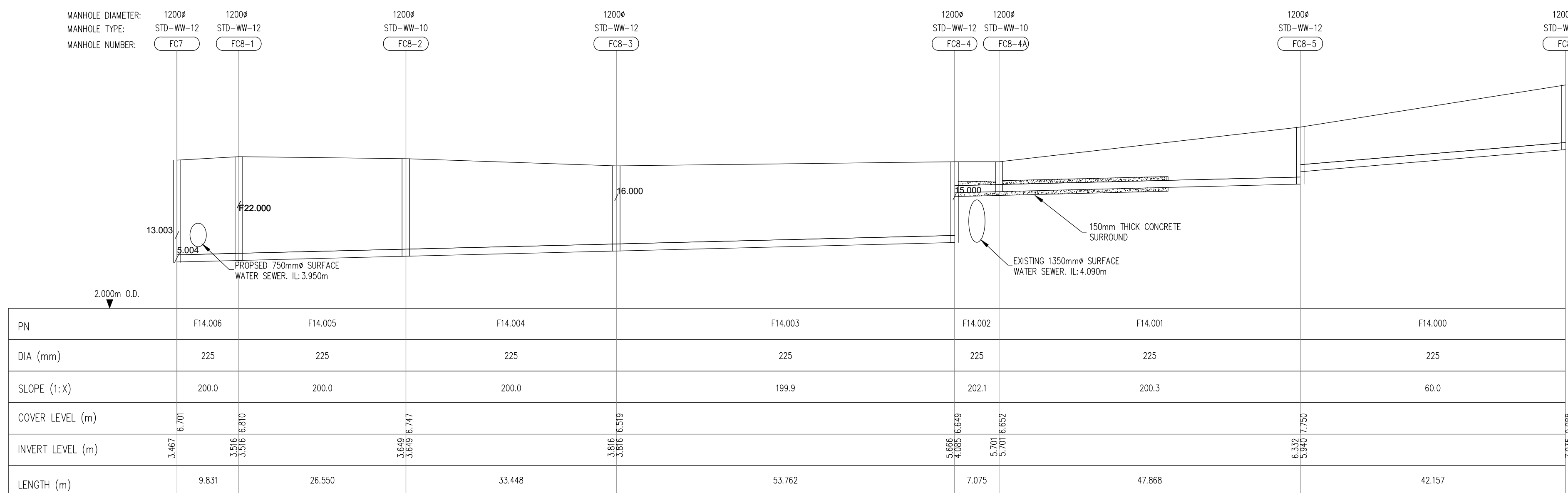
FOUL SEWER FROM FC5-A TO FC5
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM FC4A TO FC4A
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM FC8-1A TO FC8-1
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



FOUL SEWER FROM MANHOLE FC7-1 TO MANHOLE FC7
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

DRAFT

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Environment	ISO 14001:2004
Health & Safety	ISO 45001:2018