

1 May 2019

Logos Property Group
Attention: Mr Fraser McDonald
 Suite 2, Level 29 'Aurora Place'
 SYDNEY NSW 2000

Dear Sir

**Re: Lots 23 & 24 Hollinsworth Road, Marsden Park
 State Significant Development Application – Orrcon Steel
 Civil Engineering Summary**

We provide this letter relating to a proposed Development Application associated with the Lot 23 & 24 project (as approved under SSD_8606). Specifically this letter covers the stormwater management aspects associated with a proposed modification to the approved Masterplan Layout for a prospective tenant, *Orrcon Steel*.

The modification involves an amendment to the architectural layout of the proposed Lot 1 building on the far western side of the development and associated adjusted property boundaries. The proposed modified Lot 1 comprises an area of approximately 3.6Ha and a set of concept stormwater management drawings have been completed by *Costin Roe Consulting Pty Ltd*. These drawings and associated cover letter show how the stormwater management measures for the modified development remains consistent with the approved SSD_8606 *Stormwater Management Plan* (Ref: **Co12829.06-09.rpt**).

The following drawings are included as part of this modification application:

- *Co12829.14 – SSDA40 Site Masterplan*
- *Co12829.14 – SSDA41 Concept Stormwater Drainage Plan*
- *Co12829.14 – SSDA44 Concept Stormwater Management Strategy*
- *Co12829.14 – SSDA45 Typical Stormwater Management Details*

We have also provided a summary of the stormwater management works associated with the development as integrated within the existing approved Masterplan Layout. It is noted that any works associated with the residual land on Lots 1 & 2 will form part of future modification applications and the current designs, in particular water quality and quantity, consider this.

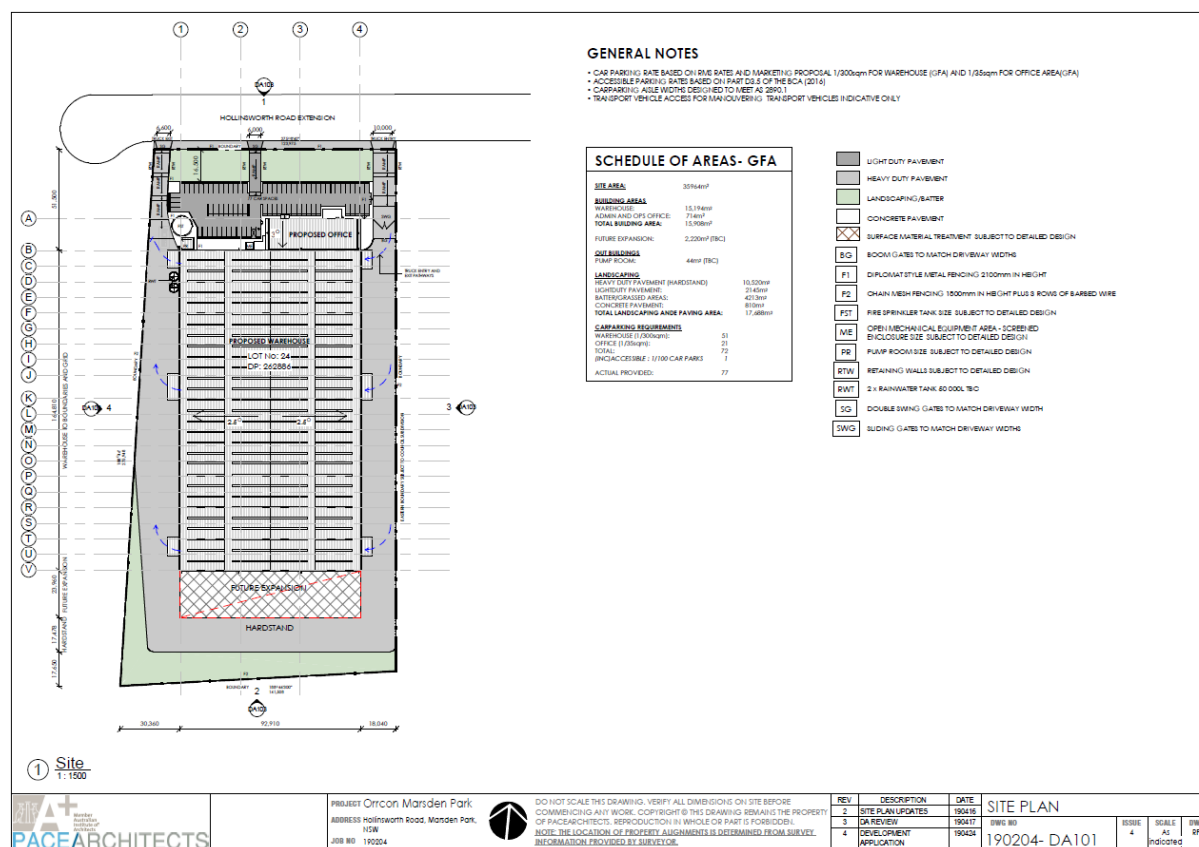
A summary of design elements are as follows.

1. Site Layout

The site layout has been documented by Pace Architects as shown in **Figure 1**. The layout includes a single level steel framed warehouse building, external truck circulation and loading areas, and carparking on the Hollinsworth Road frontage.

The proposed building is set at RL 54.2m AHD.

Access is proposed via Hollinsworth Road, noting the assessment and approval of Hollinsworth Road is subject to separate approvals with Blacktown City Council.



2. Stormwater Layout:

Stormwater runoff from the site will be collected through a networks of pits and in-ground pipes adopting a major and minor storm conveyance design methodology. The minor (in-ground) system is based on the 1 in 20 year ARI storm event, and the major (overland flow) being sized for the 1 in 100 year ARI event.

Stormwater will be drained from the south to the north and the proposed discharge location will be to council drainage within the proposed Hollinsworth Road extension. Detailed assessment of pipe sizing and hydraulics would form part of the Construction Certificate stage of the development.

Management of water quality and quantity are discussed in subsequent sections of this letter.

3. Stormwater Quantity Management

The site is located within a contributing catchments of the Sydney Business Park, and this site ultimately discharges to the Sydney Business Park Regional Basin E.

Following the completion of construction of Basin E, water quantity management (stormwater detention) will not be required for the development site. The regional basin however, at the time of writing, is not fully constructed and does not have sufficient capacity to manage runoff from the site. Until such time that the regional basins have been constructed and will provide sufficient capacity to attenuate the subject site drainage runoff, temporary detention systems are required within the subject site to accommodate runoff resulting from the increased site runoff. Our plans are based on the provision of temporary detention, noting however that if the constructing timing of Basin E is brought forward prior to a Construction Certificate, the detention will be removed from the design.

Per **Section 5.1** of the approved SWMP Report (*Co12829.06-09.rpt*), Blacktown City Council requires water quantity to be managed to limit the runoff discharged from private property into the underground piped drainage system to predeveloped flow and to assist in mitigating the increased stormwater runoff generated from the early works carried out, based on the methods set out in Blacktown City Council DCP and the Upper Parramatta River Catchment Trust On-Site Detention Handbook. A minum storage of 455m³/Ha is to be provided which requires a minimum 1,650m³ underground On Site Detention for the Orrcon Steel site. This rate is consistent with the approved SWMP and SSD approval.

A full drainage design is proposed to be completed during the detailed design phase of the warehouse in order to match pre-development flows and meet councils minimum storage requirements.

4. Stormwater Quality Management

Stormwater quality will comprise a treatment train which meets the percentage based pollution reduction objectives of Blacktown Council Policy DCP2015 Part J.

The water quality objectives for the entire development and the modification development are presented in terms of annual percentage pollutant reductions on a developed catchment:

Gross Pollutants	90%
Total Suspended Solids	85%
Total Phosphorus	65%
Total Nitrogen	45%
Total Hydrocarbons	90%

Per **Section 6.2** of the SSD8606 approved SWMP Report (*Co12829.06-09.rpt*), components of the treatment train for the each building are expected to comprise the following elements:

- Primary treatment to parking and hardstand areas is to be performed Ocean Protect OceanGuard (formerly Stormwater 360 Enviropod) Pit Inserts;
- Tertiary treatment is to be made via an Ocean Protect Stormfilter System. these may be housed within detention system or their own underground housing tank;

- A portion of the roof will also be treated via rainwater reuse and settlement within the rainwater tank.
- Hydrocarbon removal to be completed by an impermeable baffle wall.

Rainwater reuse which reduces demand on potable water by 80% is also included in the design.

The stormwater layout and indicative concept are shown on drawings *Co12829.14 – SSDA41 Concept Stormwater Drainage Plan* and *Co12829.14 – SSDA44 Concept Stormwater Management Strategy*.

Per the above, the Orrcon stormwater management strategy as documented on the above drawings are demonstrably in accordance with the Stormwater Management Plan on report **Co12829.06-09.rpt** currently approved under SSD 8606.

5. Conclusion

This letter has been prepared to support a proposed modification to the Masterplan Layout approved under SSD_8606 and sets out the objectives and requirements of the site in relation to stormwater management of quantity and quality. The proposed measures are consistent with those approved under SSD_8606, allowing for the revised layout and contributing catchment and have been demonstrated to meet the required water management objectives.

We trust the above information meets your current needs. Please do not hesitate in contacting the undersigned if any further clarification is required.

Yours faithfully,

COSTIN ROE CONSULTING PTY LTD

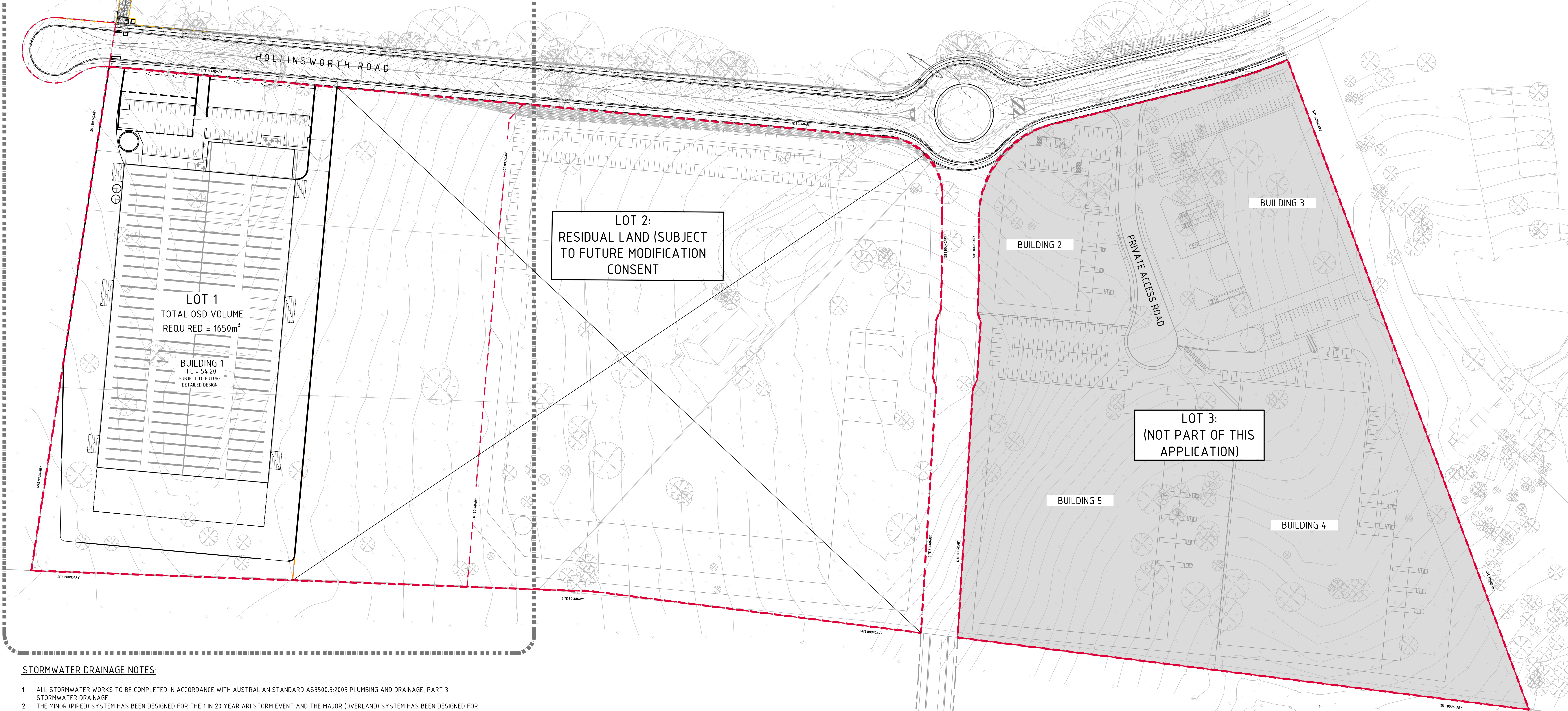


MARK WILSON MIEAust CPEng NER
Director

DISCHARGE POINT 1
ATTENUATED FLOWS FROM LOT 1
TO DISCHARGE TO HOLLINSWORTH
ROAD DRAINAGE. REFER TO COSTIN
ROE SECTION 96 CIVIL PACKAGE
Co12829.06-DA FOR DETAILS.

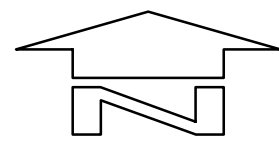
DRAINAGE CULVERT
TO REGIONAL BASIN E
PER INFRASTRUCTURE
DA DRAWINGS
Co12829.06-DA

REFER TO
SSDA41



STORMWATER DRAINAGE NOTES:

- ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
- THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
- ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON ON DETAILED DESIGN FINISHED LEVELS PLANS T.B.C.
- PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
- EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
- ALL STORMWATER PIPES Ø375 OR GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
- ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE S8B UNO.
- PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
- ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY, CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR PITS SHALL BE Fc 25 MPA. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
- IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER SUITABLE TAMPING DETAILS.
- WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 uPVC TO EACH SIDE OF PIPE.
- ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
- ALL PIPE GRADES 1 IN 100 MINIMUM UNO.
- PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
- MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
- PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY'. THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' UNO.
- PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
- DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP SIZE UNO. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
- PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.



SITE MASTERPLAN
SCALE 1:750

DRAWING LIST

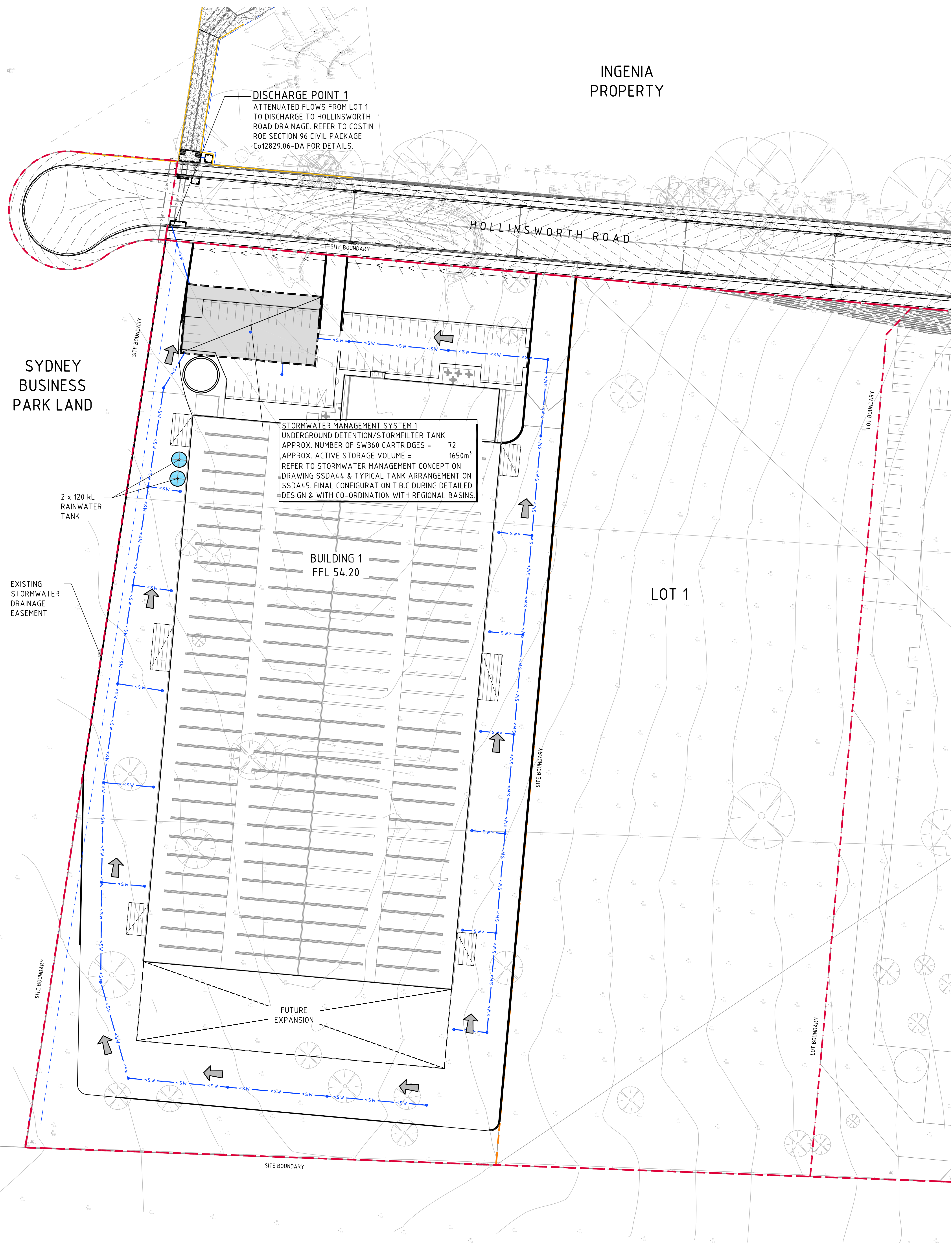
DRAWING NO.	DRAWING TITLE
CO12829.06-SSDA40	SITE MASTERPLAN
CO12829.06-SSDA41	CONCEPT STORMWATER DRAINAGE PLAN
CO12829.06-SSDA44	CONCEPT STORMWATER MANAGEMENT STRATEGY
CO12829.06-SSDA45	CONCEPT STORMWATER MANAGEMENT DETAILS

NOTE:
SSDA8606 DRAWINGS TO BE READ IN
CONJUNCTION WITH ENGINEERING
REPORT/STORMWATER MANAGEMENT PLAN
REF: Co12829.06-09.rpt

LEVELS NOTE:
LEVELS SHOWN TO BE ± 500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY.

6m 0 15 30 45 60 75m
SCALE 1:750 AT A0 SIZE SHEET

FOR INFORMATION ONLY



DISCHARGE POINT 1
ATTENUATED FLOWS FROM LOT 1
TO DISCHARGE TO HOLLINSWORTH
ROAD DRAINAGE. REFER TO COSTIN
ROE SECTION 96 CIVIL PACKAGE
C012829.06-DA FOR DETAILS.

STORMWATER MANAGEMENT SYSTEM 1
UNDERGROUND DETENTION/STORMFILTER TANK
APPROX. NUMBER OF SW360 CARTRIDGES = 72
APPROX. ACTIVE STORAGE VOLUME = 1650m³
REFER TO STORMWATER MANAGEMENT CONCEPT ON
DRAWING SSDA44 & TYPICAL TANK ARRANGEMENT ON
SSDA45 FINAL CONFIGURATION T.B.C DURING DETAILED
DESIGN & WITH CO-ORDINATION WITH REGIONAL BASINS

BUILDING 1
FFL 54.20

FUTURE
EXPANSION

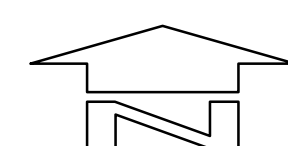
LEVELS NOTE:
LEVELS SHOWN TO BE ± 500mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS,
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY.

NOTE:
REFER TO DRAWING C012829.14-SSDA40 FOR STORMWATER
DRAINAGE NOTES.

LEGEND:
LEVELS DATUM IS AHD.
EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY
INFORMATION PROVIDED BY LAND PARTNERS
REF: SY074.063.000.11 DATED OCT' 2016.

➡ - OVERFLOW PATH
— SW — - DRAINAGE LINE
— > — - DRAINAGE SWALE
--- - STORMWATER DRAINAGE EASEMENT

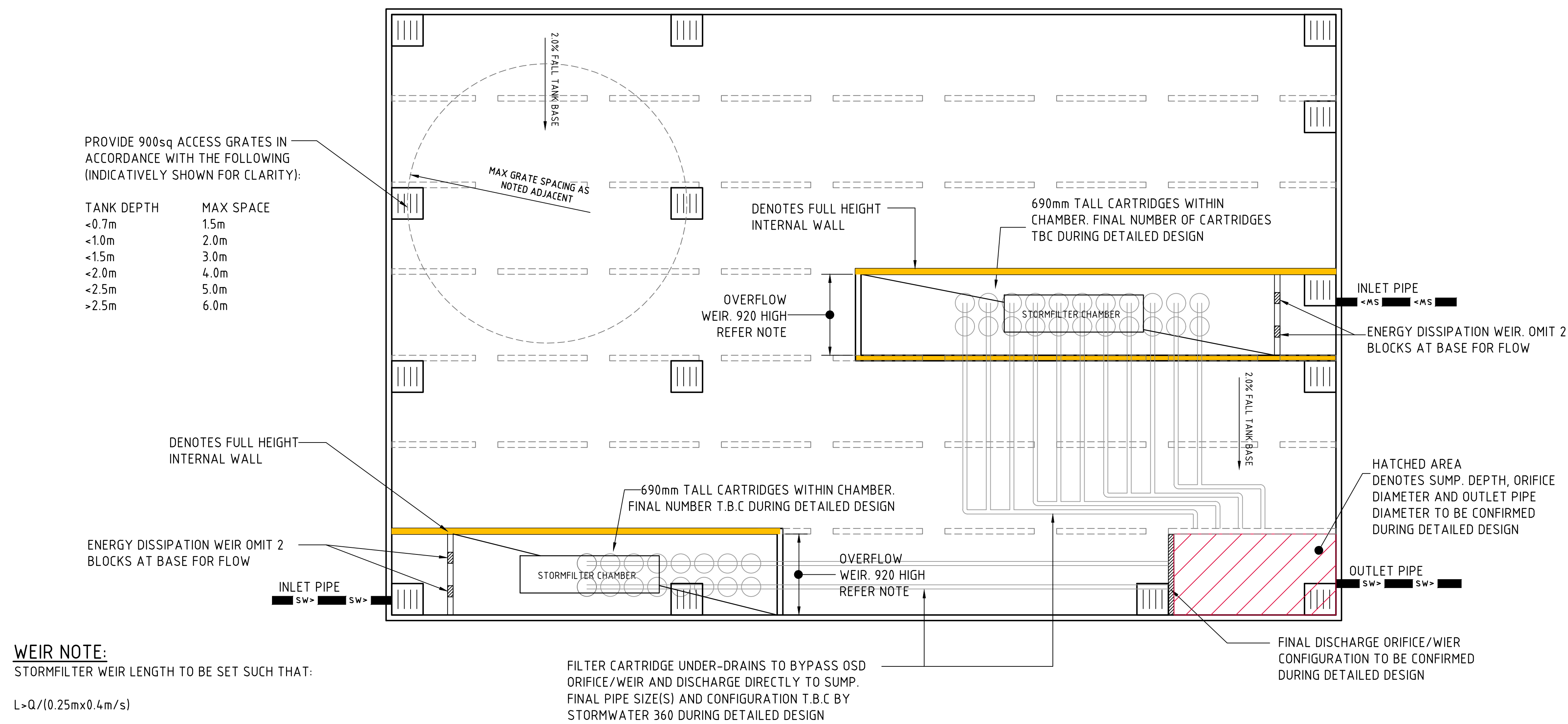
5m 0 10 20 30 40 50m
SCALE 1:500 AT A0 SIZE SHEET



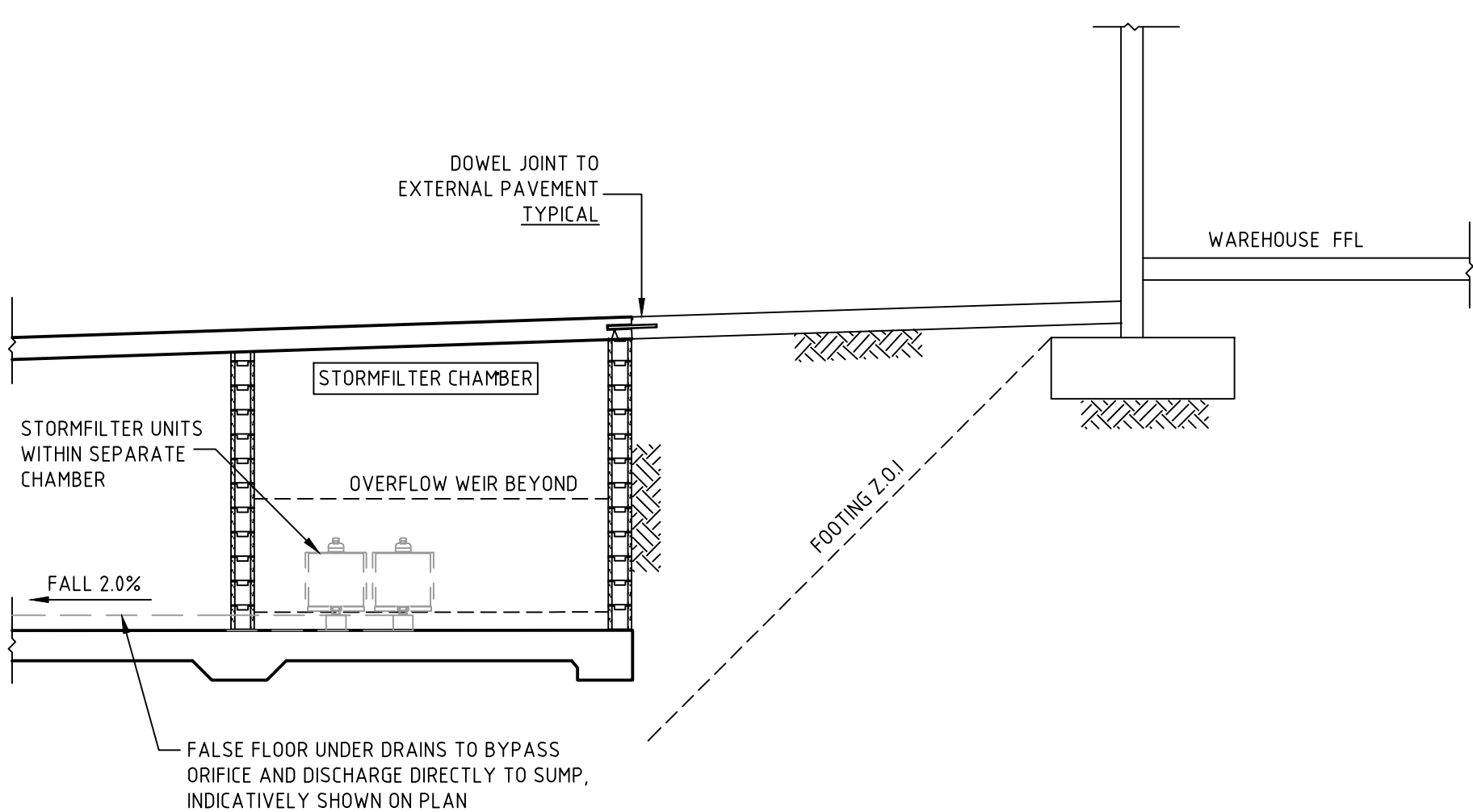
CONCEPT STORMWATER DRAINAGE
SCALE 1:500

FOR INFORMATION ONLY

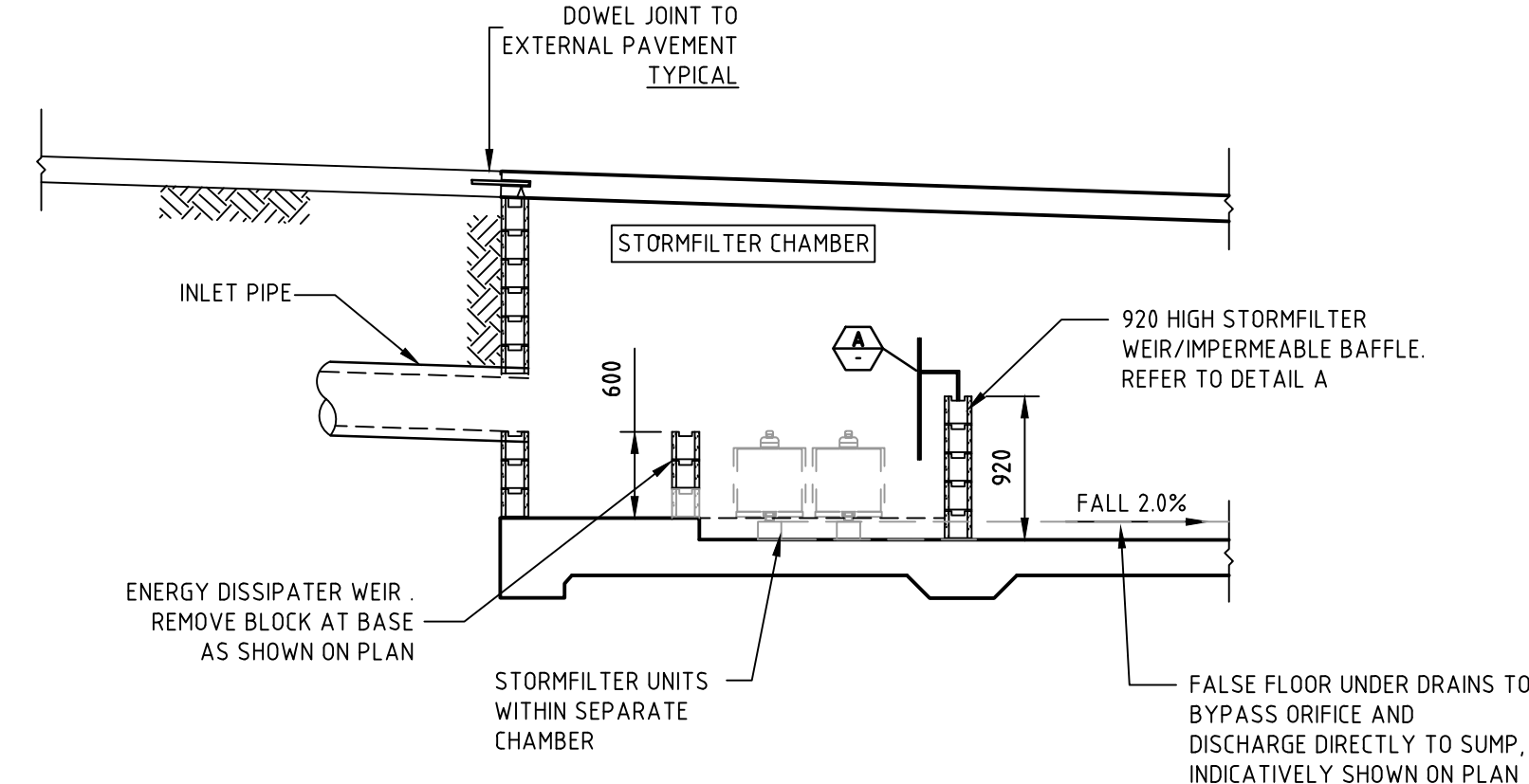
																							
ISSUED FOR INFORMATION ONLY			30.04.19			A			STATE SIGNIFICANT DEVELOPMENT APPLICATION			Level 1, 8 Windmill Street			Costin Roe Consulting Pty Ltd.			DRAWING TITLE					
AMENDMENTS			DATE			ISSUE			HOLLINGSWORTH ROAD MARSDEN PARK NSW			Wahbah Bay, Sydney NSW 2000			Consulting Engineers			CONCEPT STORMWATER DRAINAGE PLAN					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			Tel: (02) 9251-7899 Fax: (02) 9241-3723			PRECISION COMMUNICATION ACCOUNTABILITY			DRAWING No					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			email: mail@costinroe.com.au			PRECISION COMMUNICATION ACCOUNTABILITY			Co12829.14-SSDA41					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY			PRECISION COMMUNICATION ACCOUNTABILITY					
AMENDMENTS			DATE			ISSUE			C012829.14-SSDA41			PRECISION COMMUNICATION ACCOUNTABILITY											



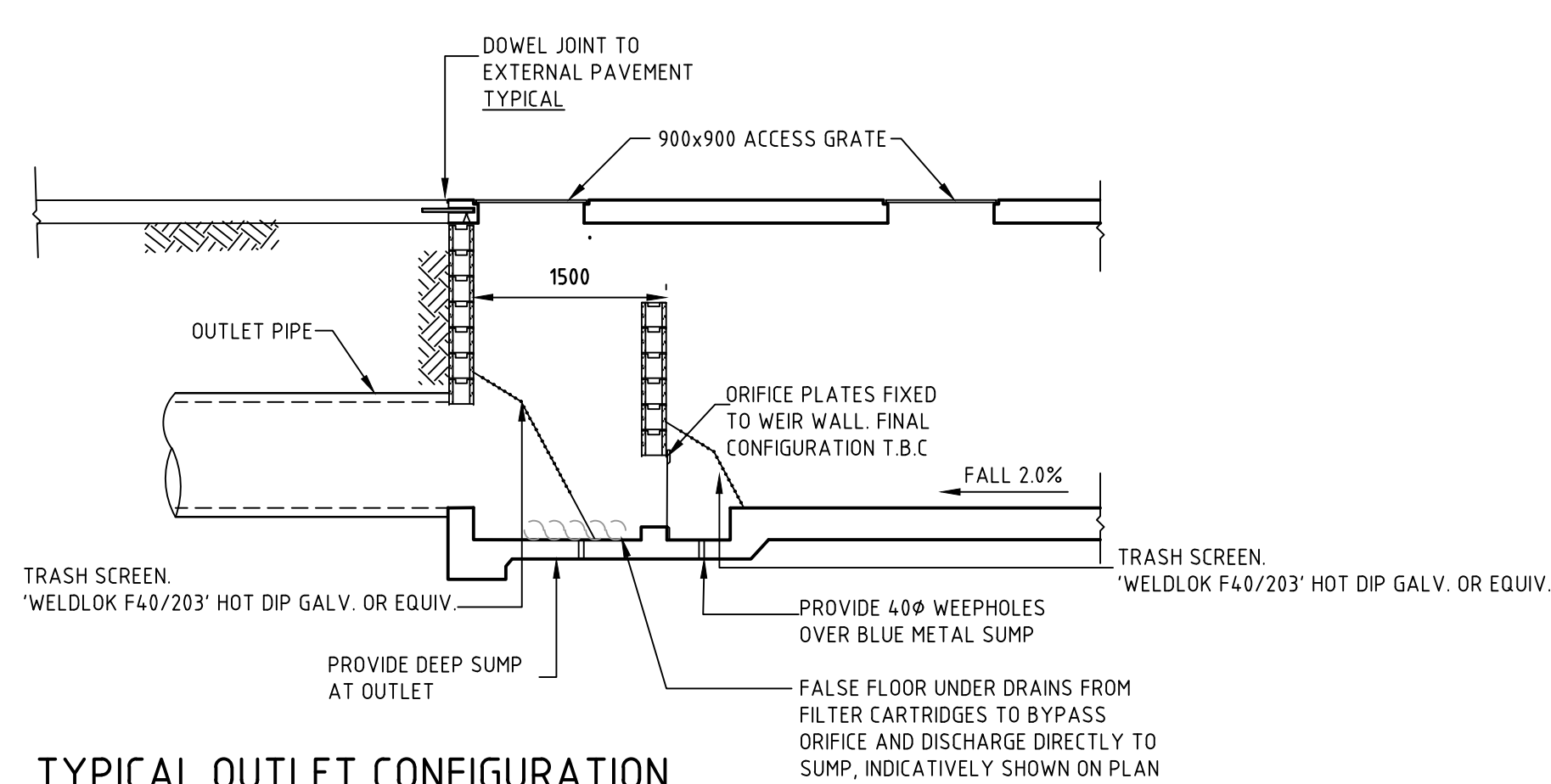
CONCEPT STORMWATER MANAGEMENT DEVICE CONFIGURATION
SCALE 1:100



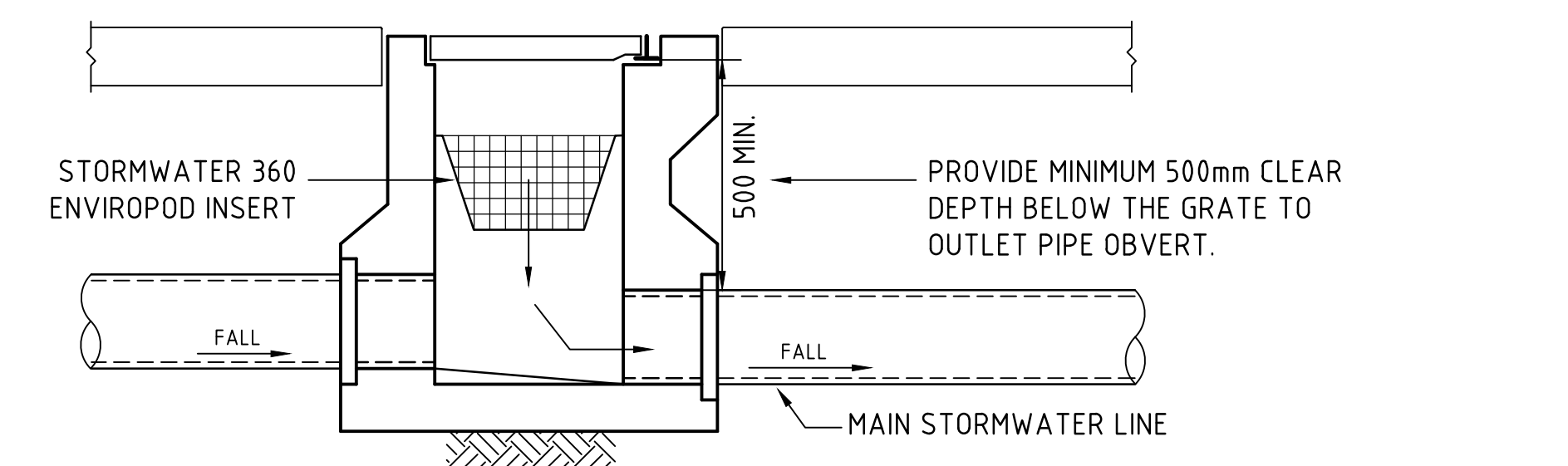
TYPICAL TANK OFFSET FROM BUILDING
SCALE 1:50



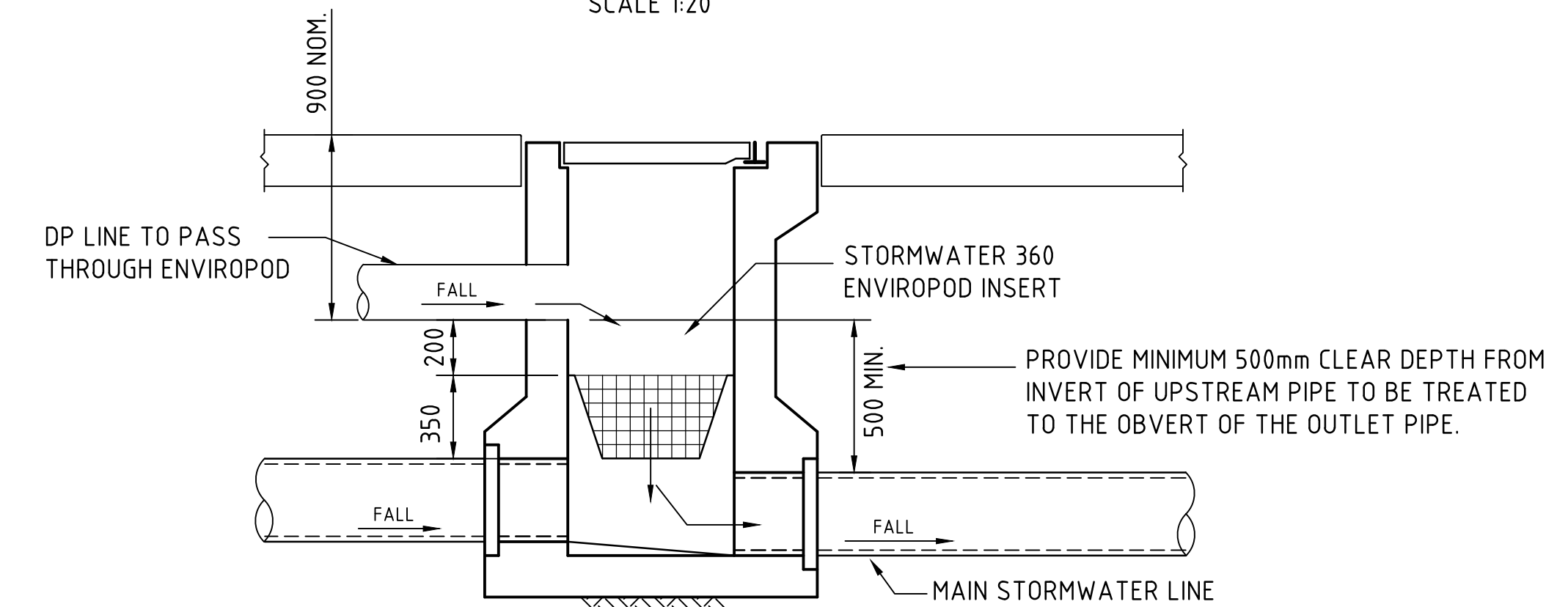
TYPICAL FILTRATION CHAMBER DETAIL
SCALE 1:50



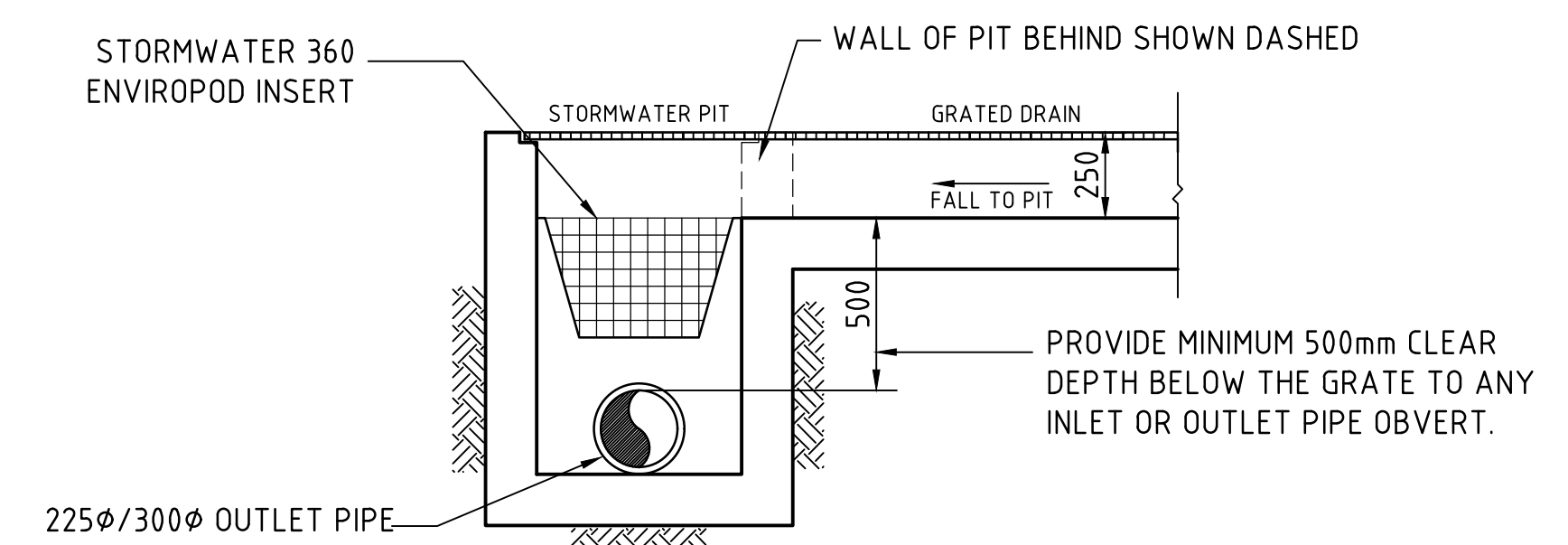
TYPICAL OUTLET CONFIGURATION
SCALE 1:50



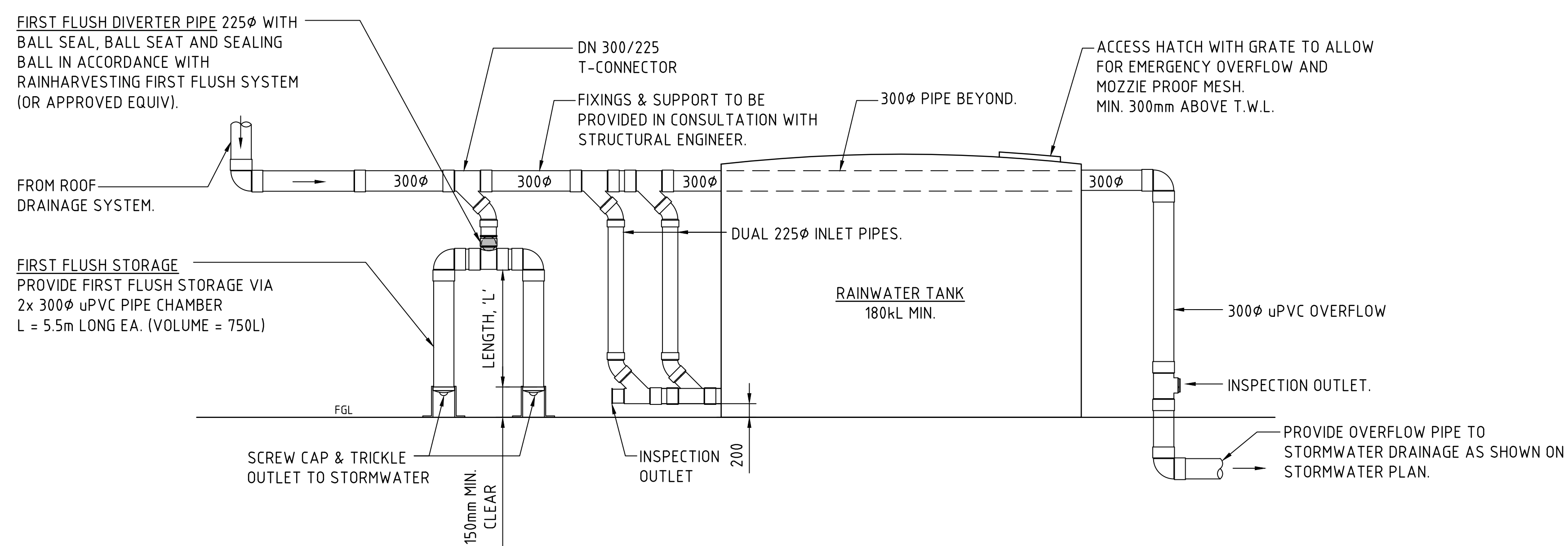
STORMWATER PIT WITH ENVIROPOD CONFIGURATION
SCALE 1:20



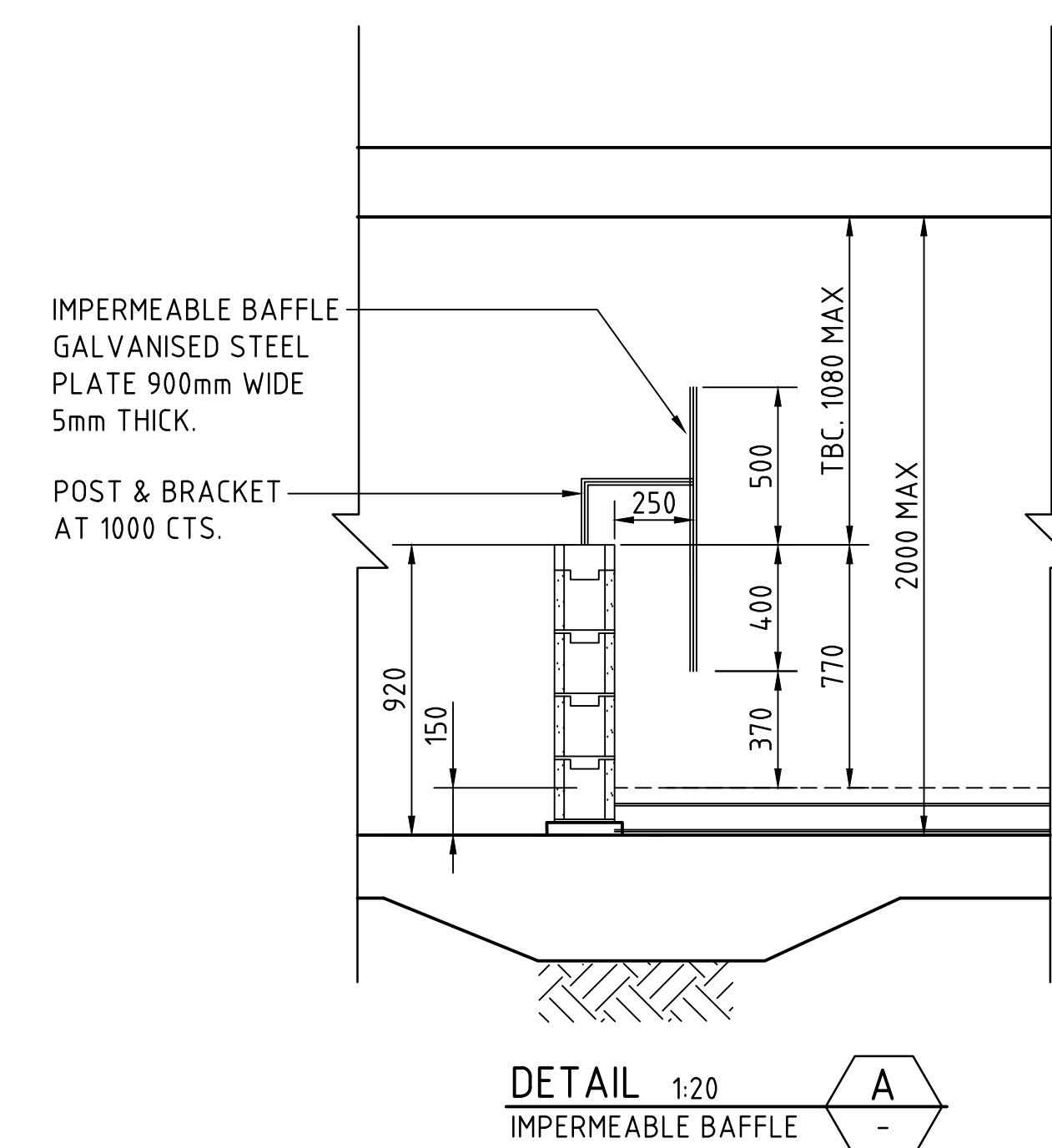
ROOFWATER/STORMWATER PIT WITH ENVIROPOD CONFIGURATION
SCALE 1:20



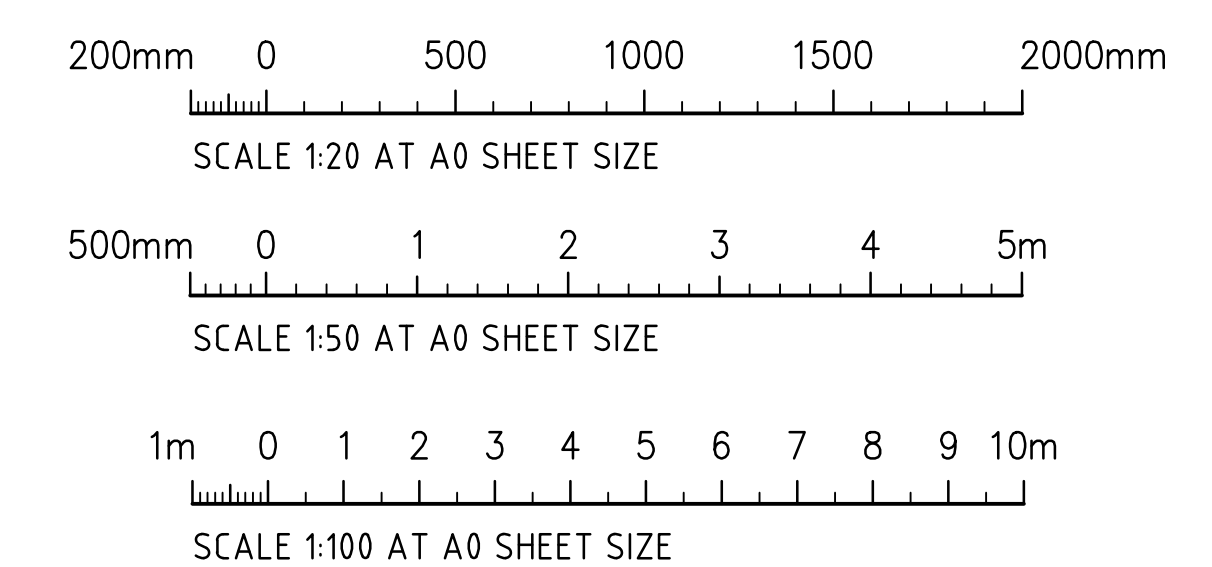
GRADED DRAIN/STORMWATER PIT WITH ENVIROPOD CONFIGURATION
SCALE 1:20



RAINWATER TANK CONFIGURATION
(DIAGRAMMATICAL ONLY, NOT TO SCALE)
DETAIL IS TYPICAL, FIRST FLUSH DEVICE AND OVERFLOW TO BE PROVIDED. REUSE PUMP SET, RETICULATION, FLOAT SWITCHES AND TOP-UP REQUIREMENTS AS PER HYDRAULIC ENGINEERS DRAWINGS & DETAILS.



DETAIL 1:20
IMPERMEABLE BAFFLE



FOR INFORMATION ONLY