

Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035
Level 9, The Forum, 203 Pacific Highway
St. Leonards, NSW 2065
Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

THE SALVATION ARMY

MULTI LEVEL DEVELOPMENT
23 DALCASSIA STREET
HURSTVILLE

COVER SHEET ,
LOCALITY PLAN AND
SCHEDULE OF DRAWINGS

SCHEDULE OF DRAWINGS	
DRAWING No.	DESCRIPTION
	GENERAL
80821102-CI-0001	COVER SHEET, LOCALITY PLAN AND SCHEDULE OF DRAWINGS
80821102-CI-0002	CIVIL CONSTRUCTION NOTES
	PLANS AND SCHEDULES
80821102-CI-1001	STORMWATER DRAINAGE PLAN GROUND FLOOR
80821102-CI-1002	UPPER BASEMENT STORM WATER DRAINAGE PLAN
80820102-CI-1003	BASEMENT 4 STORM WATER DRAINAGE PLAN
80820102-CI-2201	SEDIMENTATION AND EROSION CONTROL PLAN
	STANDARD DETAILS
80821102-CI-2001	STORMWATER DETAILS SHEET 1
80821102-CI-2002	STORMWATER DETAILS SHEET 2
80821102-CI-2003	STORMWATER DETAILS SHEET 3
80821102-CI-2202	SEDIMENTATION AND EROSION CONTROL DETAILS



INDICATIVE AREA OF WORKS

LOCALITY PLAN
NOT TO SCALE

AU The N-Project3008-FY2102-30						
1	29 09 2020	PRELIMINARY ISSUE		K.P.	K.P.	C.F.
Rev.	Date	Description		Des.	Verif	Appd

© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

Drawn K.P.	Date SEP. 2020	Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES	
Checked K.P.	Date SEP. 2020			
Designed K.P.	Date SEP. 2020			
Verified C.F.	Date SEP. 2020			
Approved	Datum AHD N.T.S. A1		Drawing Number 80821102-CI-0001	
			Revision 1	

GENERAL NOTES

- ## SITE PREPARATION

SP1.	REMOVE TOP SOIL, ROOT AFFECTED SOIL, FILL AND OTHER DELETERIOUS MATERIAL TO EXPOSE NATURAL SUBGRADE.
SP2.	THE EXPOSED SUBGRADE SHOULD THEN BE PROOF ROLLED WITH AT LEAST EIGHT (8) PASSES OF A 10 TONNE MIN. DEAD WEIGHT ROLLER. ANY SOFT OR HEAVING AREAS SHOULD BE REMOVED TO A MAXIMUM DEPTH OF 300mm AND REPLACED WITH CLEAN WELL GRADED MATERIAL SUCH AS RIPPED OR CRUSHED SANDSTONE COMPACTED TO AT LEAST 100% OF STANDARD MAXIMUM DRY DENSITY (SMDD) AT $\pm 2\%$ OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH AS1289.
SP3.	COMPACTED FILL SHOULD BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS AND COMPACTED TO AT LEAST 100% SMDD. FILL SHALL CONSIST OF CLEAN WELL GRADED MATERIAL SUCH AS RIPPED OR CRUSHED SANDSTONE WITH A MIN. CBR OF 15%.
SP4.	DENSITY TESTING SHALL BE CARRIED OUT TO LEVEL 2 CERTIFICATION IN ACCORDANCE WITH AS3798.
SP5.	SUB-BASE COURSE - TO BE DGS20 OR DGS40 OR RIPPED OR CRUSHED SANDSTONE WITH A CBR GREATER THAN 40%, MAXIMUM PARTICLE SIZE OF 60mm, WELL GRADED WITH A PLASTIC INDEX LESS THAN 10. COMPACT TO AN AVERAGE OF NOT LESS THAN 100% SMDD WITH A MINIMUM VALUE OF 98% SMDD.
SP6.	ALL KERBS TO BE FORMED BY KERB MACHINE AND NOT BY HAND. <u>EXTERNAL FOOTPATHS/PAVEMENTS</u>
SP7.	REMOVE TOP SOIL, ROOT AFFECTED SOIL, FILL AND OTHER DELETERIOUS MATERIAL TO EXPOSE NATURAL SUBGRADE.
SP8.	THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED. ANY SOFT OR HEAVING AREAS SHOULD BE REPLACED WITH CLEAN WELL GRADED MATERIAL. FILL IF REQUIRED, SHOULD BE CLEAN AND WELL GRADED. COMPACT TO 100% SMDD.

SW1.	ESTABLISH EXACT LOCATION AND INVERT OF EXISTING SERVICES PRIOR TO COMMENCING WORKS.
SW2.	ALLOW TO PAY ALL LOCAL AUTHORITY FEES AS REQUIRED FOR PERIODIC INSPECTIONS/APPROVALS.
SW3.	ALL WORK TO BE IN ACCORDANCE WITH THE LOCAL COUNCIL STORMWATER POLICY.
SW4.	MINOR FLOW ARI = 5 YEARS MAJOR FLOW ARI = 100 YEARS

SW5. ALL WORKS TO COMPLY TO ASS3500

SW6. ALL NEW PIPES 300 DIA. & LARGER SHALL BE REINFORCED CONCRETE CLASS 2 WITH RUBBER RINGS JOINTS. WHERE ANGLED THE MINIMUM RADIUS SHALL BE 152m. 150/225mm DIA. STORMWATER PIPES SHALL BE SEWER CLASS UPVC, MINIMUM PIPE SIZE FOR AN UNDERGROUND PIPE TO BE 150mm. MINIMUM PIPE GRADIENTS 1% U.N.O.

SW7. ALL DRAINAGE TRENCHES SHALL BE IN SOUND EXCAVATED MATERIAL, IF SOFT SPOTS EXIST, REMOVE AND BACKFILL WITH COMPACTED ROAD BASE (UGS40) WITH A MINIMUM CBR OF 25 COMPACT TO 98% STANDARD MAXIMUM DRY DENSITY TO AS 1289 E1.1.

SW8. ALL PIPES SHALL BE BEDDED ON 100mm SAND BED AND BACKFILLED WITH SAND TO 150mm ABOVE BARREL OF PIPE. THE REMAINDER OF THE TRENCH WILL BE BACKFILLED IN 150mm COMPACTED LAYERS IN GRANULAR FILL NON DISPERSIVE (EMERSON CLASS 5 OR 6) MATERIAL - NO TOP SOIL, GRASS, ROOTS, OR DELETERIOUS MATERIAL. COMPACT TO 98% STANDARD MAXIMUM DRY DENSITY AT ±2% OMC.

SW9. PROVIDE A 100mm DIA. UPVC SLOTTED DRAINAGE PIPE 3000 LONG WRAPPED IN FILTER FABRIC SOCK IN ALL TRENCHES ADJACENT TO INLET PIPES TO PITS & CONNECTED TO PIT.

SW10. OTHER SUB SOIL DRAINAGE PIPES SHALL BE 100mm DIA. UPVC SLOTTED BEDDED AND BACKFILLED WITH 20mm GAUGE BLUE METAL. CLEAN OUTS SHALL BE EXTENDED TO THE SURFACE AND PROVIDED WITH A SCREWED COVER PLATE FLUSH WITH THE FINISHED SURFACE LEVEL.

SW11. ALL CONCRETE PITS CONSTRUCTED SHALL BE BEDDED AS PER PIPE SPECIFICATION. PIT BASES SHALL BE SMOOTH CONTOURED WITH MASS CONCRETE BENCHING PROVIDE STEP IRONS AS PER PIT SCHEDULE. PROVIDE HEAVY, MEDIUM OR LIGHT DUTY GALVANISED GRATE COVERS AS SPECIFIED IN SCHEDULE. ALL DRAINAGE WORKS ARE TO BE COMPLETED TO THE SATISFACTION OF THE SUPERVISING CIVIL ENGINEER. ALL WORKS TO COMPLY TO ASS3500. HEADWALLS SHALL BE PRECAST CONCRETE BY 'BCP PRECAST' OR EQUAL. ALL PITS SHALL BE PRECAST CONCRETE TYPE 'DT' FOR DEEP PITS BY ICON INDUSTRIES OR EQUAL. PRECAST DRAINAGE PITS DEEPER THAN 1800mm SHALL HAVE 150mm MIN. WALL THICKNESS. 20mm DIA. GALV. MS. STEP IRONS SHALL BE INSTALLED IN PITS 1200mm AND DEEPER.

SW12. UNLESS NOTED OTHERWISE ON THE PLANS, PROVIDE THE FOLLOWING MIN. COVER TO PIPE:

- UNDER LANDSCAPE & PAVEMENT - 300mm
- UNDER ROAD (TRAFFIC) - 600mm

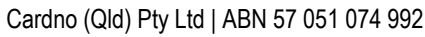
ELEMENT	SLUMP (MAX)	MAX AGG SIZE	CEMENT TYPE	ADMIX.	CONCRETE GRADE
CONCRETE DRIVEWAYS	60	20mm	A	N/A	40 MPa
CONCRETE KERBS, RETAINING WALLS	80	20mm	A	N/A	32 MPa
FOOTPATHS	80	20mm	A	N/A	25 MPa
PIERS	80	20mm	A	N/A	25 MPa

- | STRUCTURAL
ELEMENT | REINFORCEMENT COVER | | | |
|-----------------------|---------------------|------|----------|------|
| | INTERNAL | | EXTERNAL | |
| | TOP | BTM. | TOP | BTM. |
| FOOTINGS & PIERS | - | - | 50 | 50 |
| DRAINAGE PITS | | | 50 | |
| CONCRETE DRIVEWAY | | | 40 | |

- C4. CONDUITS, PIPES, ETC., SHALL NOT BE PLACED IN THE CONCRETE COVER TO REINFORCEMENT AND NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE ALLOWED WITHOUT THE PRIOR APPROVAL OF THE SUPERINTENDENT.
- C5. CONCRETE SIZES DO NOT INCLUDE THE THICKNESS OF APPLIED FINISHES.
- C6. THE DEPTH OF BEAMS IS GIVEN FIRST AND INCLUDES THE SLAB THICKNESS.
- C7. CONSTRUCTION JOINTS, WHERE NOT SHOWN, SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT.
- C8. FORMWORK SHALL REMAIN IN POSITION FOR THE TIME SPECIFIED. WHERE SLABS AND BEAMS ARE TO SUPPORT MASONRY OVER, FORMWORK AND PROPS MUST BE REMOVED PRIOR TO THE CONSTRUCTION OF MASONRY.
- C9. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. THE VIBRATOR SHALL NOT BE USED TO SPREAD CONCRETE.
- C10. CONCRETE SHALL BE CURED IN ACCORDANCE WITH AS3600 WITH A PRODUCT COMPATIBLE WITH THE APPLIED FINISHES. CURING COMPOUNDS SHALL COMPLY WITH AS3799. PVA BASED CURING COMPOUNDS ARE NOT ACCEPTABLE
- C11. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY, IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- C12. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS.
- C13. SPLICES IN THE MAIN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. SPLICES IN THE DISTRIBUTION REINFORCEMENT MAY BE POSITIONED AS NECESSARY WITH SPLICES OF SUFFICIENT LENGTH TO DEVELOP THE FULL STRENGTH OF THE BARS. MINIMUM LAPS TO FABRIC SHALL BE TO OVERLAP TWO CROSS WIRES PLUS 50mm U.N.O. REINFORCEMENT SHALL BE SECURELY TIED AT ALL LAPS AND INTERSECTIONS WITH 1.25mm BLACK ANNEALED WIRE. THE WRITTEN APPROVAL OF THE SUPERINTENDENT SHALL BE OBTAINED FOR OTHER SPLICES WHERE THE LAP LENGTH IS NOT SHOWN. IT SHALL DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT.
- C14. ALL UNSUPPORTED BARS SHALL BE TIED IN A TRANSVERSE DIRECTION WITH N12-300 U.N.O.
- C15. REINFORCEMENT SHALL BE SUPPORTED ON APPROVED PLASTIC OR PLASTIC TYPED WIRE STOOLS AT NOT MORE THAN 600mm CENTRES BOTHWAYS IN SLABS AND AT 1000mm CENTRES IN BEAMS.

-
- DENOTES SQUARE FABRIC TO AS4671

- © Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the
benefit of and use by the client in accordance with the
terms of the retainer. Cardno Limited does not and shall not
assume any responsibility or liability whatsoever to any third
party arising out of any use or reliance by third party on the
content of this document.



C17.	FABRIC SHALL BE SUPPLIED IN FLAT SHEETS, ROLLS WILL NOT BE ACCEPTED
C18.	TYPICAL REINFORCEMENT NOTATION:- 5N24-200 INDICATES 5 DENOTES NUMBER OF BARS REQUIRED N DENOTES GRADE OF REINFORCEMENT 24..... DENOTES BAR DIAMETER IN MILLIMETRES 200... DENOTES BAR SPACING IN MILLIMETRES TYPICAL ABBREVIATIONS:- B DENOTES BARS IN BOTTOM LAYER T DENOTES BARS IN TOP LAYER ALT... DENOTES BARS ALTERNATING NF DENOTES BARS IN NEAR FACE FF DENOTES BARS IN FAR FACE EF DENOTES BARS IN EACH FACE C19. FOR SLAB FALLS, CHAMFERS, REGLETS, DRIP GROOVES, ETC., REFER TO THE ARCHITECT'S DRAWINGS C20. LAP LENGTHS FOR DEFORMED BARS AS FOLLOWS:

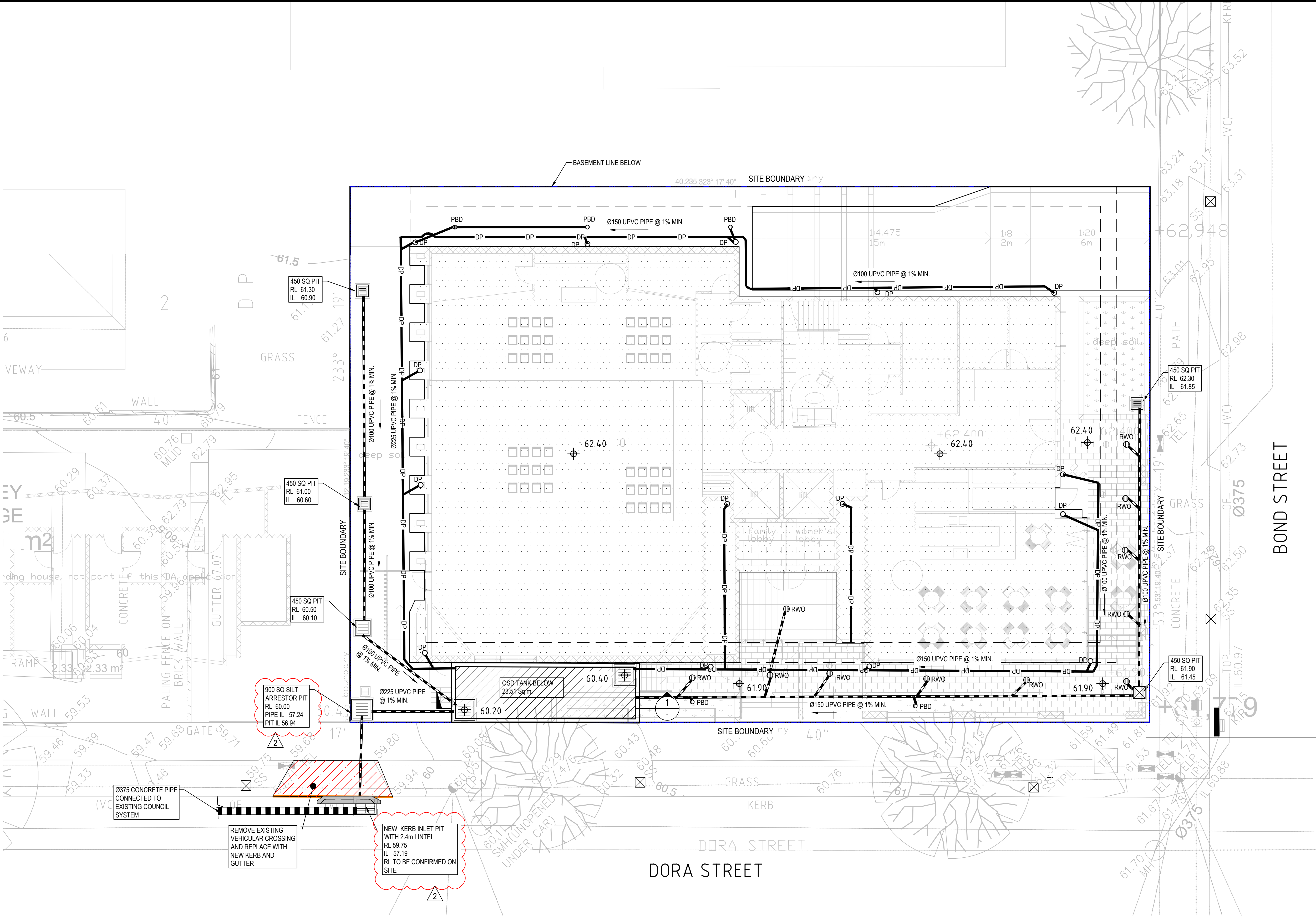
BAR TYPE AND SIZE	VERTICAL BARS	HORIZONTAL BARS WITH MORE THAN 300mm OF CONCRETE BELOW BAR	OTHER LOCATIONS	90° COG LENGTH
N12	500	550	500	200
N16	700	800	700	200
N20	1000	1250	1000	250
N24	1200	1500	1200	300
N28	1400	1750	1400	350

- RW1. VERTICAL RODS FROM BASE ARE TO BE FIXED USING TEMPLATES TO ENSURE ACCURATE SPACING AND POSITIONING.
- RW2. CONCRETE BLOCKS TO BE GRADE 15 IN ACCORDANCE WITH AS/NZS4455.
- RW3. MORTAR 1:1:6 CEMENT-LIME-FINE AGGREGATE, SITE MIXED TO HAVE A COMPRESSIVE STRENGTH AT 12 DAYS OF 11 MPa.
- RW4. ALL HOLES TO BE CLEANED OF MORTAR AT END OF EACH DAY.
- RW5. GROUT: $f_c = 20 \text{ MPa}$
SLUMP: $= 230 \text{ MAXIMUM}$
AGGREGATE: $= 10 \text{mm}$.
- RW6. ALL CORE HOLES TO BE VIBRATED TO ENSURE COMPACTION, USING A DEFORMED RODDING BAR.
- RW7. FILL CORES TO 1500 MAX. HEIGHT IN ANY ONE POUR. STOP POUR 50 BELOW TOP OF BLOCK. FINAL LEVELS FLUSH WITH TOP OF BLOCK.
- RW8. PROVIDE EXPANSION JOINTS AS DETAILED.
- RW9. DO NOT BACKFILL UNTIL RESTRAINING SLAB OVER & BASEMENT SLAB HAVE BEEN CAST & CURED. BACKFILLING TO BE BLUEMETAL AS DETAILED, WITH PROVISION OF CORE DRAIN. REFER TO HYDRAULIC ENGINEER'S DETAILS FOR SUBSOIL DRAINAGE REQUIREMENT.
- RW10. TANKING, SEALING AND DRAINAGE TO ARCHITECTS DETAILS.
- RW11. ALLOW FOR CLEAN-OUT BLOCKS AT BASE, IN ACCORDANCE WITH AS3700.

- SR1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN SOIL EROSION AND SEDIMENT CONTROL MEASURES GENERALLY IN ACCORDANCE WITH GUIDELINES OF THE LANDCOM MANAGING URBAN STORMWATER MANUAL AND AS NECESSARY TO PREVENT RUN-OFF FROM SITE OF SEDIMENT RESULTING FROM THE WORKS. SUCH MEASURES SHALL ALSO COMPLY WITH REQUIREMENTS OF COUNCIL, LANDCOM "BLUE BOOK" AND EPA. THIS WORK SHALL BE DONE PRIOR TO ANY EARTHWORKS COMMENCING ON SITE.
- SR2. GRADE FINISHED SURFACE TO SHED WATER EVENLY WITHOUT CHANNELLING (UNTIL PIPED STORMWATER SYSTEM IS CONSTRUCTED). NOMINAL GRADIENTS FROM HIGH POINT OF 0.2%.
- SR3. MAINTAIN THE EROSION CONTROL DEVICES INDICATED ON THE DRAWINGS TO THE SATISFACTION OF THE SITE SUPERINTENDENT AND THE LOCAL AUTHORITIES.
- SR4. WHEN PROPOSED STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SILT FENCES ARE ERECTED AROUND PITS AND ON ROAD.
- SR5. STREET PROTECTION WITH SHAKER ERTI GRIDS & STREET PIT INLET PROTECTION TO BE MAINTAINED FOR THE DURATION OF THE CONTRACT.

UNLESS NOTIFIED TO THE CONTRARY IN WRITING, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY BREACHES OF THE PROTECTION OF ENVIRONMENT OPERATIONS ACT 1997. PLEASE NOTE FAILURE TO IMPLEMENT OR MAINTAIN APPROPRIATE EROSION/SEDIMENT CONTROL MEASURES IS A BREACH OF THE ACT. SUCH A BREACH IS LIABLE FOR A ON-THE SPOT FINE AND /OR PENALTY.

1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.
Rev.	Date	Description	Des.	Verif.	Appd.



LEGEND

 RWO

 DP

 PBD

 STORMWATER PIT

 SEALED ACCESS PIT

 KERB INLET PIT

 DOWN PIPE

 STORMWATER PIPE

 GRATED DRAIN

 OSD (ON SITE DETENTION TANK)

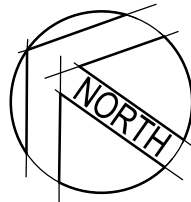
 PROPOSED KERB

NOTE:

- CONNECT ALL FLOOR WASTE TO NEAREST DOWNPIPE
- LEGEND NOT TO SCALE

GROUND FLOOR DRAINAGE PLAN
SCALE 1:100

Rev.	Date	Description	Des.	Verif.	Appd.
2	29.09.2020	REVISED AS CLOUDED	K.P.	K.P.	C.F.
1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.



© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035
Level 9, The Forum, 203 Pacific Highway
St Leonards, NSW 2005
Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

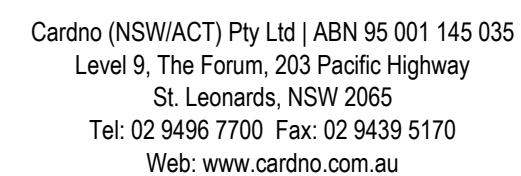
Drawn K.P.	Date SEP. 2020
Checked K.P.	Date SEP. 2020
Designed K.P.	Date SEP. 2020
Verified C.F.	Date SEP. 2020
Approved	

Client	THE SALVATION ARMY
Project	MULTI LEVEL DEVELOPMENT 23 DALCASSIA STREET HURSTVILLE
Title	PROPOSED STORMWATER DRAINAGE PLAN GROUND FLOOR

Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum	AHD	Scale	1:100
Size	A1	Revision	2
Drawing Number	80821102-CI-1001		

[illegible]

© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

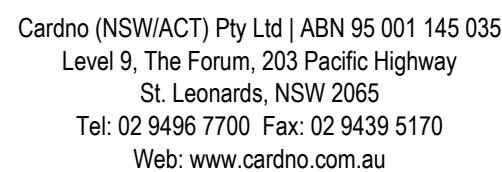


Drawn K.P.	Date SEP. 2020	Client THE SALVATION ARMY			
Checked K.P.	Date SEP. 2020	Project MULTI LEVEL DEVELOPMENT 23 DALCASSIA STREET HURSTVILLE	Status PRELIMINARY		
Designed K.P.	Date SEP. 2020		NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Verified C.F.	Date SEP. 2020		AHD	Scale 1:100	Size A1
Approved		Title PROPOSED STORMWATER DRAINAGE PLAN UPPER BASEMENT	Drawing Number 80821102-CI-1002		Revision 1



1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.
Rev.	Date	Description	Des.	Verif.	Appd.

© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Drawn	Date
K.P.	SEP. 2020
Checked	Date
K.P.	SEP. 2020
Designed	Date
K.P.	SEP. 2020
Verified	Date
C.F.	SEP. 2020
Approved	

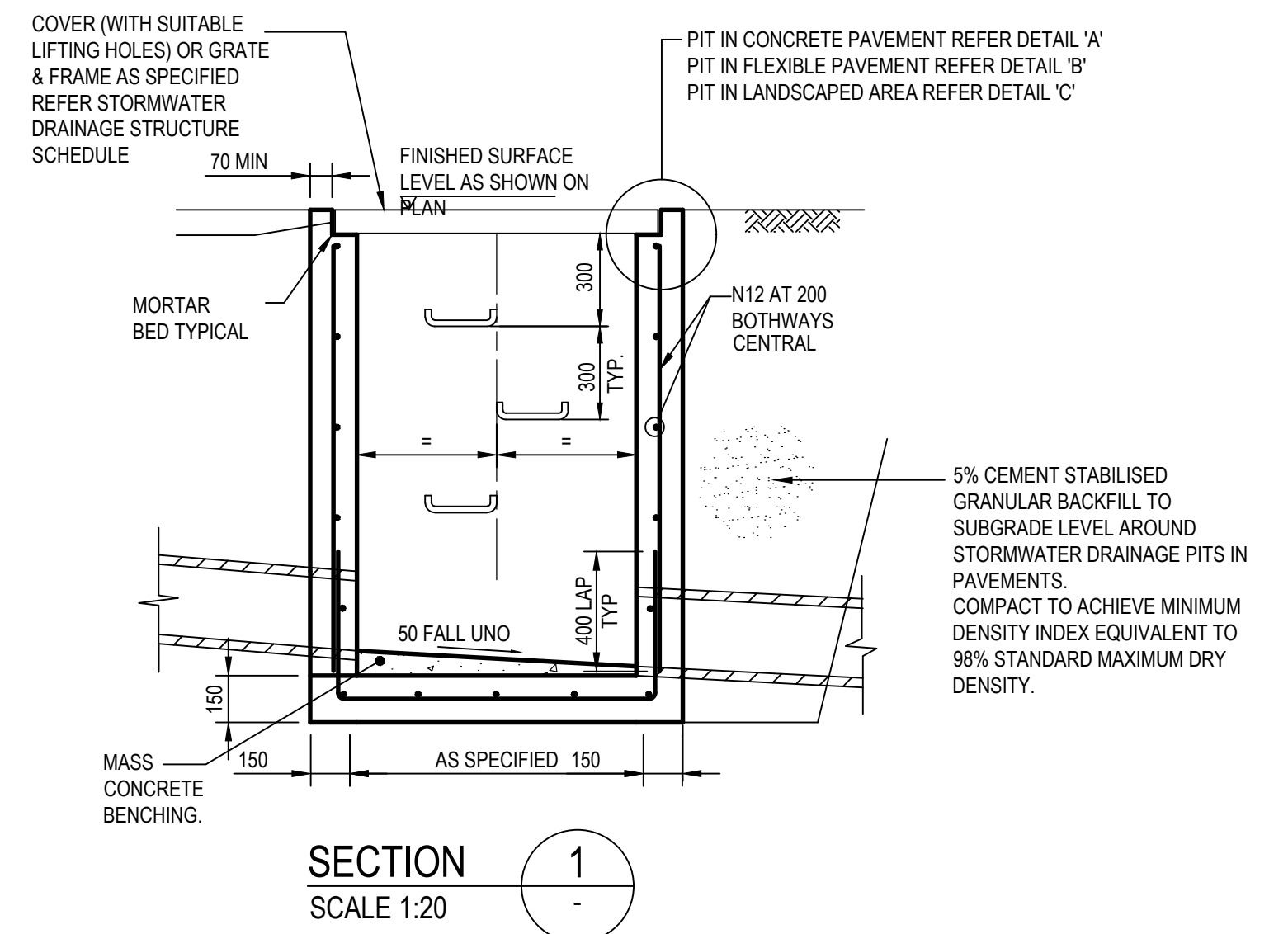
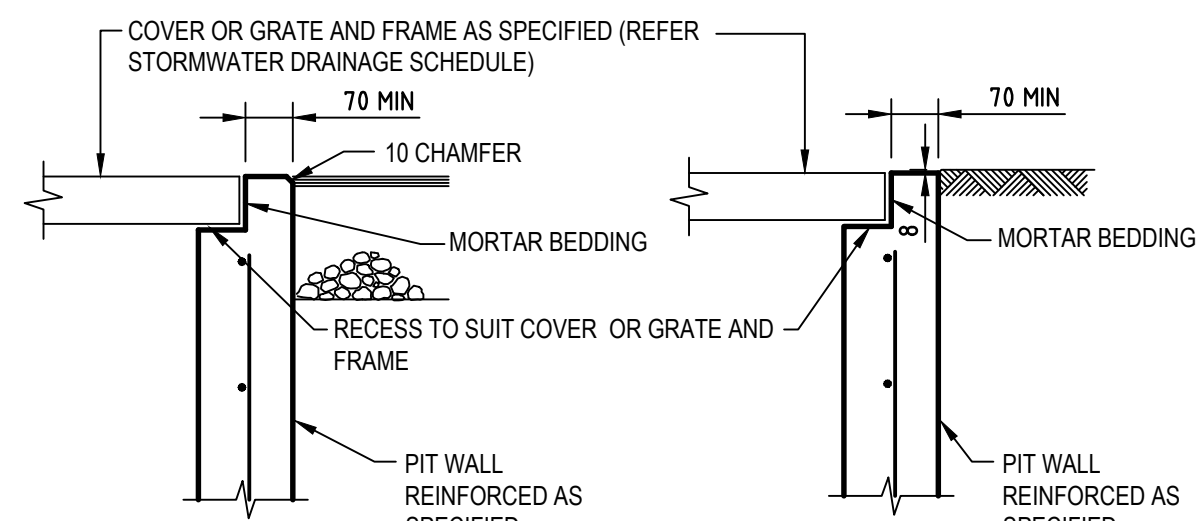
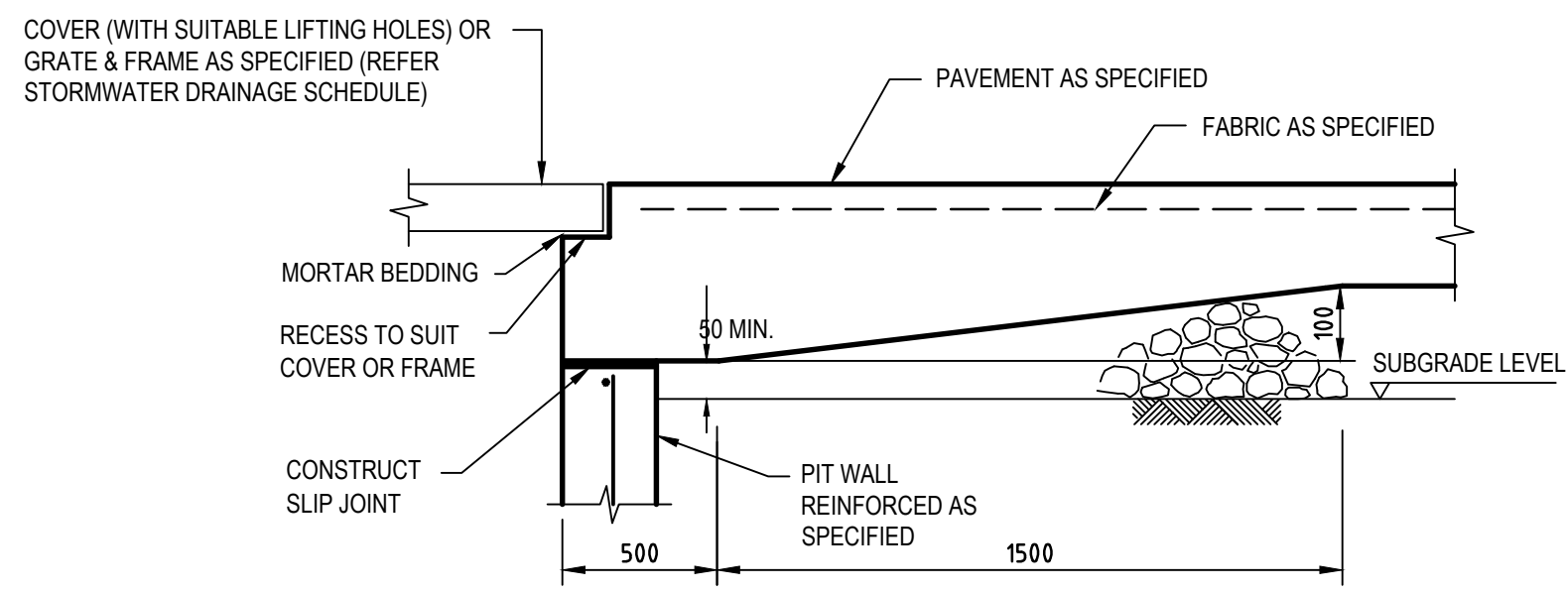
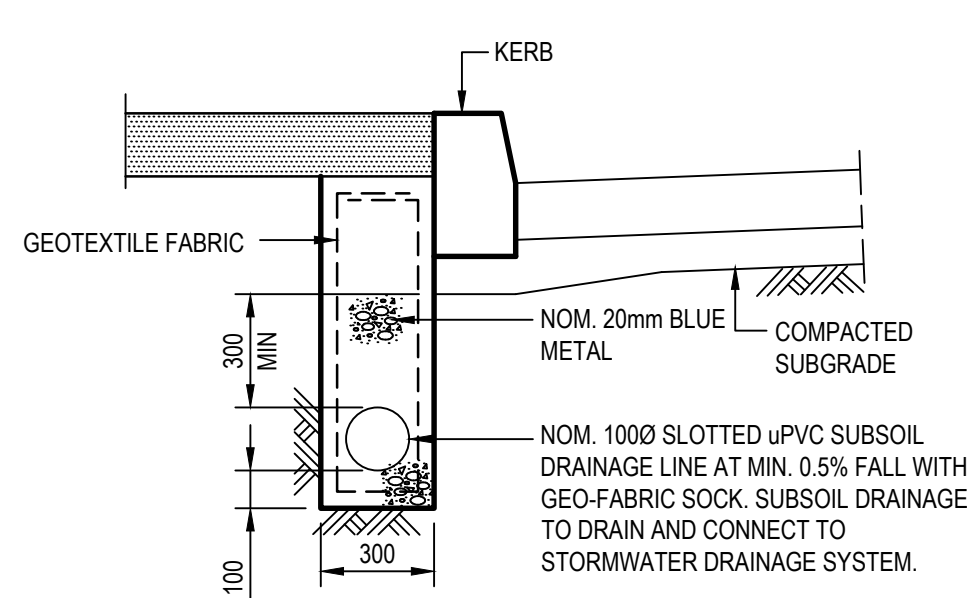
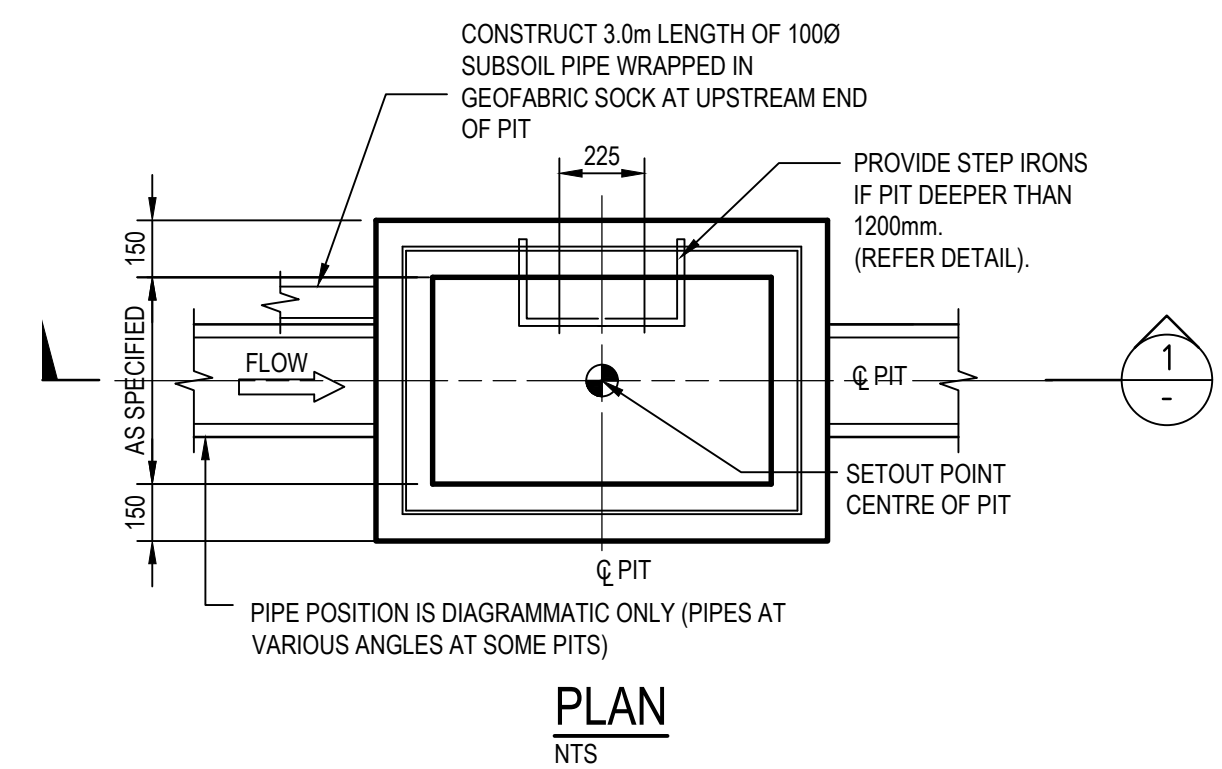
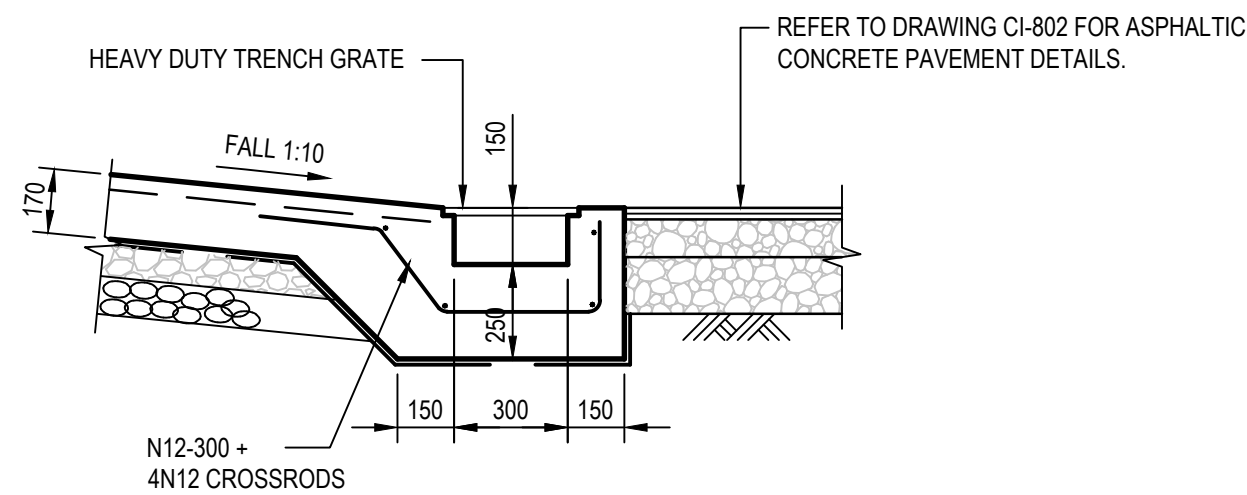
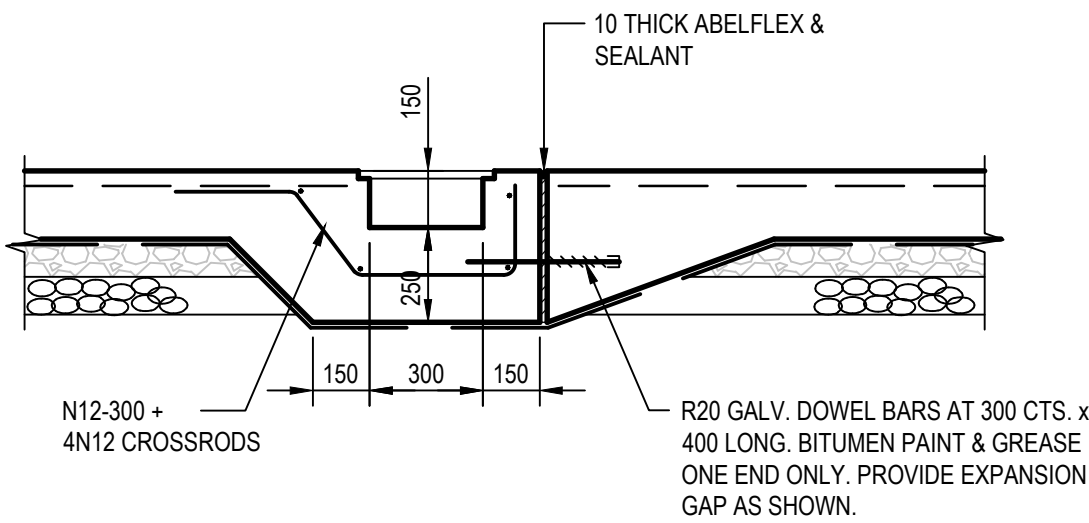
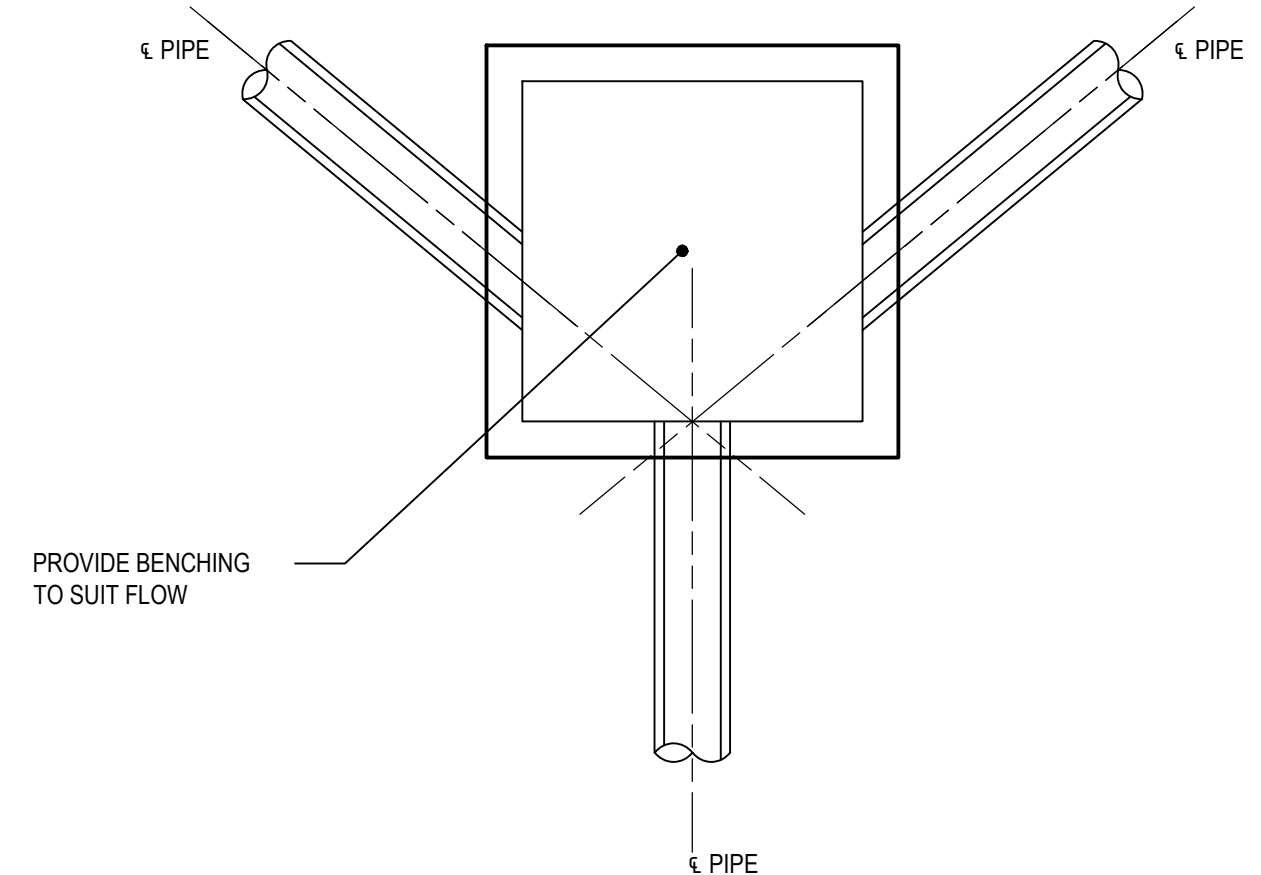
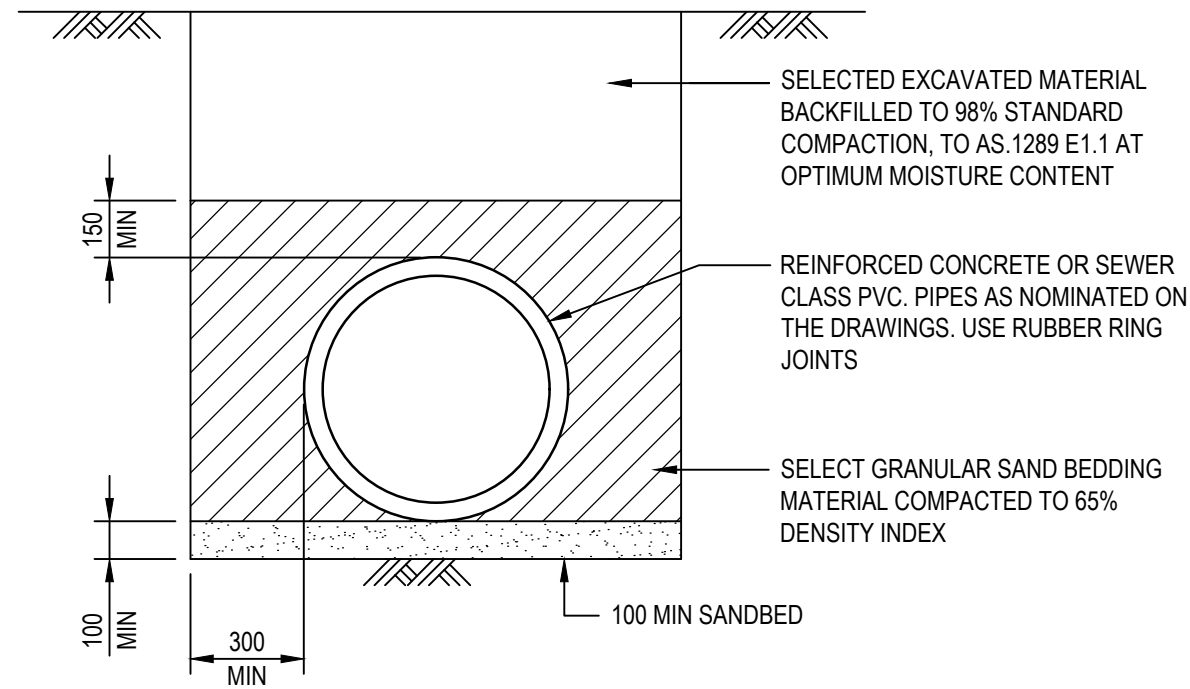
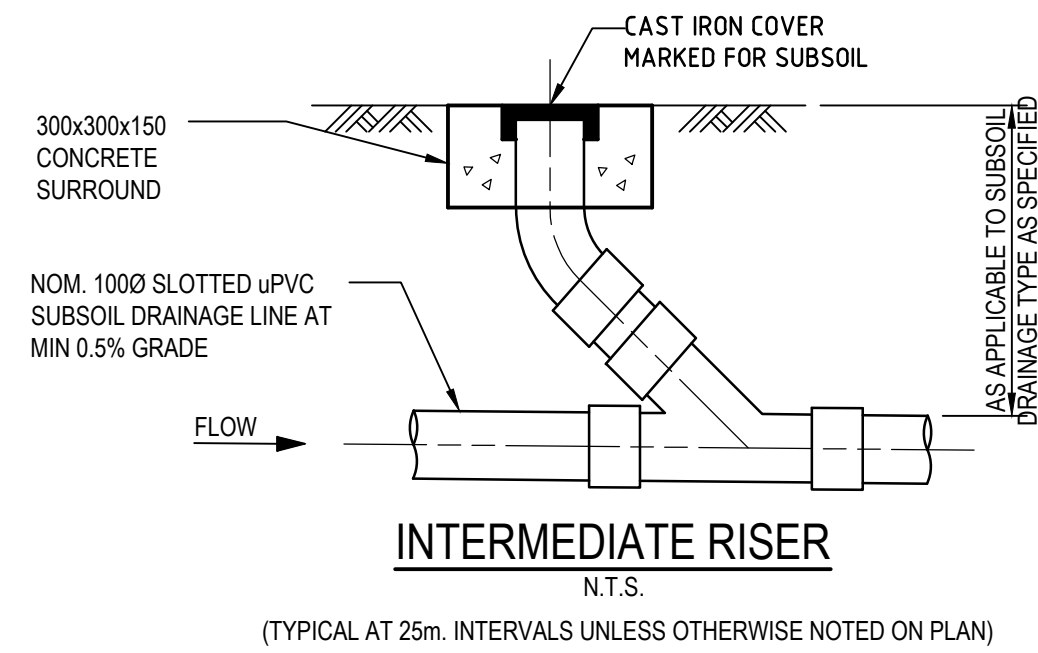
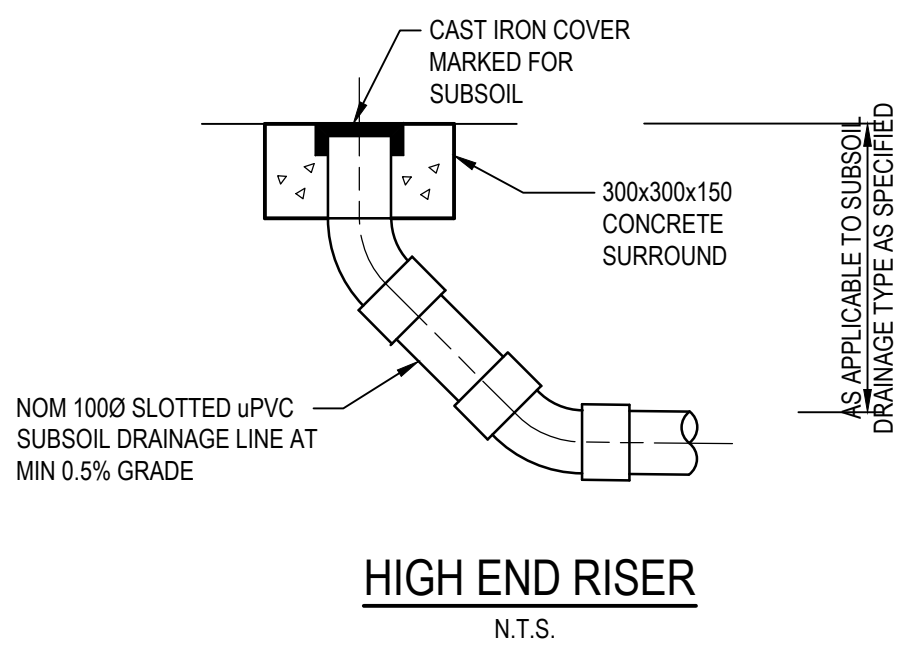
Project MULTI LEVEL DEVELOPMENT
23 DALCASSIA STREET
HURSTVILLE

Title	PROPOSED STORMWATER DRAINAGE PLAN BASEMENT 4
-------	--

Status **PRELIMINARY**
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum AHD	Scale 1:100	Size A1
Drawing Number 80821102-CI-1003		Revision 1

DATE PLOTTED: 29 September 2020 6:08 PM BY: KUMPLE PATEL



SUBSOIL DRAINAGE LINE IN LANDSCAPED AREAS ADJACENT TO ROADS

PIT EDGE TREATMENT FOR STORMWATER DRAINAGE AND OTHER SERVICES PITS IN ROAD PAVEMENTS AND LANDSCAPED AREAS

SURFACE INLET/JUNCTION PIT (SIP/JP)

XREFs: CAD File: N:\Projects\08\1102_Salvos Hustville\1102_CivilDrawings\Build\0821102-CI-2001.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.

© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

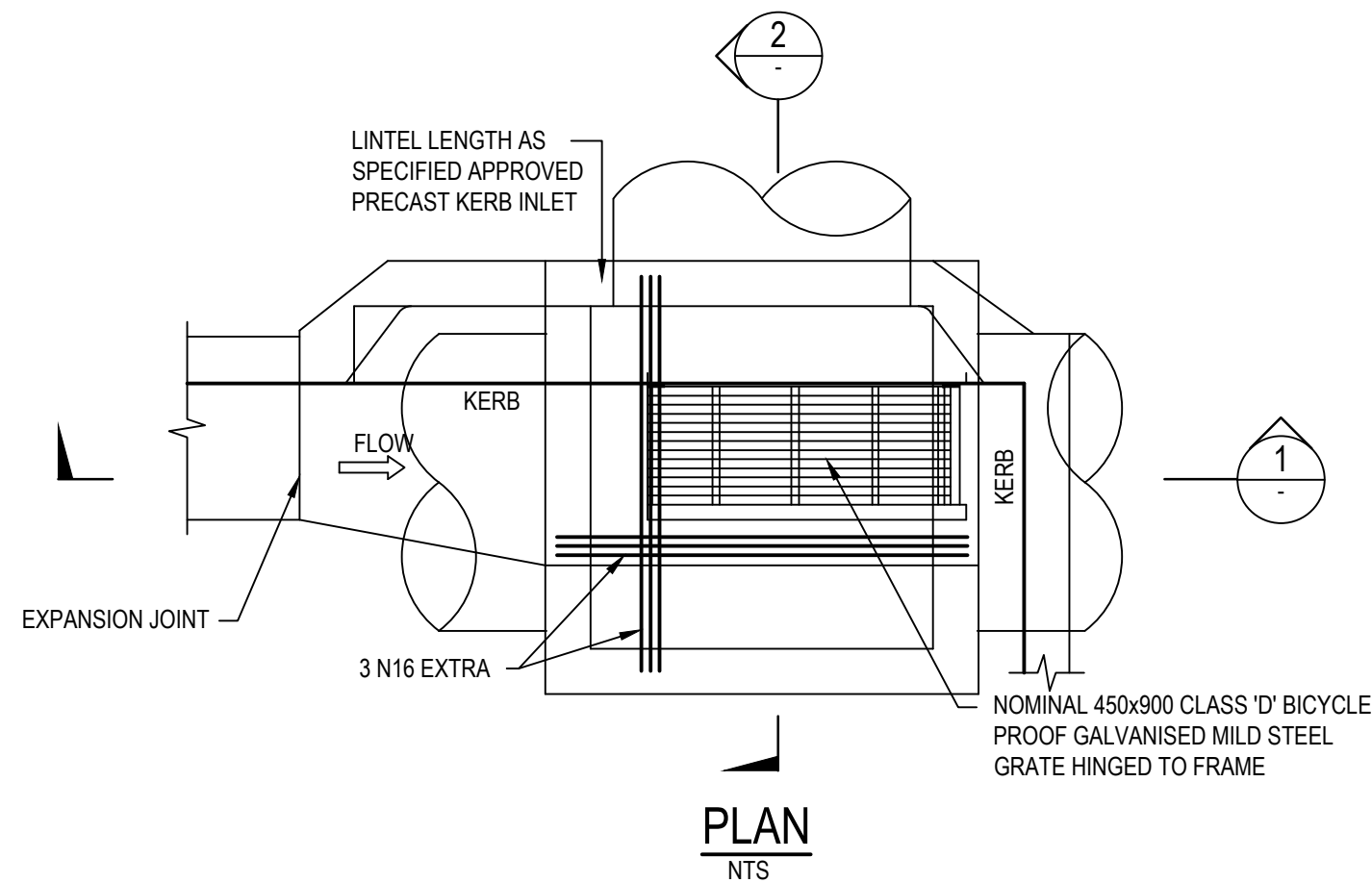
Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Tel: Fax:
Web: www.cardno.com.au

Drawn K.P. Date SEP. 2020
Checked K.P. Date SEP. 2020
Designed K.P. Date SEP. 2020
Verified C.F. Date SEP. 2020
Approved

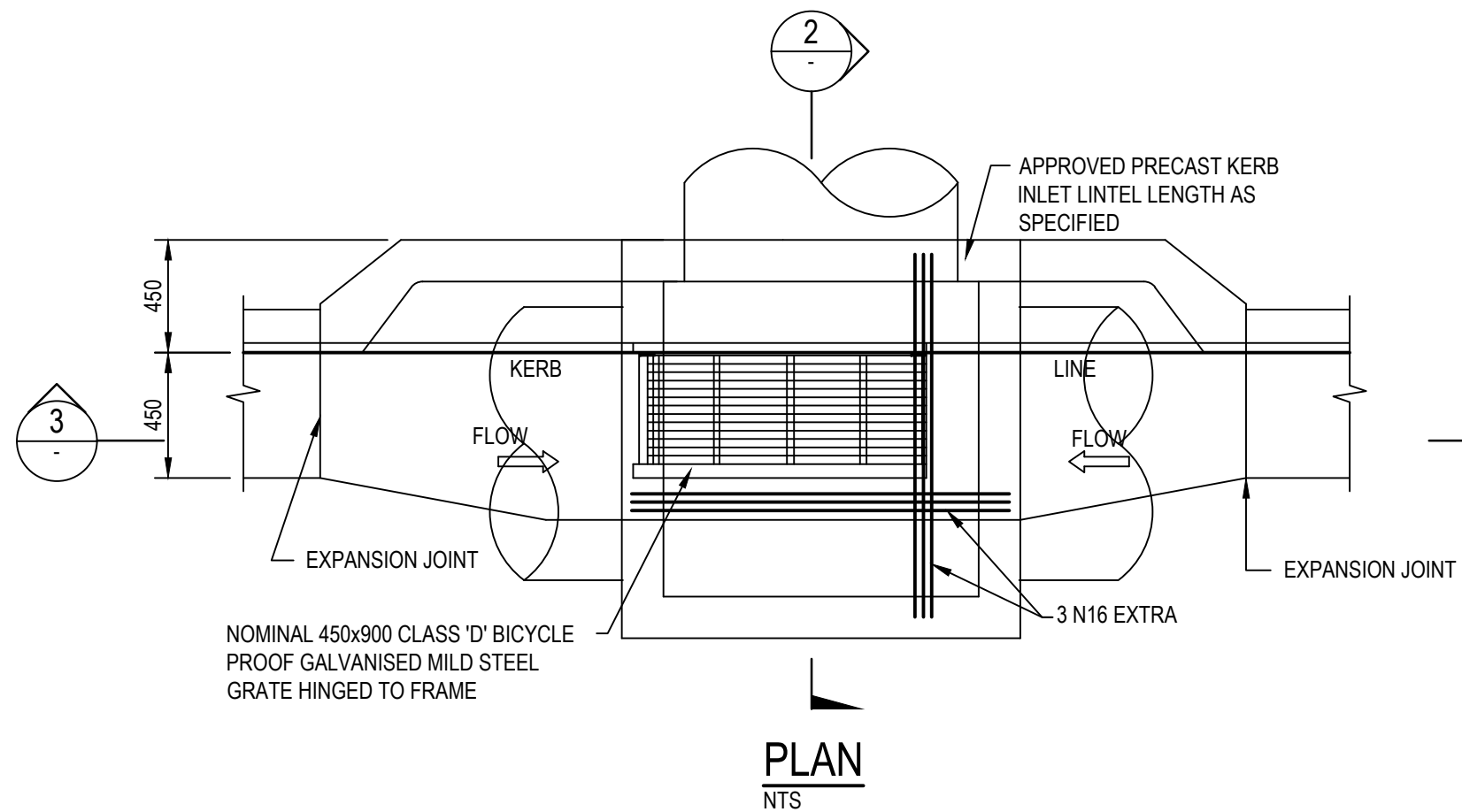
Client THE SALVATION ARMY
Project MULTI LEVEL DEVELOPMENT
23 DALCASSIA STREET
HURSTVILLE
Title STORMWATER DETAILS
SHEET 1

Status PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Datum AHD Scale 1:20 Size A1
Drawing Number 80821102-CI-2001 Revision 1

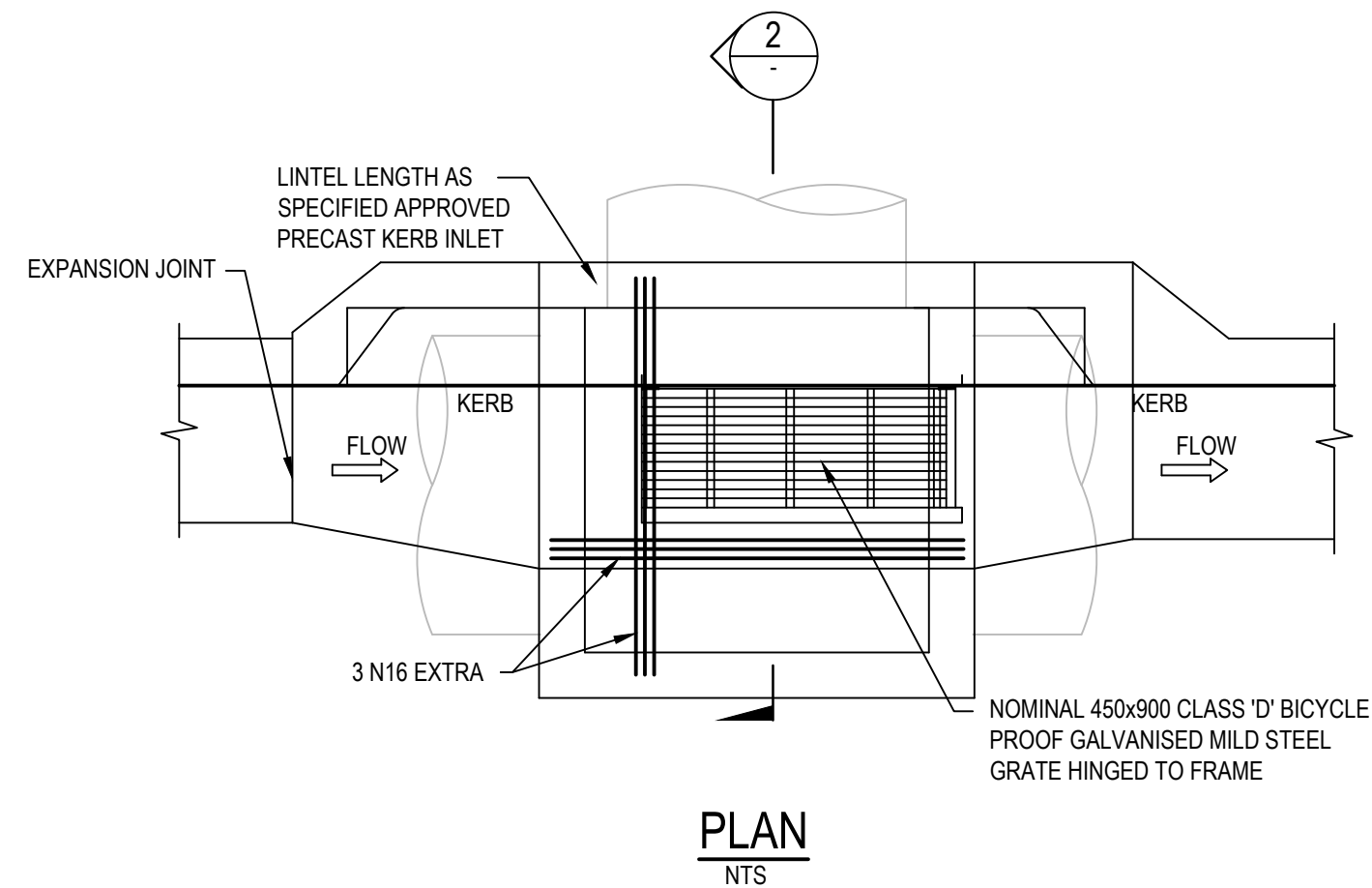
DATE PLOTTED: 29 September 2020 6:08 PM BY: KUMPLE PATEL



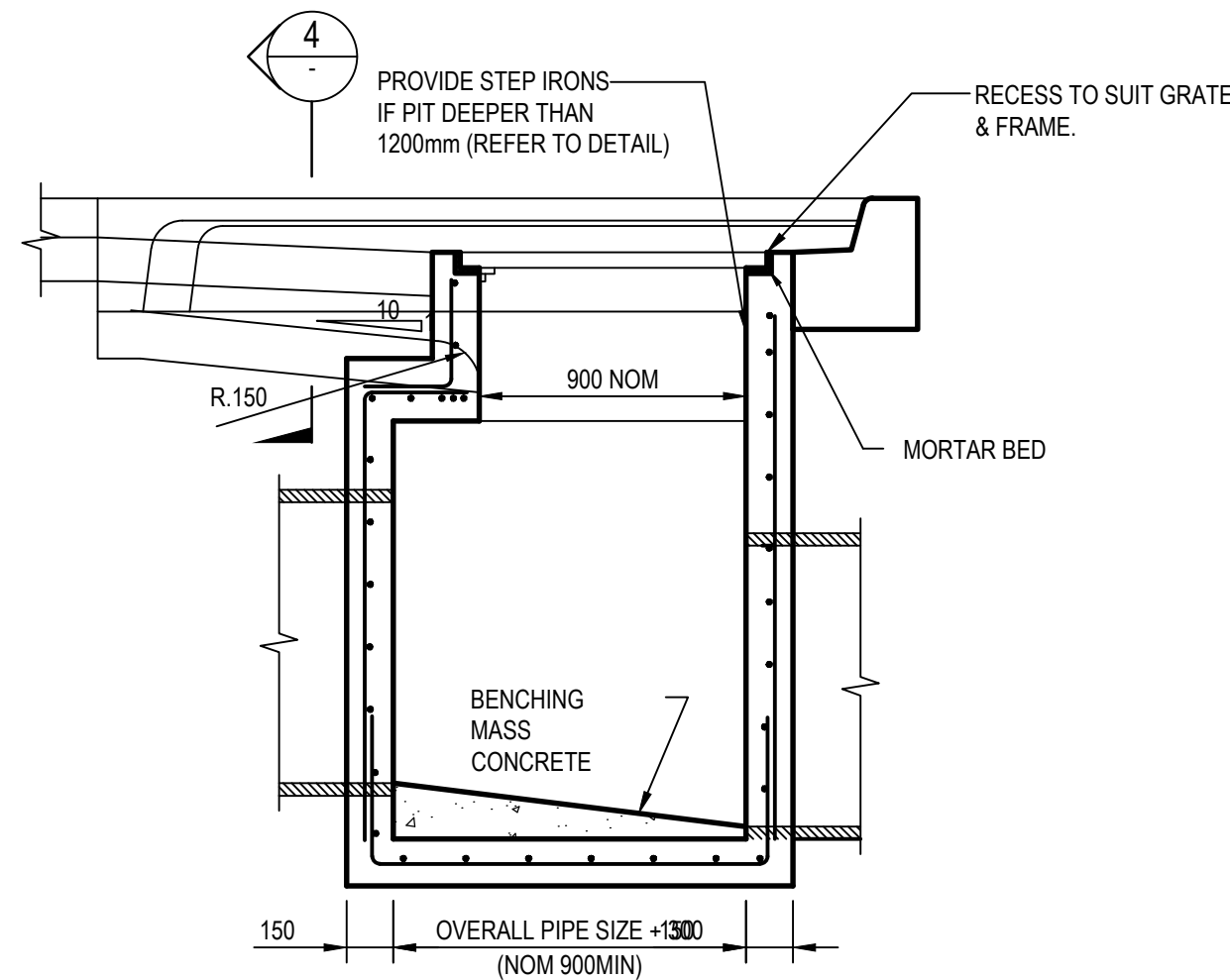
KERB INLET PIT (KIP-A)
(CORNER)



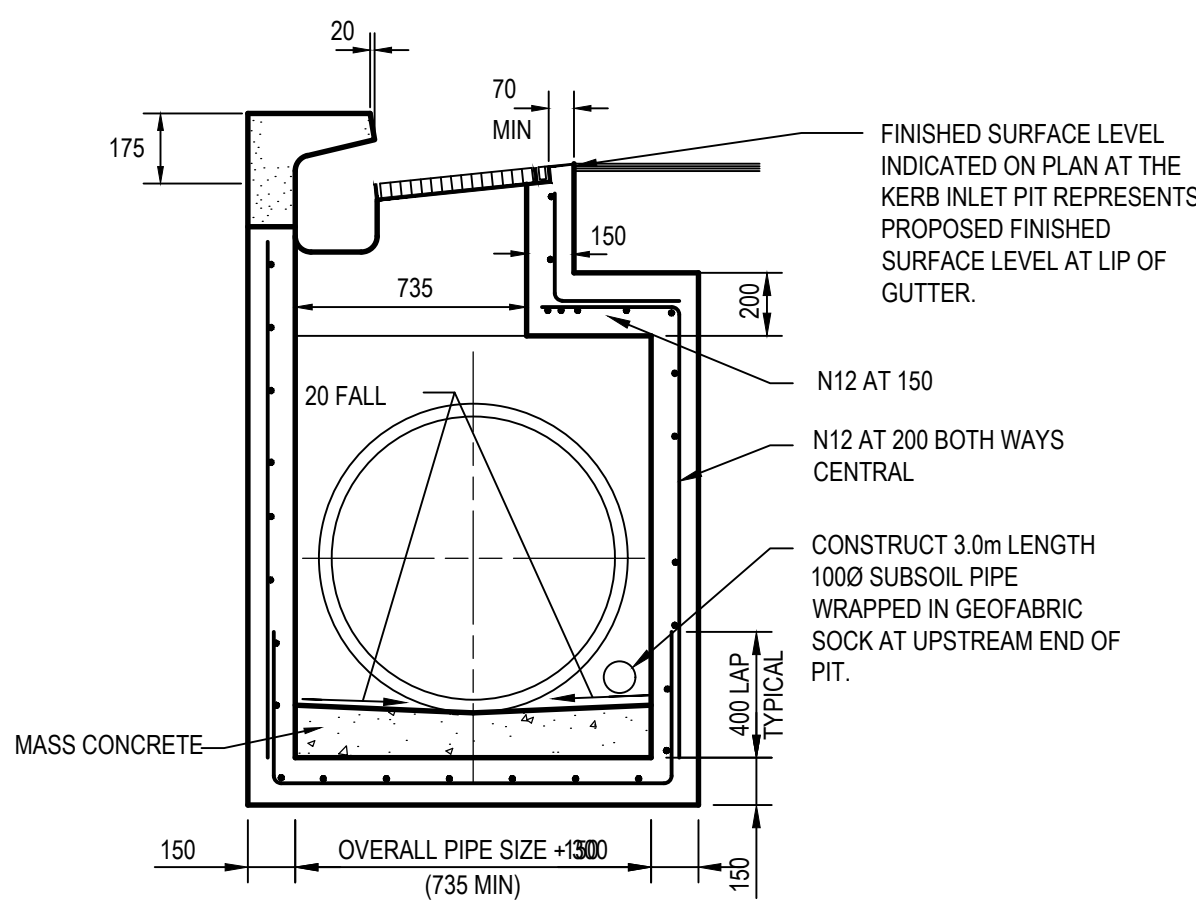
KERB INLET PIT (KIP-B)
(SAG)



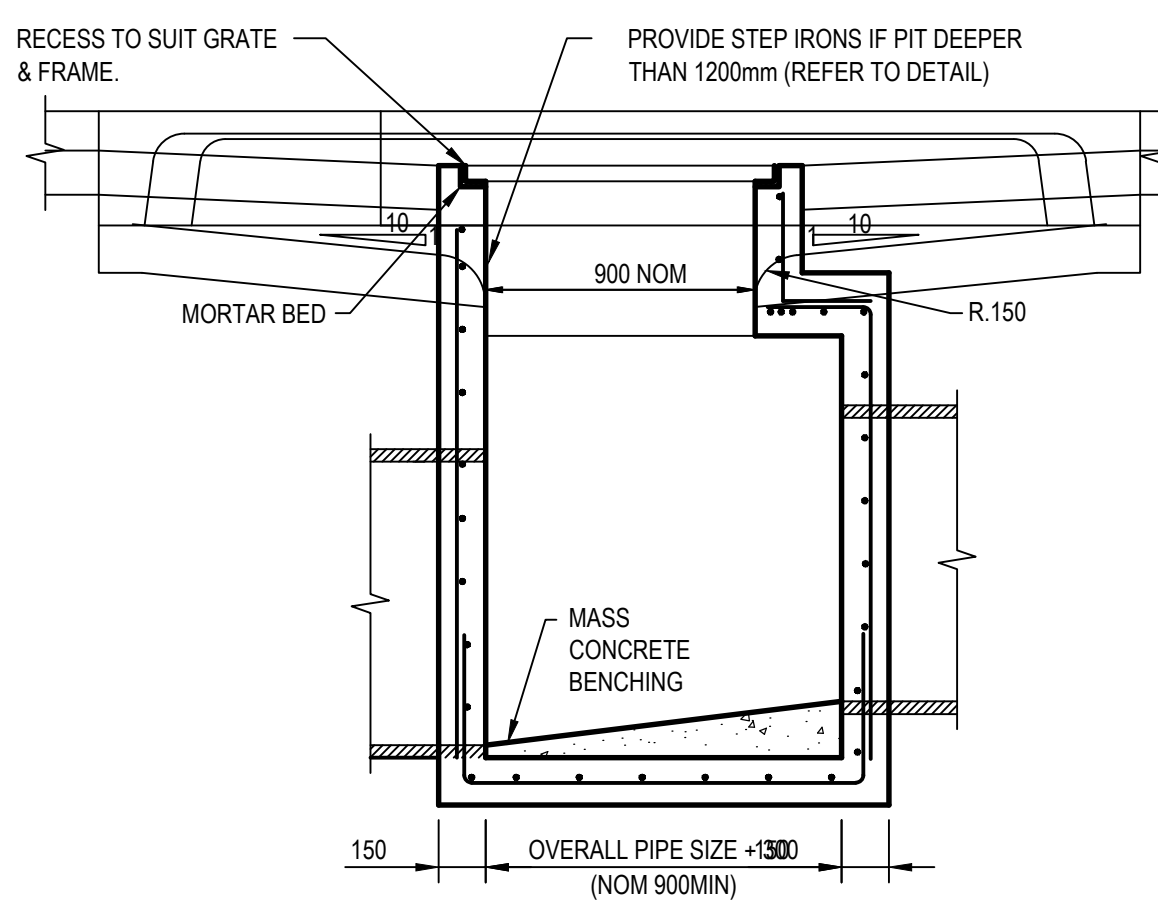
KERB INLET PIT (KIP-C)
(ON GRADE)



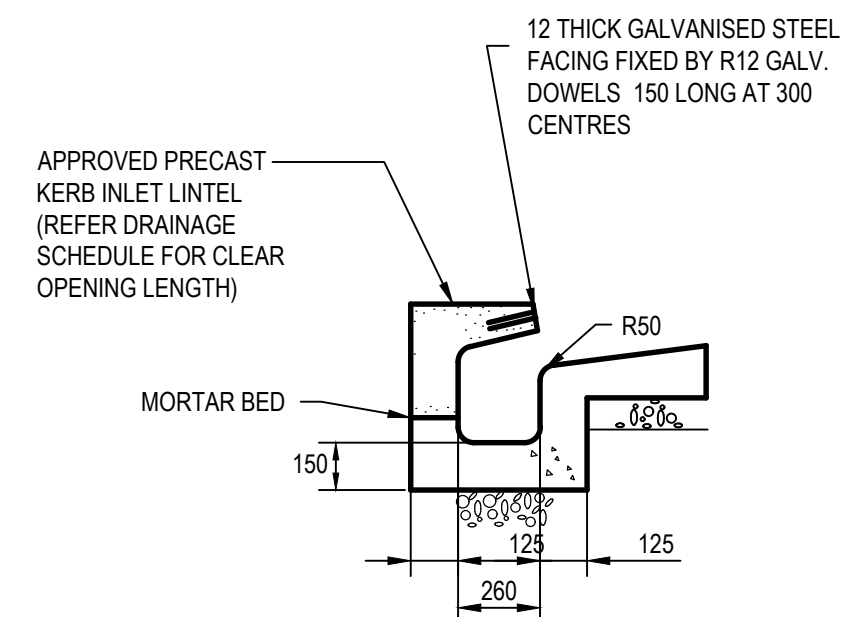
SECTION 1
SCALE 1:20



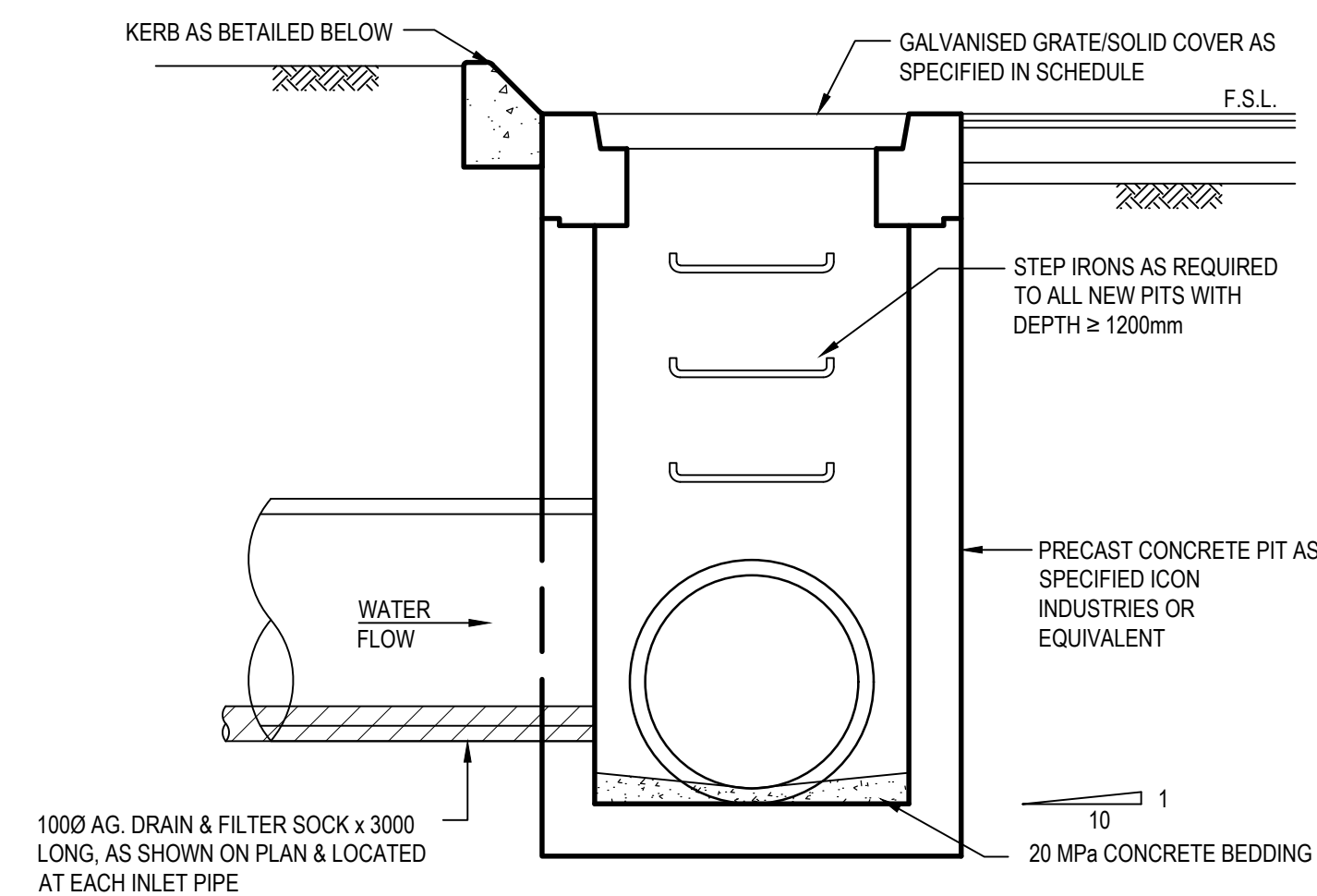
SECTION 2
SCALE 1:20



SECTION 3
SCALE 1:20



SECTION 4
SCALE 1:20



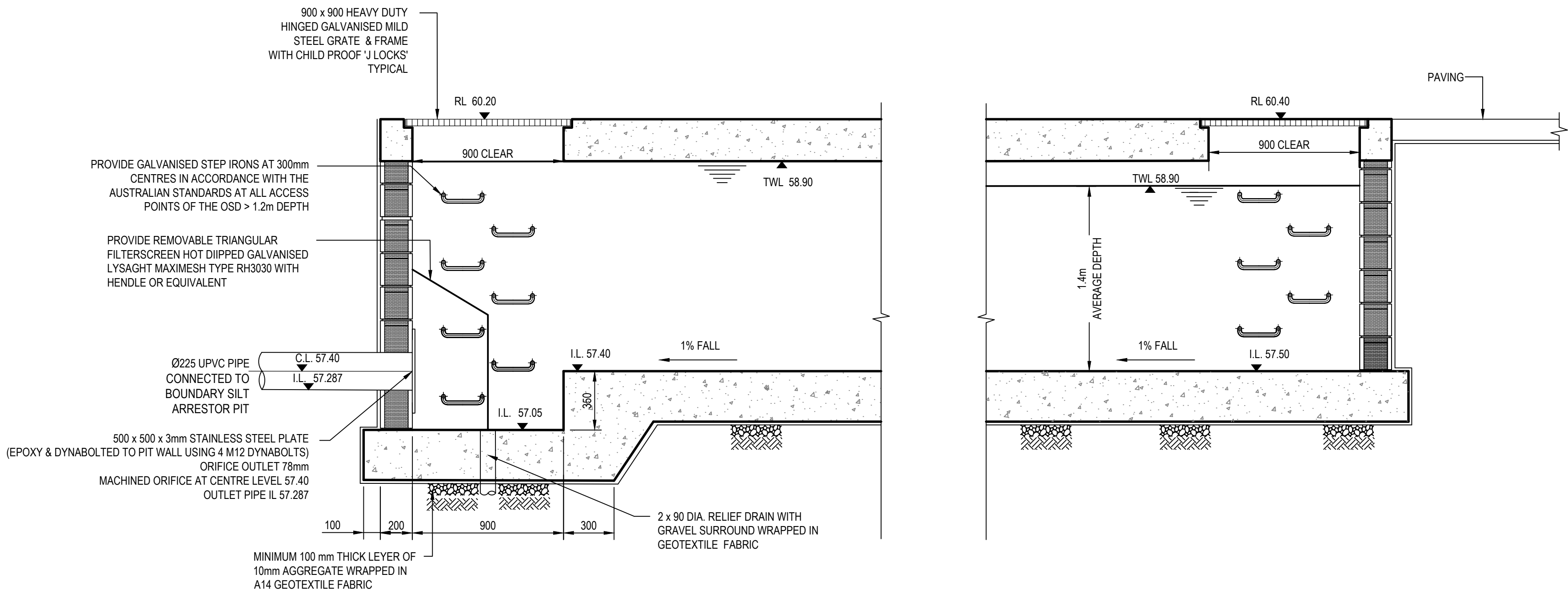
PRECAST STORMWATER PIT
TO BE INSTALLED AND BEDDED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. PROVIDE GALVANISED IRON STEP IRONS EPOXIED INTO CONCRETE FOR PITS DEEPER THAN 1200mm.

XREFs: CAD File: N:\Projects\80821102_CivilDrawings\Build\80821102-CI-2002.dwg

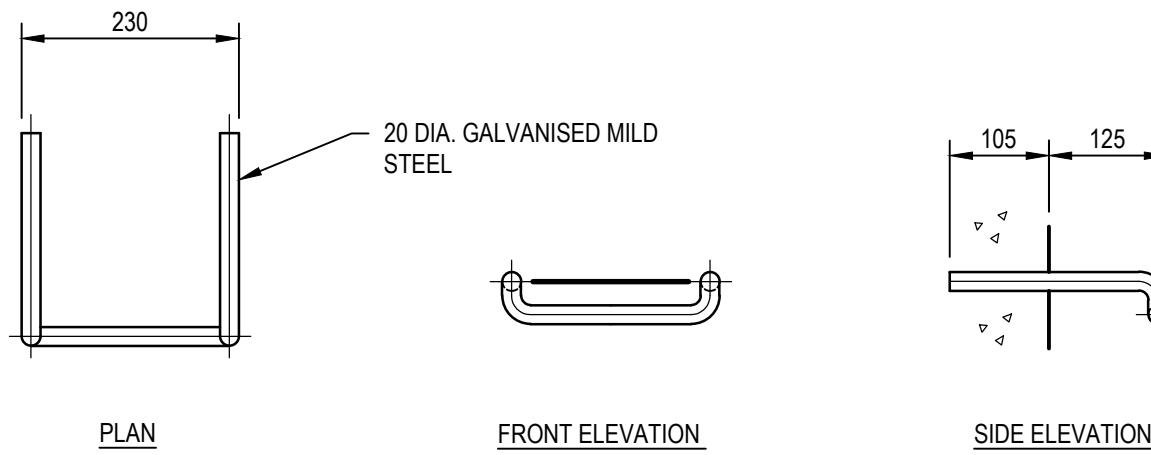
Rev.	Date	Description	Des.	Verif.	Appd.
1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.

Drawn K.P.	Date SEP. 2020	Client THE SALVATION ARMY
Checked K.P.	Date SEP. 2020	Project MULTI LEVEL DEVELOPMENT
Designed K.P.	Date SEP. 2020	23 DALCASSIA STREET HURSTVILLE
Verified C.F.	Date SEP. 2020	Title STORMWATER DETAILS SHEET 2
Approved		
Status PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum AHD	Scale 1:20	Size A1
Drawing Number 80821102-CI-2002		Revision 1

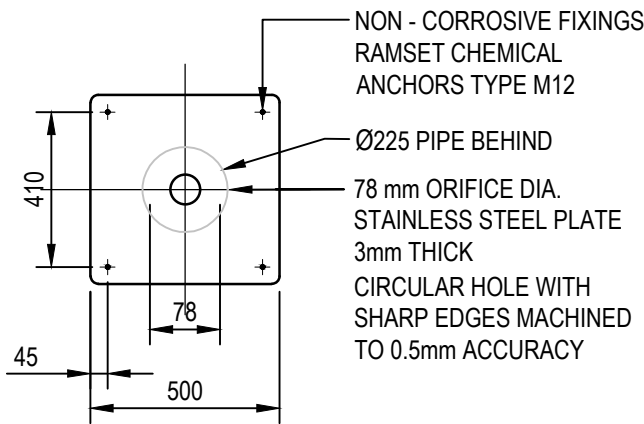
DATE PLOTTED: 29 September 2020 6:09 PM BY: KUMPLE PATEL



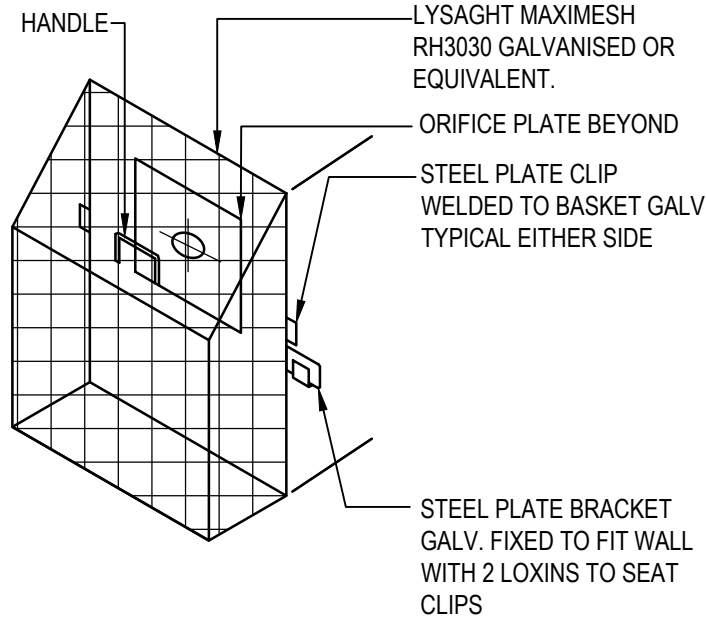
SECTION 1
SCALE 1:20



STEP IRON DETAIL
N.T.S.



ORIFICE PLATE DETAIL
SCALE 1:20



TRASH SCREEN DETAIL
N.T.S.

ON SITE DETENTION VOLUME CALCULATION:

SITE AREA = 1084.74 Sq m.
TOTAL SITE IMPERVIOUS AREA > 85 %
AS PER THE GEORGES RIVER COUNCIL STORM WATER POLICY,
SSR =295 m3/ha
PSD = 136 L/S/ha

OSD VOLUME REQUIRED = 31.99 = 32 m3
OSD VOLUME PROVIDED = 23.5m2 X 1.4 m DEEP = 32.9m3

PSD PROVIDED = 14.75 L/S

XREFs: CAD File: N:\Projects\80821102_Salvos Hurstville\012_Civil\Drawings\Build\80821102-CI-2003.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.

© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.

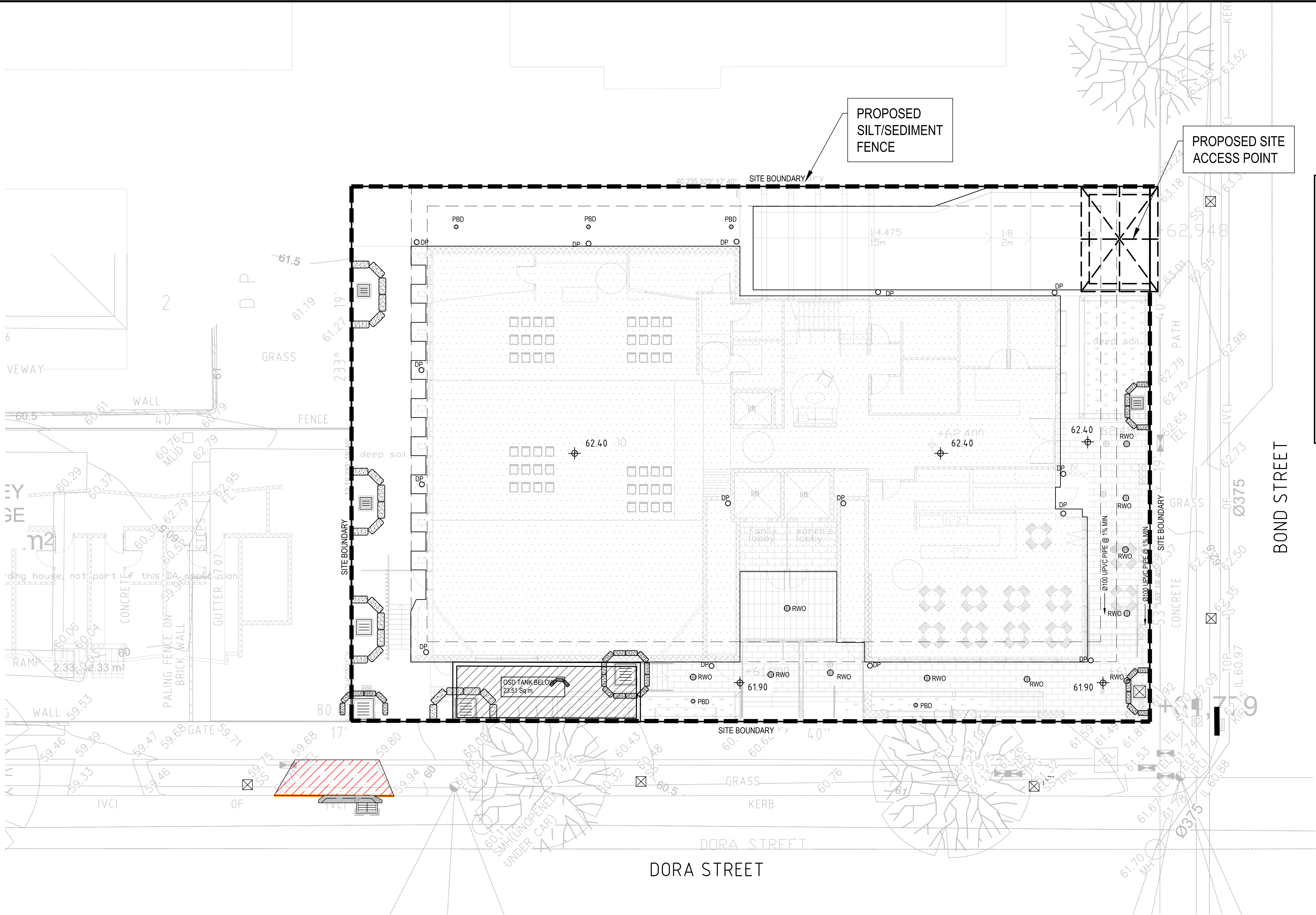
Cardno
Cardno (Qld) Pty Ltd | ABN 57 051 074 992
Tel: Fax:
Web: www.cardno.com.au

Drawn	Date
Checked	Date
Designed	Date
Verified	Date
Approved	Date

Client	THE SALVATION ARMY
Project	MULTI LEVEL DEVELOPMENT 23 DALCASSIA STREET HURSTVILLE
Title	ON SITE DETENTION DETAILS

Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale	AS SHOWN
Size	A1
Drawing Number	80821102-CI-2003
Revision	1

DATE PLOTTED: 29 September 2020 6:10 PM BY: KUMPLE PATEL



LEGEND

SITE FENCE

SEDIMENT FENCE

PROPOSED STORMWATER LINE

PROPOSED STORMWATER PIT

SILT TRAP/SAND BAGS

TEMPORARY SURFACE INLET
SEDIMENT TRAP OR GROSS
POLLUTANT TRAP

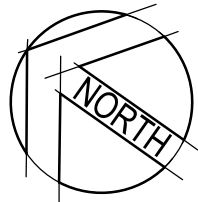
TEMPORARY CONSTRUCTION
VEHICLE EXIT

EXISTING CONTOURS

SEDIMENTATION AND EROSION PLAN
SCALE 1:100

XREFs: X:survey\X_ground floor plan 25-09-2020: x_ground floor plan
CAD File: N:\Projects\80821102_Salvos Hurstville\012_Civil\Drawings\Build\80821102-CI-2201.dwg

Rev.	Date	Description	K.P.	K.P.	C.F.
1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.
Des.	Verif.	Appd.			



© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



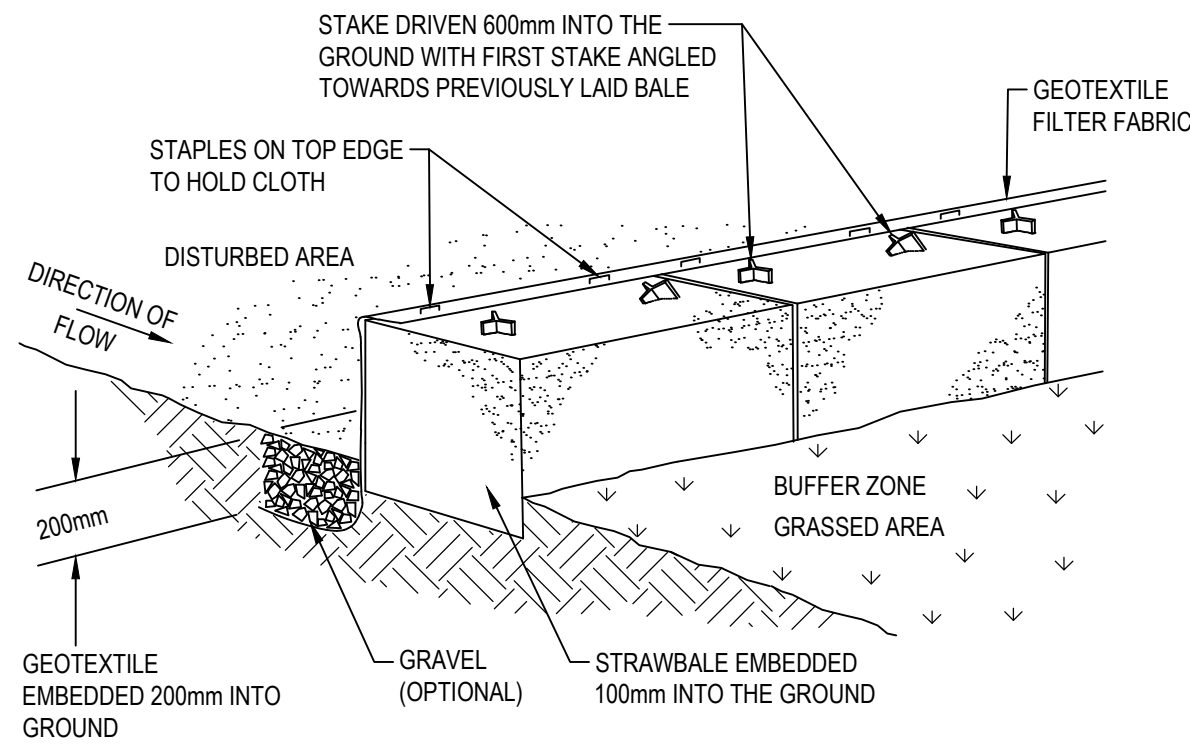
Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035
Level 9, The Forum, 203 Pacific Highway
St Leonards, NSW 2055
Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

Drawn K.P.	Date SEP. 2020
Checked K.P.	Date SEP. 2020
Designed K.P.	Date SEP. 2020
Verified C.F.	Date SEP. 2020
Approved	

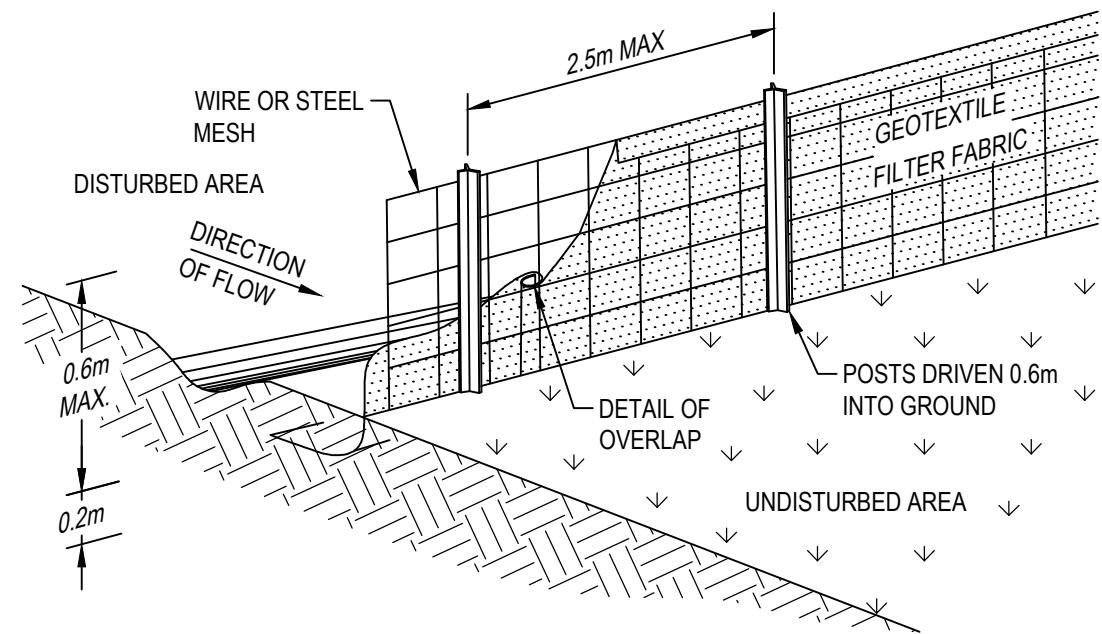
Client	THE SALVATION ARMY
Project	MULTI LEVEL DEVELOPMENT 23 DALCASSIA STREET HURSTVILLE
Title	SEDIMENTATION AND EROSION CONTROL PLAN

Status	PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Datum	AHD	Scale	1:100
Size	A1	Revision	1
Drawing Number	80821102-CI-2201		

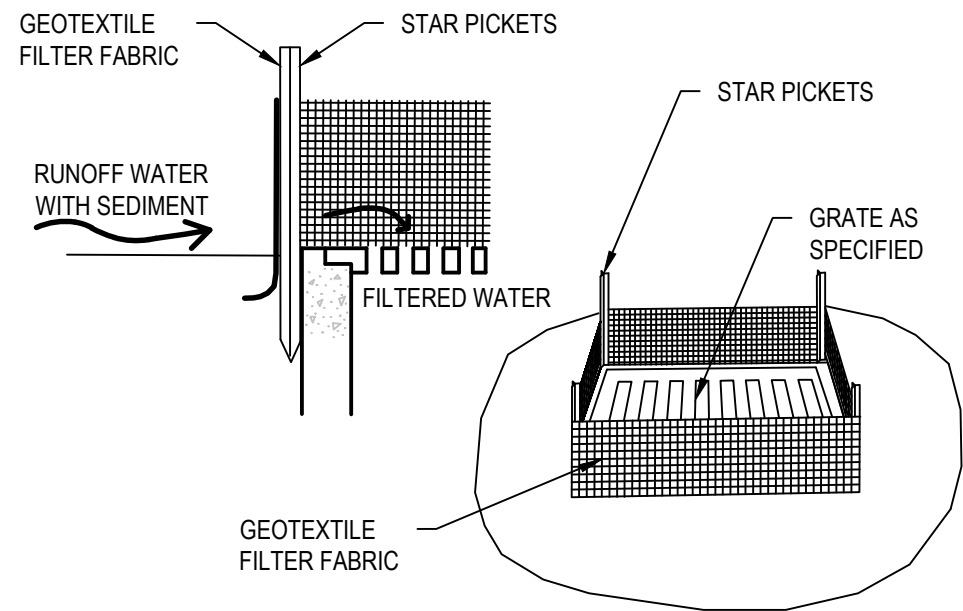
DATE PLOTTED: 29 September 2020 5:52 PM BY: KUMPLE PATEL



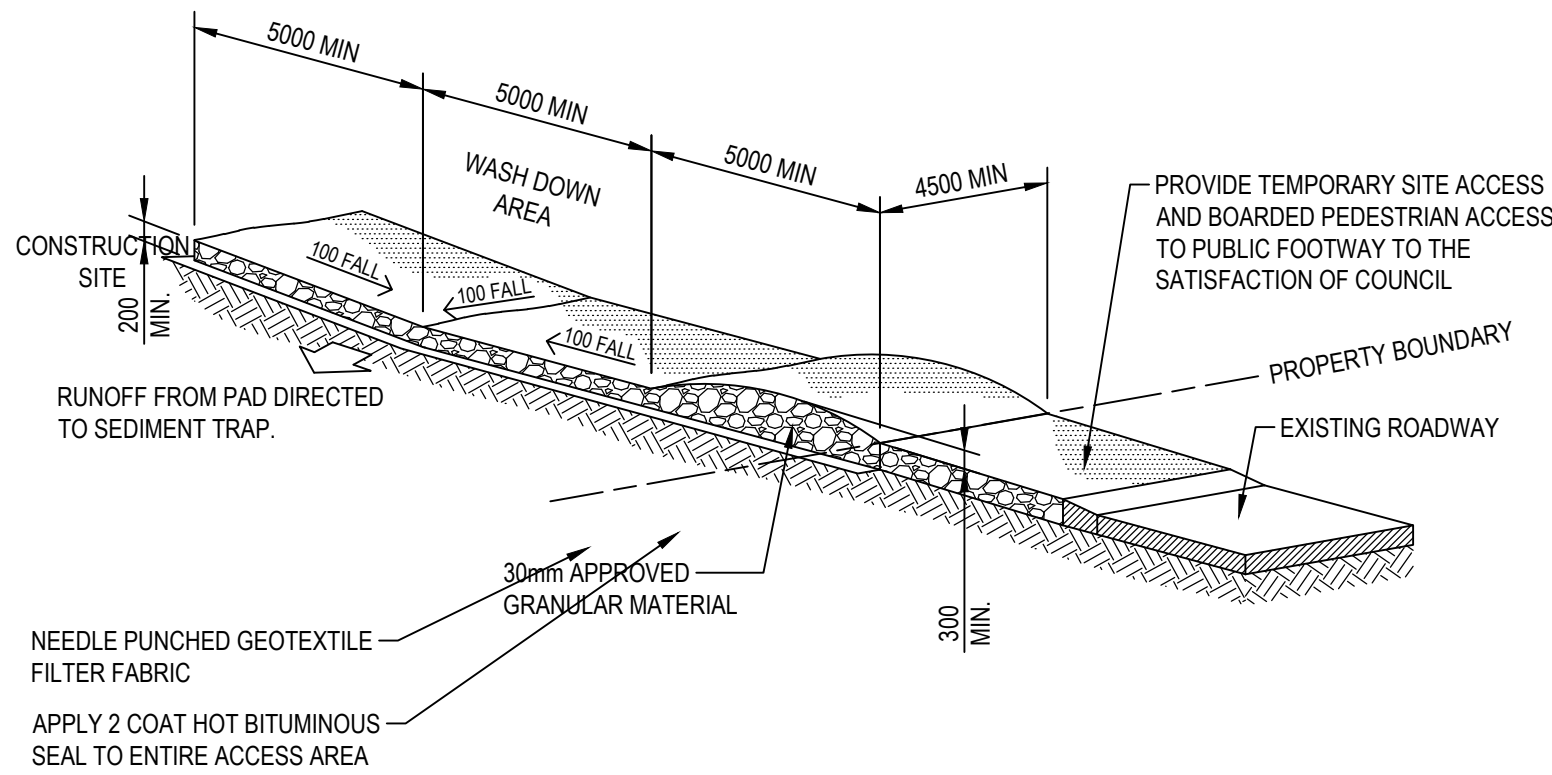
STRAWBALE AND GEOTEXTILE SEDIMENT FILTER
NTS



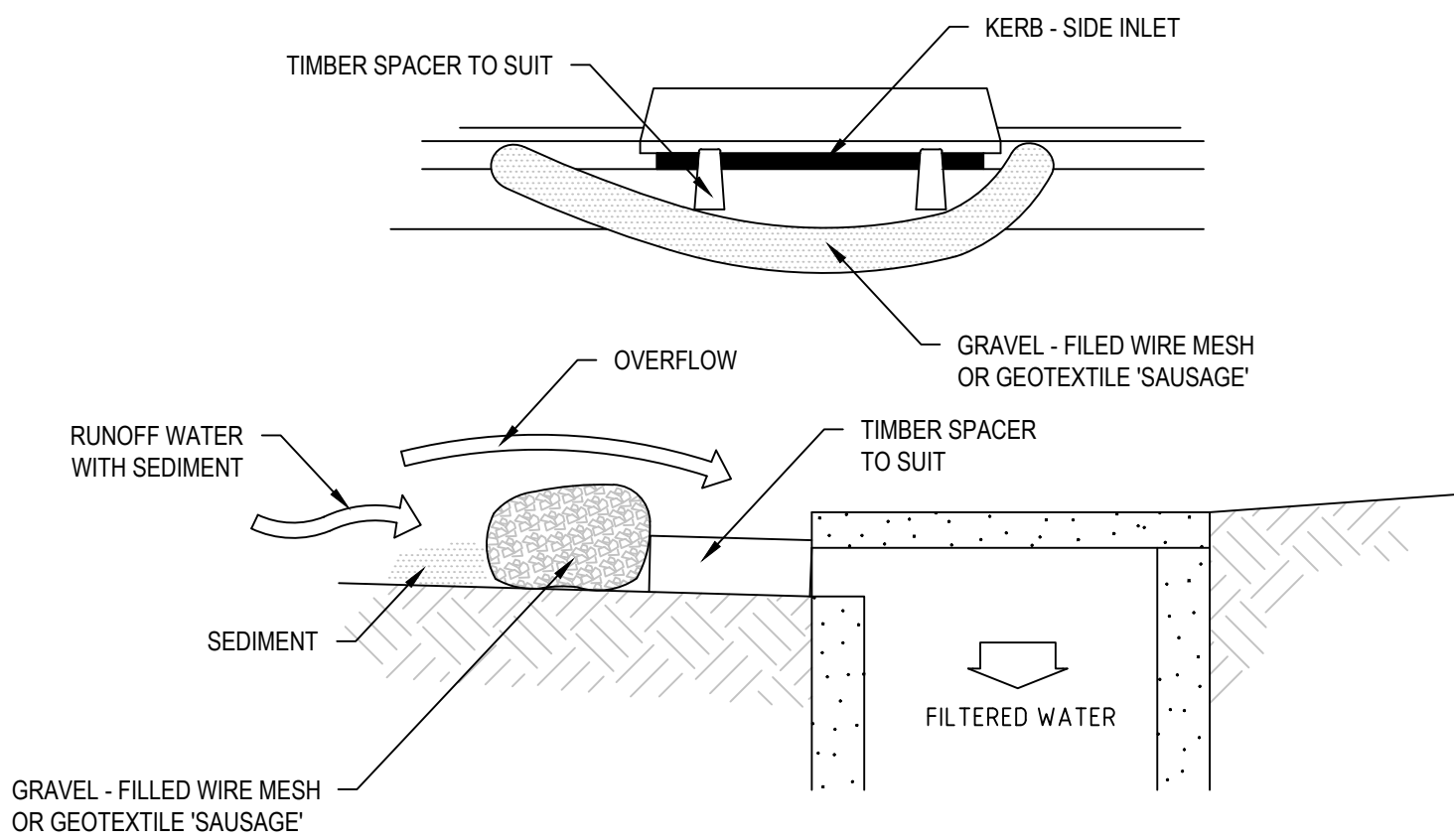
SEDIMENT FENCE
NTS



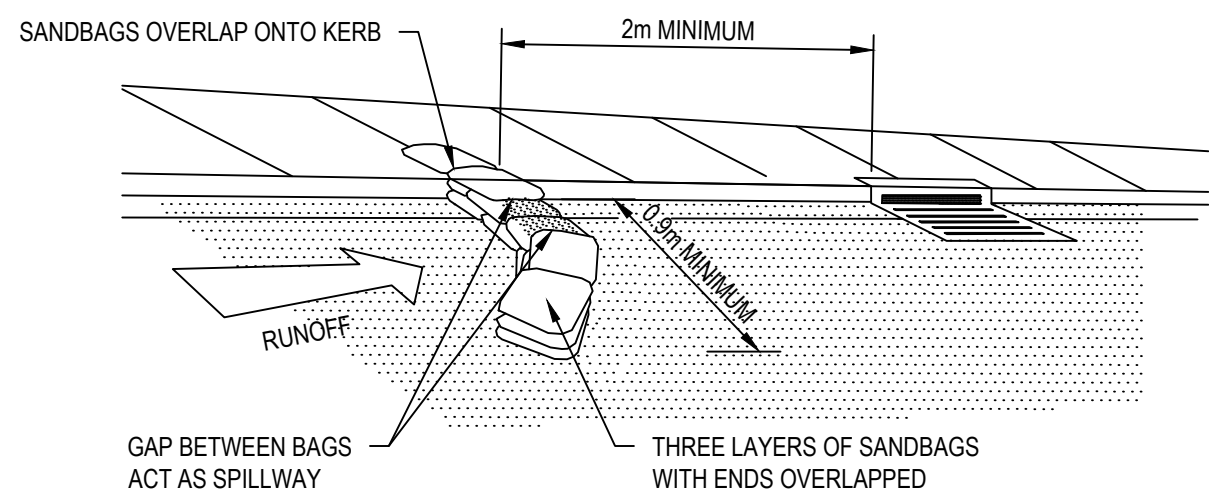
GEOTEXTILE FILTER PIT SURROUND
NTS



STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA
NTS



MESH AND GRAVEL INLET FILTER
NTS



**SANDBAG SEDIMENT TRAP
FOR KERB INLET ON GRADE**
NTS

XREFs:
CAD File: N:\Projects\80821102_Salvos Hurstville\012_Civil\Drawings\Build\80821102-CI-2202.dwg

Rev.	Date	Description	Des.	Verif.	Appd.
1	29.09.2020	PRELIMINARY ISSUE	K.P.	K.P.	C.F.

© Cardno Limited All Rights Reserved.
This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the content of this document.



Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035
Level 9, The Forum, 203 Pacific Highway
St Leonards, NSW 2055
Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

Drawn	K.P.	Date	SEP. 2020
Checked	K.P.	Date	SEP. 2020
Designed	K.P.	Date	SEP. 2020
Verified	C.F.	Date	SEP. 2020
Approved			

Client	THE SALVATION ARMY
Project	MULTI LEVEL DEVELOPMENT 23 DALCASSIA STREET HURSTVILLE
Title	SEDIMENTATION AND EROSION CONTROL DETAILS

Status				PRELIMINARY NOT TO BE USED FOR CONSTRUCTION PURPOSES	
Datum		Scale	Size		
AHD		AS SHOWN	A1		
Drawing Number			Revision		
80821102-CI-2202			1		