

Diagram illustrating various types of kerbs and their components:

- MOUNTABLE KERB (FOR DETAILS SEE DRAWING 030005)
- SURFACED ROAD
- EDGE STRIP
- MOUNTABLE KERB / EDGE STRIP
- SEMI-MOUNTABLE KERB (FIG.7)
- PEDESTRIAN KERB RAMP
- ASPHALT SURFACED ROAD
- K1 20 (2)
- KERB INLET NUMBER
- KERB INLET TYPE
- JUNCTION BOX OR MANHOLE
- STORMWATER PIPE
- STORMWATER PIPE
- EXISTING STORMWATER PIPE
- FUTURE STORMWATER PIPE

1. REFER TO DRAWINGS 1396.10.ZA.03.D001 FOR TYPICAL ROAD RESERVE CROSS SECTIONS.
2. BELLWOUNDS FOR FUTURE ROADS WILL NOT BE CONSTRUCTED AS PART OF THIS CONTRACT.
3. REFER TO DRAWINGS 1396.10.ZA.03.D019 TO D026 FOR STANDARD ROAD DETAILS.
4. FOR HORIZONTAL SETTING OUT INFORMATION REFER TO ROAD LONGITUDINAL SECTIONS.

STORMWATER/CULVERTS

1. MINIMUM PIPE DIAMETER TO BE 450mm.
2. VERTICAL ALIGNMENT AS SHOWN ON LONGITUDINAL SECTIONS.
3. PIPE BEDDING TO BE CLASS B UNLESS OTHERWISE SPECIFIED.
4. ALL EXCAVATIONS AND BEDDING MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE LAYING OF ANY PIPES.
5. ALL KERB INLETS TO BE TYPE 1 UNLESS SPECIFIED ON THE DRAWING.
6. ALL PIPES TO BE CONCRETE WITH INTERLOCKING JOINTS-SANS 677.
7. STORMWATER JUNCTION BOXES MUST BE BUILT UP TO 300mm BELOW THE FINAL GROUND LEVEL.
8. KERB INLET TYPES
TYPE 1 = 4:3:2
TYPE 2 = 4:6:4
X = UPSTREAM CATCHPIP TRANSITION LENGTH
Y = CATCHPIP LENGTH
Z = DOWNSTREAM CATCHPIP TRANSITION LENGTH

AS-BUILT RECORD			
CONTRACT No.	DESCRIPTION	CERTIFIED BY	DATE

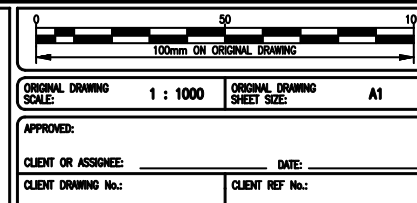
CERTIFIED AS-BUILT FOR CONTRACT :

 ENGINEER

 DATE

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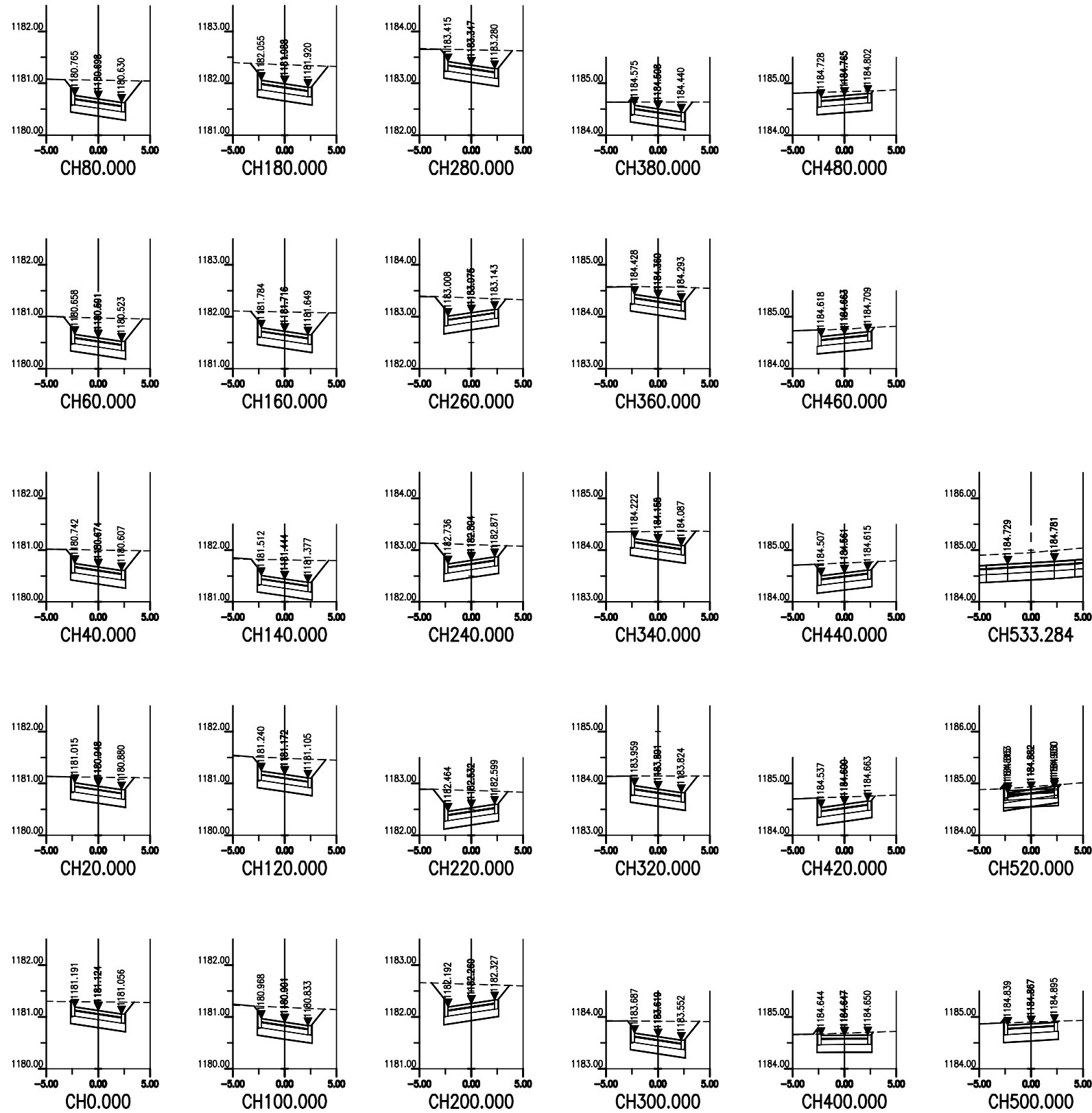
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DRAWING TITLE:	ROAD AND STORMWATER LAYOUT SHEET 7



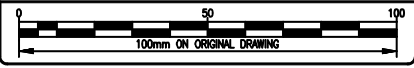
SURVEYED		DESIGNED	G Thoka
DRAWN	N Bester	CHECKED	L Gertanbach
CO-ORDINATE SYSTEM:	WC25	DATE:	October 2019
APPROVED ON BEHALF OF BIGN:			
ENGINEER: _____		DATE: _____	
DRAWING No.: 1396.10.ZA.03U007		VERSION: 2.0	

1396.10.ZA.03U00

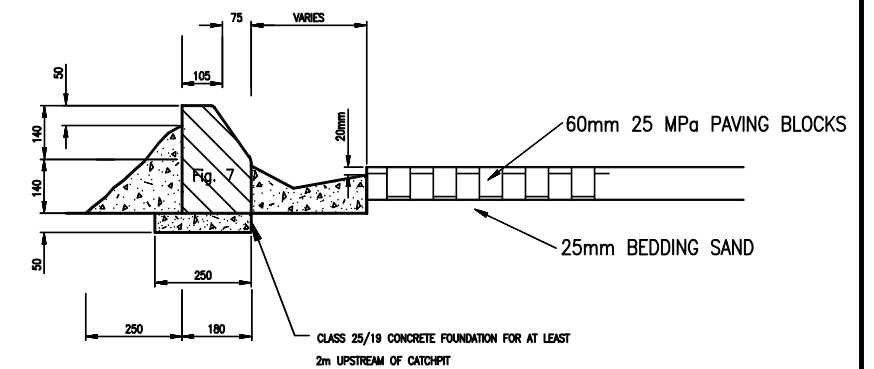
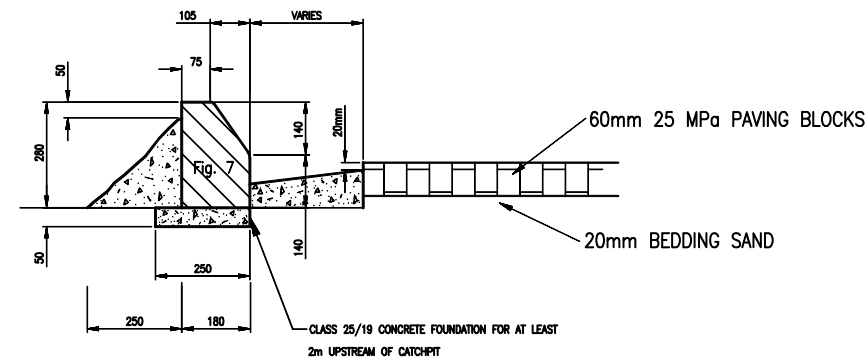
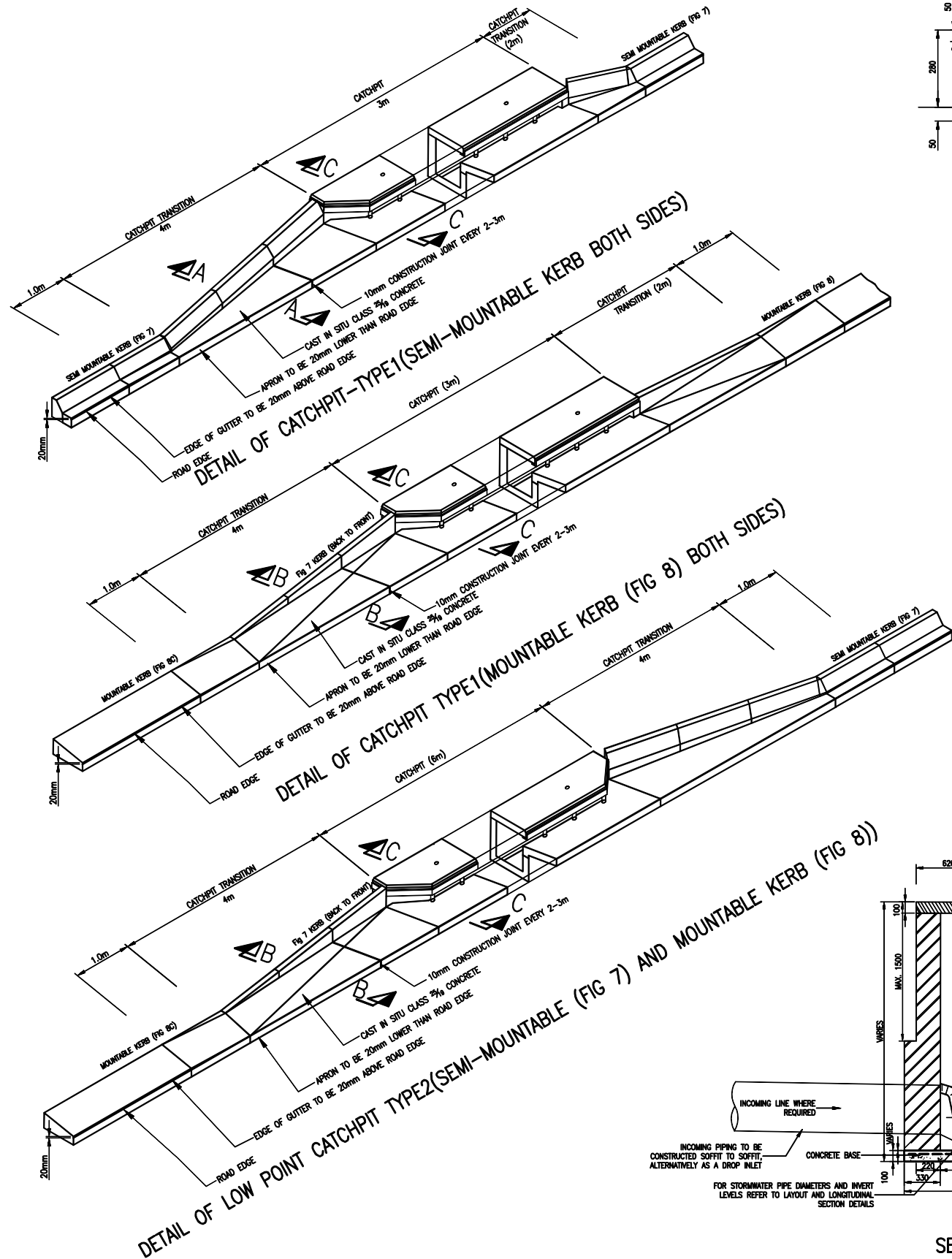
1396.10.ZA.03L068



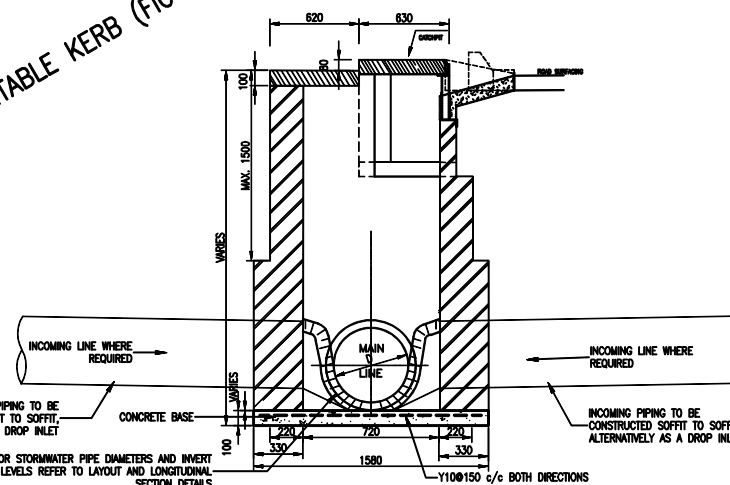
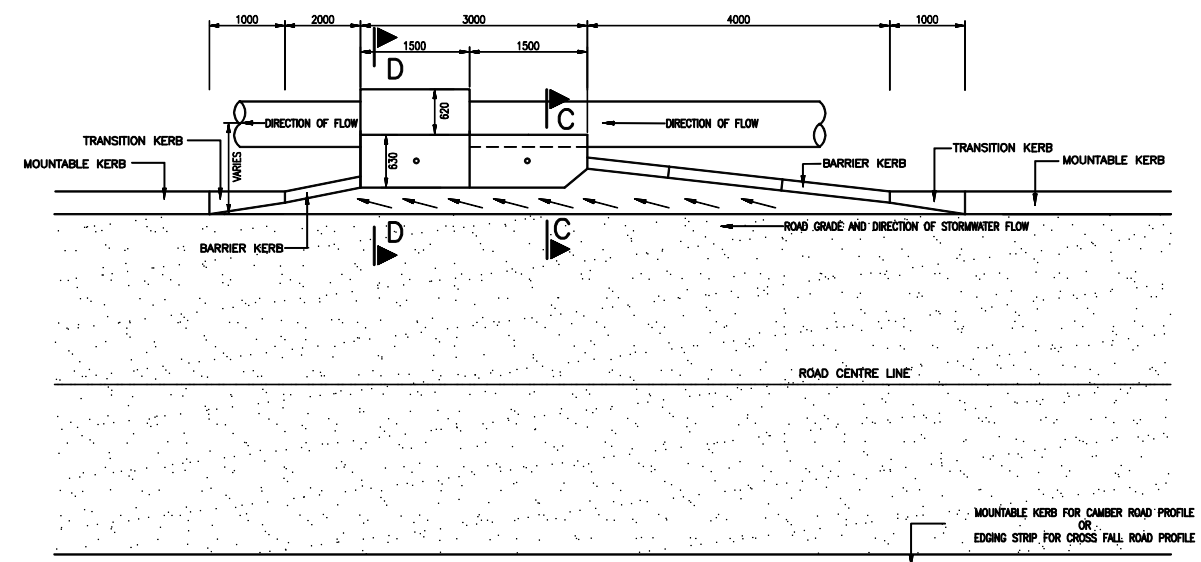
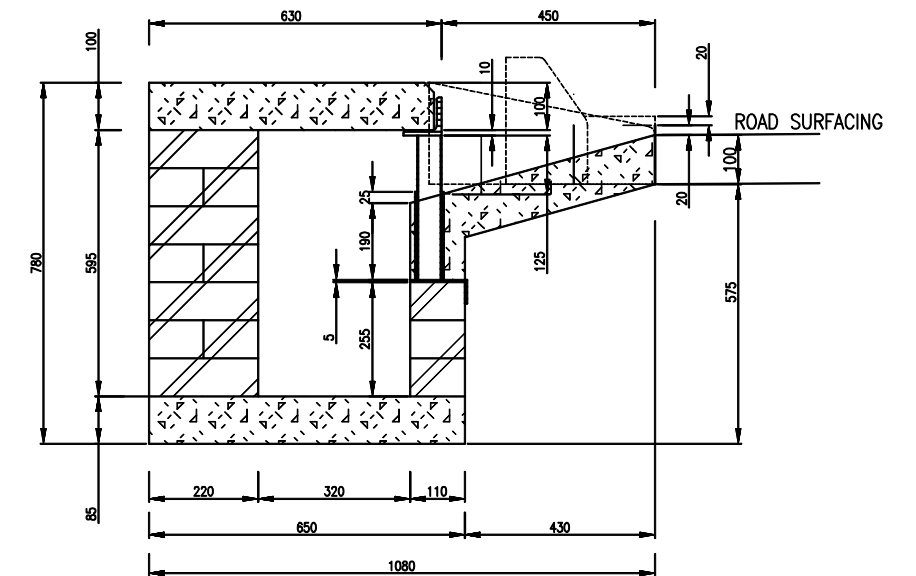
SCALE:
HORIZONTAL: 1:250
VERTICAL: 1:50

AS-BUILT RECORD				VERSION/AMENDMENTS				PROJECT TITLE: LERATO PARK INTERNAL CIVIL ENGINEERING SERVICES												SURVEYED DRAWN: P Valentine CO-ORDINATE SYSTEM: WG 25 APPROVED ON BEHALF OF BIGEN: ENGINEER: _____ DATE: _____ DRAWING No.: 1396.10.ZA.03L068X1 VERSION: 2.0			
CONTRACT No.	DESCRIPTION	CERTIFIED BY	DATE	No.	DATE	DESCRIPTION	AUTHORISED BY	DRAWING TITLE: ROAD 2.10 CROSS SECTIONS				APPROVED: CLIENT OR ASSIGNEE: _____ DATE: _____ CLIENT DRAWING No.: _____ CLIENT REF No.: _____											
				2.0	2022/07/29	LEVEL AMENDED	L. GERTENBACH																
CERTIFIED AS-BUILT FOR CONTRACT : _____ ENGINEER _____ DATE _____								 4 Jacobus Smit Street Labaram Kimberley 8301 PO Box 110092 Kimberley 8300 Tel: + 27 (0) 53 831 2935 Fax: + 27 (0) 86 518 5094 E-mail: kimberley@bigengroup.com www.bigengroup.com															

1396.10.ZA.03L068X1



- NOTES:**
1. PERMISSION MUST BE OBTAINED FROM THE ENGINEER AS WELL AS FROM THE ROADS AND STORMWATER DIVISION IF ANY OTHER CATCHPIT TYPE IS PROPOSED.
 2. ALL BRICKS SHALL COMPLY WITH SANS 227 AND SHALL BE ENGINEERING UNITS OF CLASS FBS (FACE BRICK STANDARD) WITH A NOMINAL COMPRESSIVE STRENGTH OF 12 MPa.



SCALE 1:20

SCALE 1:50

AS-BUILT RECORD			
CONTRACT No.	DESCRIPTION	CERTIFIED BY	DATE
1555-30-04	CERTIFIED AS BUILT	FJV	09-2015
2334-10-00	CERTIFIED AS BUILT	FJV	10-2015
CERTIFIED AS-BUILT FOR CONTRACT :			
ENGINEER		DATE	

VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTHORISED BY
2.0	09-2015	CERTIFIED AS BUILT PHASE 1	FJV
3.0	09-2015	CERTIFIED AS BUILT BULK	FJV
4.0	10-2015	CERTIFIED AS BUILT PHASE 2	FJV



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PROJECT TITLE:
LERATO PARK
INTERNAL CIVIL ENGINEERING SERVICES

DRAWING TITLE:
CATCHPIT DETAILS:
ISOMETRIC VIEWS AND CROSS SECTIONS



0 50 100 100mm ON ORIGINAL DRAWING	
ORIGINAL DRAWING SCALE: N.T.S.	ORIGINAL DRAWING SHEET SIZE: A1
APPROVED:	
CLIENT OR ASSIGNED: DATE:	
CLIENT DRAWING No.: CLIENT REF No.:	

SURVEYED	DESIGNED	G Thaka
DRAWN	CHECKED	L. Gertenbach
CO-ORDINATE SYSTEM: WG25	DATE: October 2019	
APPROVED ON BEHALF OF BIGN:		
ENGINEER: DATE:	VERSION: 3.0	
1396.10.ZA.04.D002		

1396.10.ZA.04.D002



Technical drawing of a concrete slab with the following dimensions and specifications:

- Overall Dimensions:** 1500mm (width) x 400mm (depth).
- Internal Dimensions:**
 - Top horizontal segments: 400, 500, 500, 500, 500.
 - Left vertical segments: 50, 220, 50.
 - Internal horizontal offset: 100.
- Material and Finish:** 25MPa CONCRETE, WOOD FLOAT FINISH.
- Reinforcement:** 100mm SLAB (indicated by diagonal lines and circles).
- Lift Holes:** 50mm Ø LIFT HOLES (uPVC PIPES CUT FLUSH WITH CONCRETE).
- Chamfer:** 50mm x 20mm CHAMFER TOP & BOTTOM OF SLAB.

ITEM No.	BAR MARK.	No PER ITEM.	TOTAL	BAR SIZE	BAR LENGTH	BEND.
1	A	2		Y10	150	STR.
	B	2		Y10	300	"
	C	2		Y10	450	"
	D	34		Y10	550	"
	E	2		Y10	1050	"
	F	2		Y10	1200	"
	G	2		Y10	1320	"
	H	14		Y10	1450	"
	STOOLS	30		R10	750	"

AS-BUILT RECORD			
CONTRACT No.	DESCRIPTION	CERTIFIED BY	DATE
1555-30-04	CERTIFIED AS BUILT	FAY	09-2015
2334-10-00	CERTIFIED AS BUILT	FAY	10-2015

CERTIFIED AS-BUILT FOR CONTRACT :

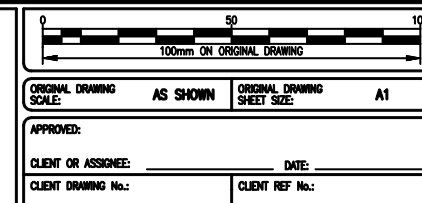
ENGINEER

DATE

[illegible]

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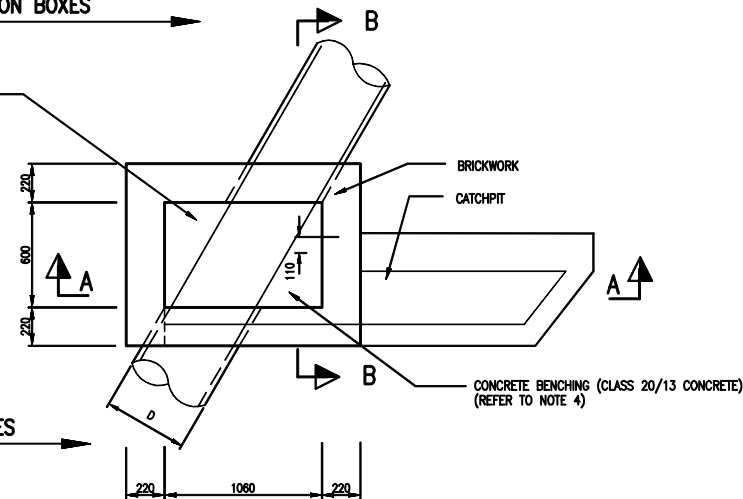
PROJECT TITLE:	
LERATO PARK INTERNAL CIVIL ENGINEERING SERVICES	
DRAWING TITLE:	
CATCHPIT DETAILS: STEEL FRAME & PRECAST COVERSLABS	



SURVEYED		DESIGNED	G Thota
DRAWN	N Bester	CHECKED	L Gerlentsbach
CO-ORDINATE SYSTEM:	WG25	DATE:	October 2019
APPROVED ON BEHALF OF BIGEM:			
ENGINEER: _____		DATE: _____	
DRAWING No.: 1396.10.ZA.04.D003		VERSION: 4.0	

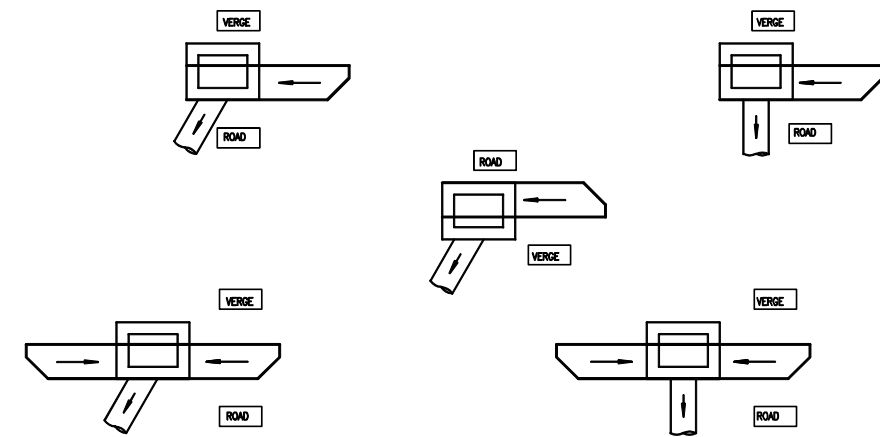
INLET PIPE FOR TYPE A2 JUNCTION BOXES

CONCRETE BENCHING (CLASS 20/13 CONCRETE)

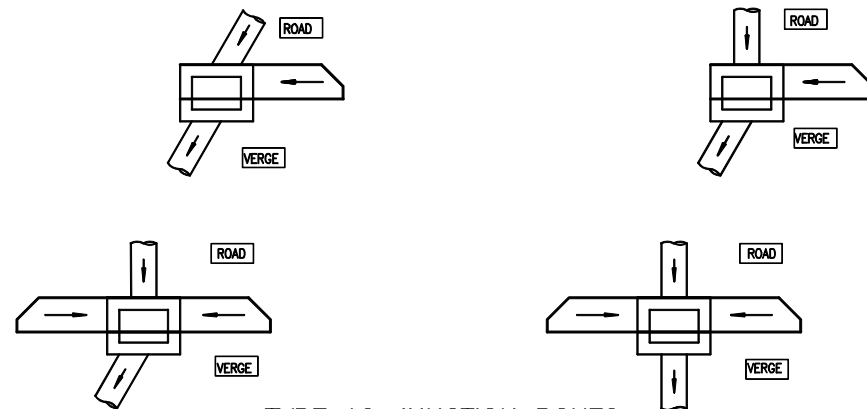


OUTLET PIPE FOR TYPE A1 AND A2 JUNCTION BOXES

PLAN LEVEL C-C OF TYPE A JUNCTION BOX (WITHOUT COVER SLAB)



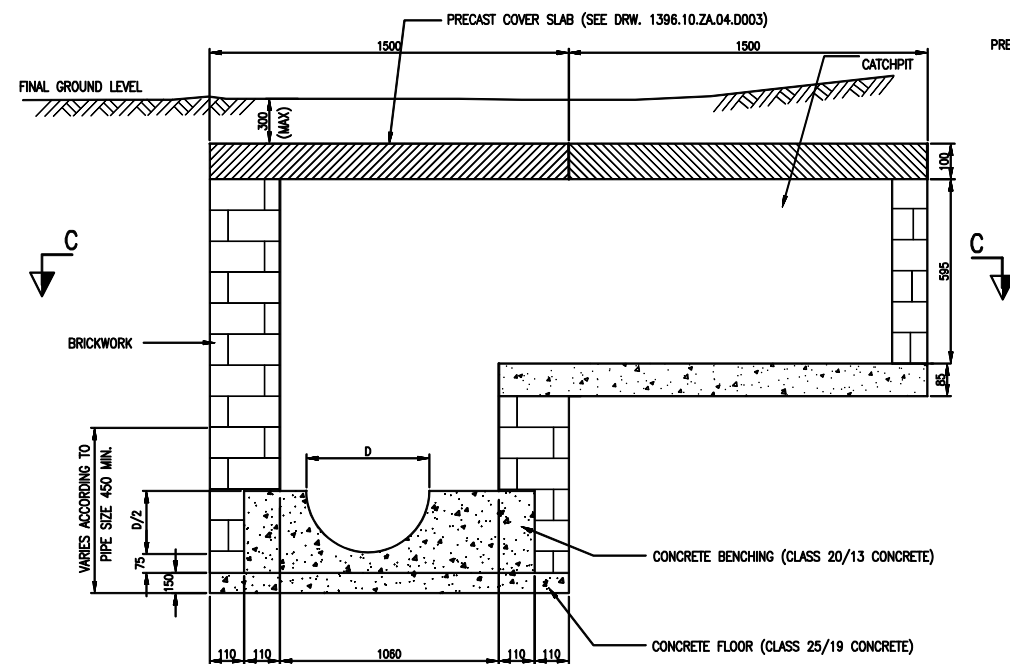
TYPE A1 JUNCTION BOXES



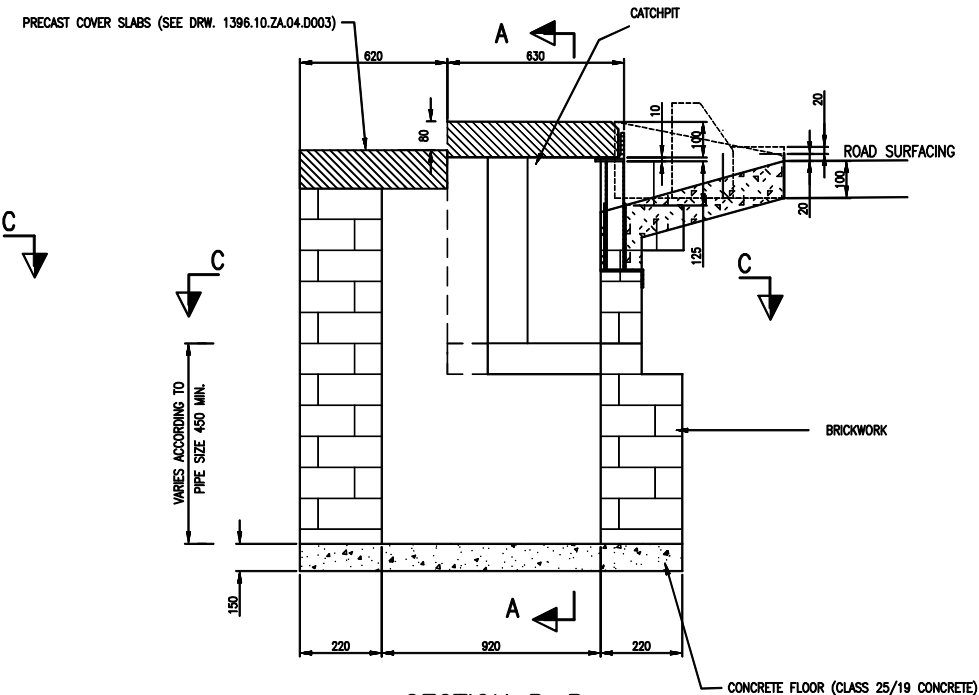
TYPE A2 JUNCTION BOXES

NOTES:

1. ALL STORMWATER PIPES TO BE LAID SOFFIT TO SOFFIT.
2. MINIMUM PIPE DIAMETER OF ALL PIPES IS 450mm.
3. MAXIMUM ANGLE BETWEEN ADJOINING PIPES IS 60°.
4. WHERE A PIPE WALL IS AT LEAST 75mm FROM THE NEAREST JUNCTION BOX WALL, THE CONCRETE BENCHING CAN BE STARTED ADJACENT TO THE DOUBLE BRICK WALL.
5. WHERE THE TOTAL DEPTH OF THE JUNCTION BOX (INVERT LEVEL TO FINISHED GROUND LEVEL) EXCEEDS 2.0m A STRUCTURAL DESIGN MUST BE SUBMITTED BY A PROFESSIONAL ENGINEER.
6. ALL BRICKS SHALL COMPLY WITH SANS 227 AND SHALL BE ENGINEERING UNITS OF CLASS FBS (FACE BRICK STANDARD).



SECTION A-A
(INLET / OUTLET PIPES NOT SHOWN)



SECTION B-B
(CONCRETE BENCHING NOT SHOWN)

AS-BUILT RECORD

CONTRACT No.	DESCRIPTION	CERTIFIED BY	DATE
1555-30-04	CERTIFIED AS BUILT	FJV	09-2015
2334-10-00	CERTIFIED AS BUILT	FJV	10-2015

CERTIFIED AS-BUILT FOR CONTRACT :

ENGINEER

DATE

VERSION/AMENDMENTS

No.	DATE	DESCRIPTION	AUTHORISED BY
2.0	09-2015	CERTIFIED AS BUILT PHASE 1	FJV
3.0	09-2015	CERTIFIED AS BUILT BULK	FJV
4.0	10-2015	CERTIFIED AS BUILT PHASE 2	FJV



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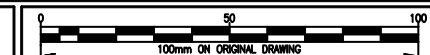
PROJECT TITLE:

LERATO PARK
INTERNAL CIVIL ENGINEERING SERVICES

DRAWING TITLE:

JUNCTION BOX AND MANHOLE DETAILS:
TYPE A JUNCTION BOX

Sol Plaatje Municipality



ORIGINAL DRAWING SCALE: N.T.S. ORIGINAL DRAWING SHEET SIZE: A1

APPROVED:

CLIENT OR ASSIGNEE: DATE: CLIENT DRAWING No.: CLIENT REF No.:

SURVEYED		DESIGNED	G Thaka
DRAWN	N Bester	CHECKED	L. Gertenbach

CO-ORDINATE SYSTEM: WG25 DATE: October 2019

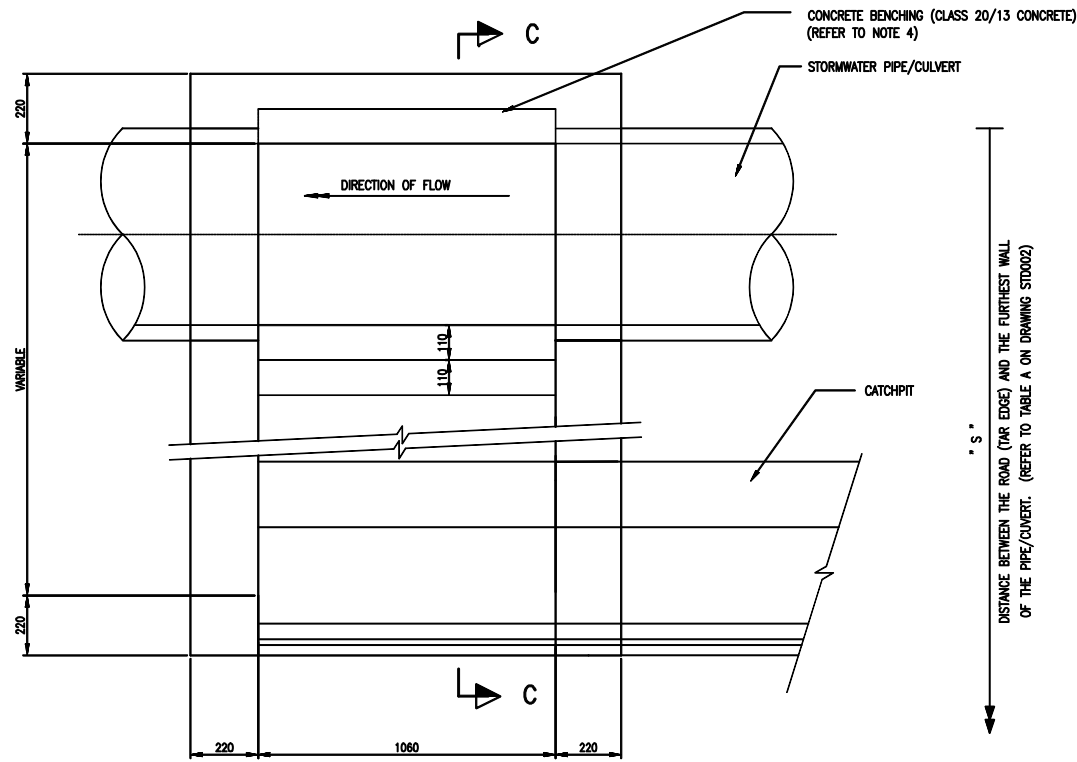
APPROVED ON BEHALF OF BIGEN:

ENGINEER: DATE: DRAWING No.: 1396.10.ZA.04.D005 VERSION: 4.0

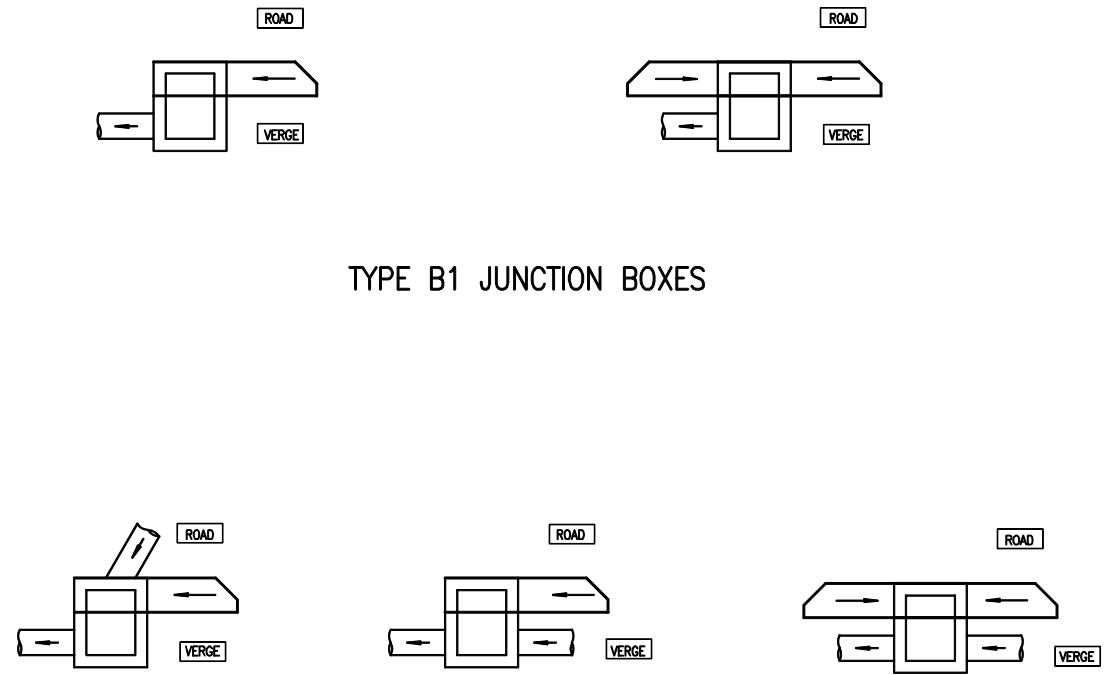
1396.10.ZA.04.D005

NOTES:

1. ALL STORMWATER PIPES TO BE LAID SOFFIT TO SOFFIT.
2. MINIMUM PIPE DIAMETER OF ALL PIPES IS 450mm.
3. MAXIMUM ANGLE BETWEEN ADJOINING PIPES IS 60°.
4. WHERE A PIPE WALL IS AT LEAST 75mm FROM THE NEAREST JUNCTION BOX WALL, THE CONCRETE BENCHING CAN BE STARTED ADJACENT TO THE DOUBLE BRICK WALL.
5. WHERE THE TOTAL DEPTH OF THE JUNCTION BOX (INVERT LEVEL TO FINISHED GROUND LEVEL) EXCEEDS 2.0m A STRUCTURAL DESIGN MUST BE SUBMITTED BY A PROFESSIONAL ENGINEER.
6. ALL BRICKS SHALL COMPLY WITH SANS 227 AND SHALL BE ENGINEERING UNITS OF CLASS FBS (FACE BRICK STANDARD).

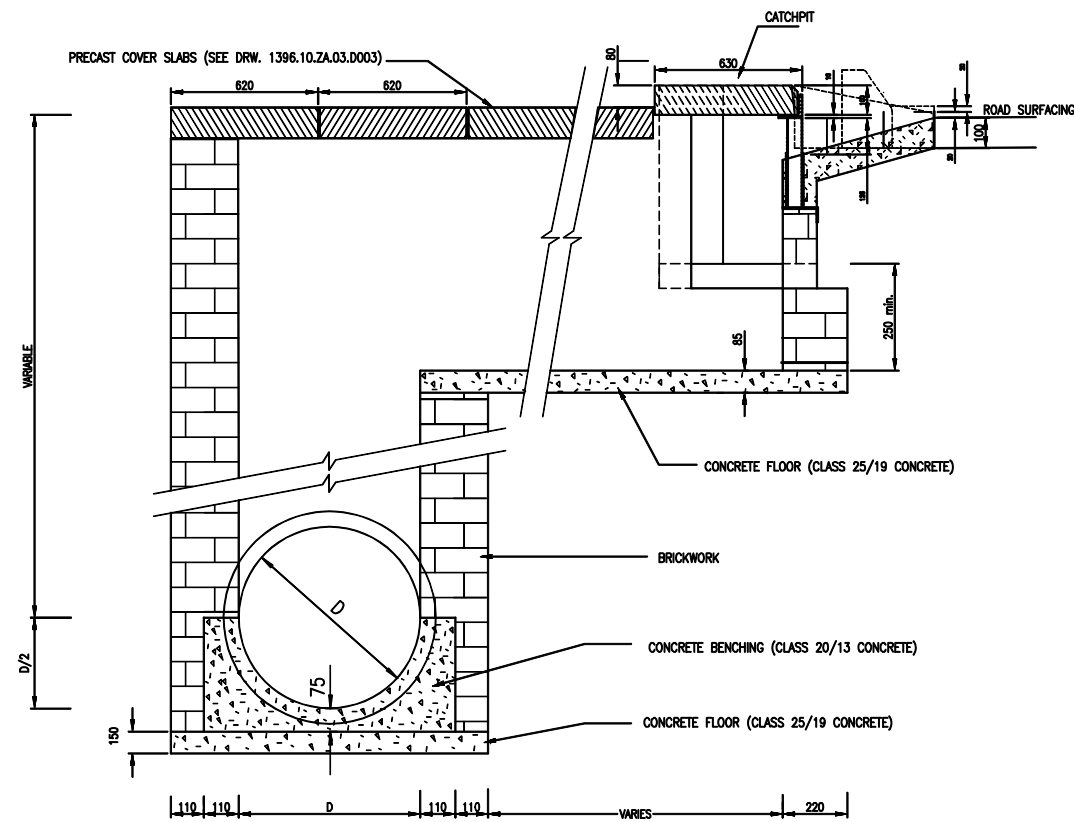


PLAN OF TYPE B JUNCTION BOX (WITHOUT COVER SLAB)



TYPE B1 JUNCTION BOXES

TYPE B2 JUNCTION BOXES



SECTION C-C



TYPE B3 JUNCTION BOXES

AS-BUILT RECORD			
CONTRACT No.	DESCRIPTION	CERTIFIED BY	DATE
1555-30-04	CERTIFIED AS BUILT	FJV	09-2015
2334-10-00	CERTIFIED AS BUILT	FJV	10-2015
CERTIFIED AS-BUILT FOR CONTRACT :			
ENGINEER		DATE	

VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTHORISED BY
2.0	09-2015	CERTIFIED AS BUILT PHASE 1	FJV
3.0	09-2015	CERTIFIED AS BUILT BULK	FJV
4.0	10-2015	CERTIFIED AS BUILT PHASE 2	FJV



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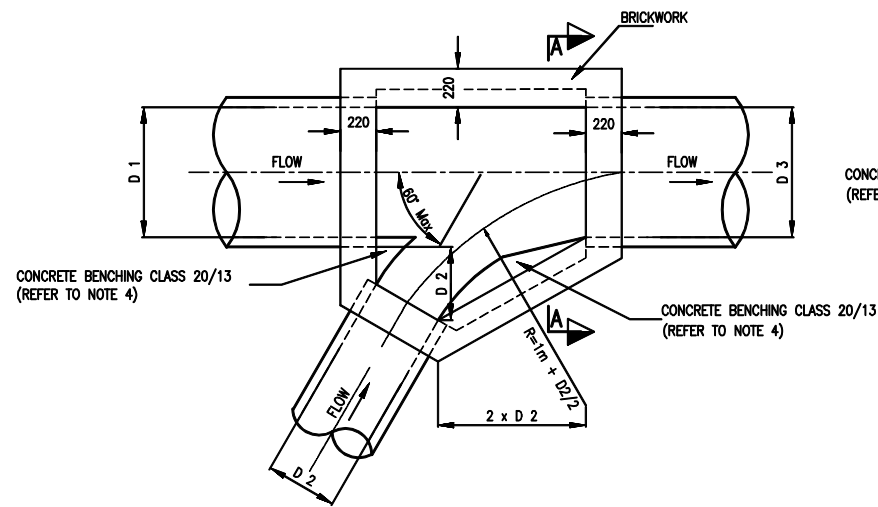
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DRAWING TITLE:	JUNCTION BOX AND MANHOLE DETAILS: TYPE B JUNCTION BOX



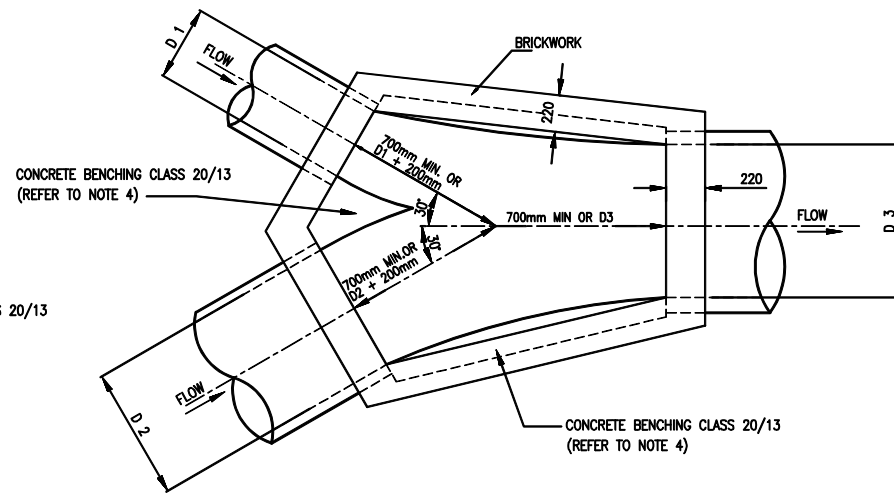
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ORIGINAL DRAWING SCALE:	N.T.S.	ORIGINAL DRAWING SHEET SIZE: A1
APPROVED:		
CLIENT OR ASSIGNED:	DATE:	
CLIENT DRAWING No.:	CLIENT REF No.:	

SURVEYED	DESIGNED	G Thoka
DRAWN	CHECKED	L. Gertenbach
CO-ORDINATE SYSTEM:	WG25	DATE: October 2019
APPROVED ON BEHALF OF BGEN:		
ENGINEER:	DATE:	
DRAWING No.:	1396.10.ZA.04.D006	VERSION: 4.0

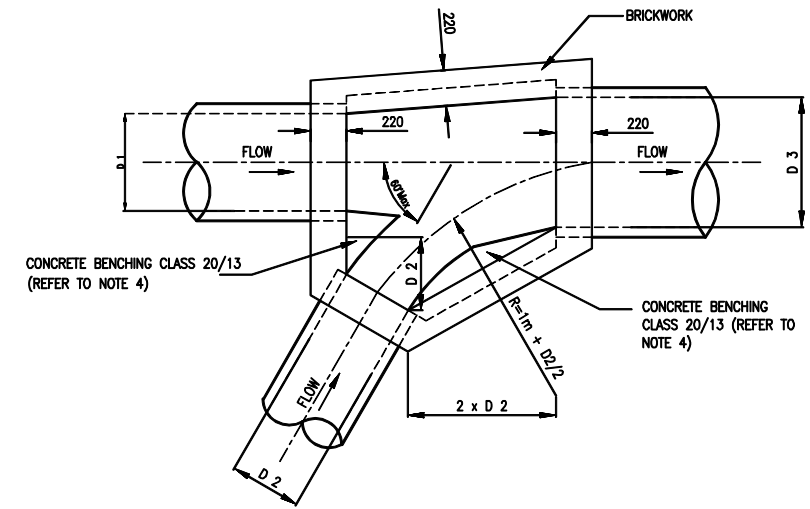
1396.10.ZA.04.D006



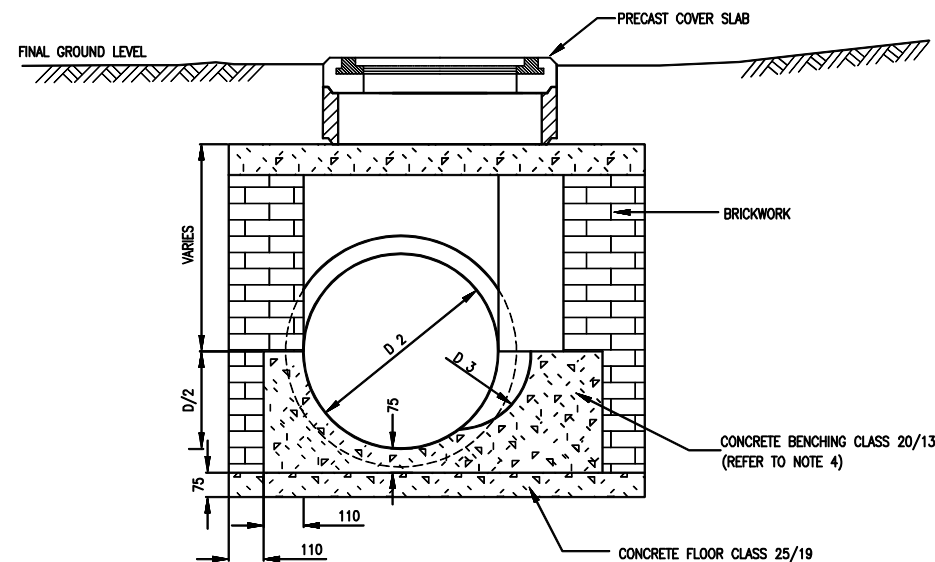
PLAN OF TYPE C JUNCTION BOX (WITHOUT COVER SLAB)
D 1 = D 3 AND D 2 VARIES



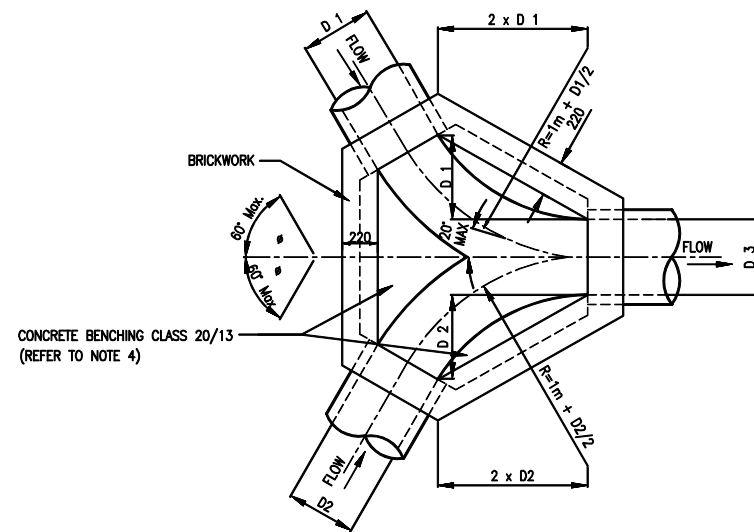
PLAN OF TYPE C JUNCTION BOX (WITHOUT COVER SLAB)
D 1 ≠ D 2 ≠ D 3 AND $\phi < 30^\circ$



PLAN OF TYPE C JUNCTION BOX (WITHOUT COVER SLAB)
D 1 ≠ D 3 AND D 2 VARIES



SECTION A-A



PLAN OF TYPE C JUNCTION BOX (WITHOUT COVER SLAB)
D 1 ≠ D 2 ≠ D 3 AND $\phi < 30^\circ$

NOTES:

1. ALL STORMWATER PIPES TO BE LAID SOFFIT TO SOFFIT.
2. MINIMUM PIPE DIAMETER OF ALL PIPES IS 450mm.
3. MAXIMUM ANGLE BETWEEN ADJOINING PIPES IS 60°.
4. WHERE A PIPE WALL IS AT LEAST 75mm FROM THE NEAREST JUNCTION BOX WALL, THE CONCRETE BENCHING CAN BE STARTED ADJACENT TO THE DOUBLE BRICK WALL.
5. WHERE THE TOTAL DEPTH OF THE JUNCTION BOX (INVERT LEVEL TO FINISHED GROUND LEVEL) EXCEEDS 2.0m A STRUCTURAL DESIGN MUST BE SUBMITTED BY A PROFESSIONAL ENGINEER.
6. ALL BRICKS SHALL COMPLY WITH SANS 227 AND SHALL BE ENGINEERING UNITS OF CLASS FBS (FACE BRICK STANDARD).

AS-BUILT RECORD			
CONTRACT No.	DESCRIPTION	CERTIFIED BY	DATE
1555-30-04	CERTIFIED AS BUILT	FJV	08-2015
2334-10-00	CERTIFIED AS BUILT	FJV	10-2015
CERTIFIED AS-BUILT FOR CONTRACT :			
ENGINEER		DATE	

VERSION/AMENDMENTS			
No.	DATE	DESCRIPTION	AUTHORISED BY
2.0	09-2015	CERTIFIED AS BUILT PHASE 1	FJV
3.0	09-2015	CERTIFIED AS BUILT BULK	FJV
4.0	10-2015	CERTIFIED AS BUILT PHASE 2	FJV



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PROJECT TITLE:	LERATO PARK INTERNAL CIVIL ENGINEERING SERVICES
DRAWING TITLE:	JUNCTION BOX AND MANHOLE DETAILS: TYPE C JUNCTION BOX



0 50 100 100mm ON ORIGINAL DRAWING	
ORIGINAL DRAWING SCALE:	N.T.S.
ORIGINAL DRAWING SHEET SIZE:	A1
APPROVED:	
CLIENT OR ASSIGNEE:	DATE:
CLIENT DRAWING No.:	CLIENT REF No.:

SURVEYED	DESIGNED	G Thoka
DRAWN	N Beuter	CHECKED
CO-ORDINATE SYSTEM:	WG25	DATE:
APPROVED ON BEHALF OF BIGH:	ENGINEER	DATE:
DRAWING No.:	1396.10.ZA.04.D007	VERSION:
		4.0

1396.10.ZA.04.D007