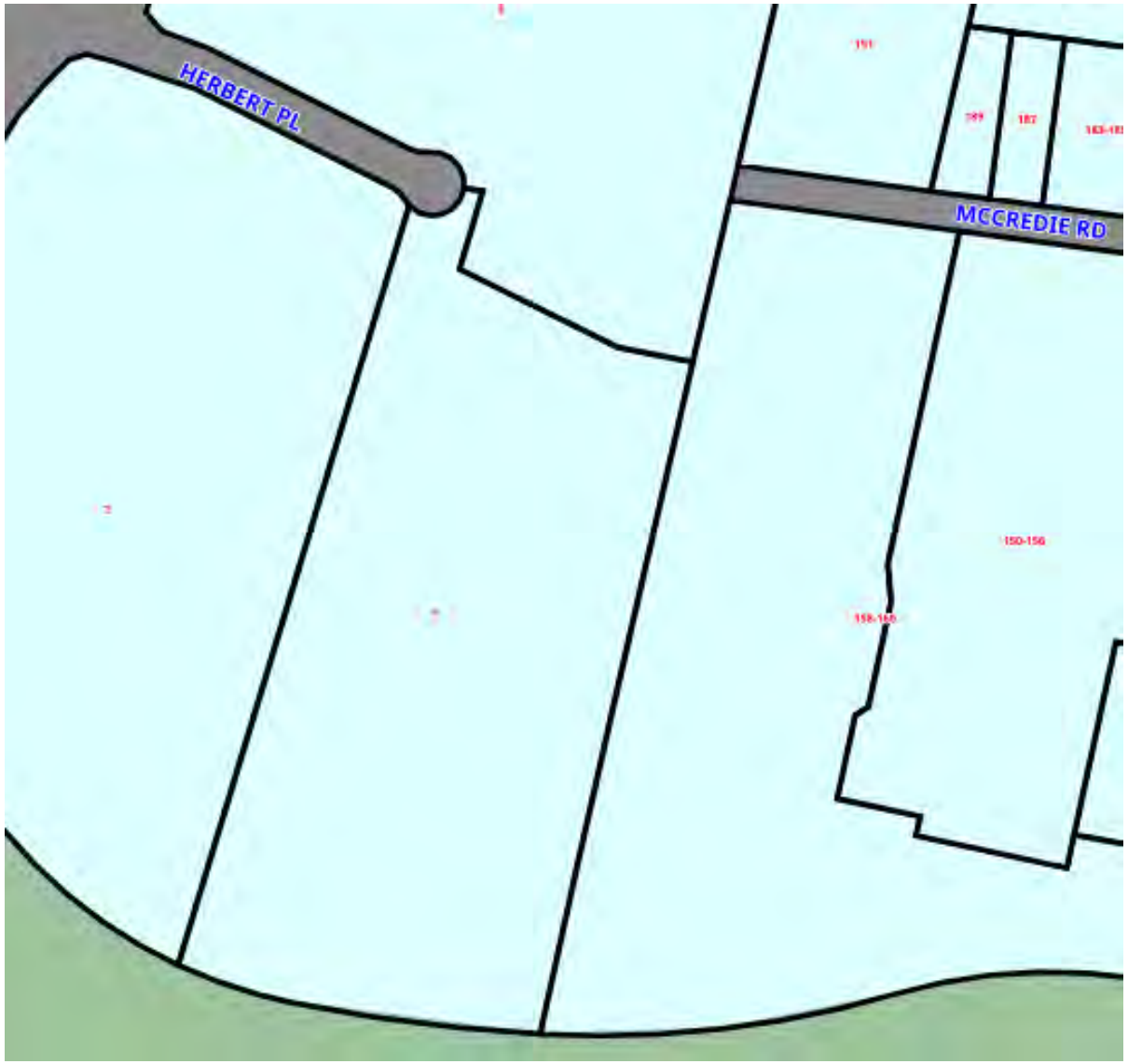
APPENDIX C – Council flood mapping extracts

Source: Flood mapping dated 27/10/2021 sourced from Cumberland Council website accessed June 2023
https://www.cumberland.nsw.gov.au/stormwater-and-flood-maps

Map 1 - Flood Control Lot Map

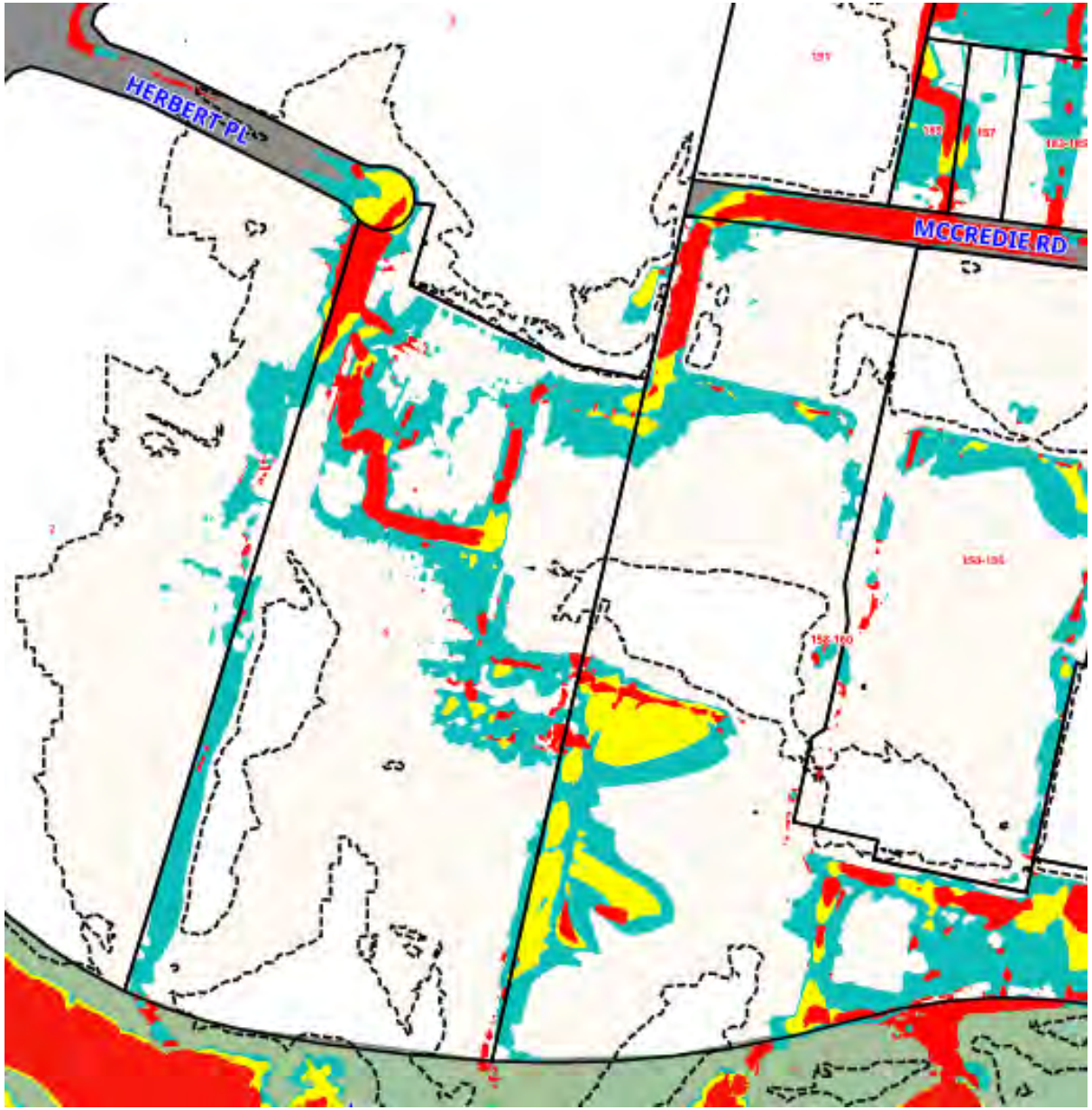


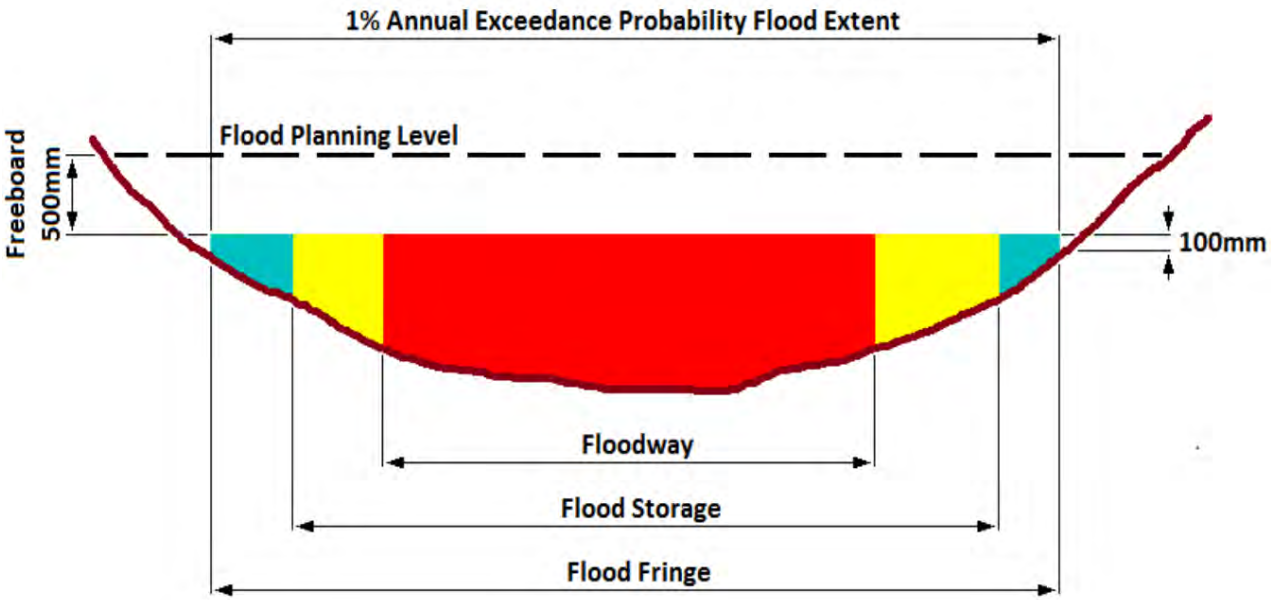
Properties within the Flood Planning Level area

Flood study required

Additional Properties totally or partially within the Floodplain

Map 2 - 1% Flood Hydraulic Categories Map





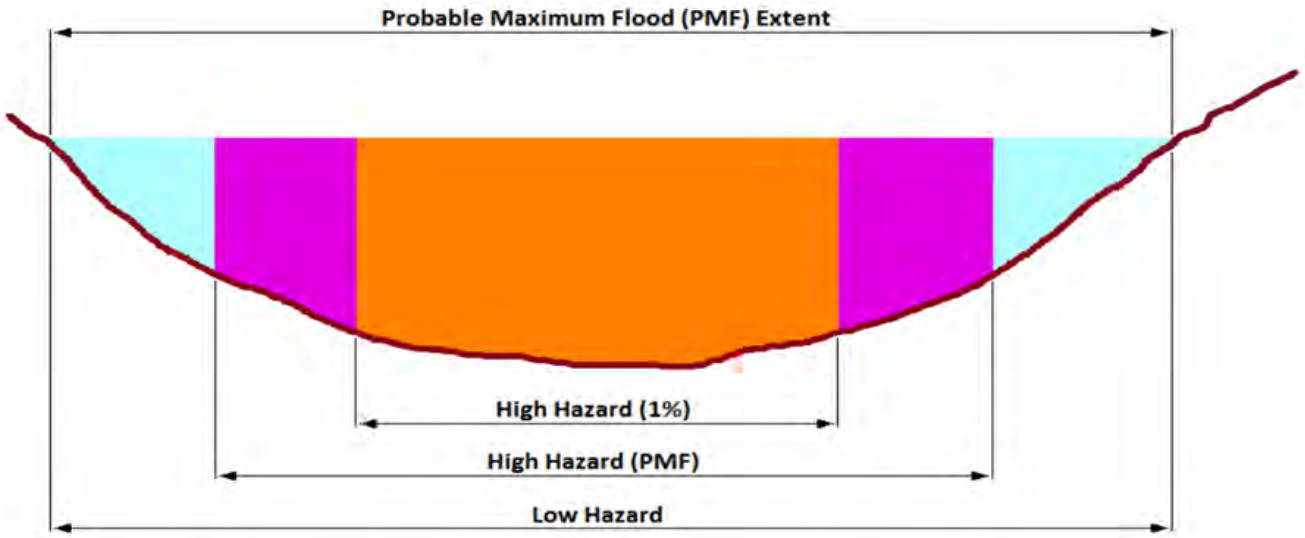
FPL (Flood Planning Level Zone)

Floodway (1%)

Flood Storage (1%)

Flood Fringe (1%)

Map 3 - Provisional Flood Hazard Categories Map

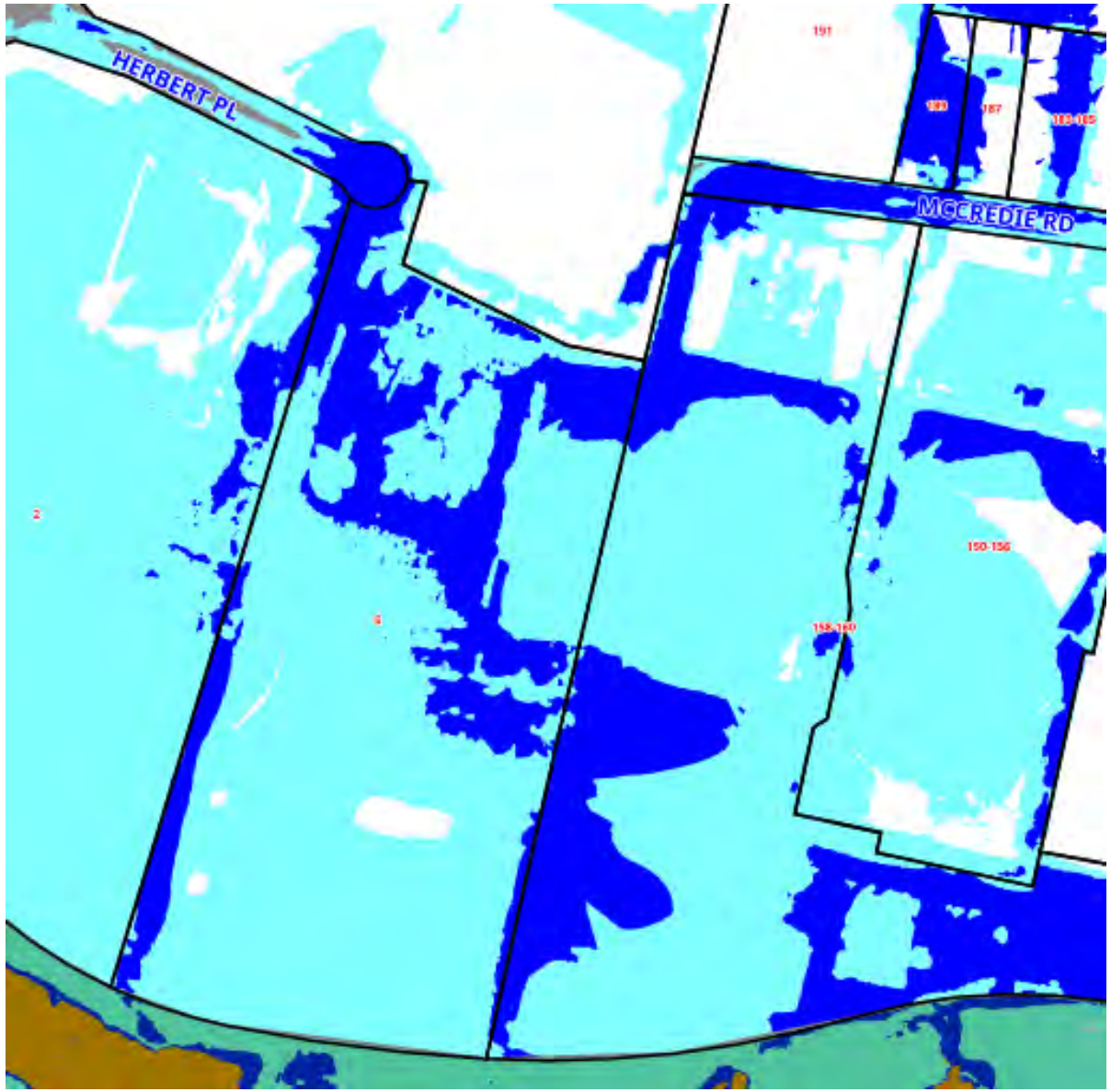


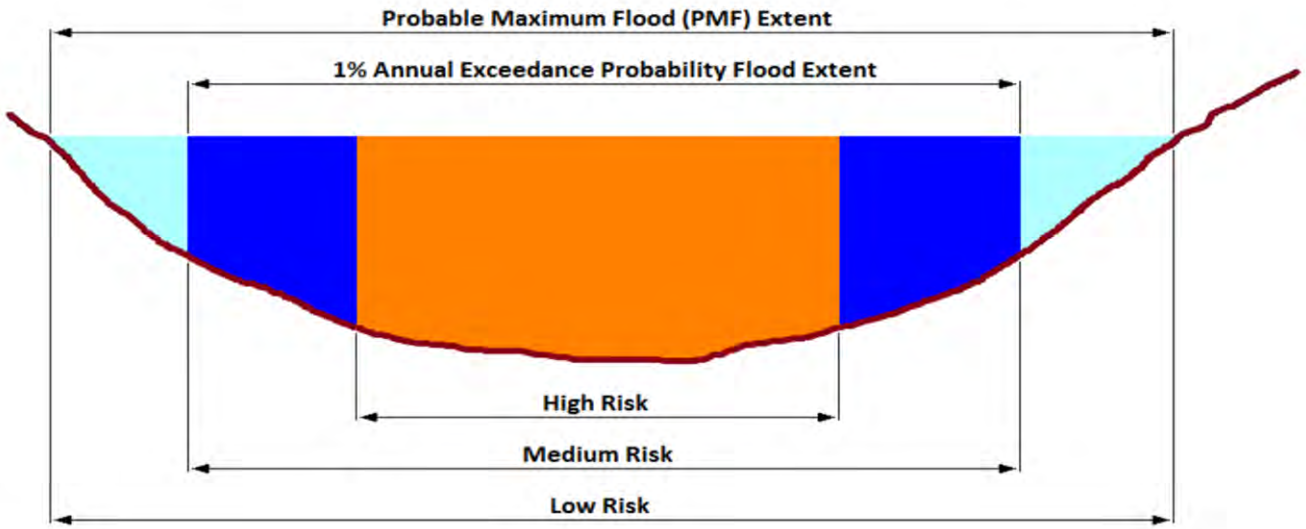
High Hazard (PMF)

High Hazard (1%)

Low Hazard (PMF)

Map 4 - Flood Risk Precincts Map



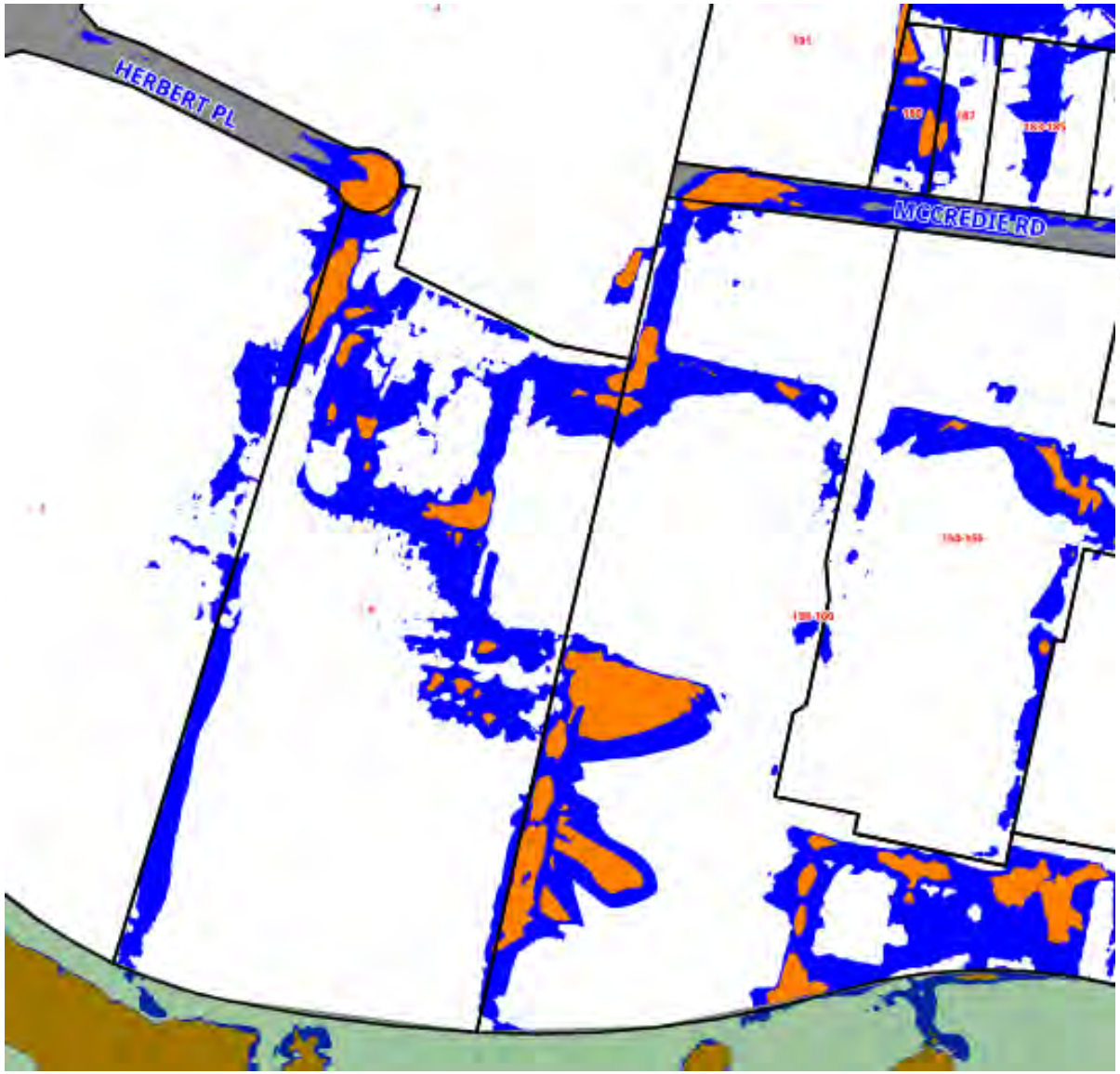


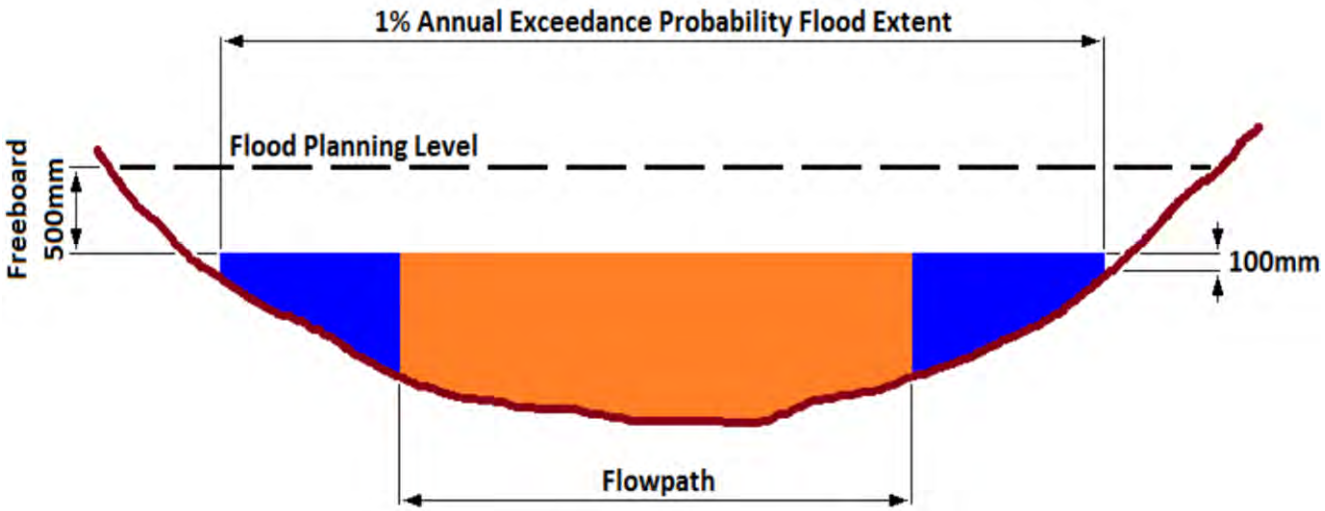
High Risk (1%)

Medium Risk (1%)

Low Risk (PMF)

Map 5 - Flowpaths

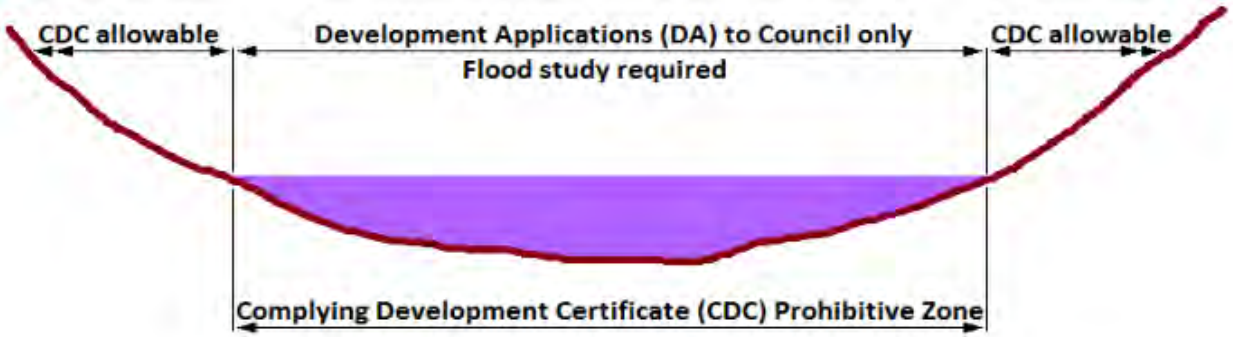




Extent of the 1% Flood

Flowpath (1%)

Map 6 CDC Exclusive Zone

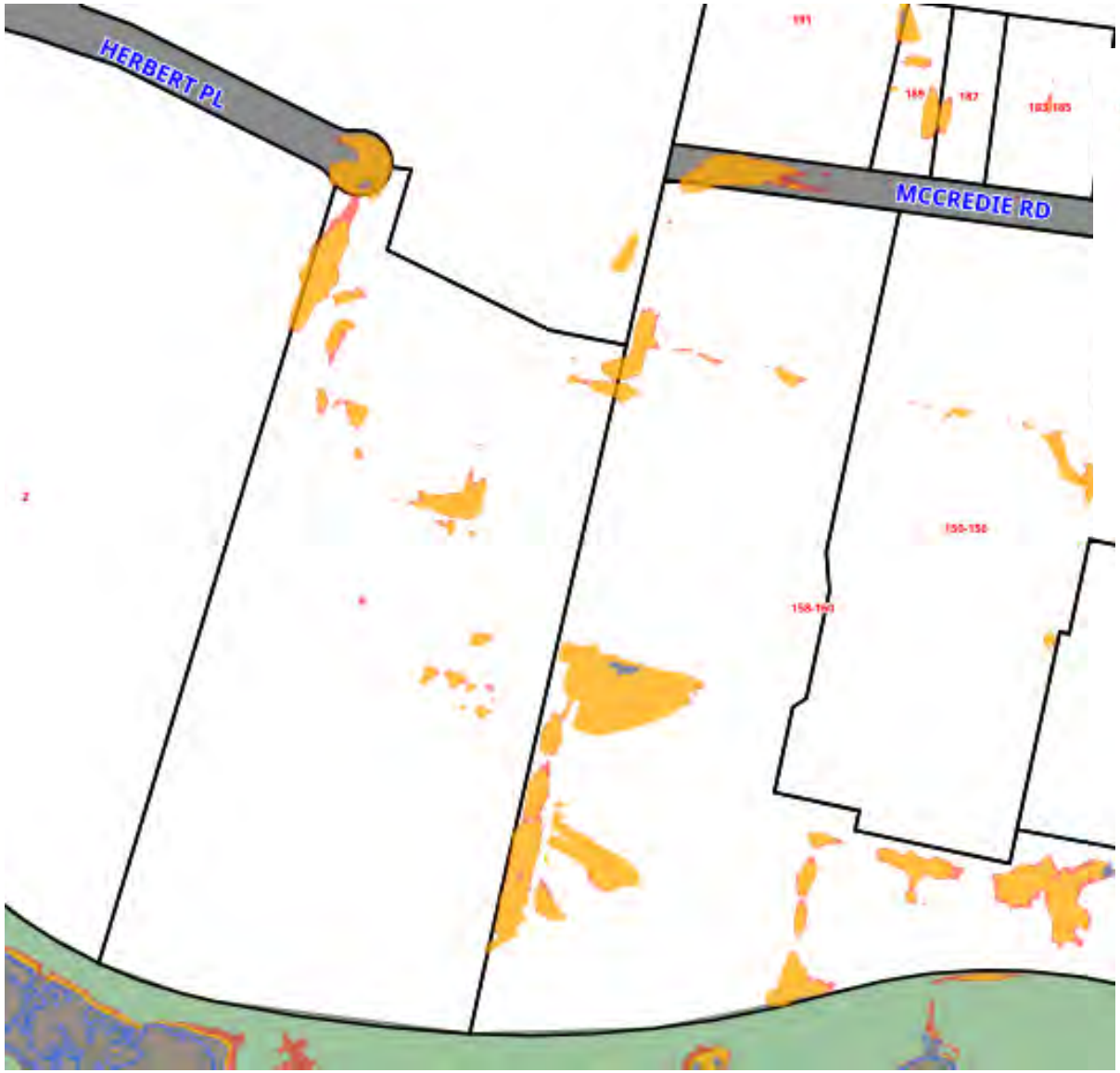


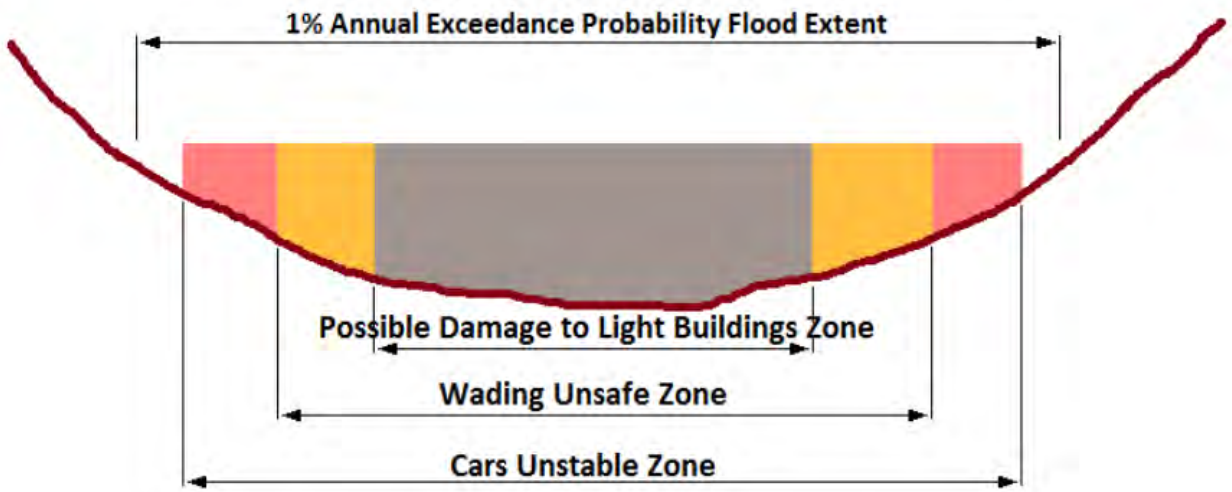
Under Section 3.5(1) of the SEPP (Excempt and Complying Development) a CD must not be issued for development partially or totally within this area.

CDC prohibitive zones

Park

Map 7 - Unsafe 1% flood areas





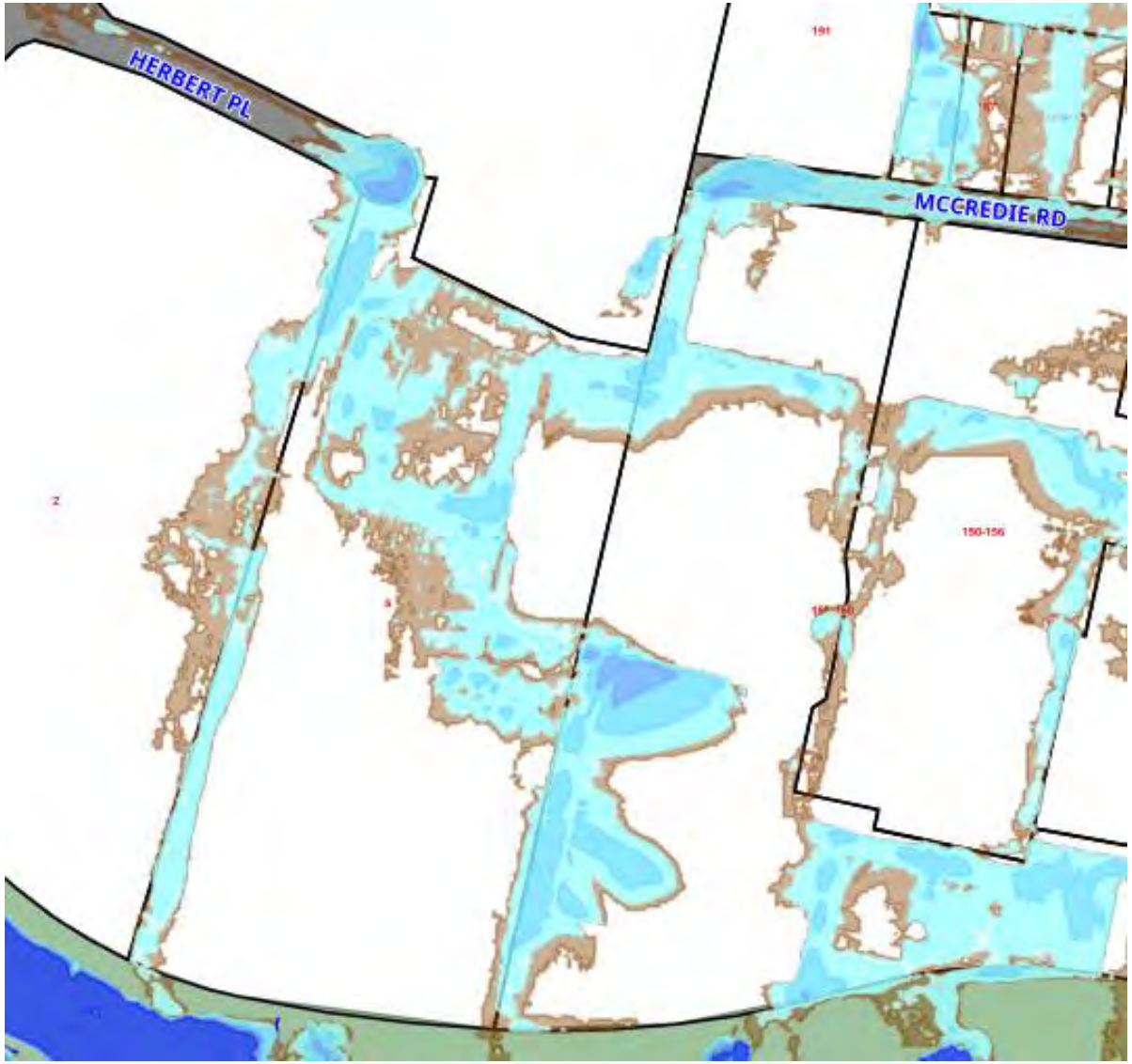
Cars Unstable Zone

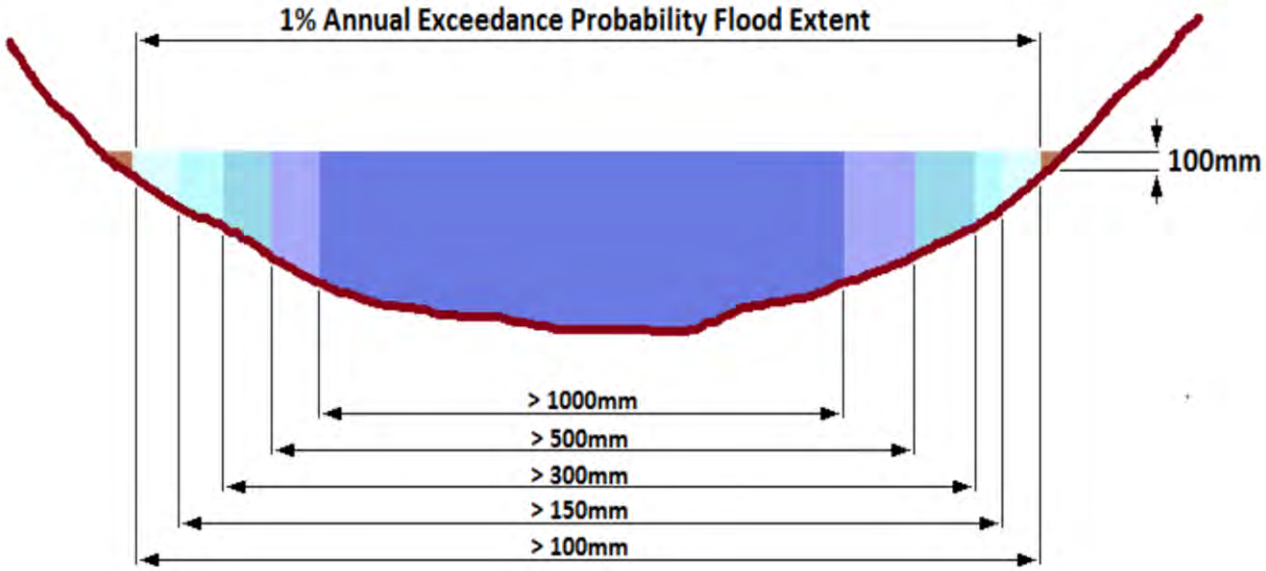
Wading Unsafe Zone

Damage to Light Buildings Zone

Park

Map 8 Catchments and 1% AEP Depths





< 0.1m deep

0.1m to 0.15m deep

0.15m to 0.3m deep

0.3m to 0.5m deep

0.5m to 1.0m deep

Greater than 1.0m deep

APPENDIX D – Existing site drainage drawings

Runoff from roof and gravel areas
Runoff from road surfaces
Runoff from steam turbine area, washdown areas and bunded areas
Discharge to sewer

Sewer main

30KL/hr Oil Water Separator

First Flush Tank

On-site Detention Tanks

Outlet Control Pit

3KL/hr Oil Water Separator

NORTH PLANT NORTH 14° 6' 50"

PUMPHOUSE
SWITCHGEAR BUILDING
SUMP PUMP (REFER SPECIFICATION) CONNECTED TO STORMWATER WITH 32NB SCH 80 PIPE
EDGE BOARD AND FENCE
ACOUSTIC WALL
RETAINING WALL REFER DRG 2060 C210
GATE
ACID TANK
CAUSTIC TANK
CONCRETE SLAB
ROAD PIT
FOR DETAILS OF PIT REFER DRG 2060 F240
PROJECT 2xDIA 150 PIPES TO INTO PIT-PIPE IL 17.85 PROVIDE VALVES TO END OF PIPES-'KEYSTONE' TYPE F2 BUTTERFLY VALVE (MATERIALS & FLANGE TO SUIT PROCESS REQUIREMENTS)
SUMP PUMP & RISING MAIN CONNECTED TO STORMWATER WITH 32NB SCH 80 PIPE
CLEAN-OUT ACCESS AT END DIA 225-CAP WITH MORTOR PLUG
80 NB RISING MAIN UNDER IL 17.70 (REFER DRG 2060 C216)
32 NB SCH 80 PIPE INTO DIA 150 DRAIN
DIA 375 FROM PIT 1/1 REFER DRG 2060 C204
DIA 600 TO BUFFATANK
IL 16.38 IN BUFFATANK
FIRST FLUSH TANK
FOR ARRANGEMENT & DETAILS OF FIRST FLUSH TANK REFER DRG 2060 C220
LAY SUB SOIL DRAIN IN SAME TRENCH AS DIA 375 STORMWATER LINE

TYP DETAIL OF SUB SOIL GULLY PIT
18 REQUIRED
SCALE 1 : 10

GALV CHEQUER PLATE COVER
FINISHED SURFACE LEVEL
20 SLOTS 295x5
PIPE INVERT LEVEL VARIES (SEE PLAN)
INSITU CONCRETE BASE
DIA 600 CONCRETE PIPE

SECTION A-A N. T. S.

TYP DETAIL OF SUB SOIL DRAIN
SCALE 1 : 10

SLOTTED FRC SUB SOIL PIPE (DIA AS SHOWN)
10 mm BIDIIM A14 GEOFABRIC SURROUND
TO SUIT

TYP DETAIL OF SUB SOIL CLEAN-OUT PIPE
21 REQUIRED
SCALE 1 : 10

COVER BOX
FINISHED SURFACE LEVEL
TOP OF EARTHWORKS REFER DRG 2060 C212
DIA 150 SUB SOIL PIPE

PIPES PLACED CENTRAL TO PITS U. D. N.
NOTE: PROVIDE TRASH BASKETS AS SPECIFIED
CO-ORDINATES U. D. N.
FOR PIT DEPTHS REFER DRG 2060 C219
GULLY PIT PRE-CAST PIT

ROAD PIT PRE-CAST PIT

SETOUT FOR PITS
SCALE 1 : 50

GENERAL NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH SPECIFICATION No. 9. 3133-S02-1
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRGS
   - 2060 C219 SITE STORMWATER DRAINS-LONGITUDINAL SECTIONS
   - 2060 C208 RDADWORKS & PAVEMENTS GENERAL ARRANGEMENT
   - 2060 C206 STORMWATER-DETENTION TANK
   - 2060 C204 RDAD STORMWATER DRAINS
3. ALL PIPES FRC CLASS 4 MAXIMUM LOADING TO AUSTRDAD STANDARD T44 TRUCK LOADING OR EQUIVALENT
4. ANY DISCREPANCIES IN LEVELS OR OBSTRUCTIONS TO SURFACE FLOW ARE TO BE RAISED WITH THE SUPERINTENDENT FOR RESOLUTION PRIOR TO CONSTRUCTION

LEGEND :

- SUB SOIL MAINS (DIA 150 U. D. N.)
- STORMWATER CONCRETE OR FRC CLASS 4
- KERB GULLY PIT & GRATE
- ACCESS MANHOLE
- SUB SOIL GULLY PIT (SEE DETAIL)
- SUB SOIL CLEAN-OUT PIPE (SEE DETAIL)

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0. 03937	INCHES
METRES (m)	3. 281	FEET

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B. F. S.	BFS/HA	-	-		DED. APPROVED FOR CONSTRTN.
C	31-5-96	B. F. S.	J. DICKSON	J. DICKSON	R. BINNS	T. STEELE	ROADS REVISED AS PER DCN45. DRAINS REVISED AS PER DCN49. RE-ISSUED FOR APPROVAL.
B	1-4-96	B. F. S.	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	APPROVED FOR CONSTRUCTION DCN32.
A	23-2-96	D. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	RE-ISSUED FOR APPROVAL
3	16-2-96	D. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	ISSUED FOR APPROVAL
0	5-10-95	D. TIERNEY		J. DICKSON		H. AGUERO	

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES U. D. N.
2. DRAWING PRACTICE TO AS 1100

SCALE 1 :250

TRANSFIELD NEPCO Transfield Joint Venture

SMITHFIELD ENERGY FACILITY
SMITHFIELD, N. S. W. AUSTRALIA
SITE STORMWATER DRAINS
GENERAL ARRANGEMENT

DRG NO. 2060 C213
SHEET : 1/1
B1 ISSUE 0 1 2 3 A C D

667 x 944 mm

TRANSFIELD JOB No : 9-3133 DRG No 31332501. DGN

GAC #3 SUMP
D700-FB2-50
GAC #2 SUMP
D701-FB2-50
GAC #1 SUMP
D702-FB2-50
D711-FB2-32
NO 8638
021D309
3.3KV ROOM
AGR
UGR
NC 8612
NC 8611
WATER TREATMENT BUND (NOTE 1)
150NB
150NB
D702-FB2-50
NO 8624
NO 8623
NO 8622
021D311
021D312
021D313
PEECC #1
PEECC #2
PEECC #3
OUTLET CONTROL PIT 021M311
(NOTE 4)
D703-FB2-80
2060 P33 F3
MUNICIPAL SEWER
(NOTE 3)
NO 8621
600 NB
TO PROSPECT CREEK
STORM WATER ROOF & GRAVEL AREAS
300NB
375NB
450 NB
ROAD PIT 1/C1 (NOTE 8)
DETENTION TANKS (capacity 350m3) 021M309
(NOTE 5)
STORM OVERFLOW (NOTE 7)
D712-FB2-32
NO 8641
021D310
33KV ROOM
DEMIN HARDSTAND BUND
(NOTE 2) NO 8613
100 NB
DIVERSION PIT AND FIRST FLUSH TANK DRAIN LINE
150
(NOTE 6) 8620 NC
LAH 1362
LSH 1362
LALL 1363
LSLL 1363
FIRST FLUSH TANKS (capacity 35m3) 021M310
STORM WATER ROAD AND CARPARK
300 NB
WATER COLLECTION PIT 1/2 (NOTE 8)
375 NB
DIVERSION PIT 1/1 (NOTE 8)
GRAVITY BALANCE LINE
375 NB
STORM WATER SOUTH WALL ROAD
225 NB
D708-FB2-50
3KL FIRST FLUSH PUMP CONTROL PANEL 021L303
D706-FB2-80
PI 8500
021 D303
021 D304
D707-FB2-50
8626
8625
021D303
021D304
021 D301
021 D302
30KL STG PIT PUMPS CONTROL PANEL 021L302
LAH 1365
8614
8616
8615
8617
021D301
021D302
8629
8630
021 D305
30KL OWS & PIT PUMP CONTROL PANEL 021L301
LSH 1365
30KL/HR OILY WATER SEPARATOR 021M308
021D305
COOLING TOWER HARDSTAND BUND
(NOTE 2) NO 8618
LAL 1361
LSL 1361
LSH 1360
LAH 1360
SLUDGE TANK 021M313
8642
8632
8631
D709-FC2-150
(NOTE 5)
LAHH 1364
LSHH 1364
LALL 1365
LSLL 1365
30KL/HR OILY WATER SEPARATOR BUND PIT 021M316
STORM WATER STG AREA
D705-FB2-250
8619
STG AREA COLLECTION PIT 021M312
3KL/HR OILY WATER SEPARATOR 021M307
021 D306
021 D307
8637
8633
8635
021D306
021D307
8634
8636
3KL OWS & PIT PUMP CONTROL PANEL 021L300
WW024-GF-50
WW025-GF-50
WW027-GF-30
WW026-GF-100
WORKSHOP FLOOR DRAIN
D704-FB2-100
LAH 1368
LSH 1368
LALL 1369
LSLL 1369
021 D308
LSH 1366
LSLL 1367
LAH 1366
LALL 1367
2060 P36 E5
GAS TURBINE WATERWASH DRAINS
WW028-FB2-50
WW023-FB2-50
2060 P33 F2
MUNICIPAL SEWER
3KL EFFLUENT PIT 021M315
021D308
3KL SEPARATOR PIT 021M314
AGR
UGR

GENERAL NOTES:

1. VALVES TO BE OPENED TO DRAIN STORM WATER. AFTER SAMPLING TO ENSURE pH AND CONTAMINATION ARE AS PER PROTOCOL (SEE PROTOCOL 15)
2. VALVES TO BE LEFT OPEN TO DRAIN STORM WATER. VALVES MUST BE CLOSED DURING CHEMICAL DELIVERY ARE AS PER PROTOCOL (SEE PROTOCOL 9 AND 15)
3. VALVE TO BE LEFT OPEN TO DRAIN STORM WATER. VALVE MUST BE CLOSED IN EMERGENCY SITUATIONS AS DETAILED IN SEF EMERGENCY PLAN SPCC AND PROTOCOL 15
4. CAMLOK FITTING TO ENABLE CONTROL PIT TO BE PUMPED OUT WITH PORTABLE SUBMERSIBLE PUMP TO SEWER (SEE SEF TRADE WASTE AGREEMENT)
5. GRAVITY DRAIN TO DETENTION TANKS
6. VALVE LOCKED IN SHUT POSITION. OPEN ONLY TO DRAIN DIVERSION PIT AND FIRST FLUSH TANK
7. STORM OVERFLOW BYPASSES OWS DURING HEAVY STORM CONDITIONS
8. THIS P&ID RELATES TO DRAWINGS 2060 C220, 2060 C216, 2060 C213 AND 2060 C204

PIPE SIZES CONVERSION TABLE

NOMINAL PIPE SIZE	
DN (mm) (SI METRIC)	NPS (IN.) (ANSI)
8	1/4
10	3/8
15	1/2
20	3/4
25	1
32	1 1/4
40	1 1/2
50	2
65	2 1/2
80	3
90	3 1/2
100	4
150	6
200	8
250	10
300	12
350	14
400	16
450	18
500	20
600	24
750	30
900	36
1200	48

REVISION	DATE		BY	CHECKED	PROJ. ENG.	APPROVED MGR. ENG
A	08 NOV 04	AS-BUILT	SP		SP	MM

Sithe AUSTRALIA

DRAWN BY: S PILKINGTON	ENGINEERED BY:
SCALE: NONE	

SMITHFIELD ENERGY FACILITY

SMITHFIELD, N.S.W. AUSTRALIA

STORM WATER SYSTEM P&ID

DWG. NO. 2060 P54

REV A

Runoff from roof and gravel areas

NORTH PLANT NORTH 14°6'50"

PUMPHOUSE

SWITCHGEAR BUILDING

SUMP PUMP (REFER SPECIFICATION) CONNECTED TO STORMWATER WITH 32NB SCH 80 PIPE

EDGE BOARD AND FENCE

GATE

RETAINING WALL REFER DRG 2060 C210

ACOUSTIC WALL

FOR DETAILS OF PIT REFER DRG 2060 F240

PROJECT 2xDIA 150 PIPES SO INTO PIT+PIPE IL 17.85 PROVIDE VALVES TO END OF PIPES-'KEYSTONE' TYPE F2 BUTTERFLY VALVE (MATERIALS & FLANGE TO SUIT PROCESS REQUIREMENTS)

SUMP PUMP & RISING MAIN CONNECTED TO STORMWATER WITH 32NB SCH 80 PIPE

ACID TANK

CAUSTIC TANK

CONCRETE SLAB

CLEAN-OUT ACCESS AT END DIA 225-CAP WITH MORTOR PLUG

80 NB RISING MAIN UNDER IL 17.70 (REFER DRG 2060 C216)

32 NB SCH 80 PIPE INTO DIA 150 DRAIN

DIA 375 FROM PIT 1/1 REFER DRG 2060 C204

DIA 600 TO BUFFATANK

IL 16.38 IN BUFFATANK

FIRST FLUSH TANK

FOR ARRANGEMENT & DETAILS OF FIRST FLUSH TANK REFER DRG 2060 C220

LAY SUB SOIL DRAIN IN SAME TRENCH AS DIA 375 STORMWATER LINE

On-site Detention Tanks

Outlet Control Pit

GALV CHEQUER PLATE COVER

FINISHED SURFACE LEVEL

20 SLOTS 295x5

PIPE INVERT LEVEL VARIES (SEE PLAN)

INSITU CONCRETE BASE DIA 600 CONCRETE PIPE

TYP DETAIL OF SUB SOIL GULLY PIT
18 REQUIRED
SCALE 1 : 10

SECTION A-A N.T.S.

SLOTTED FRC SUB SOIL PIPE (DIA AS SHOWN)

10 mm BIDIIM A14 GEOFABRIC SURROUND

TYP DETAIL OF SUB SOIL DRAIN
SCALE 1 : 10

COVER BOX

FINISHED SURFACE LEVEL

TOP OF EARTHWORKS REFER DRG 2060 C212

DIA 150 SUB SOIL PIPE

TYP DETAIL OF SUB SOIL CLEAN-OUT PIPE
21 REQUIRED
SCALE 1 : 10

PIPES PLACED CENTRAL TO PITS U.O.N.

NOTE: PROVIDE TRASH BASKETS AS SPECIFIED

CO-ORDINATES U.O.N.

FOR PIT DEPTHS REFER DRG 2060 C219

GULLY PIT PRE-CAST PIT

ROAD PIT PRE-CAST PIT

SETOUT FOR PITS
SCALE 1 : 50

GENERAL NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH SPECIFICATION No. 9. 3133-S02-1
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRGS
   - 2060 C219 SITE STORMWATER DRAINS-LONGITUDINAL SECTIONS
   - 2060 C208 ROADWORKS & PAVEMENTS GENERAL ARRANGEMENT
   - 2060 C206 STORMWATER-DETENTION TANK
   - 2060 C204 RDAD STORMWATER DRAINS
3. ALL PIPES FRC CLASS 4 MAXIMUM LOADING TO AUSTRDAD STANDARD T44 TRUCK LOADING OR EQUIVALENT
4. ANY DISCREPANCIES IN LEVELS OR OBSTRUCTIONS TO SURFACE FLOW ARE TO BE RAISED WITH THE SUPERINTENDENT FOR RESOLUTION PRIOR TO CONSTRUCTION

LEGEND :

- SUB SOIL MAINS (DIA 150 U.O.N.)
- STORMWATER CONCRETE OR FRC CLASS 4
- KERB GULLY PIT & GRATE
- ACCESS MANHOLE
- SUB SOIL GULLY PIT (SEE DETAIL)
- SUB SOIL CLEAN-OUT PIPE (SEE DETAIL)

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0.03937	INCHES
METRES (m)	3.281	FEET

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B.F.S.	BFS/HA	-	-	T.S.	AS BUILT
C	31-5-96	B.F.S.	J.DICKSON	J.DICKSON	R.BINNS	T.NDETEL	HOLD REMOVED M/GATE & H/STD. DCN49 & 59 ADDED. HOLD ADDED. APPROVED FOR CONSTRTN.
B	1-4-96	B.F.S.	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	ROADS REVISED AS PER DCN45. DRAINS REVISED AS PER DCN49. RE-ISSUED FOR APPROVAL.
A	23-2-96	D.TIERNEY	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	APPROVED FOR CONSTRUCTION DCN32.
3	16-2-96	D.TIERNEY	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	RE-ISSUED FOR APPROVAL
0	5-10-95	D.TIERNEY		J.DICKSON		H.AGUERO	ISSUED FOR APPROVAL

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES U.O.N.
2. DRAWING PRACTICE TO AS 1100

SCALE 1 :250

NEPCO Transfield Joint Venture

100 ARTHUR STREET, NORTH SYDNEY 2060, N.S.W. AUSTRALIA TEL. (02) 929 8600, FAX. (02) 954 0538

SMITHFIELD ENERGY FACILITY
SMITHFIELD, N.S.W. AUSTRALIA

SITE STORMWATER DRAINS
GENERAL ARRANGEMENT

DRG NO. 2060 C213
SHEET : 1/1
B1 ISSUE 0 1 2 3 A C D

667 x 944 mm

TRANSFIELD JOB No : 9-3133 DRG No 31332501.DGN

Runoff from road surfaces

Runoff from steam turbine area, washdown areas and bunded areas

First Flush Tank

NORTH PLANT NORTH 14°6'50"

E 309 623 N 639 551 · E 327 986 N 635 227 · E 315 242 N 632 828 · E 320 693 N 631 544 · E 412 805 N 615 250 · E 398 779 N 613 314

EDGE BOARD AND FENCE · GATE · CONCRETE HARDSTAND · FOR DETAILS OF HARDSTAND & PIT REFER DRG 2060 C221 · DIA 150 STOP VALVE COVER WITH VALVE BOX TO FINISHED SURFACE LEVEL · SV · RETAINING WALL REFER DRG 2060 C210 · ROAD BY OTHERS · ACOUSTIC WALL · FOR DETAILS OF DRAIN REFER DRG 2060 C216

E 319 528 N 607 740 · E 319 510 N 601 280 · E 320 000 N 596 832 · E 316 493 N 593 325 · E 316 493 N 589 340

DIA 225 · DIA 300 · LINE 1 · LINE 2 · LINE 3 · LINE 4 · LINE 5 · 1/5 · 1/4 · 1/8 · 1/6 · 1/6A JUNCTION · E 336 577 N 509 309 · E 336 727 N 517 500 · 3/1 · 3/2 · 3/3 · 2/1 · 2/2 · 4/1 · 4/2 · 4/3 · 5/1 · 5/2

ACID TANK · CAUSTIC TANK · DETAIL 2 · CONCRETE HARDSTAND DIA 100 · E 332 917 N 543 150 REF ONLY · N 541 428 · 3/2A JUNCTION · PIPES UNDER HARDSTAND TO BE CONCRETE ENCASED REFER DRG 2060 C214 · 32 NB SCH 80 PIPE INTO DIA 225 DRAIN DETAIL

E 300 000 N 500 000 · E 303 140 N 500 600

FOR DETAILS & SECTIONS FOR DETENTION TANK REFER DRG 2060 C206 · C206 · 870 · IL 16.52 IN BUFFATANK · IL 17.55 · E 407 020 N 564 375 IL 17.88 DIA 225 · E 395 840 N 505 070 · E 395 840 N 514 710 · E 404 782 N 505 670 · E 395 840 N 334 970 · E 397 710 N 501 659 · E 412 805 N 500 000

STORMWATER DETENTION TANK · C-FIRST FLUSH TANK · ROADWAY · MANHOLE · IL 16.38 IN BUFFATANK · IL 15.47 · EDGE BOARD AND FENCE · ACOUSTIC WALL · 69 000 · 35 770 · 3225 · 2130 · 5070 · 7200

DIA 375 OVERFLOW TO PIT 1/C1 REFER DRG 2060 C213 · DIA 150 FIRST FLUSH TANK DRAIN WITH VALVE IL 15.51 AT PIT 1/ · DIA 600 OUTFALL SEE ABOVE · INLET TO FIRST FLUSH TANK · FOR ARRANGEMENT & DETAILS OF FIRST FLUSH TANK REFER DRG 2060 C220 · FOR LAYOUT OF OUTLET CONTROL PIT/ EMERGENCY PUMP WELL REFER DRG 2060 C206

DEMISED PROPERTY · S.W. DETENTION TANK · 17.8 · 17.6 · 17.5 · E 300 000 N 500 000 · E 412 805 N 500 000 · E 410 760 N 458 690 · DIA 600 · VISY BOARD · E 464 530 N 442 990 · EXISTING STORMWATER PIPE ACCESS PIT · CI & D MANUFACTURING PIT TYPE 'DPT' (900 x 900) WITH HD CI GRATE TYPE MH99D · E 464 550 N 435 500 · OUTFALL PIPE REFER DRG 2060 C206 · E 469 120 N 430 930 · EXISTING DIA 1850 PIPE · FENCE

OUTFALL PLAN
N. T. S.

KAMLOK END FITTING WITH CAP · 32 NB SCH 80 PIPE CONNECT INTO DRAIN · INSIDE PIT · EXISTING CORED HOLE

DETAIL 1 / C213
SCALE 1 : 50

℄ KERB SETOUT LINE · 450 · 150 · TOP OF KERB · ROAD · BIDIM A14 GEOFABRIC

TYP SECTION THRU ROLLED KERB
SCALE 1 : 10

PIPES PLACED CENTRAL TO PITS U. O. N. · NOTE: PROVIDE TRASH BASKETS AS SPECIFIED · KERB SETOUT LINE · 565 · 900 · 1150 · KERB & GUTTER REFER DRG 2060 C216 · 39 CO-ORDINATES U. O. N. REFER DRG 2060 C208

KERB GULLY PIT

150 · 900 · 150 · PIPES PLACED CENTRAL TO PITS U. O. N. · 17 CO-ORDINATES U. O. N. REFER DRG 2060 C208

ROADWAY PIT

VALVE OPERATION DIRECTIONS FIXED TO WALL SHEETING · 200 · 450 · STOP VALVE · FINISHED SURFACE LEVEL · CAUSTIC TANK STRUCTURE · DIA 100 PIPE FROM HARDSTAND PIT TO LINE 3 · DIA 100 STOP VALVE

DETAIL 2
SCALE 1 : 25

SETOUT FOR PITS
SCALE 1 : 50

GENERAL NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH SPECIFICATION No. 9. 3133-S02-1
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRGS
   - 2060 C205 ROAD STORMWATER DRAINS-LONGITUDINAL SECTIONS
   - 2060 C208 ROADWORKS & PAVEMENTS GENERAL ARRANGEMENT
   - 2060 C206 STORMWATER-DETENTION TANK
   - 2060 C213 SITE STORMWATER DRAINS
   - 2060 C220 FIRST FLUSH TANK ARRG'T & DETAILS

LEGEND :

- SUB SOIL MAINS
- STORMWATER CONCRETE OR FRC CLASS 4
- KERB GULLY PIT & GRATE
- ACCESS MANHOLE

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0.03937	INCHES
METRES (m)	3.281	FEET

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B.F.S.	BFS/HA	-	-	T.S.	AS BUILT
C	30-5-96	B.F.S.	J. DICKSON	J. DICKSON	R. BINNS	T. NOETEL	REVD. TO SUIT DCN 51. APPROVED FOR CONSTRUCTION
B	1-4-96	B.F.S.	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	REVISED TO SUIT DCN 45 & DCN 48. RE-ISSUED FOR APPROVAL.
A	23-2-96	B. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	APPROVED FOR CONSTRUCTION
9	16-2-96	B. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	RE-ISSUED FOR APPROVAL
8	20-12-95	B. TIERNEY		J. DICKSON		R. STEELE	GENERAL REVISION & RE-ISSUED FOR APPROVAL

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES U. O. N.
2. DRAWING PRACTICE TO AS 1100

SCALE 1 :250

NEPCO Transfield Joint Venture

100 ARTHUR STREET, NORTH SYDNEY 2060, N.S.W. AUSTRALIA TEL. (02) 929 8600, FAX. (02) 954 0538

SMITHFIELD ENERGY FACILITY
SMITHFIELD, N. S. W. AUSTRALIA
ROAD STORMWATER DRAINS
GENERAL ARRANGEMENT

DRG NO. 2060 C204
SHEET 1 / 1
B1 ISSUE 0 1 2 3 4 5 6 7 8 9 A B C D

667 x 944 mm

TRANSFIELD JOB No 9-3133. DRAWING No : 31332001.DGN

Runoff from steam turbine area, washdown areas and bunded areas
Discharge to sewer

NORTH
PLANT NORTH
14°6' 50"
E 309 623 N 639 551
E 320 693 N 63 1544
EDGE BOARD AND FENCE
GATE
WATER DEMINERALIZING TANK
VALVE
1325
450 RLF
FOR DETAILS OF DIA 150 STORMWATER DRAIN FROM PIT IN HARDSTAND REFER DRG 2060 C204
E 316 493 N 589 340
COMPRESSOR SLAB
CLEANING EYE IL 17.95 DIA 100
STEAM GENERATOR FOOTING
E 314 670 N 585 840
DIA 100
DIA 100
50 NB ELECTICAL CONDUIT CAP END FOR POWER & CONTROL CABLES
80 NB SCH 80 PIPE RISING/MAIN CAP END IN PUMP PIT
1100 1700
CLEANING EYE
400
IL 17.60 DIA 150
IL 17.90
IL 17.45
E 340 300 N 567 840
E 328 000 N 560 955
FOR DETAILS OF PUMP PIT & CONCRETE PAVING REFER DRG 2060 F240 (PUMP BY OIL/WATER SEPARATOR SUPPLIER)
2700 WIDE BOX CULVERT
APPROX 3m
ACOUSTIC WALL
CONNECT TO EXISTING SYDNEY WATER SIDE LINE
CI & D PRE-CAST PIT TYPE 'DPT' 900x900x1800 DEEP WITH MH995D C.I. COVER & FRAME T.D. PIT COVER RL 18.40
PIPE DROP AT BOUNDARY TRAP
DIA 225
1.2% FALL 11m
DIA 225 IL 15.08
E 305 700 N 582 400 IL 14.95 CHECK ON SITE
8m
EXISTING DIA 225 SEWER PIPE
E 306 100 N 552 915 IL 17.8
150 NB TEE FOR CONNECTION TO PROCESS PIPEWORK
E 318 490 N 537 560 IL 17.90
E 306 100 N 537 560 IL 17.85
150 NB SCH 80 PIPE RISING MAIN
DIA 100
150 NB SCH 80 PIPE RISING MAIN
E 318 070 N 537 560
TR TRANSFORMER A11
TR TRANSFORMER A12
FOR DOMESTIC SEWER CONNECTIONS REFER DRG 2060 D201
EFFLUENT WELL PIT
COLLECTION WELL PIT
E 318 490 N 519 600
WATER NEUTRALIZING TANK
FOR 3 KL/HR OIL/WATER SEPARATOR PIT REFER DRG 2060 C207
E 323 760 N 514 330 IL 17.80
E 358 000 N 517 000
WASH WATER WELL C/W PIPE CONNECTION AND PUMPS (LOW SHEAR TYPE 0.69L/SEC (BY OTHERS)
IL 16.475
IL 17.7 N 511 800
IL 16.475
DETAIL 1
E 323 760 N 512 330
IL 17.70
50 NB SCH 80 PIPE RISING MAIN
E 304 400 N 512 800
E 303 140 N 500 600
E 300 000 N 500 000
IL 17.2 IL 16.85
DIA 100
T.O. PIT COVER RL 18.165
IL 17.0 IL 17.70
80 NB SCH 80 PIPE RISING MAIN
ACOUSTIC WALL
PRE-CAST PIT TYPE
FOR DETAILS OF PIT REFER DRG 2060 J200
4300
1970
E 348 785 N 600 940
80 NB SCH 80 PIPE RISING MAIN (POSITION & LEVEL DETERMINED ON SITE)
80 NB SCH 80 PIPE
80 NB SCH 80 RISING MAIN BLANK FLANGE TABLE 'D' AT RL 18.60
3225
E 411 530 N 583 100
FOR 30 KL/HR OILYWATER SEPARATOR PIT REFER DRG 2060 C207
DIA 150 CONCRETE PIPE CAP OFF 150 ABOVE FINISHED SURFACE LEVEL FOR OUTLET FROM SEPARATOR TO DETENTION TANK
50 NB SCH 80 PIPE RISING MAIN
PUMP BY OIL/WATER SEPARATOR SUPPLIER LOCATION & CONNECTIONS TO SUIT (REFER DRG 2060 C220)
FIRST FLUSH TANK
PRE-CAST PIT TYPE KAMLOK FITTING & STOP VALVE FITTED INSIDE PIT (SEE DETAIL 2)
E 412 005 N 541 650 IL 17.70
EDGE BOARD AND FENCE
ACOUSTIC WALL
FOR LAYOUT OF S.W. DETENTION TANK AND OUTLET CONTROL PIT REFER DRG 2060 C204
2410
2010
120
E 407 250 N 502 400
900
3860
E 412 805 N 500 000
I/S PIT
VC PIT
IL 17.3
WATER METER
DETAIL 1
SCALE 1 : 50

SEPARATOR 3 KL/HR
150 80 140 150 150
320
FSL 18.25
DIA 100 DRAIN
80 NB PIPE RISING MAIN
IL 17.7 50 NB PIPE RISING MAIN TO WASH WATER WELL
FLOWMETER
50 NB SCH 80 PIPE (REFER DETAIL 1)
IL 16.85 DIA 100 DRAIN PIPE FROM WORKSHOP
EFFLUENT WELL
COLLECTION WELL
PUMP
IL 16.65
CI & D PRE-CAST PIT (2 REQ'D) TYPE 'DP' (900x900x1800 DEEP) WITH CHEQUER PLATE COVER
200 TYP
200 900 350 900 335 300 300 300 1700 100
SECTION A
SCALE 1 : 25
DIAGRAMMATIC ONLY

SEPARATOR 30 KL/HR
NON RETURN VALVE
CONTROL PANEL
TDC RL 18.45
RL 18.60
FSL 18.30 NOM
DIA 100
DETENTION TANK
FALL
IL 17.00 DIA 100 DRAIN
PUMP
80 NB SCH 80 PIPE RISING MAIN FROM SUMP
IL 15.77 DIA 1650 BUFFATANK
200 6300 300
SECTION B
SCALE 1 : 50
DIAGRAMMATIC ONLY

DIA 75 KAMLOK END FITTING WITH CAP
1870
FSL 18.10 NOM
80 NB SCH 80 PIPE RISING MAIN
IL 17.3
STOP VALVE
OUTLET CONTROL PIT
DETAIL 2
SCALE 1 : 50

GENERAL NOTES

1. THIS DRAWING TO BE READ INCONJUNCTION WITH SPECIFICATION No. 9.3133-S02-1
2. ALL STEEL PIPE TO BE SCHEDULE 80 & TO BE IN ACCORDANCE WITH SPECIFICATION No. 2060-115.1 - PIPING MATERIAL SPEC'N FB2

LEGEND :

- GRAVITY MAINS
- EXISTING SEWER MAINS
- OIL/WATER RISING MAINS (STEEL PIPES)

KL = KERB LEVEL (REFER TO DRG 2060 C208)
FSL = FINISHED SURFACE LEVEL
GL = GROUND LEVEL (FINISHED LEVEL EARTHWORKS)
TOC = TOP OF CONCRETE
FFL = FINISHED FLOOR LEVEL

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0.03937	INCHES
METRES (m)	3.281	FEET

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B.F.S.	BFS/MA	-	-	T.S.	AS BUILT
C	31-5-96	B.F.S.	J. DICKSON	J. DICKSON	R. BINNS	T. NOETEL	HOLD REMOVED FROM MAIN GATE, HARDSTAND, & PIT. DCN50 ADDED. APPROVED FOR CONSTRUCTION
B	1-4-96	B.F.S.	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	CAR PARK MODIFIED TO DCN45 & DCN46. RE-ISSUED FOR APPROVAL.
A	23-2-96	D. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	APPROVED FOR CONSTRUCTION-VALVE PIT RELOCATED
0	5-10-95	D. TIERNEY		J. DICKSON		H. AGUERO	ISSUED FOR APPROVAL

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES U.O.N.
2. DRAWING PRACTICE TO AS 1100

SCALE 1 :250

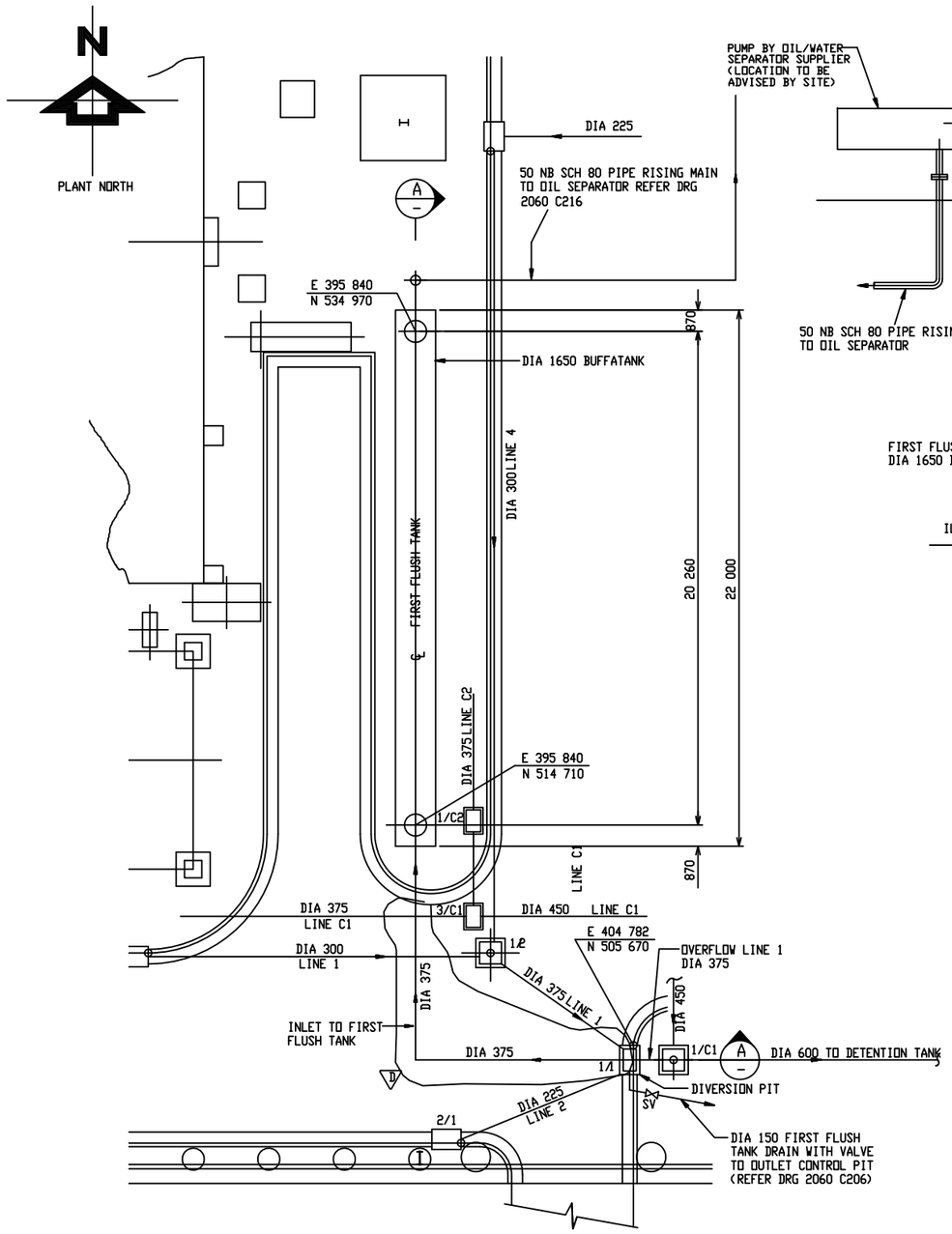
TRANSFIELD NEPCO Transfield Joint Venture

SMITHFIELD ENERGY FACILITY
SMITHFIELD, N.S.W. AUSTRALIA
SEWER RETICULATION AND OIL/WATER SEPARATORS GENERAL ARRANGEMENT

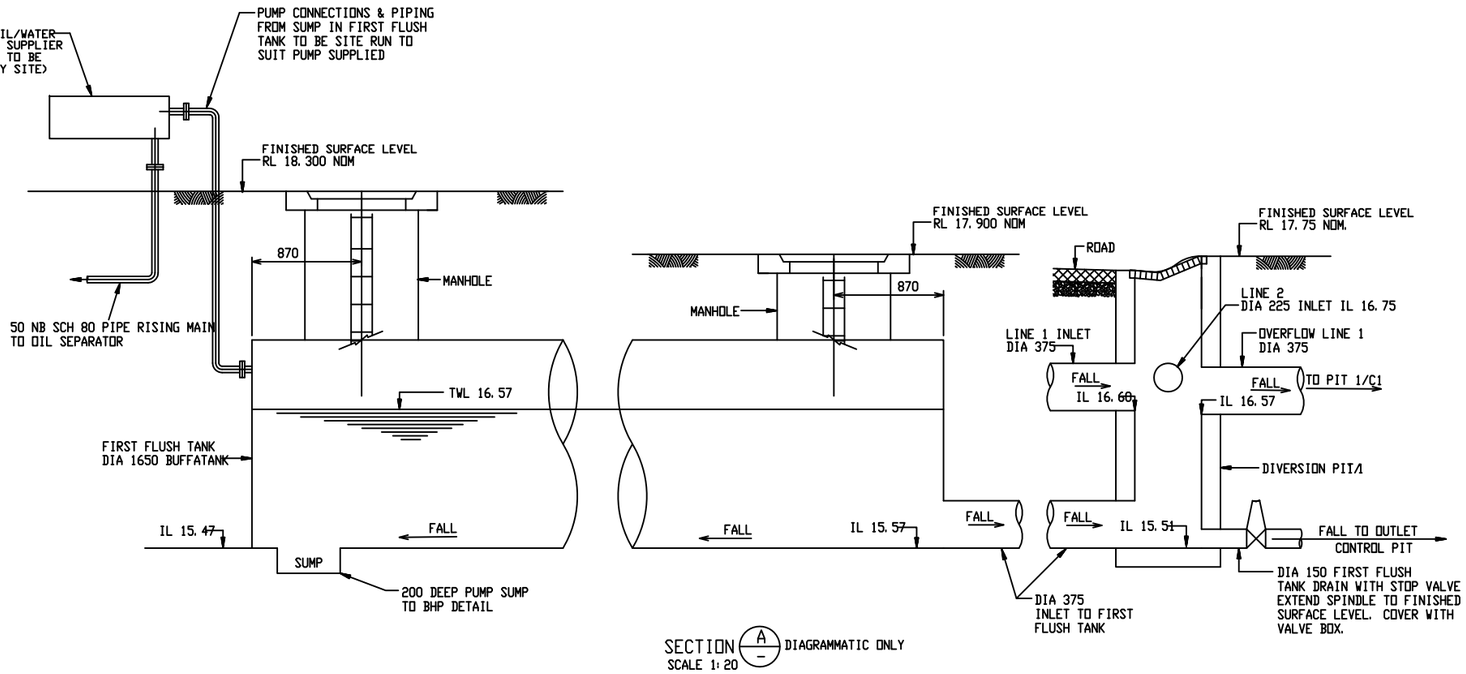
DRG NO. 2060 C216
SHEET 1 OF 1
B1 ISSUE 0 1 2 3 A B C D

667 x 944 mm

TRANSFIELD JOB No : 9-3133. DRG No : 31332801.DGN



PLAN



SECTION A – DIAGRAMMATIC ONLY
SCALE 1:20

GENERAL NOTES

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH SPECIFICATION No. 9.3133-S02-1
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRGS
   - 2060 C204 ROAD STORMWATER DRAINS-GENERAL ARRANGEMENT
   - 2060 C213 SITE STORMWATER DRAINS-GENERAL ARRANGEMENT
   - 2060 C216 SEWER RETICULATION & OIL/WATER SEPARATORS
   - 2060 C206 STORMWATER-DETENTION TANK

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0.03937	INCHES
METRES (m)	3.281	FEET

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B.F.S.	BFS/HA	-	-	T.S.	AS BUILT.
C	4-6-96	B.F.S.	J.DICKSON	J.DICKSON	R.BINNS	T.NOETEL	APPROVED FOR CONSTRUCTION.
B	1-4-96	B.F.S.	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	REVISED AS PER DCN46. RE-ISSUED FOR APPROVAL.
A	23-2-96	D.TIERNEY	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	APPROVED FOR CONSTRUCTION
1	16-2-96	D.TIERNEY	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	RE-ISSUED FOR APPROVAL
0	20-12-95	D.TIERNEY		J.DICKSON		R.STEELE	ISSUED FOR APPROVAL

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES
2. DRAWING PRACTICE TO AS 1100

U.O.N.

SCALE 1:100 U.N.O.

TRANSFIELD NEPCO Transfield Joint Venture

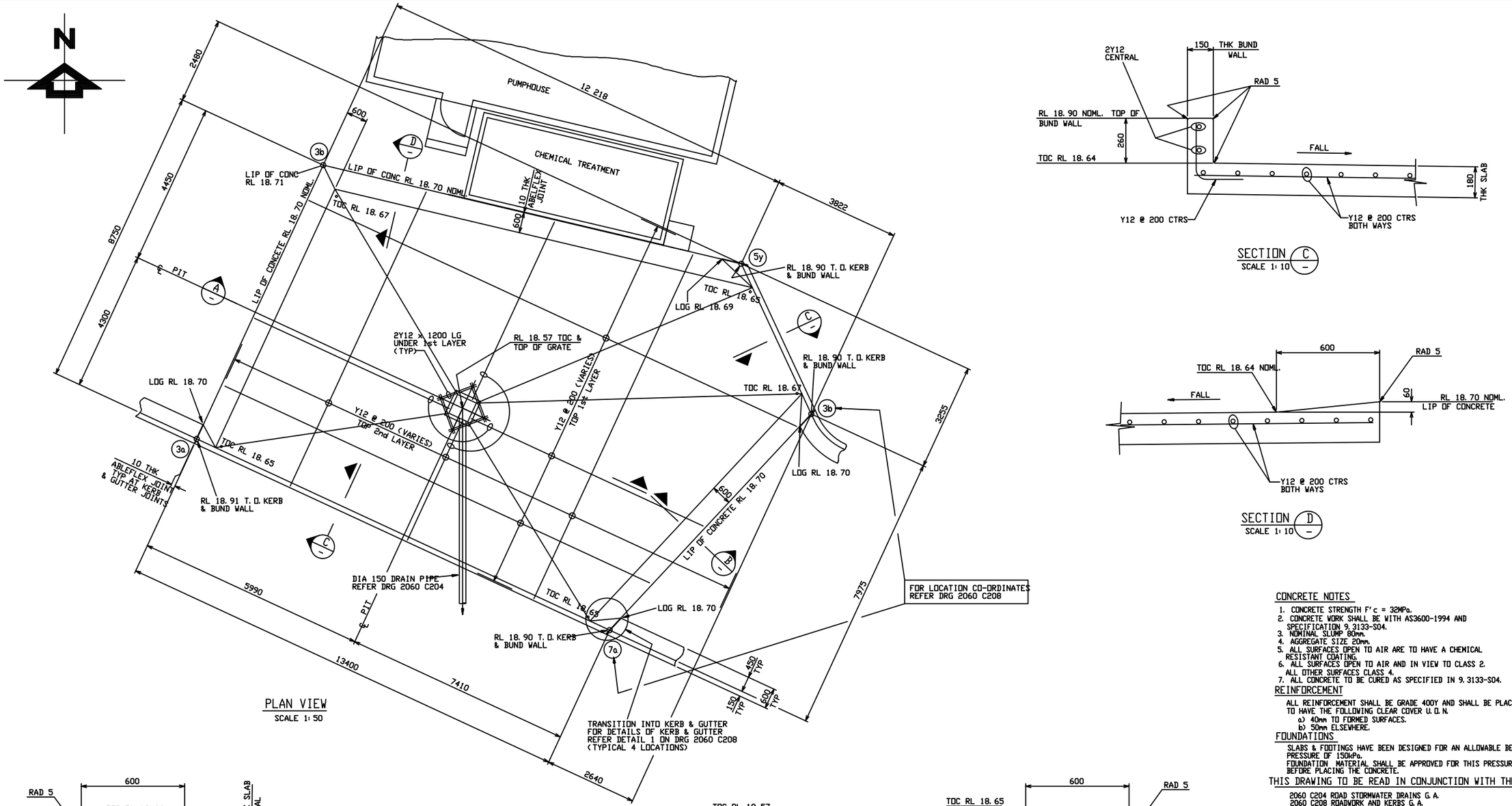
100 ARTHUR STREET, NORTH SYDNEY 2060, N.S.W. AUSTRALIA
TEL. (02) 929 8600, FAX. (02) 954 0538

SMITHFIELD ENERGY FACILITY
SMITHFIELD, N.S.W. AUSTRALIA

SITE DRAINAGE STORMWATER
FIRST FLUSH TANK
ARRANGEMENT & DETAILS

DRG NO. 2060 C220
SHEET 1 /
B1
ISSUE 0 1 A B C D

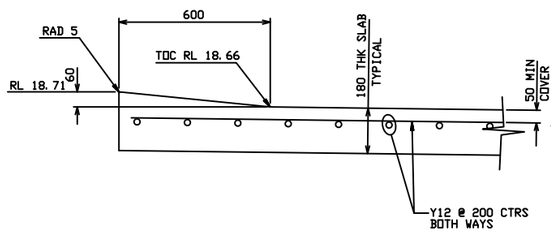
667 x 944 mm

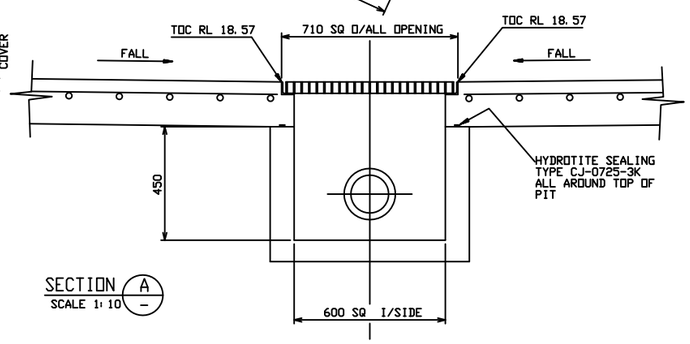


PLAN VIEW
SCALE 1:50

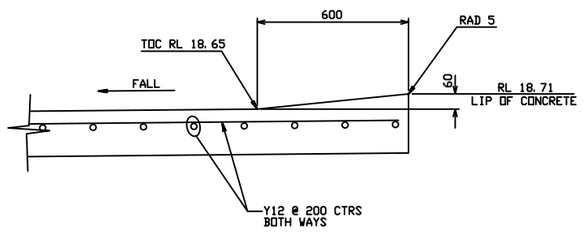
SECTION C
SCALE 1:10

SECTION D
SCALE 1:10





SECTION A
SCALE 1:10



SECTION B
SCALE 1:10

CONCRETE NOTES

1. CONCRETE STRENGTH F'c = 32MPa.
2. CONCRETE WORK SHALL BE WITH AS3600-1994 AND SPECIFICATION 9.3133-S04.
3. NOMINAL SLUMP 80mm.
4. AGGREGATE SIZE 20mm.
5. ALL SURFACES OPEN TO AIR ARE TO HAVE A CHEMICAL RESISTANT COATING.
6. ALL SURFACES OPEN TO AIR AND IN VIEW TO CLASS 2. ALL OTHER SURFACES CLASS 4.
7. ALL CONCRETE TO BE CURED AS SPECIFIED IN 9.3133-S04.

REINFORCEMENT

ALL REINFORCEMENT SHALL BE GRADE 400Y AND SHALL BE PLACED TO HAVE THE FOLLOWING CLEAR COVER U.O.N.
- a) 40mm TO FORMED SURFACES.
- b) 50mm ELSEWHERE.

FOUNDATIONS

SLABS & FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 150kPa. FOUNDATION MATERIAL SHALL BE APPROVED FOR THIS PRESSURE BEFORE PLACING THE CONCRETE.

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING

2060 C204 ROAD STORMWATER DRAINS G.A.
2060 C208 ROADWORK AND KERBS G.A.

FOR GENERAL NOTES REFER DRG 2060 A201

LEGEND

TOC = TOP OF CONCRETE
LOG = LIP OF GUTTER

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0.03937	INCHES
METRES (m)	3.281	FEET

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
B	21-1-97	BFS	BFS/HA	-	-	T.S.	AS BUILT
A	11-3-96	D.TIERNEY	B.F.S.	J.DIXON	R.BINNS	R.STEELE	APPROVED FOR CONSTRUCTION
0	23-2-96	D.TIERNEY	B.F.S.	J.DIXON	R.BINNS	R.STEELE	ISSUED FOR APPROVAL

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES U.O.N.
2. DRAWING PRACTICE TO AS 1100

SCALE 1:50

TRANSFIELD NEPCO Transfield Joint Venture

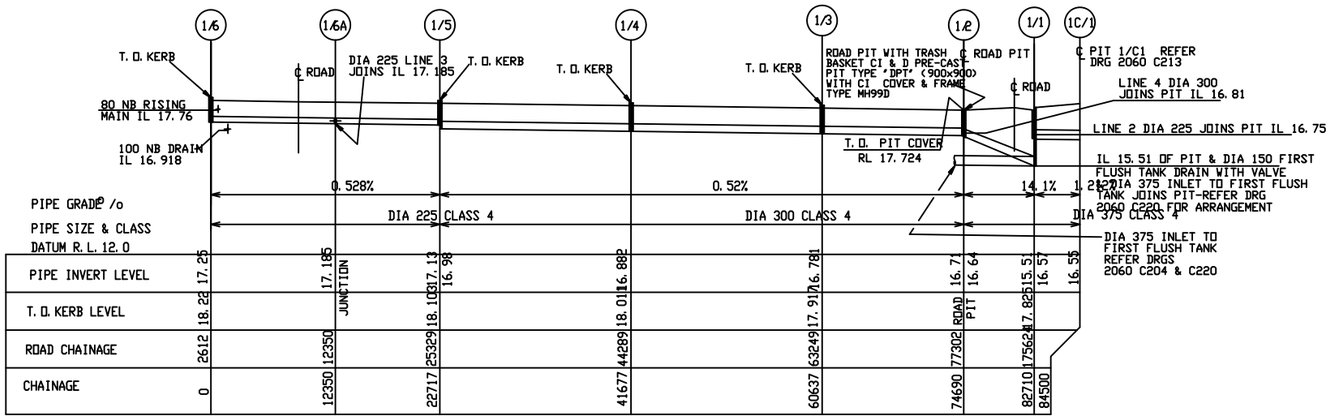
100 ARTHUR STREET, NORTH SYDNEY 2060, N.S.W. AUSTRALIA TEL. (02) 929 8600, FAX. (02) 954 0538

SMITHFIELD ENERGY FACILITY
SMITHFIELD, N.S.W. AUSTRALIA

CONCRETE HARDSTAND AT PUMPHOUSE - DETAILS

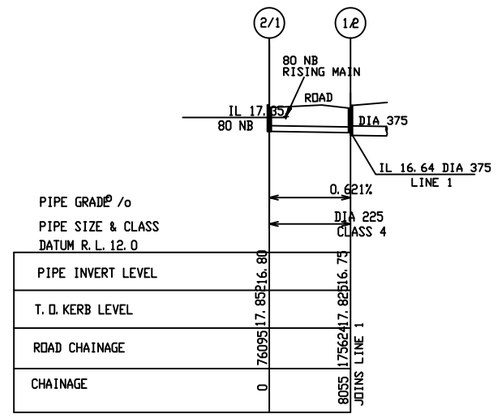
DRG NO. 2060 C221
SHEET 1:1/1
B1 ISSUE 0 A B

667 x 944 mm



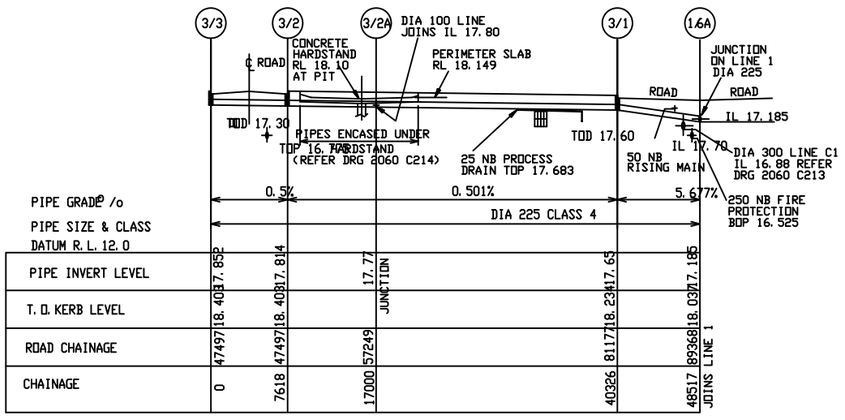
STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE 1

SCALE HORIZONTAL 1 : 250
VERTICAL 1 : 100



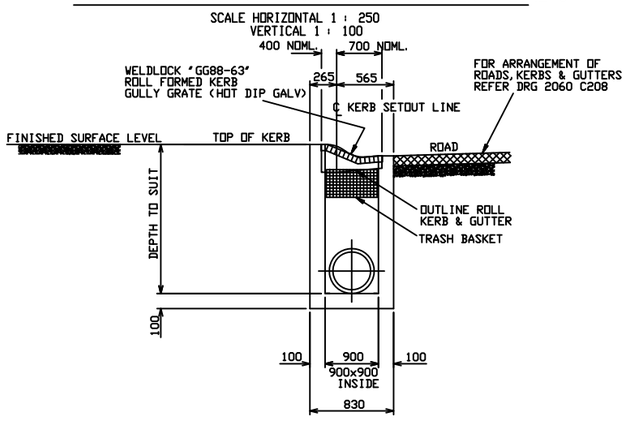
STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE 2

SCALE HORIZONTAL 1 : 250
VERTICAL 1 : 100



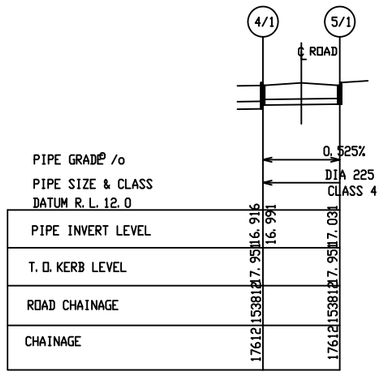
STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE 3

SCALE HORIZONTAL 1 : 250
VERTICAL 1 : 100



TYP SECTION THRU KERB GULLY PIT

SCALE 1 : 25

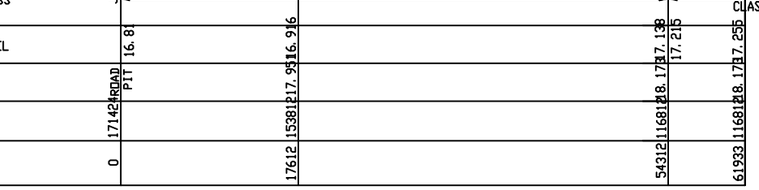


STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE 5

SCALE HORIZONTAL 1 : 250
VERTICAL 1 : 100

STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE 4

SCALE HORIZONTAL 1 : 250
VERTICAL 1 : 100



GENERAL NOTES

THIS DRAWING TO BE READ IN CONJUNCTION WITH SPECIFICATION No. 9. 3133-S02-1

NOMENCLATURE : TOD : TOP OF DUCT
TOP : TOP OF PIPE
BOP : BOTTOM OF PIPE

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0. 03937	INCHES
METRES (m)	3. 281	FEET

THIS DRAWING TO BE READ IN CONJUNCTION WITH DRG 2060 C204

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B. F. S.	BFS/HA	-	-	T. S.	AS BUILT
C	4-6-96	B. F. S.	J. DICKSON	J. DICKSON	R. BINNS	T. NOETEL	REVISED TO DCN46. APPROVED FOR CONSTRUCTION.
B	1-4-96	B. F. S.	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	REVISED AS PER DCN48. RE-ISSUED FOR APPROVAL.
A	23-2-96	D. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	APPROVED FOR CONSTRUCTION
1	16-2-96	D. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	RE-ISSUED FOR APPROVAL
0	1-8-95	B. F. S		J. DICKSON		R. STEELE	ISSUED FOR APPROVAL.

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES U. O. N.
2. DRAWING PRACTICE TO AS 1100

SCALE 1 :250

TRANSFIELD NEPCO Transfield Joint Venture

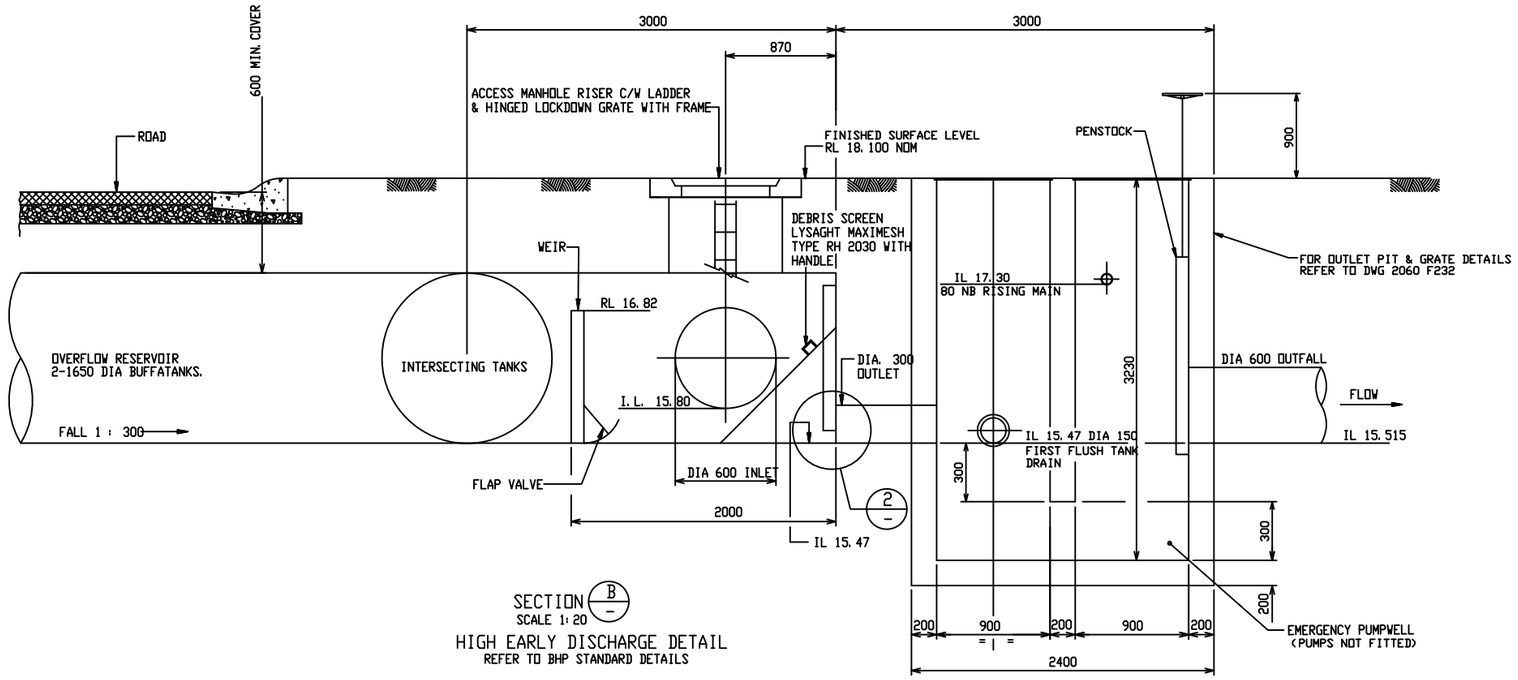
SMITHFIELD ENERGY FACILITY
SMITHFIELD, N. S. W. AUSTRALIA

ROAD STORMWATER DRAINS
LONGITUDINAL SECTIONS

DRG NO. 2060 C205
SHEET : 11/1
B1 ISSUE 0 1 A B C D

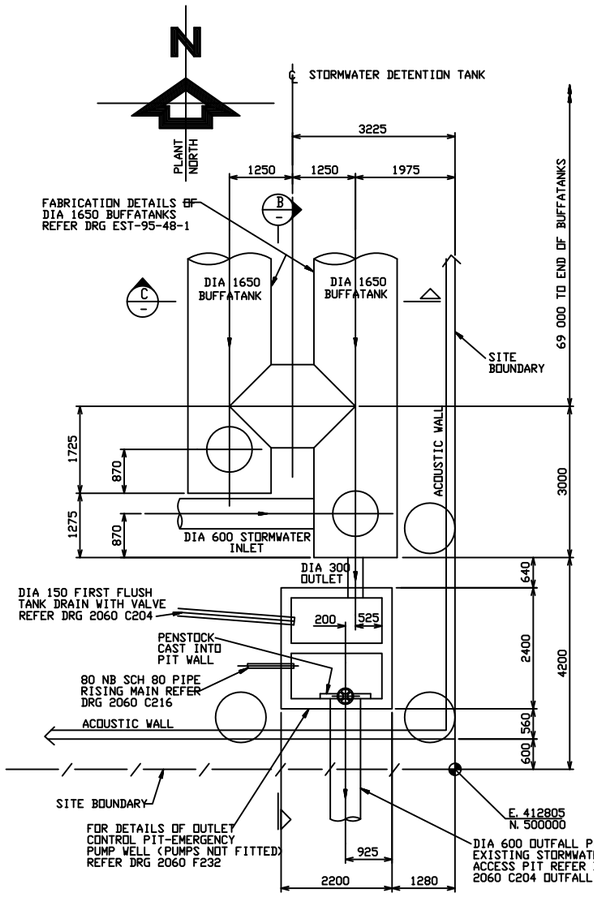
667 x 944 mm

TRANSFIELD JOB No : 9-3133 DRAWING No : 3133 T/F DRG. NO. 9-3133-C101.DGN

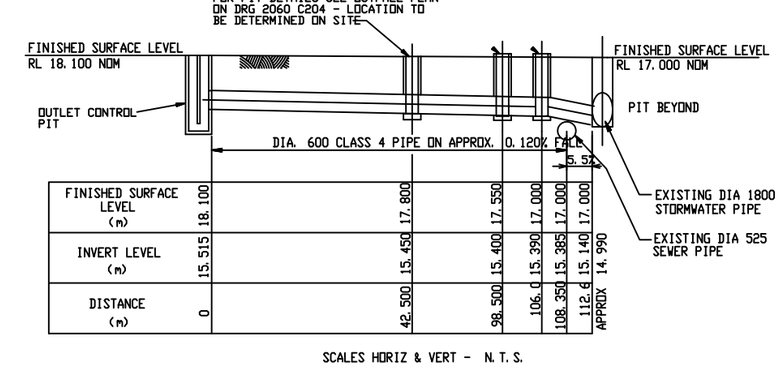


SECTION B
SCALE 1:20

HIGH EARLY DISCHARGE DETAIL
REFER TO BHP STANDARD DETAILS

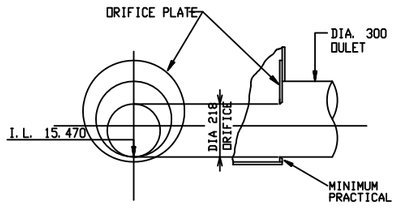


DETAIL 1 / C204

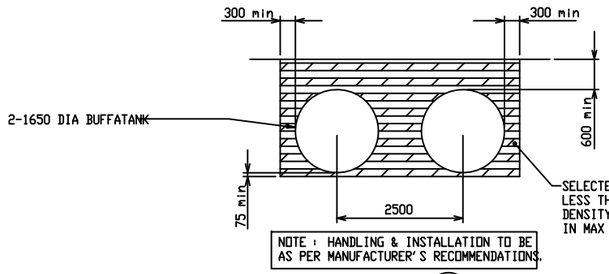


SCALES HORIZ & VERT - N.T.S.

LONG SECTION OF OUTFALL PIPE

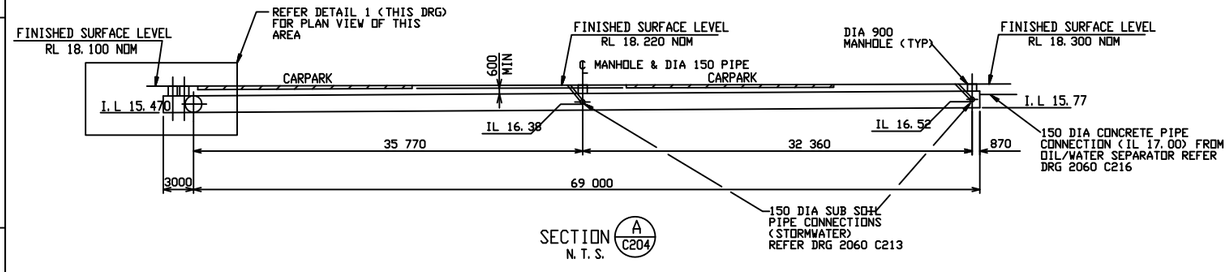


DETAIL 2
SCALE 1:10



NOTE : HANDLING & INSTALLATION TO BE AS PER MANUFACTURER'S RECOMMENDATIONS.

SECTION C



SECTION A / C204
N.T.S.

NOTE
THIS DRAWING TO BE READ INCONJUCTION WITH SPECIFICATION No 9.3133-S02-1

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0.03937	INCHES
METRES (m)	3.281	FEET

THIS DRAWING TO BE READ IN CONJUNCTION WITH DRGS 2060 C204, C213 & C216

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B.F.S.	BFS/HA	-	-	T.S.	AS BUILT
C	30-5-96	B.F.S.	J. DICKSON	J. DICKSON	R. BINNS	T. NOETEL	REVISED TO SUIT DCN 51. APPROVED FOR CONSTRUCTION
B	1-4-96	B.F.S.	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	REVISED TO SUIT DCN 45. RE-ISSUED FOR APPROVAL.
A	23-2-96	D. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	APPROVED FOR CONSTRUCTION
8	16-2-96	D. TIERNEY	J. DICKSON	J. DICKSON	R. BINNS	R. STEELE	RE-ISSUED FOR APPROVAL
7	20-12-95	D. TIERNEY		J. DICKSON		R. STEELE	GENERAL REVISION & RE-ISSUED FOR APPROVAL

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES
2. DRAWING PRACTICE TO AS 1100

J.O.N.

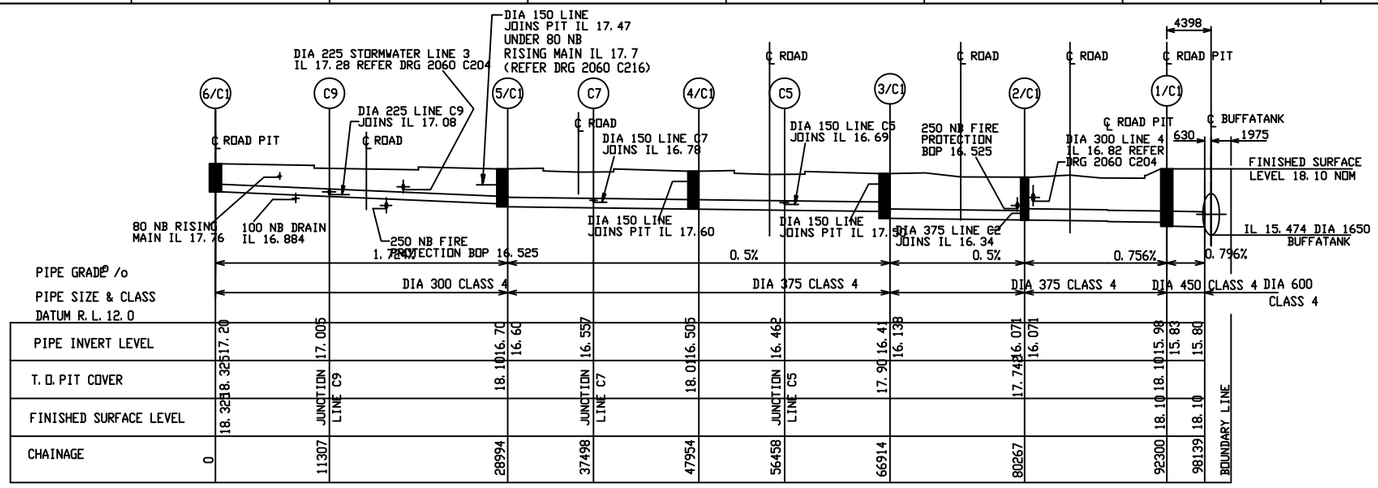
SCALE 1:50

TRANSFIELD NEPCO Transfield Joint Venture

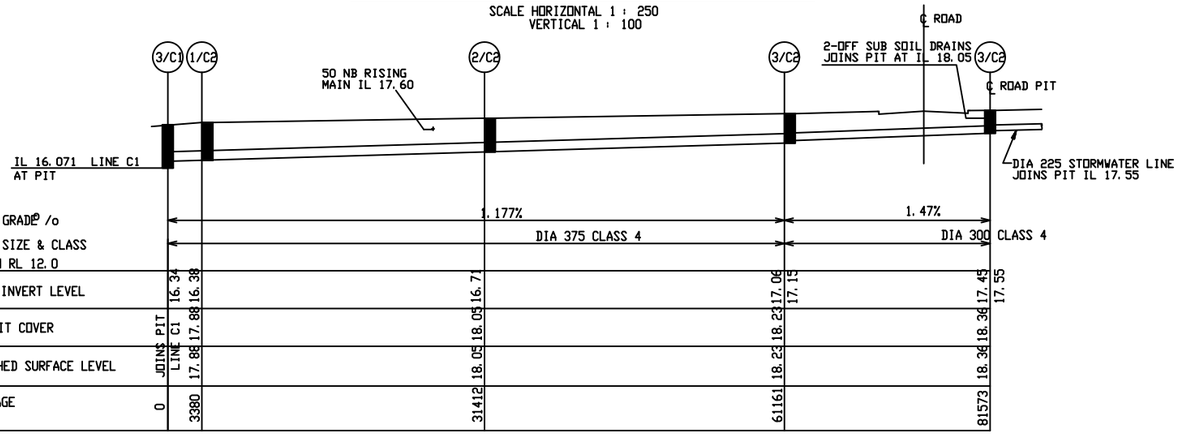
SMITHFIELD ENERGY FACILITY
SMITHFIELD, N.S.W. AUSTRALIA
SITE DRAINAGE STORMWATER DETENTION TANK DETAILS & SECTIONS

DRG NO. 2060 C206
SHEET 1 / 1
ISSUE B1 | 0 1 2 3 4 5 6 7 8 A B C D

667 x 944 mm



STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE C1



STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE C2

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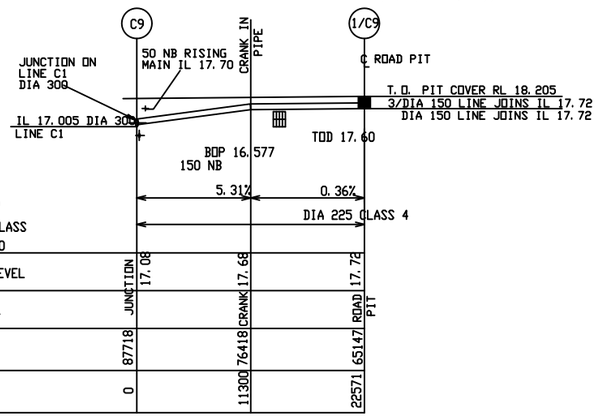
VERTICAL 1 : 100



STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE 3A

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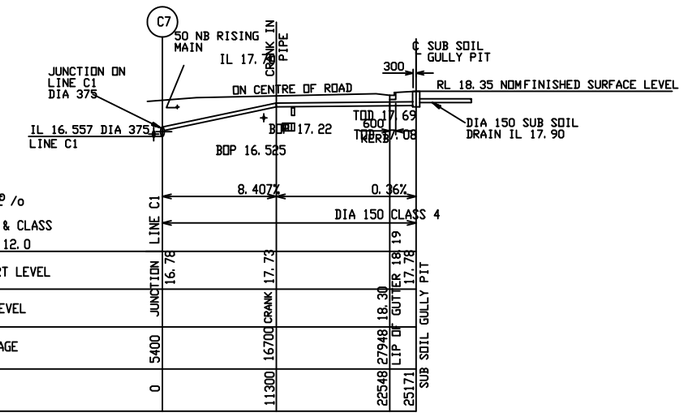
VERTICAL 1 : 100



STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE C7

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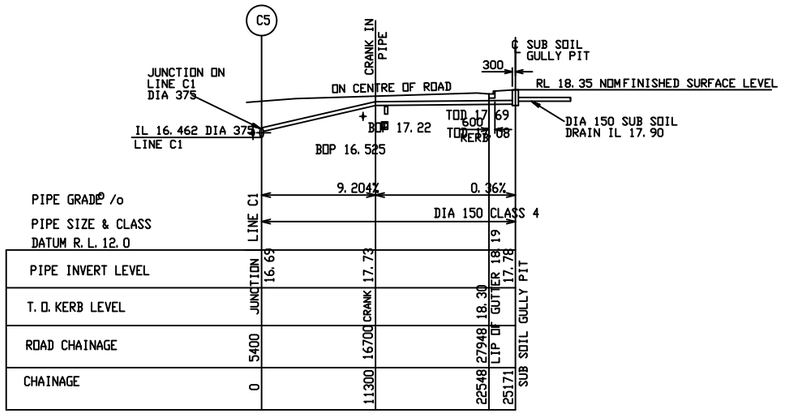
VERTICAL 1 : 100



STORMWATER DRAINAGE LONGITUDINAL SECTION - LINE C5

SCALE HORIZONTAL 1 : 250
VERTICAL 1 : 100

GENERAL NOTES

THIS DRAWING TO BE READ IN CONJUNCTION WITH SPECIFICATION No. 9.3133-S02-1

NOMENCLATURE : TOD : TOP OF DUCT
TOP : TOP OF PIPE
BOP : BOTTOM OF PIPE

CONVERSION FACTORS

TO CONVERT FROM	MULTIPLY BY	TO OBTAIN
MILLIMETRES (mm)	0.03937	INCHES
METRES (m)	3.281	FEET

THIS DRAWING TO BE READ IN CONJUNCTION WITH DRG 2060 C213

REV.	DATE	DRN	CHKD	DESIGNED	VERIFIED	ENG DES MANAGER	DESCRIPTION
D	21-1-97	B.F.S.	BFS/HA	-	-	T.S.	AS BUILT
B	1-4-96	B.F.S.	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	REVISED AS PER DCN49. RE-ISSUED FOR APPROVAL.
A	23-2-96	D.TIERNEY	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	APPROVED FOR CONSTRUCTION
1	16-2-96	D.TIERNEY	J.DICKSON	J.DICKSON	R.BINNS	R.STEELE	RE-ISSUED FOR APPROVAL
0							ISSUED FOR APPROVAL.

REVISIONS

NOTES
1. DIMENSIONS IN MILLIMETRES
2. DRAWING PRACTICE TO AS 1100

J.O.N.

SCALE 1 :250

TRANSFIELD NEPCO Transfield Joint Venture

100 ARTHUR STREET, NORTH SYDNEY 2060, N.S.W. AUSTRALIA
TEL. (02) 929 8600, FAX. (02) 954 0538

SMITHFIELD ENERGY FACILITY
SMITHFIELD, N.S.W. AUSTRALIA
SITE DRAINAGE
STORMWATER & SEWER RETICULATION
LONGITUDINAL SECTIONS

DRG NO. 2060 C219
SHEET : 1/1
B1
ISSUE 0 1 A B C D

667 x 944 mm

APPENDIX E – Flood impact assessment

The following outlines the flood impact assessment undertaken for the Project. Cumberland City Council (Council) has advised that the Project Site is classified as a flood control lot and therefore impacted by the 1% AEP (100 year ARI) flood event. In accordance with Council's flood advice letter dated the 2nd of August 2023:

> *In all cases, flood level on adjacent properties shall not be increased.*
> *Supporting documentation is to accompany the development.*

The following summarises the flood modelling undertaken to assess the potential impact of the Project on flood conditions for the surrounding properties. An assessment of the potential impacts of the Project has also been undertaken based on an indicative footprint of the proposed works.

E.1 Hydraulic modelling overview

This flood assessment has been undertaken using the flood model provided by Council in September 2023 taken from the Holroyd City LGA Overland Flood Study prepared by Lyall & Associated Consulting Water Engineers in June 2017. Arcadis has refined the flood model to better represent the existing conditions of the Project Site. Further refinement has also been undertaken to represent the indicative footprint of the Project. The methodology of the Council flood modelling and mapping has been maintained as summarised below.

E.1.1 Cumberland Council flood model

The Council flood model is a two-dimensional (2D) TUFLOW model with hydrological and hydraulic approaches based on Australian Rainfall and Runoff 1987 methodology. The TUFLOW model was developed based on September 2011 aerial photography and April 2013 airborne laser scanning survey. DRAINS hydrological modelling was undertaken to provide inflow hydrographs to the TUFLOW 2D domain. The TUFLOW model utilises a 2m grid resolution and incorporates Council's drainage network into the model as one-dimensional elements. Within the 2D domain building footprints are described as areas of high hydraulic roughness to represent the effect of buildings on the passage of overland flow.

The TUFLOW hydraulic simulations were undertaken using the TUFLOW Classic double precision 2013-12-AC-w64 build for design rainfall events ranging between the 20% AEP (5 year ARI) and 1% AEP (100 year ARI) as well as the Probable Maximum Flood (PMF).

The TUFLOW model was developed to define the nature of overland flow and not mainstream flooding such as that from Prospect Creek located south of the Project Site. For the Project Site the TUFLOW model can be used for the simulation of design rainfall events up to and including the 1% AEP event. For the PMF design event the entirety of the Project Site is inundated from Prospect Creek mainstream flooding which Council relies on alternative previous studies to define.

E.1.2 Existing conditions model refinement

The following refinement has been undertaken to Council's TUFLOW model to represent the existing conditions of the Project Site more accurately (as illustrated in Figure E-1):

1) The extent of the TUFLOW model has been reduced to the local catchment to enable faster simulation times, reducing the 2D domain from 17,000 to 476 hectares
2) Building footprint extents in the immediate area and within the Project Site have been revised based on 2023 aerial photography, 2023 site photographs (Appendix B) and historical site drawings (see Appendix D)

3) The existing water tank at the Project Site entrance has been raised above the peak flood level to avoid flood water entering this confined water-tight space
4) The internal roadways have been defined as areas with a hydraulic roughness of 0.02, in line with the public roadways elsewhere in the model
5) The solid external perimeter walls of the Project Site have been incorporated as outlined below.

Within the TUFLOW model, z-shapes have been used for the representation of the external perimeter walls of the Project site as follows:

- The western boundary walls are assumed to be continuous on either side of the Project Site entrance and elevated above the peak flood level.
- The acoustic wall along the southern boundary has been elevated above the peak water level. It has been assumed that the vehicle roller shutter door is raised during a large flood event allowing for the passage of overland flow.
- The portion of the acoustic wall along the eastern boundary has been elevated above the peak water level. The short wall of blockwork along the remainder of the eastern boundary has been raised to an estimated height of 100mm to 200mm above the surrounding ground surface.
- The northern Colourbond fence has not been incorporated into the model as some flows may pass beneath the structure, and the fence may not remain stable and upright during a large flood event.

Whilst an internal drainage network is present within the Project Site, this has not been incorporated into the TUFLOW model at this stage. The capacity of this minor drainage network is expected to be less than the 1% AEP flood event being assessed. Omitting this drainage network from the model will produce more conservative flood levels within the Project Site.

No change has been made to the hydrological model inputs to the TUFLOW model and simulations have been undertaken maintaining the TUFLOW Classic double precision 2013-12-AC-w64 build.

E.1.3 Project conditions model refinement

A representation of the Project has been developed within the TUFLOW model based on an indicative footprint of the proposed works. For the purpose of the flood assessment, it has been assumed that any structures or infrastructure at ground level will be raised above the 1% AEP flood level with a minimum horizontal clearance of 1 metre from the existing internal roadway gutter. No other changes have been made to the ground surface levels within the TUFLOW model. The extent of the Project considered in the TUFLOW model is illustrated in Figure E-2.

E.1.3 Hydraulic results

For both the existing and Project conditions the critical duration of the 1% AEP flood event across the Project Site is relatively short, ranging from 25 minutes to 120 minutes, resulting in flash flooding conditions with little warning time.

Flood mapping has been prepared for the 1% AEP design event as per the Prospect Creek Overland Flood Study (2017) such that:

- Peak flood results have been taken as the maximum envelope of the 25, 60, 90, 120, 180 and 270 minute design storm events
- Flood depths less than 100 mm have not been shown
- Flooding within building footprints has been omitted.

A range of flood mapping has been prepared as follows:

- Existing Conditions
  - Figure E-3 1% AEP Flood Depth
  - Figure E-4 1% AEP Maximum Water Level
- Project Conditions
  - Figure E-5 1% AEP Flood Depth
  - Figure E-6 1% AEP Maximum Water Level
- Flood Impact Mapping
  - Figure E-7 1% AEP Maximum Water Level Difference

E.2 Findings

The flood modelling demonstrates the overland flow paths entering the Project Site across the western and eastern boundaries. For the Project Site in the 1% AEP flood event:

- Peak flood depths occur at low points along the internal roadways with up to 0.4m at the Project Site entrance, and up to 0.5m in the southeast corner of the Project Site
- Peak velocities across the Project Site are generally less than 1m/s
- With a depth velocity product less than 0.3m2/s, the hazard classification reaches H2 (unsafe for small vehicles) at the deeper road low points with the remainder of the Project Site considered generally safe for vehicles, people and buildings based on the Australian Institute for Disaster Resilience general flood hazard vulnerability curve.

The flood impact mapping provided in Figure E-7 demonstrates that the modelled Project extent does not have a significant adverse impacts on overland flow flood levels for the surrounding properties. The Project extent does not significantly impede the overland flow entering the Project Site from the western and eastern Project Site boundaries and does not divert or redirect overland flow paths within the Project Site. Peak flood level increases greater than 0.01m are limited to the area within the Project Site.

The flood assessment undertaken has been based on an indicative footprint of the proposed works based on information currently available. The extent and levels of the proposed infrastructure and buildings of the Project are subject to refinement at detailed design at which time further flood modelling is recommended to confirm the findings of this assessment.

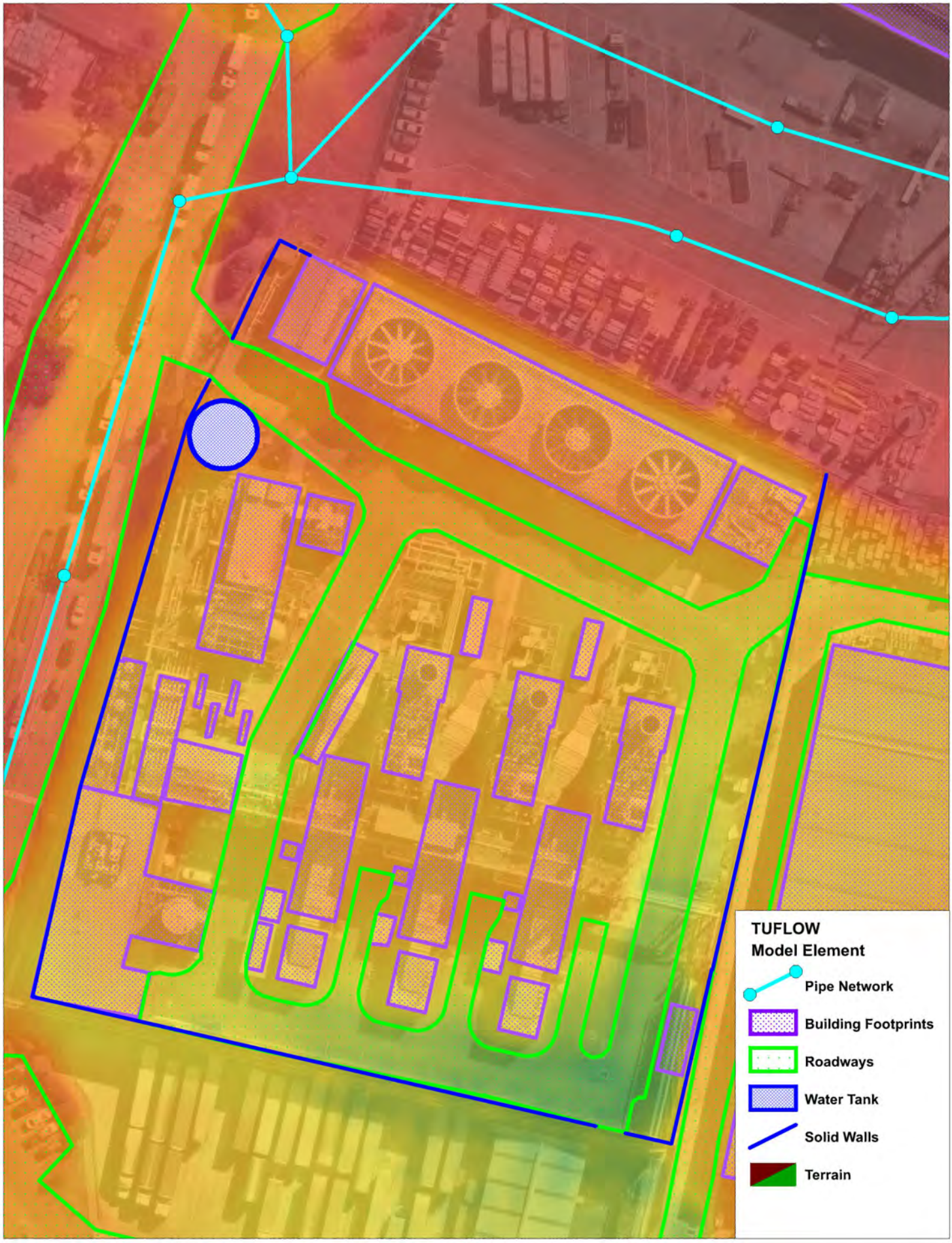


Figure: **E-1**	Title:	**Smithfield BESS** **TUFLOW Model Features - Existing Conditions**
Rev: **A**	N	0 12.5 25m Approx. Scale

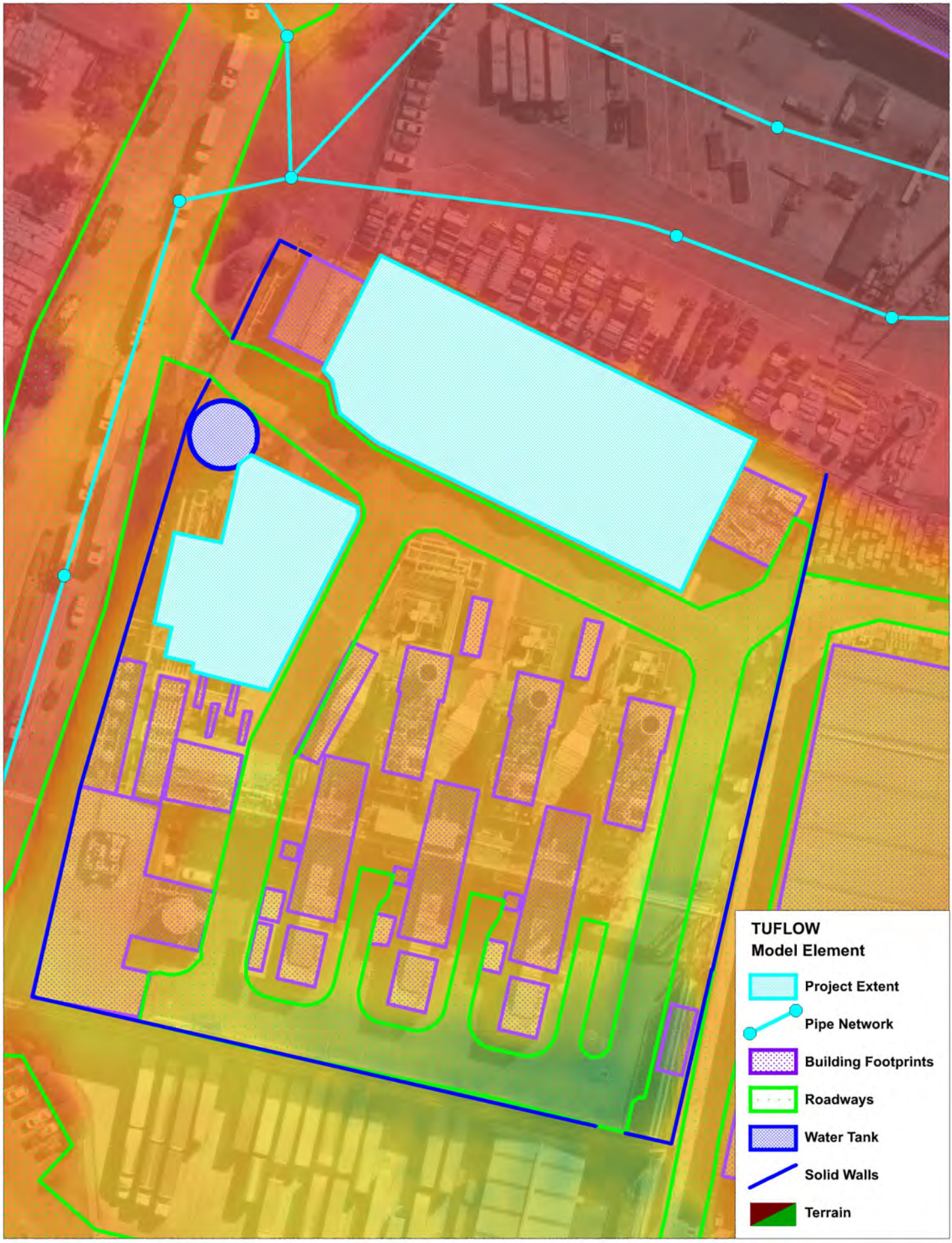


Figure: **E-2**

Title: **Smithfield BESS**
TUFLOW Model Features - Project Conditions

Rev: **A**

N

0 12.5 25m
Approx. Scale

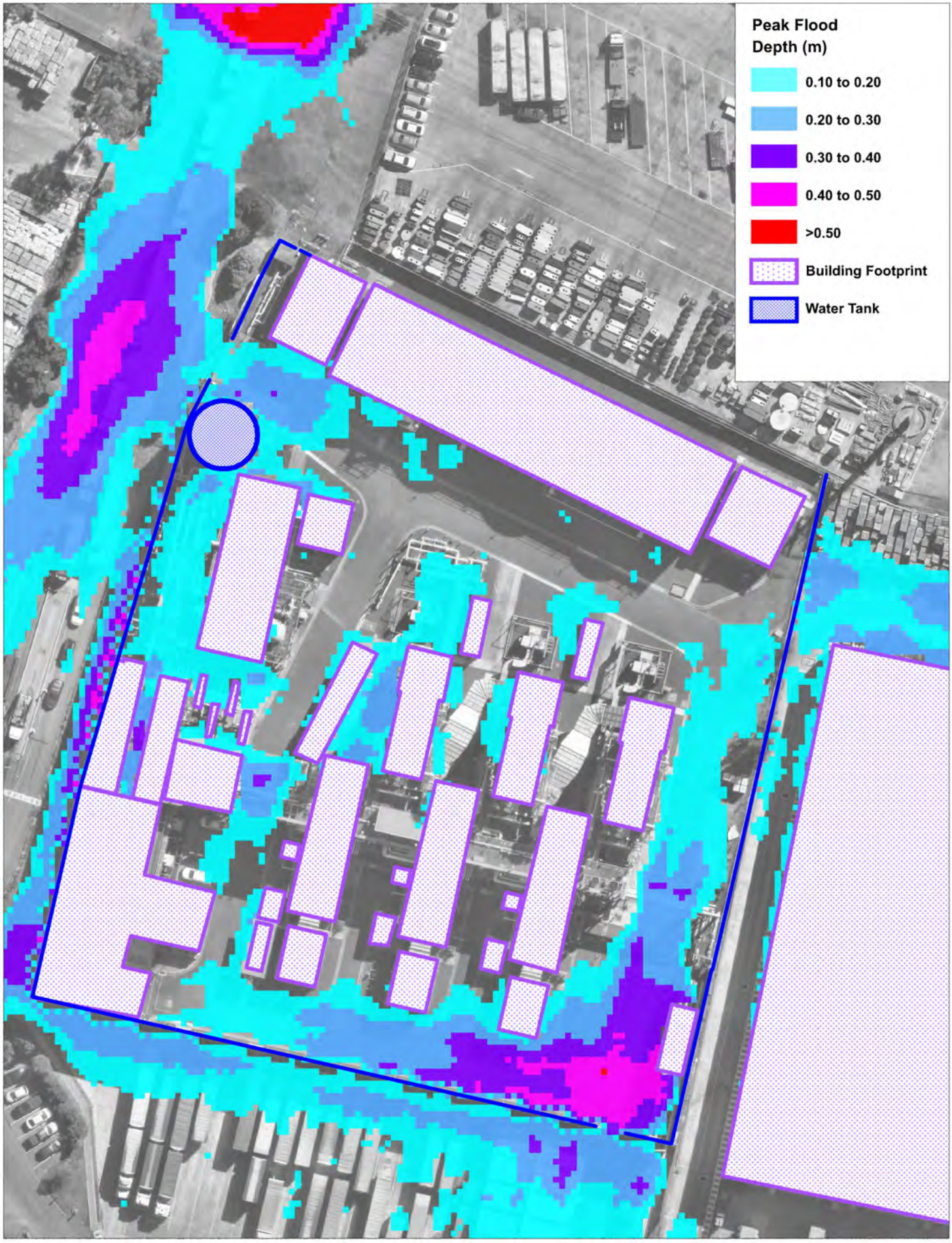


Figure: **E-3**

Title: **Smithfield BESS**
1% AEP Flood Depth - Existing Conditions

Rev: **A**

N

0 12.5 25m
Approx. Scale

Note: Overland flood modelling only.
Flood depths less than 100 mm have not been shown.

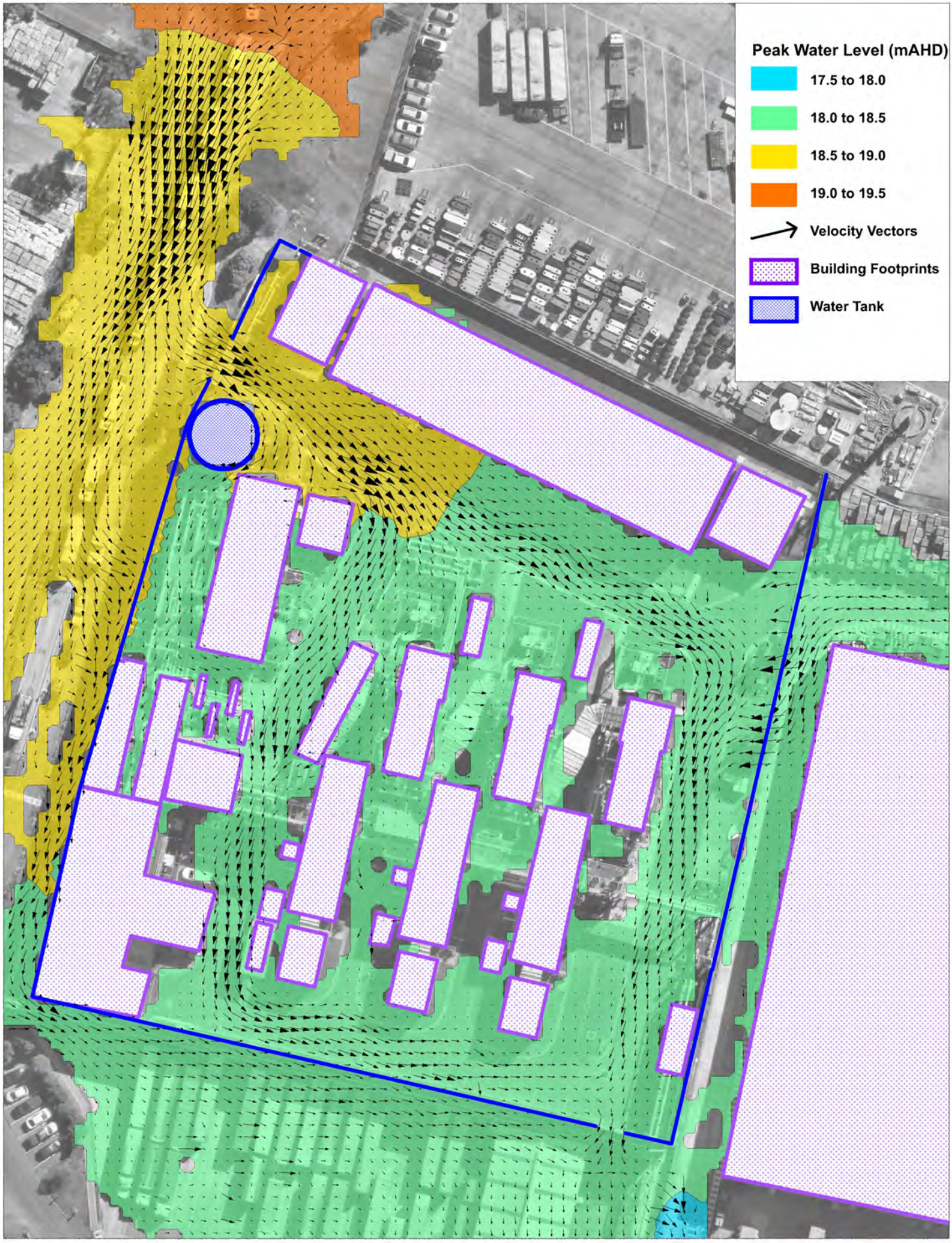


Figure: **E-4**	Title:	**Smithfield BESS** **1% AEP Flood Maximum Water Level- Existing Conditions**
Rev: **A**	N	0 12.5 25m Approx. Scale
		Note: Overland flood modelling only.

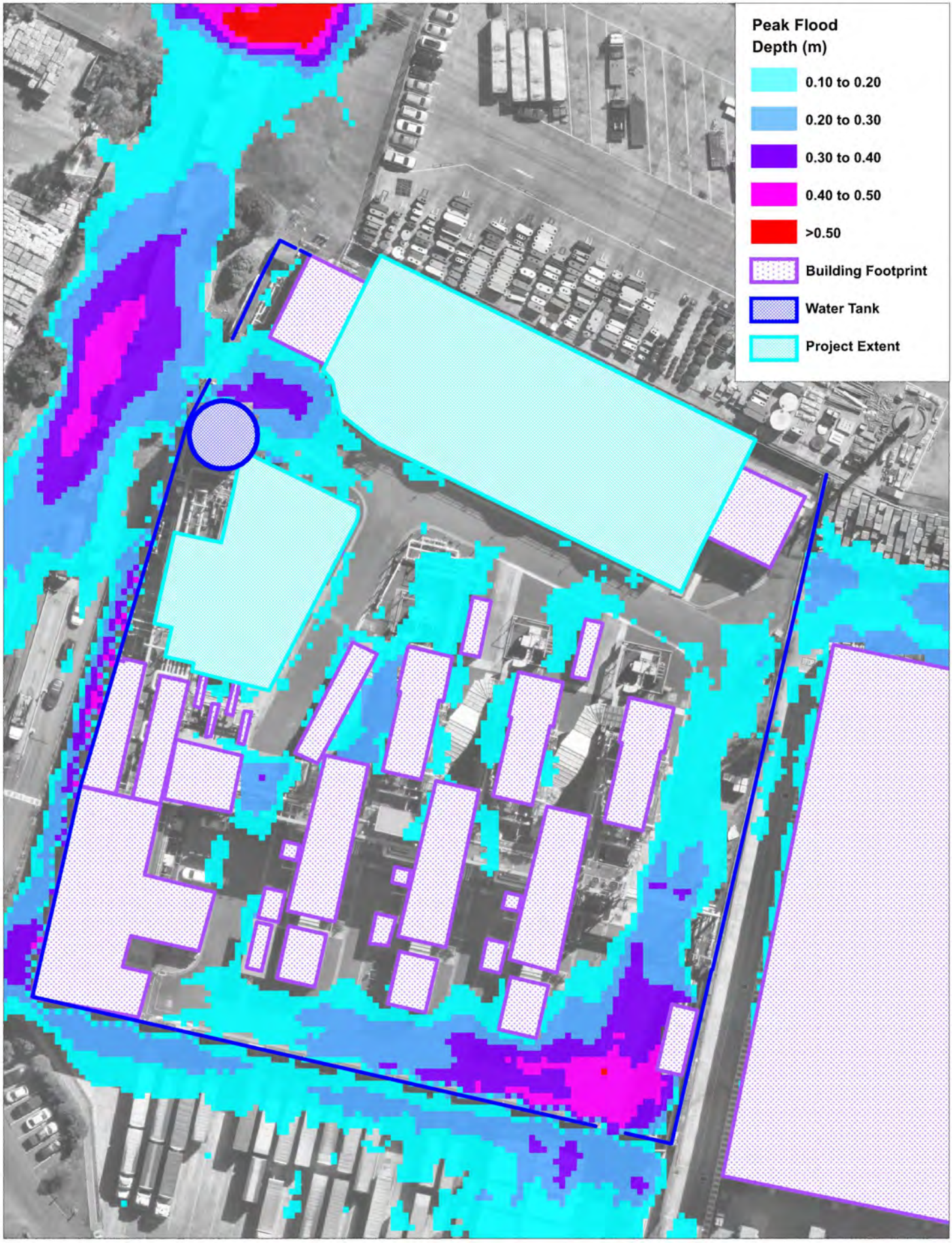


Figure: **E-5**	Title:	**Smithfield BESS** **1% AEP Flood Depth - Project Conditions**
Rev: **A**	N	0 12.5 25m Approx. Scale

Note: Overland flood modelling only.
Flood depths less than 100 mm have not been shown.

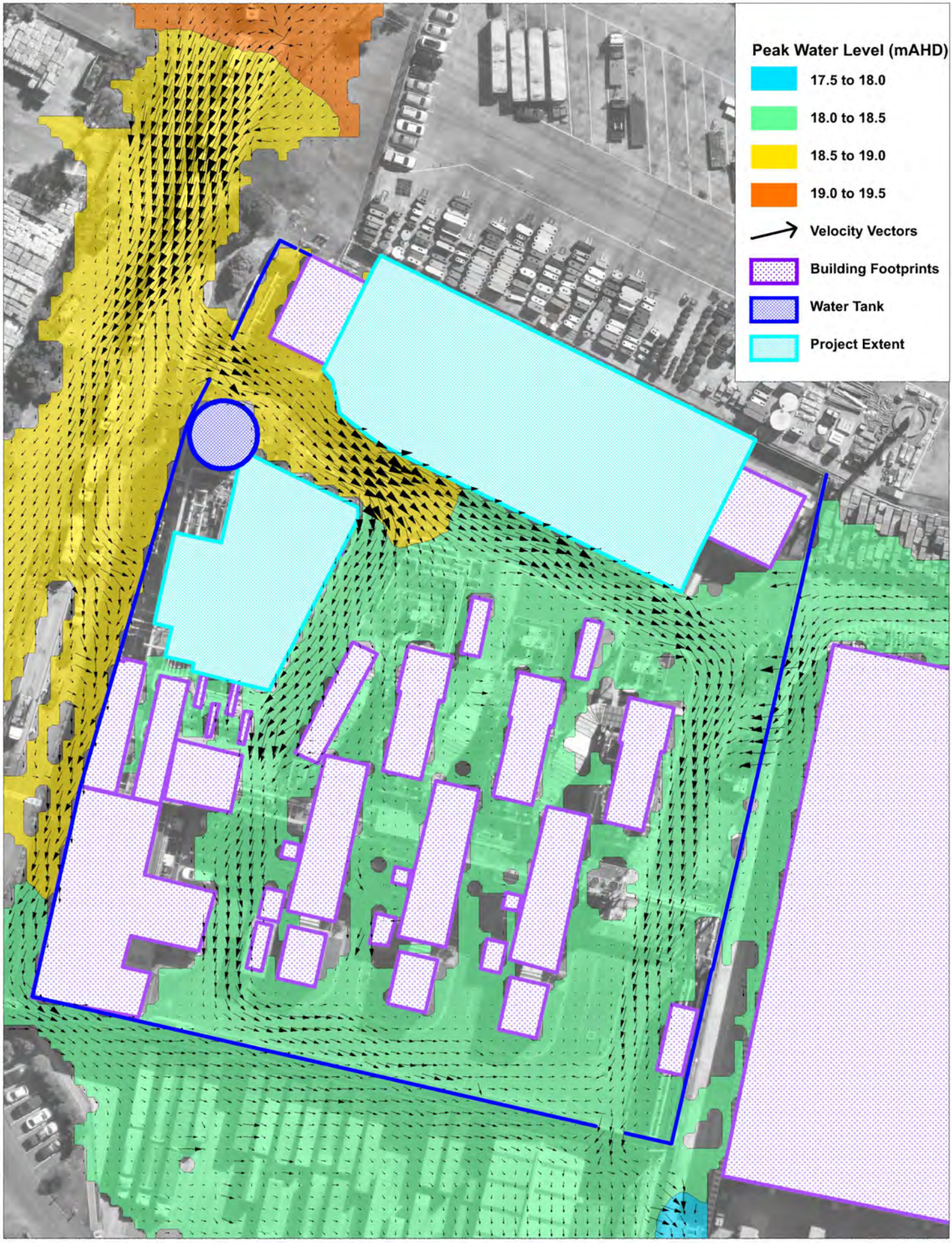


Figure: **E-6**	Title:	**Smithfield BESS** **1% AEP Flood Maximum Water Level- Project Conditions**
Rev: **A**	N	0 12.5 25m Approx. Scale
		Note: Overland flood modelling only.

Figure: **E-7**	Title:	**Smithfield BESS** **1% AEP Maximum Water Level Differences**
Rev: **A**	N	0 12.5 25m Approx. Scale
		Note: Overland flood modelling only.