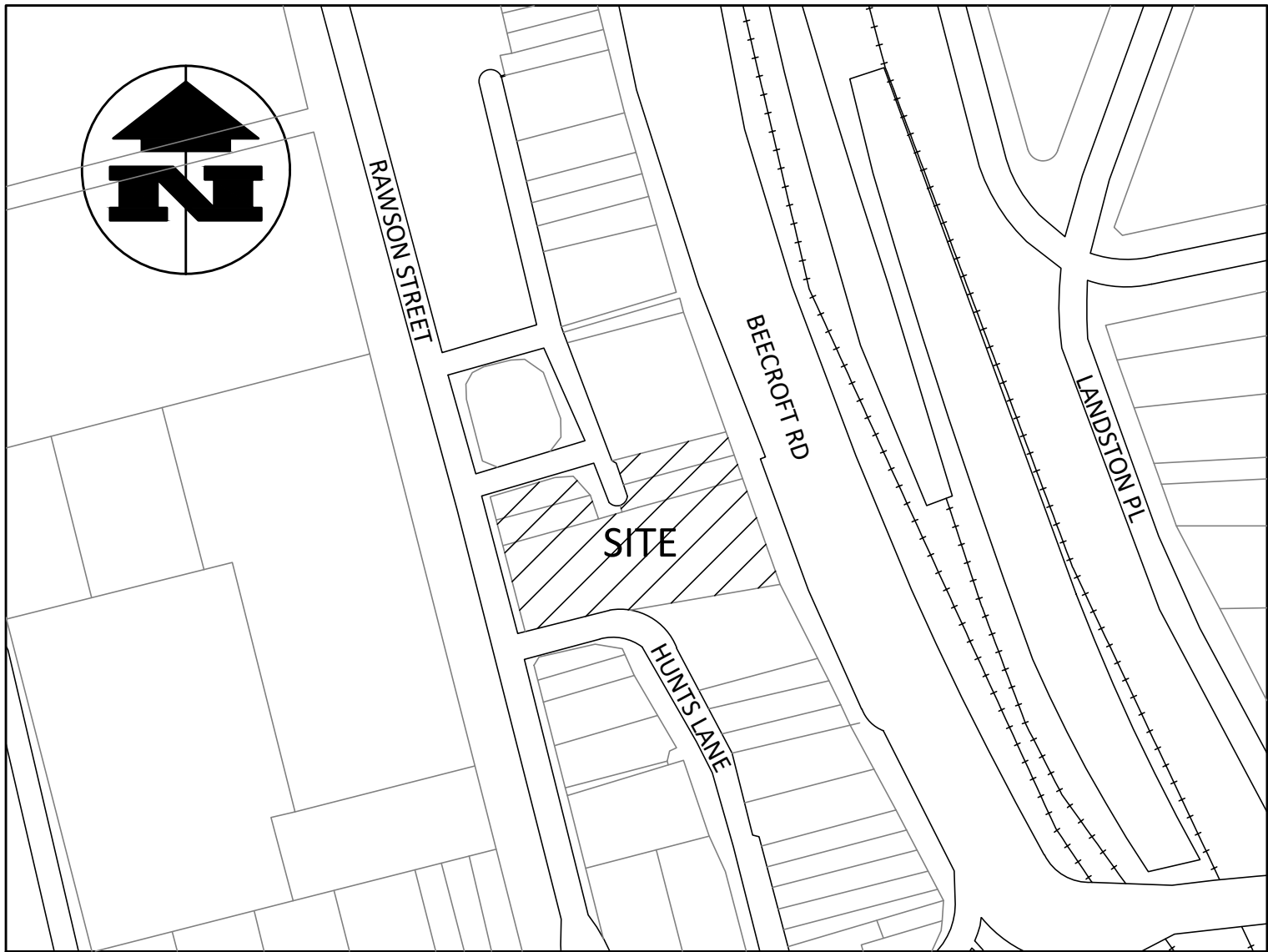


EPPING TOWER

OSD, WUSD + ESC SKETCHES



LOCALITY MAP
N.T.S

NOTE:
LOCATIONS OF ALL EXISTING SERVICES SHOWN SHOULD BE CONFIRMED BY CONTRACTOR PRIOR TO COMMENCING WORK.

Sheet List Table	
DA-C0000	COVER SHEET
DA-C0001	LEGEND
DA-C0002	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
DA-C0003	EROSION AND SEDIMENT CONTROL LAYOUT
DA-C0004	OSD TANK LAYOUT RAWSON ST LEVEL
DA-C0005	LEVEL 1 BASEMENT LAYOUT
DA-C0008	STORMWATER LONGITUDINAL SECTION
DA-C0010	OSD TANK SECTIONS SHEET 1
DA-C0011	OSD TANK SECTIONS SHEET 2
DA-C0012	OSD TANK SECTIONS SHEET 3
DA-C0013	OSD TANK SECTIONS SHEET 4
DA-C0020	DRAINAGE CATCHMENT LAYOUT

STANDARD NOTES

1. GENERAL

1.1. NO WORK IS TO COMMENCE ON SITE UNTIL APPROVAL TO PROCEED HAS BEEN GIVEN BY THE SUPERINTENDENT.

1.2. THE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND STANDARD DRAWINGS LISTED. THE SUPERINTENDENT WILL ON REQUEST RESOLVE ANY POINT OF CONFLICT. DIMENSIONS ARE NOT TO BE SCALED.

1.3. WHERE A JUNCTION IS TO BE MADE TO EXISTING CONSTRUCTION THE CONTRACTOR SHALL CONFIRM THE LOCATION AND LEVEL OF THIS CONSTRUCTION PRIOR TO COMMENCING WORK ON ANY CRITICAL SECTION. THE SUPERINTENDENT MAY VARY LEVELS AND GRADIENTS OF NEW WORKS TO ACHIEVE A SATISFACTORY CONNECTION.

1.4. ALL CONSTRUCTION WORK SHALL COMPLY WITH THE NEW SOUTH WALES WORK HEALTH AND SAFETY ACT. CONTACT YOUR NEAREST OFFICE OF THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION. Ph: 13 10 50

1.5. THE CONTRACTOR SHALL TAKE ALL REASONABLE AND PRACTICAL MEASURES TO PREVENT OR REDUCE HARM TO THE ENVIRONMENT AS SET OUT IN THE ENVIRONMENTAL PROTECTION ACT.
2. SERVICES NOTES

2.1. LOCATION & PROTECTION

THE LOCATION OF SERVICES SHOWN ON THESE PLANS HAS BEEN APPROXIMATED FROM KNOWN POSITIONS OF VALVES, INSPECTION/ACCESS CHAMBERS, ETC AND INFORMATION SUPPLIED BY SERVICES AUTHORITIES. DETAILS OF SERVICES ARE PROVIDED FOR INFORMATION ONLY AND NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SUPPLIED. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL SERVICES WITH THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORK AND PROVIDING ALL NECESSARY MEASURES TO PROTECT ALL SERVICES DURING THE COURSE OF THE WORK.

2.2. STRUCTURES TO BE MAINTAINED IN A STABLE CONDITION AND NO PART TO BE OVERSTRESSED DURING CONSTRUCTION.

2.3. AUTHORITY SERVICES CONFLICTS

SERVICE RELOCATIONS ARE SHOWN WHERE KNOWN. THE CONTRACTOR IS TO LOCATE, AND IF NECESSARY LEVEL, ALL SERVICES IN THE AREA OF THE WORKS PRIOR TO CONSTRUCTION. THE SUPERINTENDENT IS TO BE ADVISED IMMEDIATELY OF ANY UNIDENTIFIED CONFLICTS.

2.4. TELECOMMUNICATION CABLE

NO WORK IS TO BE CARRIED OUT WITHIN 3.0m OF CABLE IN URBAN AREAS AND 10.0m IN RURAL AREAS, WITHOUT FIRST CONSULTING THE RELEVANT AUTHORITY. THE CONTRACTOR IS TO MANUALLY EXPOSE AND PROTECT THE SERVICE WHEN EXCAVATING, OR WORKING, CLOSER TO TELECOMMUNICATION PLANT THAN THE ABOVE DISTANCES.
3. TRAFFIC CONTROL

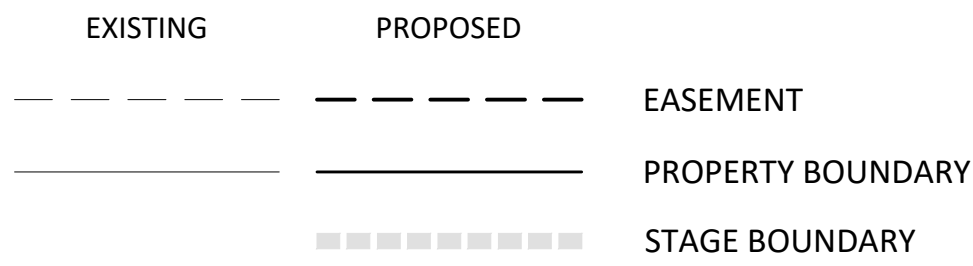
3.1. TRAFFIC CONTROL IS TO BE IN ACCORDANCE WITH THE QUEENSLAND TRANSPORT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CURRENT ISSUE). IF REQUESTED BY THE SUPERINTENDENT THE CONTRACTOR IS REQUIRED TO PROVIDE FOR APPROVAL TRAFFIC MANAGEMENT PLANS DETAILING THE TRAFFIC MOVEMENTS TO BE PROVIDED, THEIR STAGING, AND THE SIGNAGE ADOPTED IN EACH STAGE.

CONTRACTOR SHALL COORDINATE WITH ELECTRICAL, COMMUNICATIONS, FIRE, HYDRAULIC SERVICES AND LANDSCAPE CONSULTANT'S DRAWINGS FOR LOCATIONS OF PROPOSED OR RETAINED SERVICES. NO PAVING OR KERB IS TO BE PLACED UNTIL ALL SERVICES UNDER HAVE BEEN PLACED AND TESTED.

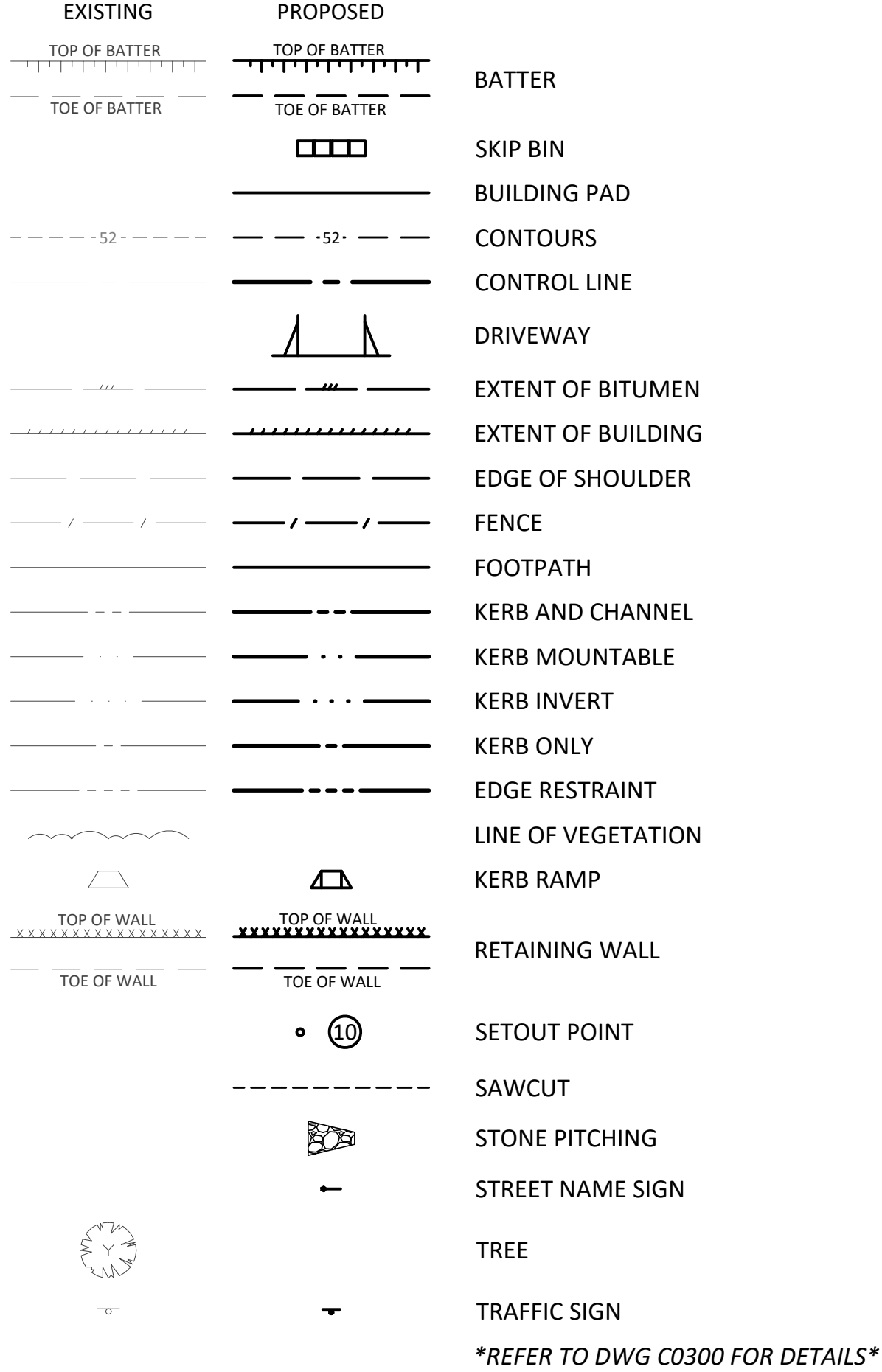
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	C	07.02.19	RE-ISSUE		TK	ZW												
	B	20.12.18	RESPONSE TO COUNCIL RFI		ABU	ZW	NR											
	A	06.07.18	PDG ALIGNMENT DRAWINGS		ABU	ZW	NR											

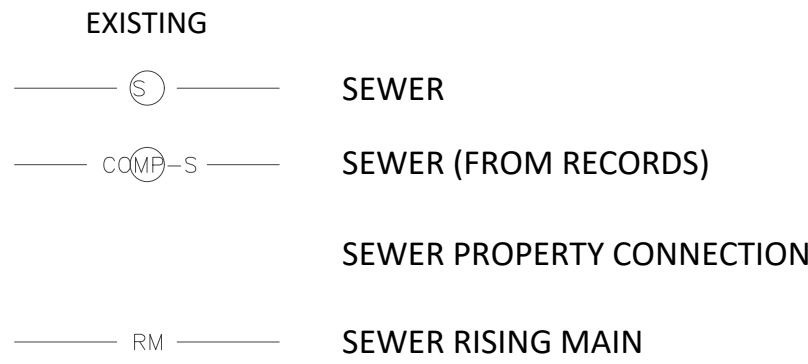
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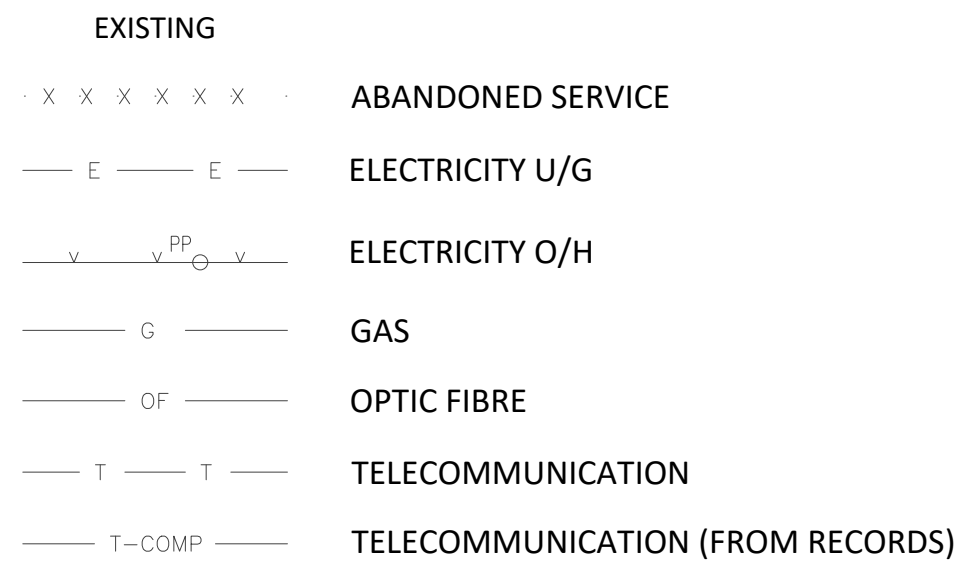
ROADWORKS



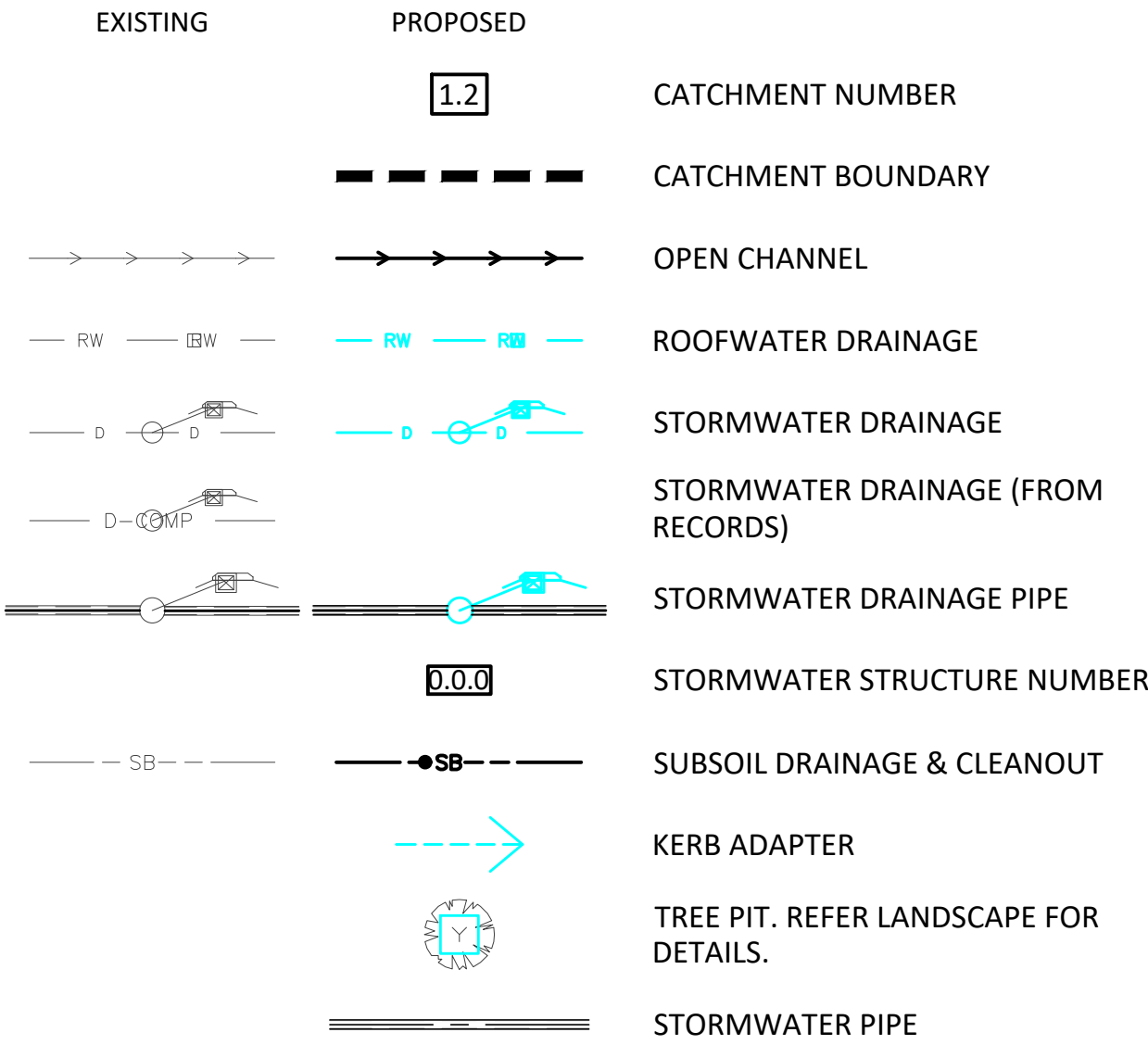
SEWER



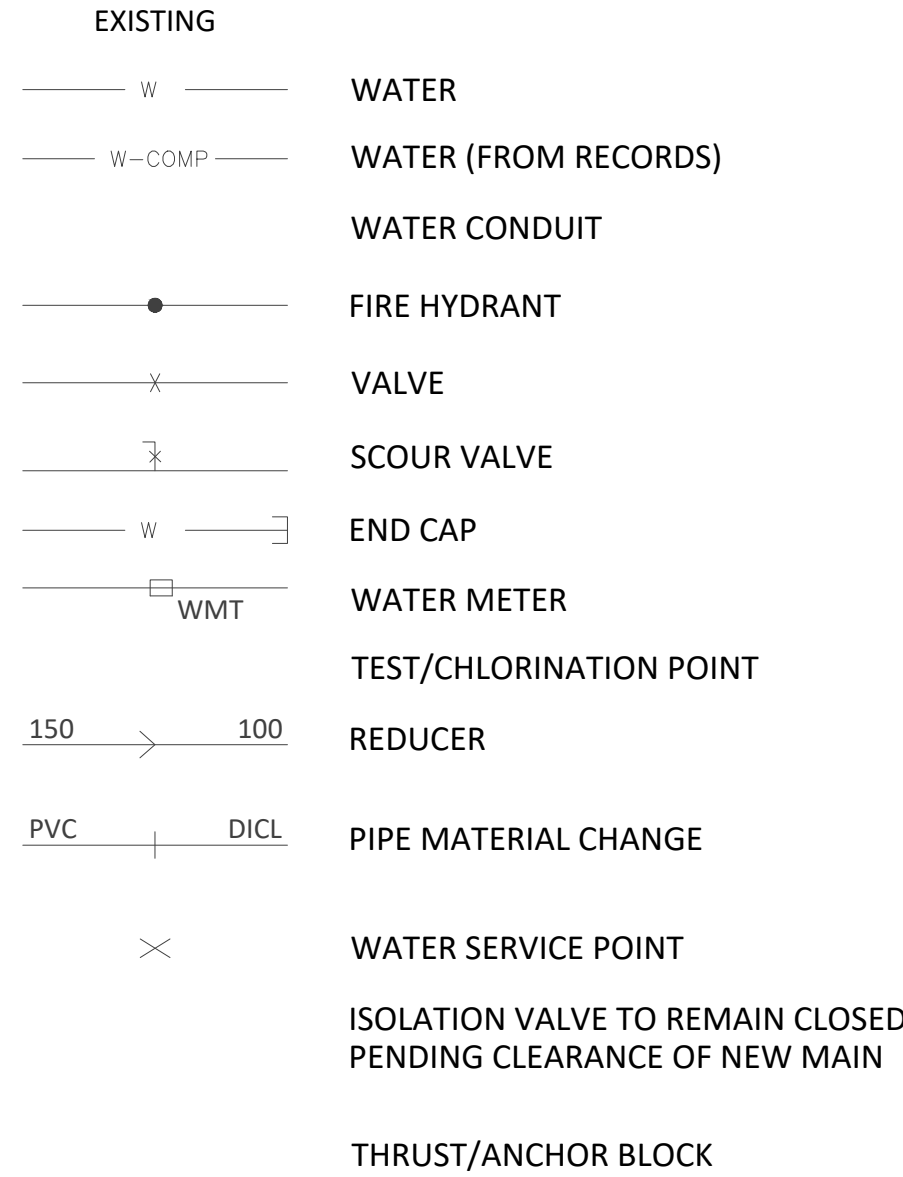
SERVICES



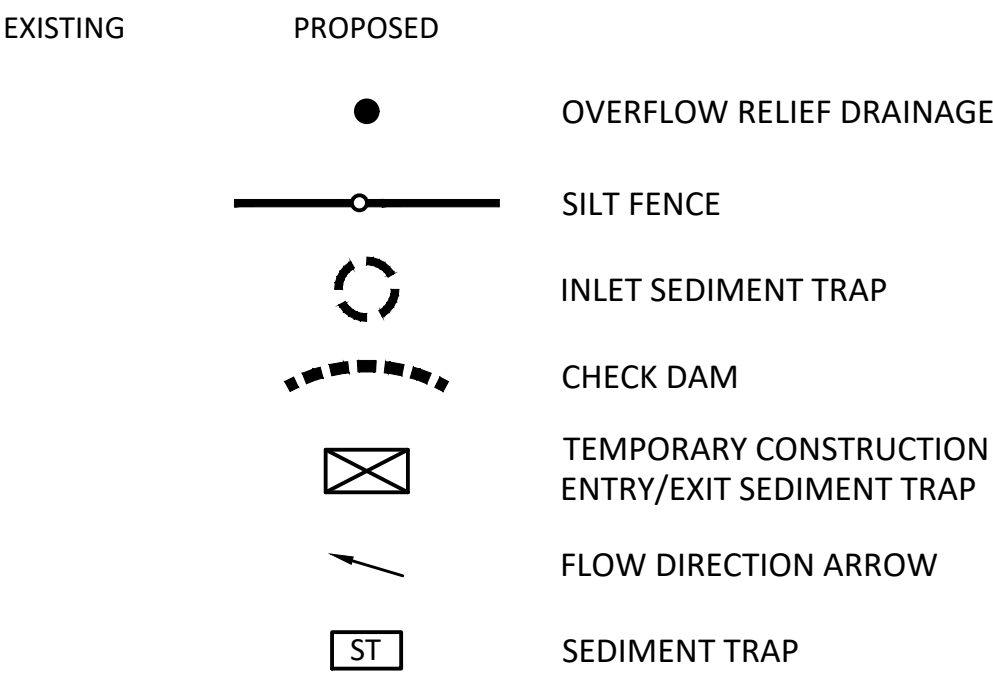
STORMWATER



WATER



EARTHWORKS/EROSION & SEDIMENT CONTROL



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D	09.01.18	ISSUE FOR DEVELOPMENT APPROVAL	EC	ZW	RG	
C	21.12.17	ISSUE FOR INFORMATION	EC	ZW		

ASSOCIATED CONSULTANTS
**WOODS BAGOT
EMF GRIFFITHS**

APPROVED

M. Bagot
DATE 21.12.18

CHECKED

M. Bagot
DATE 21.12.18

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
PDS AUSTRALIA PTY LTD

PROJECT
EPPING TOWER

SUBJECT
LEGEND

PROJECT No.
16115

DRAWING No. REVISION
DA-C0001 G

0 10 20 30 40 50 100 ORIGINAL SIZE A1

EROSION & SEDIMENTATION CONTROL NOTES

1. TOPSOIL
- 1.1.

STRIP & STOCKPILE AVAILABLE TOPSOIL (ASSUMED AVERAGE DEPTH 150mm) FROM DISTURBED AREAS PRIOR TO BULK EARTHWORKS. GRADE BULK EARTHWORKS SURFACE LEVEL EVENLY TO ENSURE SITE IS FREE DRAINING.
- 1.2.

MINIMUM SLOPE ACROSS SITE TO BE 0.5%.
- 1.3.

ALL FOOTPATHS, BATTERS & EARTHWORKS AFFECTED AREAS ARE TO BE TOPSOILED TO A MINIMUM DEPTH OF 100mm (LIGHTLY COMPACTED) & TURFED WHERE SPECIFIED.
- 1.4.

SEDIMENT FENCES TO BE PLACED AS SHOWN. FOR DETAILS OF SEDIMENT FENCE REFER TO IPWEA STD DWG DS-040. SEDIMENT FENCES TO BE REPAIRED & EXCESSIVE SEDIMENT DEPOSITS SHALL BE REMOVED ONCE CAPACITY FALLS BELOW 75%
2. SEDIMENT FENCES
- 2.1.

FOR DETAILS OF SEDIMENT FENCE REFER TO IPWEA STD DWG DS-040.
- 2.2.

SEDIMENT FENCES TO BE REPAIRED AS REQUIRED & EXCESSIVE SEDIMENT DEPOSITS SHOULD BE REMOVED.
- 2.3.

IN THE EVENT OF WET WEATHER, INSTALL KERB INLETS FILTER WITH GRAVEL RANGING FROM 50mm TO 75mm IN SIZE. REFER IPWEA STANDARD DRAWING DS-041. IF THE GRAVEL FILTER BECOMES CLOGGED WITH SEDIMENT DURING ITS USE, THE GRAVEL MUST BE PULLED AWAY FROM THE MESH & CLEANED OR REPLACED.
- 2.4.

REGULAR WEEKLY CHECKS OF SILT FENCES IS TO BE MADE ALONG WITH A CHECK AFTER ANY SIGNIFICANT STORM EVENT TO ENSURE INTEGRITY & PERFORMANCE.
3. DURING CONSTRUCTION SEQUENCE
- 3.1.

TOPSOIL STOCKPILE SITE TO HAVE A SEDIMENTATION FENCE CONSTRUCTED ON DOWNSTREAM SIDE.
- 3.2.

SEDIMENTATION FENCES TO BE PLACED AS SHOWN.
- 3.3.

REGULARLY INSPECT BANKS & REPAIR ANY SLUMPS, WHEEL TRACK DAMAGE OR LOSS OF FREEBOARD
- 3.4.

REMOVE SEDIMENT TO AVOID PONDING FROM CATCH DRAINS
- 3.5.

REMOVE EXCESSIVE SEDIMENT FROM UPSTREAM OF CHECK DAM.
- 3.6.

ROAD RESERVE TO BE USED AS HAUL ROAD
- 3.7.

A CATCH DRAIN BANK IS TO BE PROVIDED ON THE TOP SIDE OF ALL CUTS & DISCHARGED EITHER TO UNDISTURBED GRASS LANDS OR TO THE CROSS ROAD DRAINAGE
- 3.8.

SUPPLEMENTARY EROSION & SEDIMENT CONTROL DEVICE MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER
- 3.9.

CONSTRUCTION EXIT SHALL BE AT ONLY ONE NOMINATED POINT ON LANEWAY OFF RAWSON STREET.
- 3.10.

FOR DETAILS OF TEMPORARY CONSTRUCTION ENTRY / EXIT SEDIMENT TRAP REFER TO IPWEA STANDARD DRAWING DS-040.
- 3.11.

WATER QUALITY SAMPLES MUST BE TAKEN & ANALYSED PRIOR TO RELEASE OF ANY WATER FROM THE SEDIMENT POND. WATER QUALITY MUST SATISFY THE FOLLOWING CRITERIA: TSS<50mg/L pH BETWEEN 6.5 & 8.5. IF WATER QUALITY FAILS THE CRITERIA THEN THE USE OF A GYPSUM FLOCCULENT IS TO BE APPLIED AS DIRECTED BY THE MANAGING CONTRACTOR OR CONSULTING ENGINEER.
- 3.12.

ALL WATER QUALITY DATA INCLUDING DATES OF RAINFALL, TESTING & WATER RELEASE MUST BE MAINTAINED IN AN ON-SITE REGISTER. THIS REGISTER IS TO BE MAINTAINED FOR THE DURATION OF THE APPROVED WORKS & BE AVAILABLE ON SITE FOR INSPECTION ON REQUEST.
- 3.13.

GRASS SEEDING IS TO ACHIEVE 70% COVER WITHIN 30 DAYS OF COMPLETION OF EARTHWORKS.
4. FOLLOWING CONSTRUCTION
- 4.1.

SEDIMENTATION FENCES TO BE MAINTAINED UNTIL TURFING IS COMPLETED & GRASS IS 80% ESTABLISHED.
- 4.2.

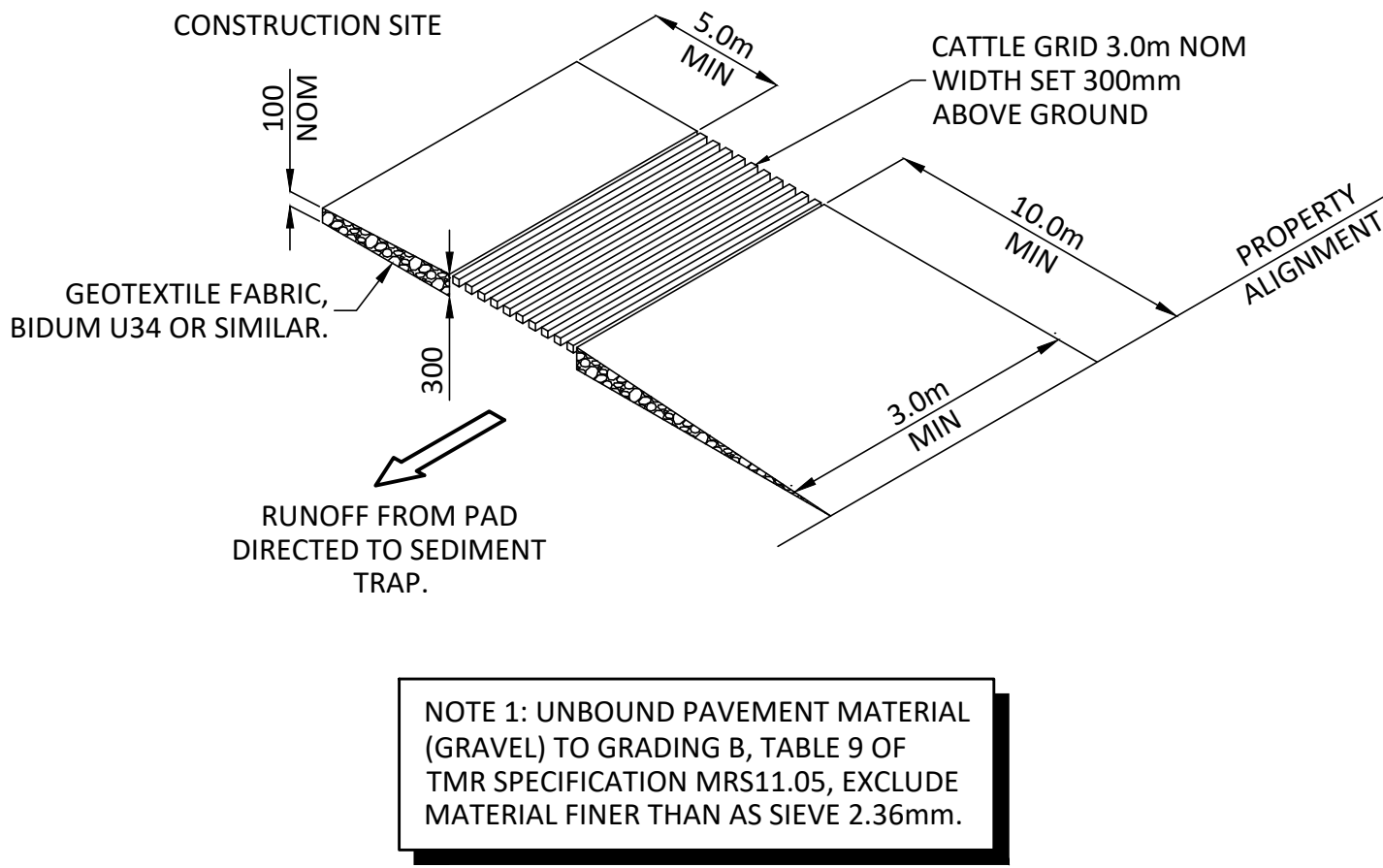
SEDIMENT BASINS TO BE CHECKED & DE-SILTED AFTER EVERY SIGNIFICANT STORM EVENT OR IN THE CASE OF NO SIGNIFICANT STORM EVENT, EVERY 12 WEEKS.

NOTE:
NOT WITHSTANDING THE DETAILS ON THESE DRAWINGS THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL WITHIN THE SITE. THE CONTRACTOR SHALL COMPLETE ALL DESIGN MEASURES AND MORE AS ANY ADDITIONAL MEASURES AND MAINTENANCE REQUIRED TO SUIT THEIR CONSTRUCTION STAGING. ALL COSTS IN RELATION TO EROSION AND SEDIMENT CONTROL ARE TO BE INCLUDED IN THE LUMP SUM.

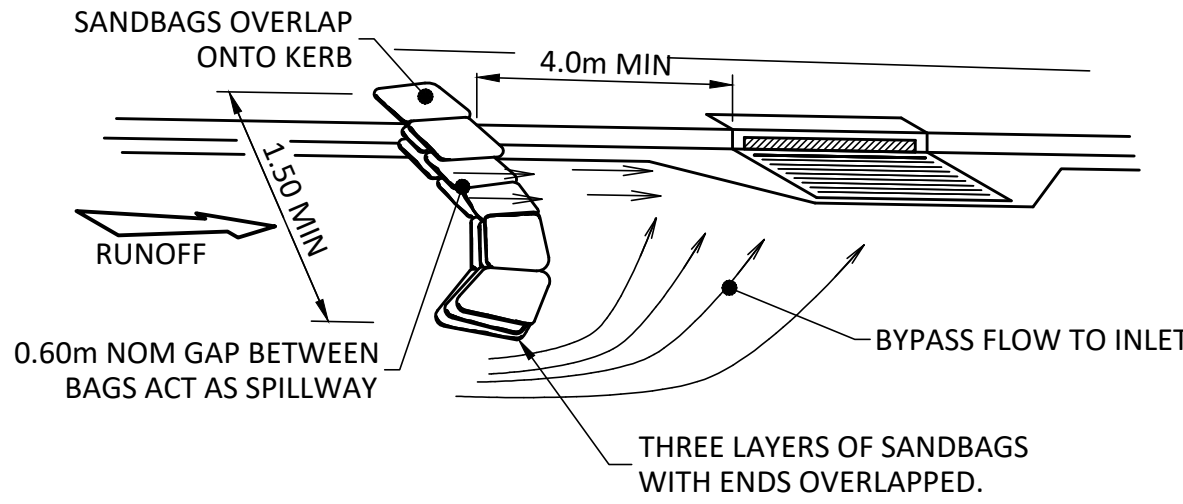
BASIN OPERATION NOTES

1. WATER DISCHARGE CRITERIA
- 1.1.

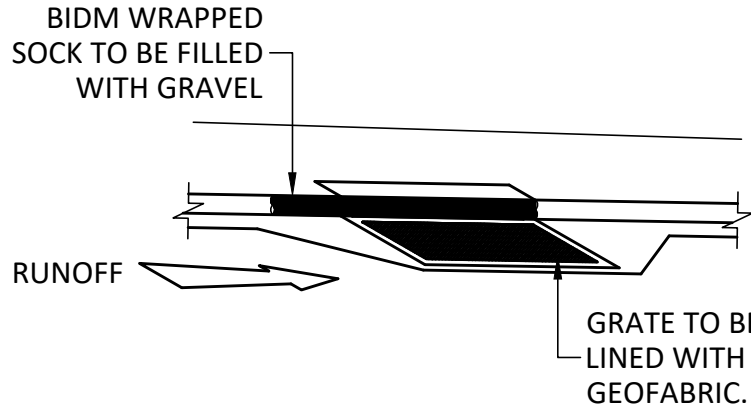
SAMPLES MUST BE TAKEN AND ANALYSED PRIOR TO THE RELEASE OF WATER FROM PONDS.
- TURBIDITY NTU (50%) < 60 (CHECK SAMPLES TO BE LAB TESTED TO CONFIRM TSS<50 mg/l AFTER ALL EVENTS)
- pH BETWEEN 6.5 AND 8.5
2. TREATMENT
- HIGH TSS: ADD GYPSUM. RECOMMENDED 32 TO 70kg/100m² WATER AS A SLURRY EVENLY SPREAD OVER POND SURFACE. OR OTHER COMMERCIAL FLOCCULLANT SUITABLE FOR FRESH WATER DISCHARGE APPLIED IN ACCORDANCE WITH SUPPLIER RECOMMENDATIONS.
- LOW pH: ADD AGLIME/HYDRATED LIME OR SODIUM BICARBONATE. REFER TO TABLE BELOW AS A GENERAL GUIDE FOR MINIMUM DOSAGE RATES.
- | CURRENT WATER pH | [H ⁺] (mol/L) | H ⁺ IN 1 MEGALITRE (mol) | AGLIME TO NEUTRALISE 1 MEGALITRE (kg pure Ca(OH) ₂) | HYDRATED LIME TO NEUTRALISE 1 MEGALITRE (kg pure Ca(OH) ₂) | SODIUM BICARBONATE TO NEUTRALISE 1 MEGALITRE (kg pure NaH(CO ₃)) |
|------------------|---------------------------|-------------------------------------|---|--|--|
| 0.5 | 0.316 | 316228 | 15824 | 11716 | 26563 |
| 1.0 | 0.1 | 100000 | 5004 | 3705 | 8390 |
| 1.5 | 0.032 | 32000 | 1600 | 1185 | 2686 |
| 2.0 | 0.01 | 10000 | 500 | 370 | 839 |
| 2.5 | 0.0032 | 3200 | 160 | 118 | 269 |
| 3.0 | 0.001 | 1000 | 50 | 37 | 84 |
| 3.5 | 0.00032 | 320 | 16 | 12 | 27 |
| 4.0 | 0.0001 | 100 | 5 | 4 | 8.4 |
| 4.5 | 0.000032 | 32 | 1.6 | 1.18 | 2.69 |
| 5.0 | 0.00001 | 10 | 0.5 | 0.37 | 0.84 |
| 5.5 | 0.0000032 | 3.2 | 0.16 | 0.12 | 0.27 |
| 6.0 | 0.000001 | 1 | 0.05 | 0.037 | 0.08 |
| 6.5 | 0.00000032 | 0.32 | 0.016 | 0.012 | 0.027 |
- HIGH pH: ADD CITRIC ACID. TESTING FOR BOTH pH & ALKALINITY ARE NECESSARY TO DETERMINE DOSAGE RATES.
3. ALL WATER QUALITY DATA INCLUDING DATES OF RAINFALL, TESTING AND WATER RELEASE MUST BE MAINTAINED IN AN ON-SITE REGISTER. THIS REGISTER IS TO BE MAINTAINED FOR THE DURATION OF THE APPROVED WORKS AND BE AVAILABLE ON SITE FOR INSPECTION ON REQUEST.



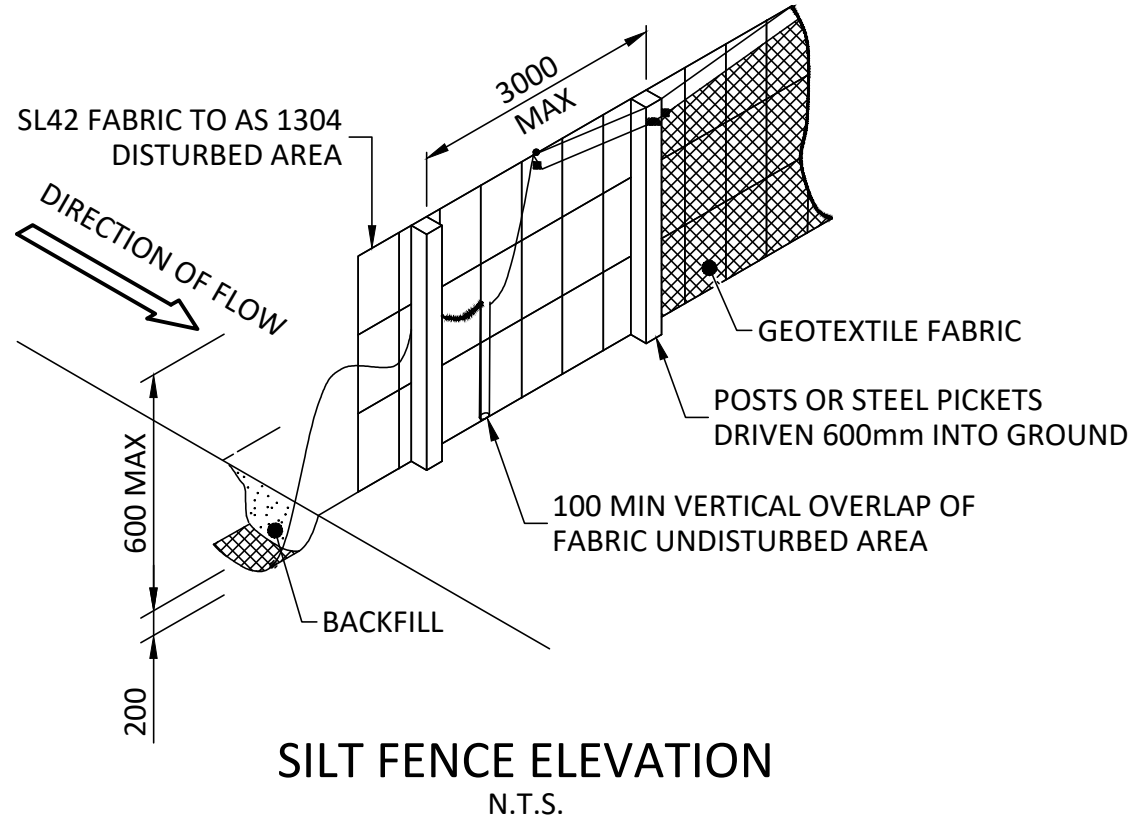
TEMPORARY CONSTRUCTION ENTRY / EXIT SEDIMENT TRAP NTS



ON GRADE KERB INLET SEDIMENT TRAP NTS



ON GRADE KERB INLET SEDIMENT TRAP ON EXISTING ROADS N.T.S.



SILT FENCE ELEVATION N.T.S.

MANAGEMENT OF DUST, EROSION AND SEDIMENT IS THE RESPONSIBILITY OF THE EARTHWORKS CONTRACTOR. THEY ARE TO PREPARE PHASE SPECIFIC EROSION CONTROL PLANS AND SUBMIT TO THE MANAGING CONTRACTOR PRIOR TO BEGINNING WORK ON THE RELEVANT PHASE.

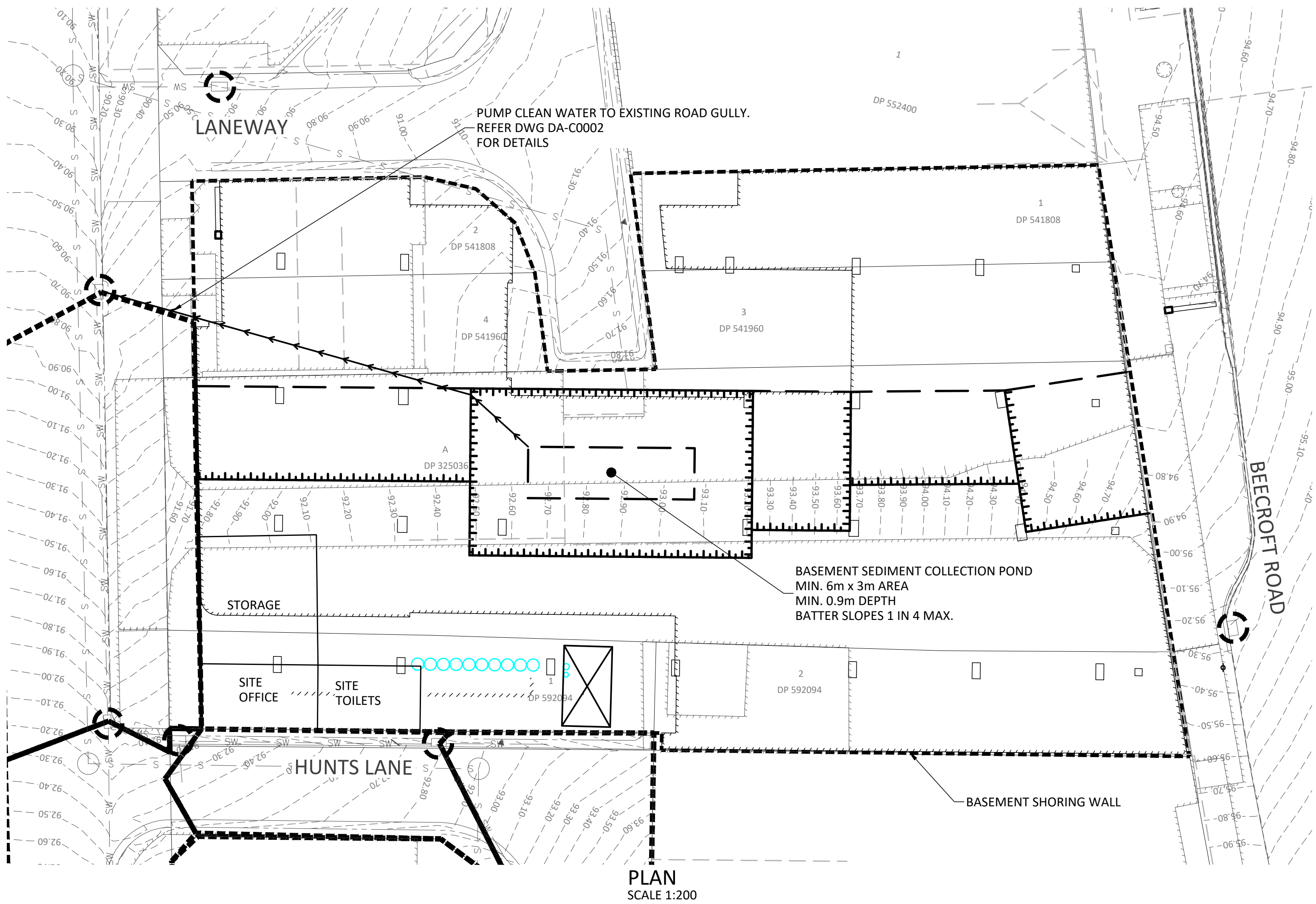
I, NICHOLAS ROZIS [CPESC # 8219]
CONFIRM THIS MANAGEMENT PLAN REPRESENTS
BEST PRACTICE FOR THE SITUATION.
N. Rozis (SIGNATURE)

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REV	DATE	DESCRIPTION	DWN	DES	CHK	APP	WOODS BAGOT EMF GRIFFITHS						M. Kojif 7729 RPEQ		M. Kojif 7729 RPEQ		CONSULTING ENGINEERS																				
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C	21.12.17	ISSUE FOR INFORMATION	EQ	ZW									DATE		21.12.18		DATE		21.12.18																		

01020304050100

ORIGINAL SIZE A



Sediment Basin Sizing	
BOM IFDs:	Epping
RECOMMENDED APPLICATION (Y%)	life less than 6 months (Y
VOLUMETRIC RUNOFF COEFFICIENT Cv	0.56
EFFECTIVE CATCHMENT AREA (ha)	0.215
R(Y%,5-day)	26.6
Required Volume of Settling Zone Volume (m3)	32
Required Sediment Storage Zone Volume (m3)	16
Depth of Settling Zone (m)	0.6
Depth of Storage Zone (m)	0.3
Internal Batters (1 in _)	2
Top Length (m)	13
Top Width (m)	11
L/W	1.18
Settling Zone Volume (m3)	54.70
Sediment Storage Zone Volume (m3)	17.95
Required Pump Out Rate (L/min)	75.97
Design ARI Flow Rate (m^3/s)	0.072
Emergency Spillway Flow Rate (m^3/s)	0.072

MANAGEMENT OF DUST, EROSION AND SEDIMENT IS THE RESPONSIBILITY OF THE EARTHWORKS CONTRACTOR. THEY ARE TO PREPARE PHASE SPECIFIC EROSION CONTROL PLANS AND SUBMIT TO THE MANAGING CONTRACTOR PRIOR TO BEGINNING WORK ON THE RELEVANT PHASE.

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ASSOCIATED CONSULTANTS
WOODS BAGOT
EMF GRIFFITHS

APPROVED
DATE 21.12.18
CHECKED
DATE 21.12.18

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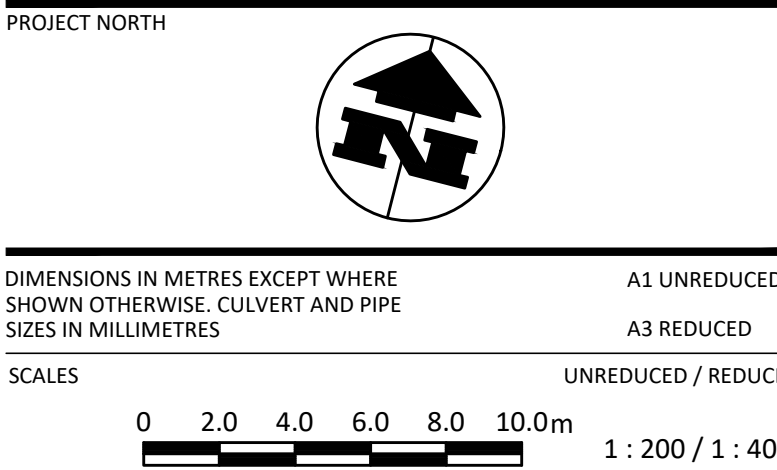
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Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
PDS AUSTRALIA PTY LTD

PROJECT
EPPING TOWER

SUBJECT
EROSION AND SEDIMENT
CONTROL LAYOUT

PROJECT No.
16115
DRAWING No.
DA-C0003
REVISION
G



I, NICHOLAS ROZIS [CPESC # 8219]
CONFIRM THIS MANAGEMENT PLAN REPRESENTS
BEST PRACTICE FOR THE SITUATION.

(SIGNATURE)

STATUS
FOR APPROVAL

0 10 20 30 40 50 100 ORIGINAL SIZE A1



NOTE:
INSTALL STEP IRONS AT ALL ACCESS
AT 150mm INTERVALS FOR ACCESS
INTO CHAMBER.

0 1.0 2.0 3.0 4.0 5.0m 1:100 / 1:200

FOR APPROVAL

ASSOCIATED CONSULTANTS
WOODS BAGOT
EMF GRIFFITHS

APPROVED

M. Kozif.

CHECKED

M. Kozis

BORNHORST + WARD

CONSULTING ENGINEERS

CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
PDS AUSTRALIA PTY LTD

PROJECT LEPPING TOWER

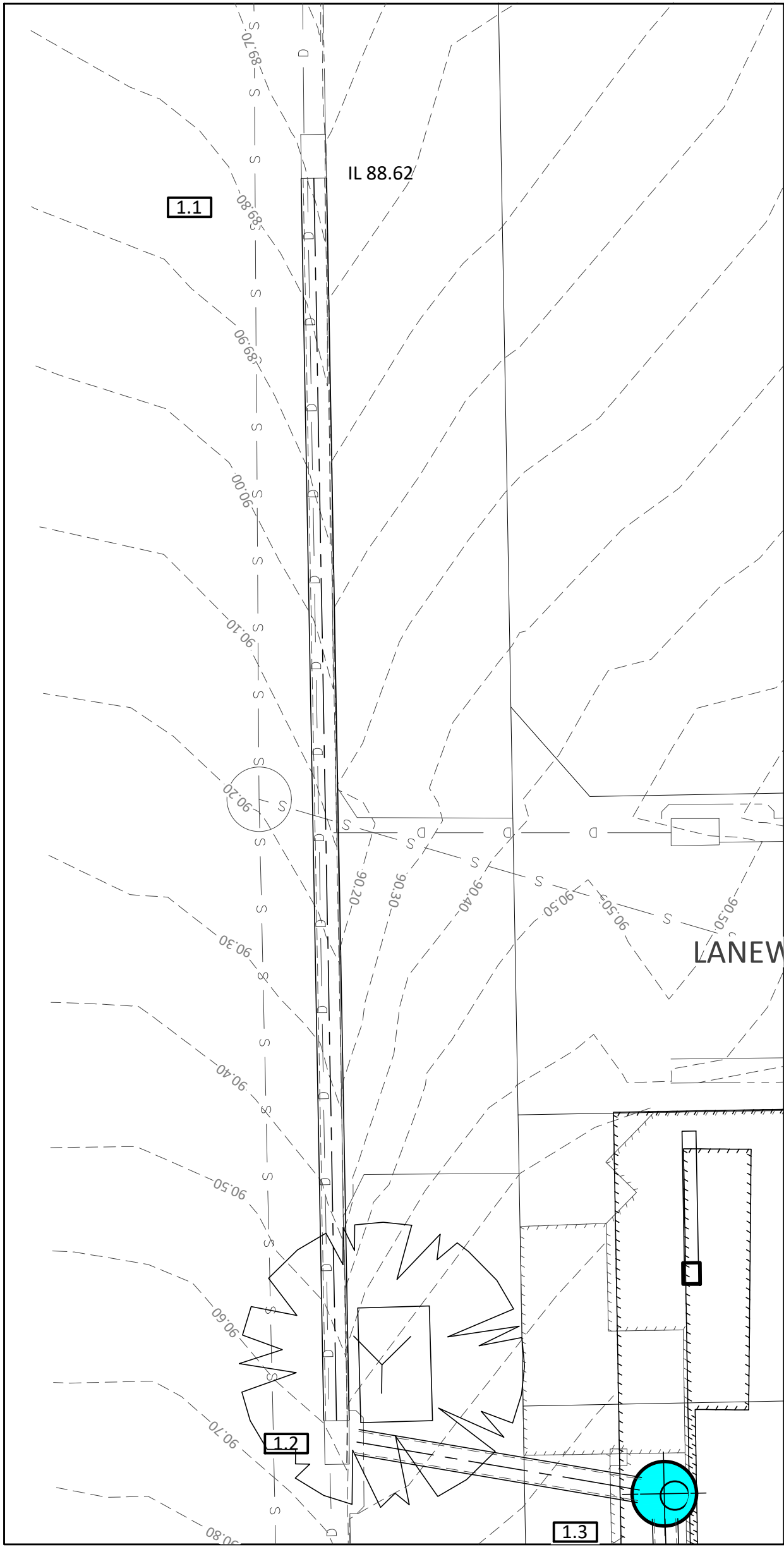
SUBJECT
OSD TANK LAYOUT
RAWSON ST LEVEL

PROJECT No.
16115

DRAWING No.	REVISION
DA-C0004	H

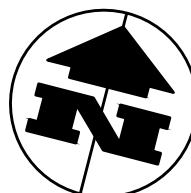
0 10 20 30 40 50 100 ORIGINAL SIZE A

NOTE:
REFER TO SPEL DRAWING SP16-SF8270
FOR THE GENERAL ARRANGEMENT OF
THE SPEL FILTER SYSTEM. SPEL TO BE
CONTACTED FOR FINAL DESIGN OF
FILTER ARRANGEMENT.



INSERT A

PROJECT NORTH



DIMENSIONS IN METRES EXCEPT WHERE
SHOWN OTHERWISE. CULVERT AND PIPE
SIZES IN MILLIMETRES

A1 UNREDUCED

A3 REDUCED

SCALES

UNREDUCED / REDUCED

0 1.0 2.0 3.0 4.0 5.0m

1:100 / 1:200

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E	09.07.18	RESPONSE TO RFI	TK	ZW		

ASSOCIATED CONSULTANTS
WOODS BAGOT
EMF GRIFFITHS

APPROVED

M. Ruzic

7729
RPEQ

DATE 21.12.18

CHECKED

M. Ruzic

DATE 21.12.18

BORNHORST + WARD

CONSULTING ENGINEERS

CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
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CLIENT

PDS AUSTRALIA PTY LTD

PROJECT

EPPING TOWER

SUBJECT

LEVEL 1 BASEMENT LAYOUT

PROJECT No.

16115

DRAWING No.

DA-C0005

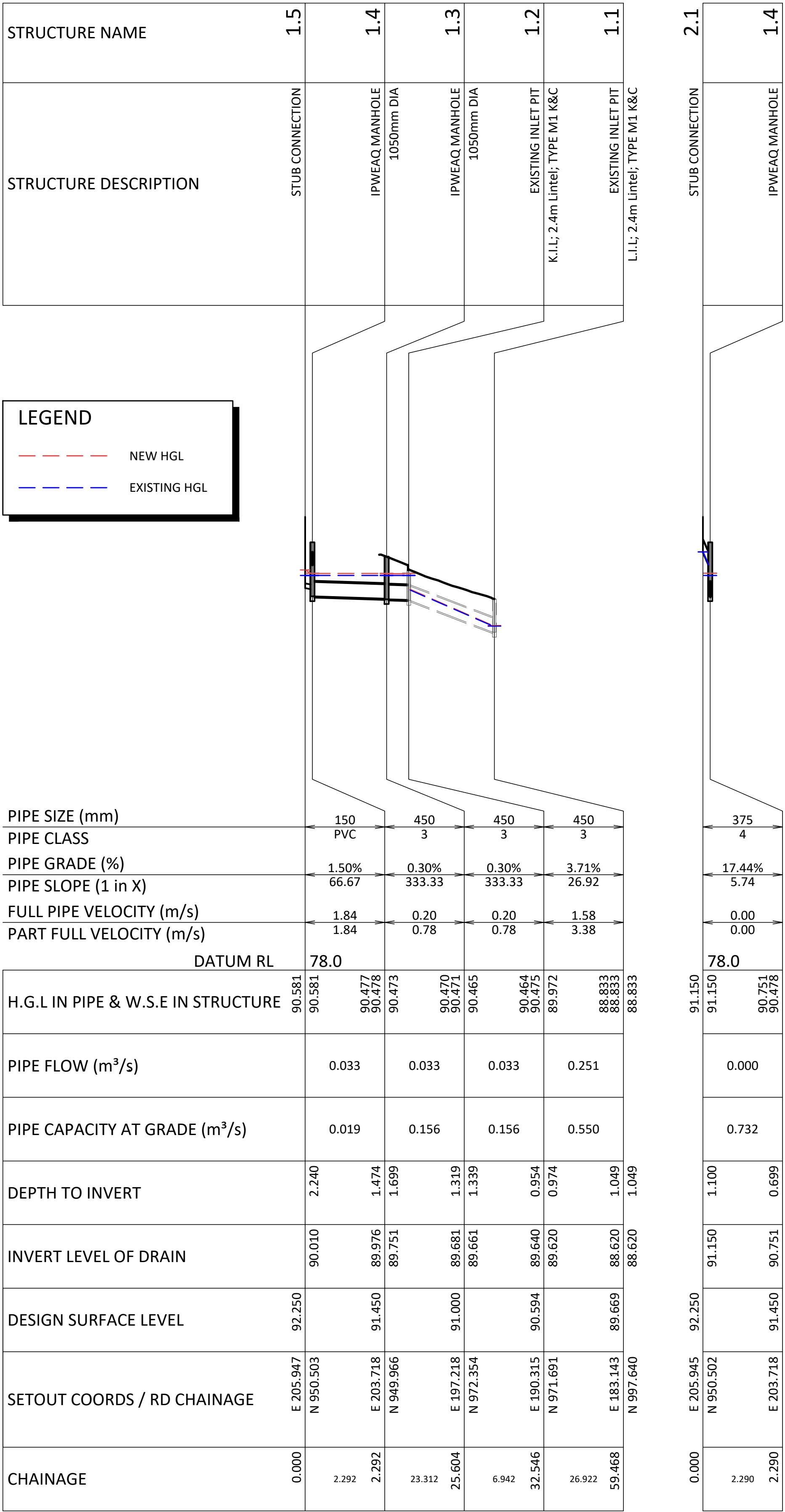
REVISION

J

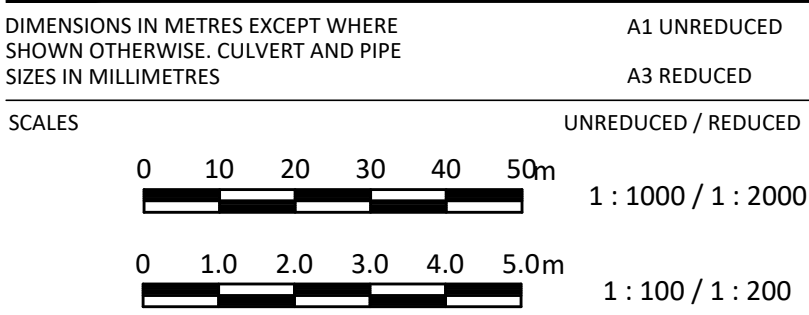
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16/12/2018 9:44:41 AM

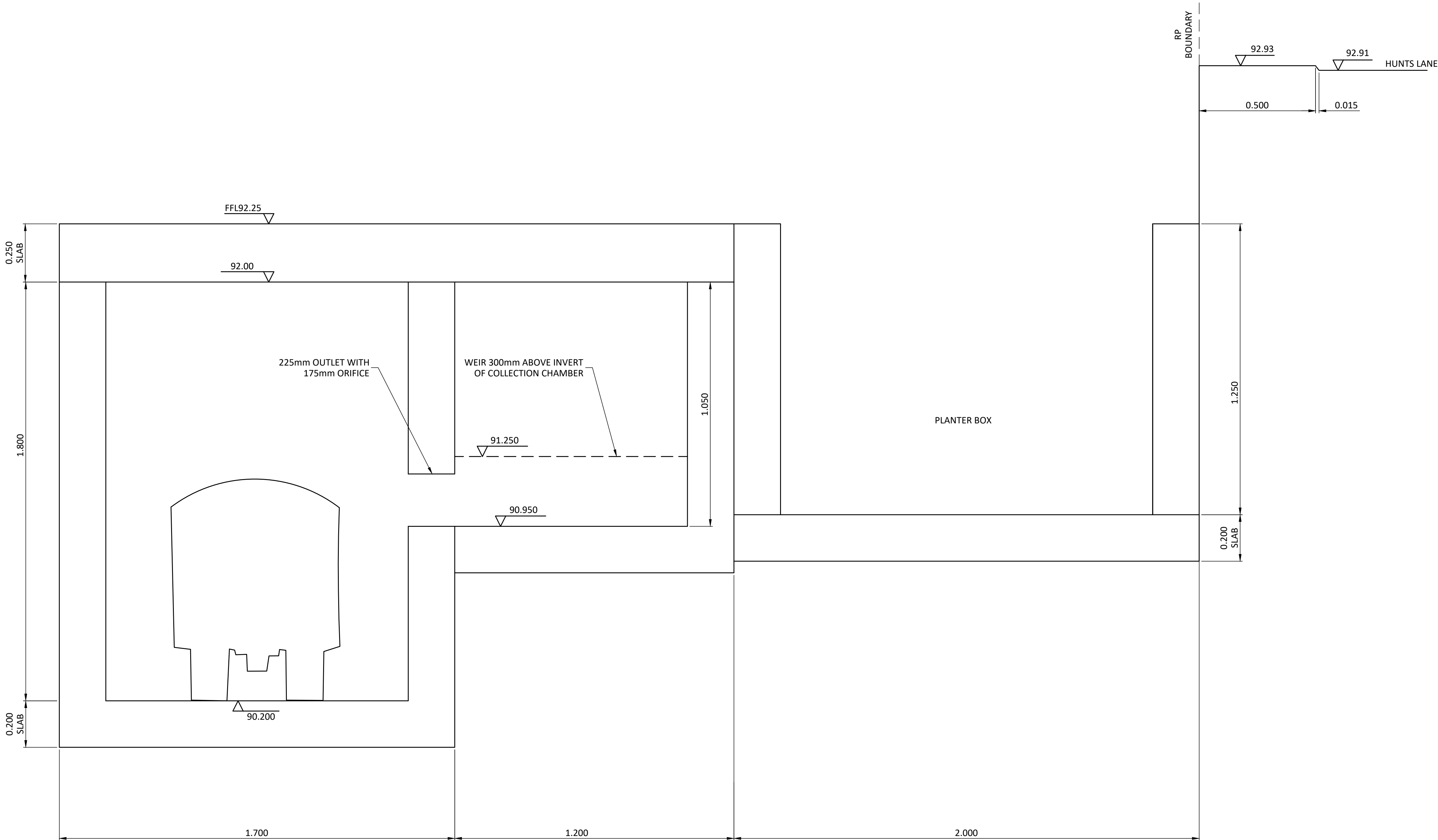
ORIGINAL SIZE A1



NOTE:
HGL FOR EXISTING AND PROPOSED
THROUGH EXISTING INFRASTRUCTURE
HAS BEEN CALCULATED AND NO
SIGNIFICANT DIFFERENCE HAS BEEN
RECORDED.

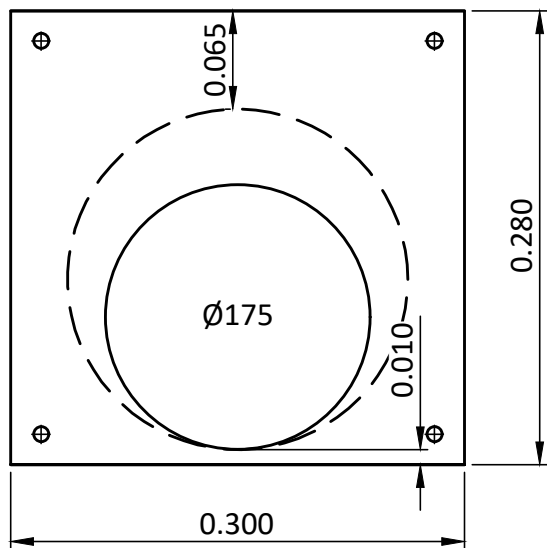


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F	07.02.19	RE-ISSUE		TK	ZW				WOODS BAGOT		7729		Level 4, 67 Astor Terrace		PDS AUSTRALIA PTY LTD		EPPING TOWER		STORMWATER		16115	
E	20.12.18	RESPONSE TO COUNCIL RFI		ABU	ZW	NR	NR		EMF GRIFFITHS		RPEQ		CONSULTING ENGINEERS		P. +61 (7) 3013 4699				LONGITUDINAL SECTION		DRAWING No.	
D	09.07.18	RESPONSE TO RFI		TK	ZW						EC	ZW	CIVIL AND STRUCTURAL		mail@bornhorstward.com.au						REVISION	
C	09.01.18	ISSUE FOR DEVELOPMENT APPROVAL		EC	ZW	RG					DATE	21.12.18									DA-C0008	
B	21.12.17	ISSUE FOR INFORMATION		EC	ZW						DATE	21.12.18									F	



NOTE:
REFER TO SPEL DRAWING SP16-SF8270
FOR THE GENERAL ARRANGEMENT OF
THE SPEL FILTER SYSTEM. SPEL TO BE
CONTACTED FOR FINAL DESIGN OF
FILTER ARRANGEMENT.

SECTION 1
SCALE 1:10
DA-0005



ORIFICE PLATE DETAIL
N.T.S.

PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES

A1 UNREDUCED
A3 REDUCED



SCALES

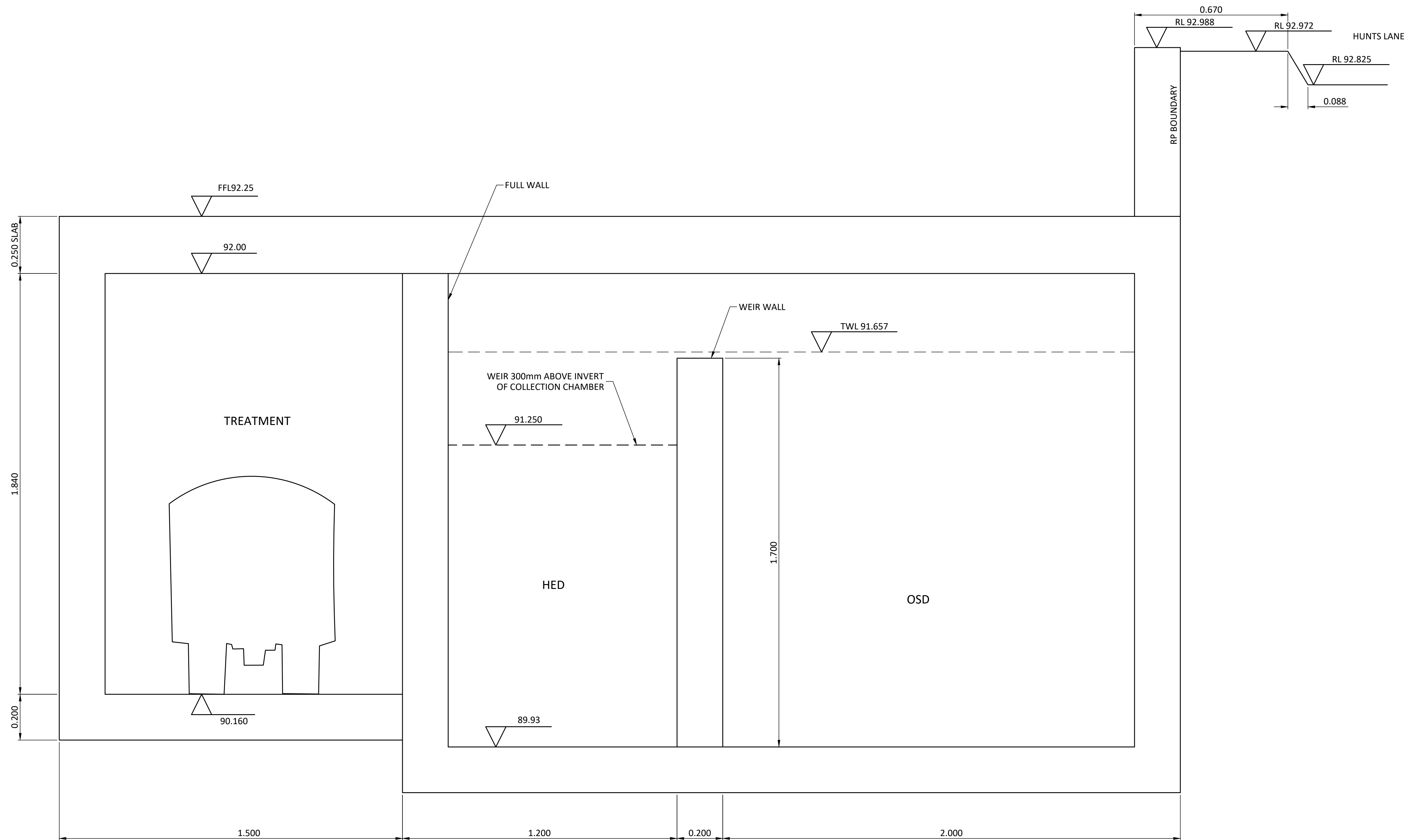
UNREDUCED / REDUCED

0 0.05 0.1 0.15 0.2 0.25m 1:5 / 1:10

0 0.1 0.2 0.3 0.4 0.5m 1:10 / 1:20

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REV	DATE	DESCRIPTION	DWN	DES	CHK	APP	WOODS BAGOT EMF GRIFFITHS		7729 RPEQ		DATE 21.12.18	DATE 21.12.18	CONSULTING ENGINEERS		P. +61 (7) 3013 4699 mail@bornhorstward.com.au www.bornhorstward.com.au									
H	07.02.19	RE-ISSUE	TK	ZW																				
G	20.12.18	RESPONSE TO COUNCIL RFI	ABU	ZW	NR	NR																		
F	14.12.18	ISSUE FOR INFORMATION	HA	ZW																				
E	09.07.18	RESPONSE TO RFI	TK	ZW																				
D	09.01.18	ISSUE FOR DEVELOPMENT APPROVAL	EG	ZW	RG																	DRAWING No. DA-C0010	REVISION H	



SECTION 2
SCALE 1:10

NOTE:
REFER TO SPEL DRAWING SP16-SF8270
FOR THE GENERAL ARRANGEMENT OF
THE SPEL FILTER SYSTEM. SPEL TO BE
CONTACTED FOR FINAL DESIGN OF
FILTER ARRANGEMENT.

PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES



1:10 / 1:20

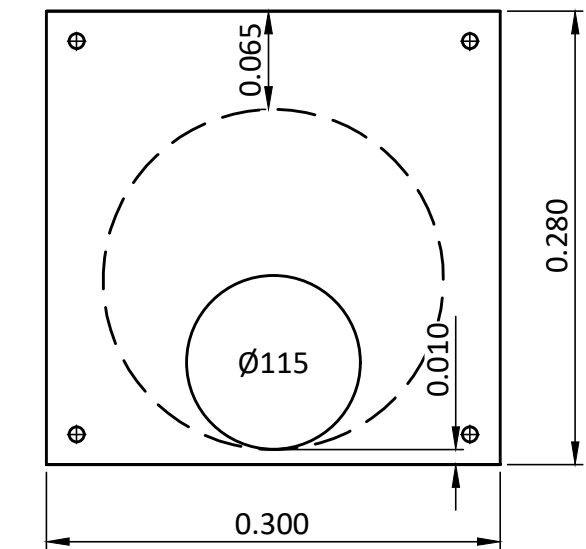
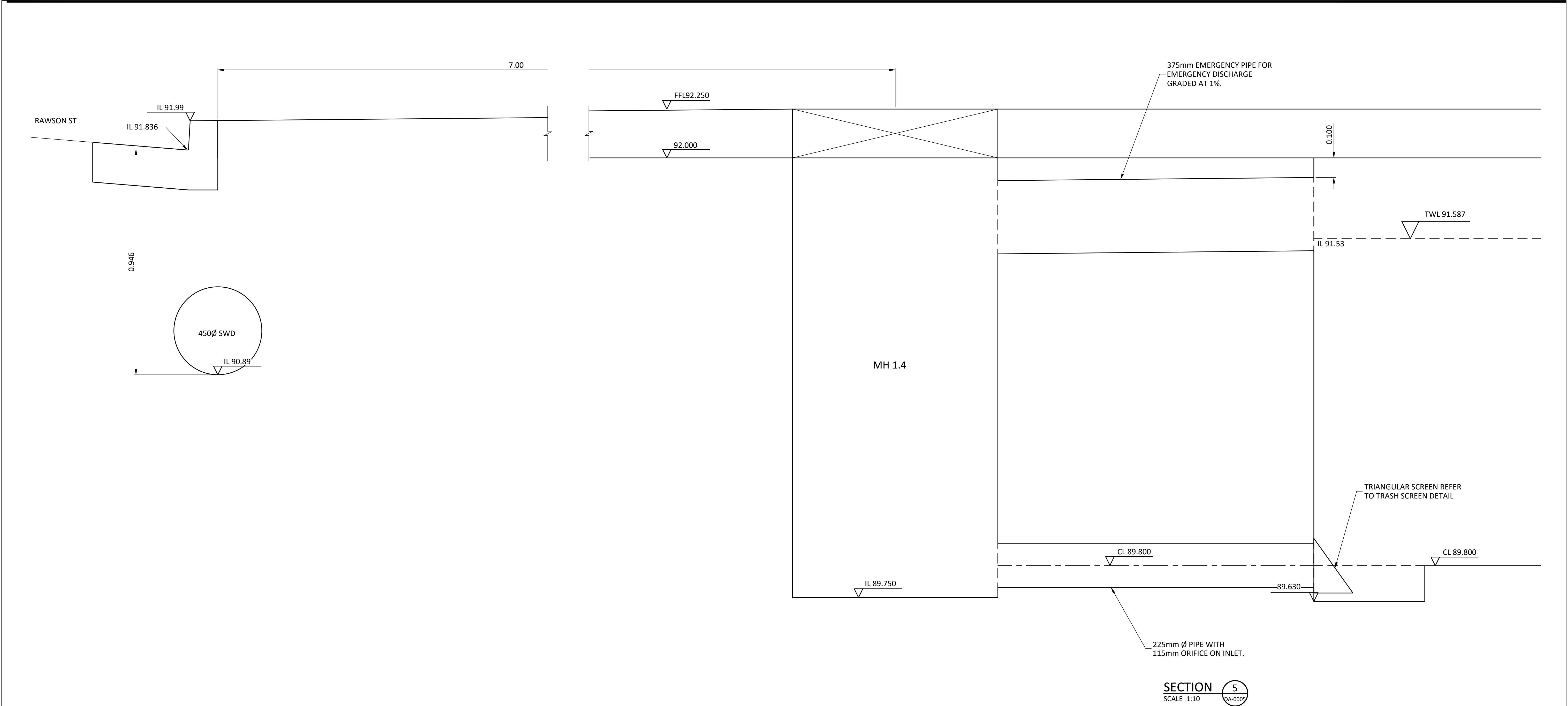
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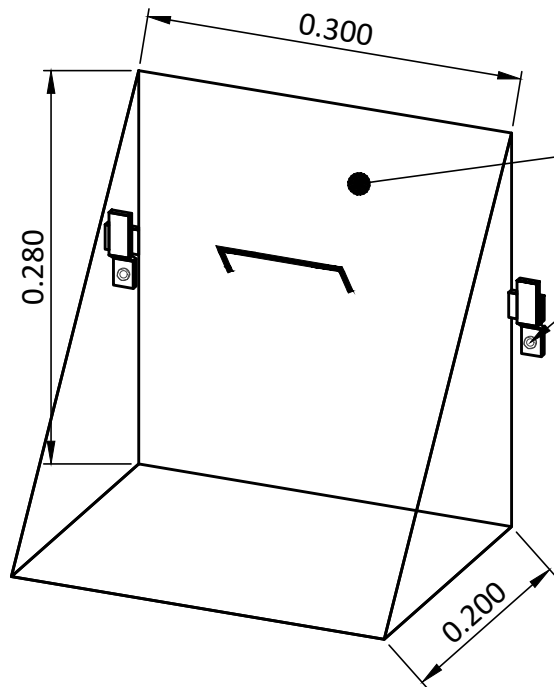
UNREDUCED / REDUCED

A1 UNREDUCED
A3 REDUCED

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REV	DATE	DESCRIPTION	DWN	DES	CHK	APP	WOODS BAGOT EMF GRIFFITHS			 7729 RPEQ			 DATE 21.12.18			CONSULTING ENGINEERS			P. +61 (7) 3013 4699 mail@bornhorstward.com.au www.bornhorstward.com.au									DRAWING No. DA-C0011			REVISION H		
G	07.02.19	RE-ISSUE	TK	ZW									DATE 21.12.18			CIVIL AND STRUCTURAL																	
H	20.12.18	RESPONSE TO COUNCIL RFI	ABU	ZW	NR	NR																											
F	14.12.18	ISSUE FOR INFORMATION	HA	ZW																													
E	09.07.18	RESPONSE TO RFI	TK	ZW																													
D	09.01.18	ISSUE FOR DEVELOPMENT APPROVAL	EC	ZW	RG																												



ORIFICE DETAIL FRO HED OUTLET
N.T.S.



TRASH SCREEN DETAIL
N.T.S.

HOT DIPPED GALVANISED
LYSAGHT MAXIMESH TYPE
RH3030 SCREEN WITH HANDLE.

BRACKETS FIXED TO PIT WALL
TO HOLD SCREEN IN PLACE.

NOTE:
REFER TO SPEL DRAWING SP16-SF8270
FOR THE GENERAL ARRANGEMENT OF
THE SPEL FILTER SYSTEM. SPEL TO BE
CONTACTED FOR FINAL DESIGN OF
FILTER ARRANGEMENT.

PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES



A1 UNREDUCED
A3 REDUCED

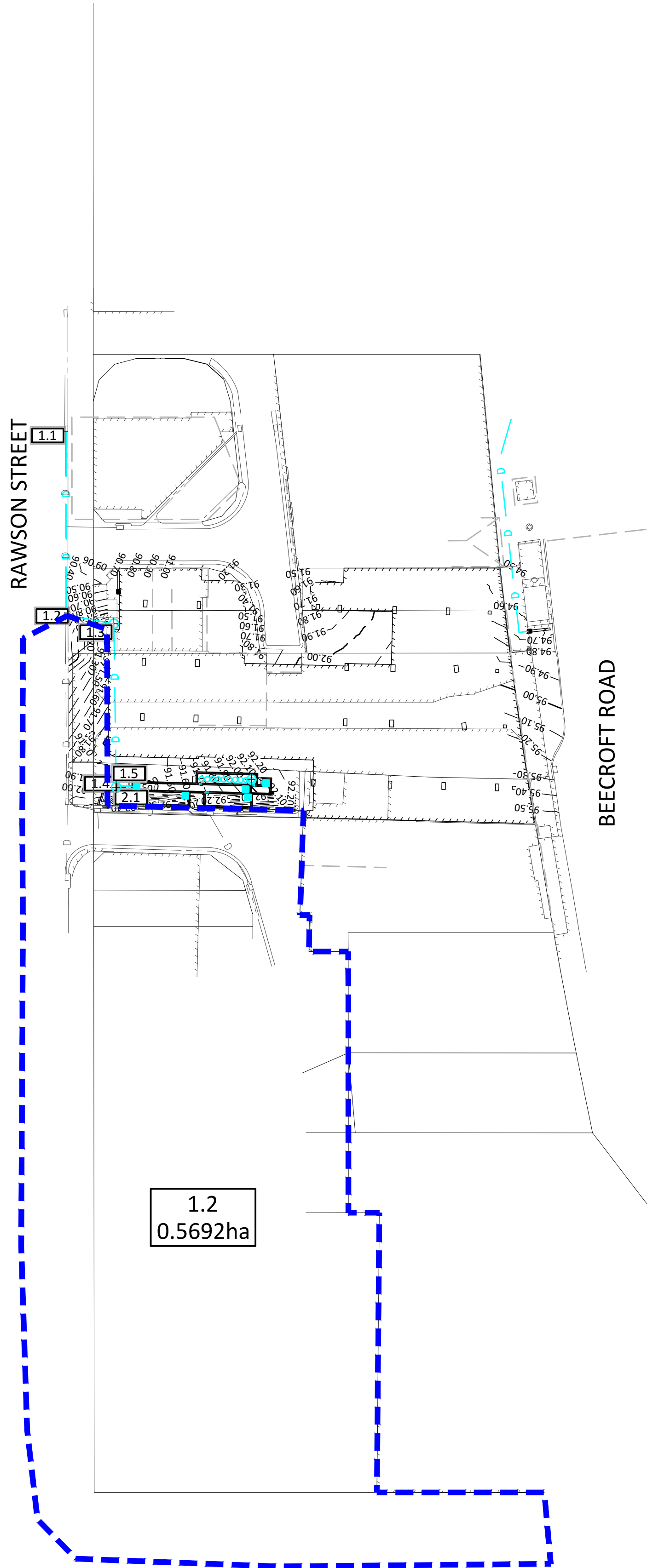
UNREDUCED / REDUCED

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1 : 10 / 1 : 20


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REV	DATE	DESCRIPTION	DWN	DES	CHK	APP	WOODS BAGOT EMF GRIFFITHS			 7729 RPEQ		 DATE 21.12.18		CONSULTING ENGINEERS										DRAWING No. DA-C0013	
H	07.02.19	RE-ISSUE	TK	ZW								DATE 21.12.18		CIVIL AND STRUCTURAL										REVISION H	
G	20.12.18	RESPONSE TO COUNCIL RFI	ABU	ZW	NR	NR																			
F	14.12.18	ISSUE FOR INFORMATION	HA	ZW																					
E	09.07.18	RESPONSE TO RFI	TK	ZW																					
D	09.01.18	ISSUE FOR DEVELOPMENT APPROVAL	EC	ZW	RG																				



PLAN
SCALE 1:500

PROJECT NORTH



DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES

A1 UNREDUCED
A3 REDUCED

UNREDUCED / REDUCED

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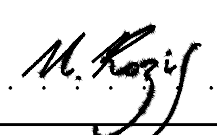
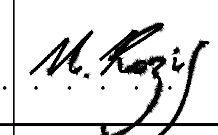
1 : 500 / 1 : 1000

STATUS

FOR APPROVAL

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
B	07.02.19	RE-ISSUE	TK	ZW		
A	20.12.18	RESPONSE TO COUNCIL RFI	ABU	ZW	NR	NR

ASSOCIATED CONSULTANTS
WOODS BAGOT
EMF GRIFFITHS

APPROVED	CHECKED
	
7729 RPEQ	
DATE 21.12.18	DATE 21.12.18

BORNHORST + WARD
CONSULTING ENGINEERS
CIVIL AND STRUCTURAL

Level 4, 67 Astor Terrace
Spring Hill, QLD 4000, Australia
P. +61 (7) 3013 4699
mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT
PDS AUSTRALIA PTY LTD

PROJECT
EPPING TOWER

SUBJECT
DRAINAGE CATCHMENT
LAYOUT

PROJECT No.	16115
DRAWING No.	DA-C0020
REVISION	B

0 10 20 30 40 50 100 ORIGINAL SIZE A1