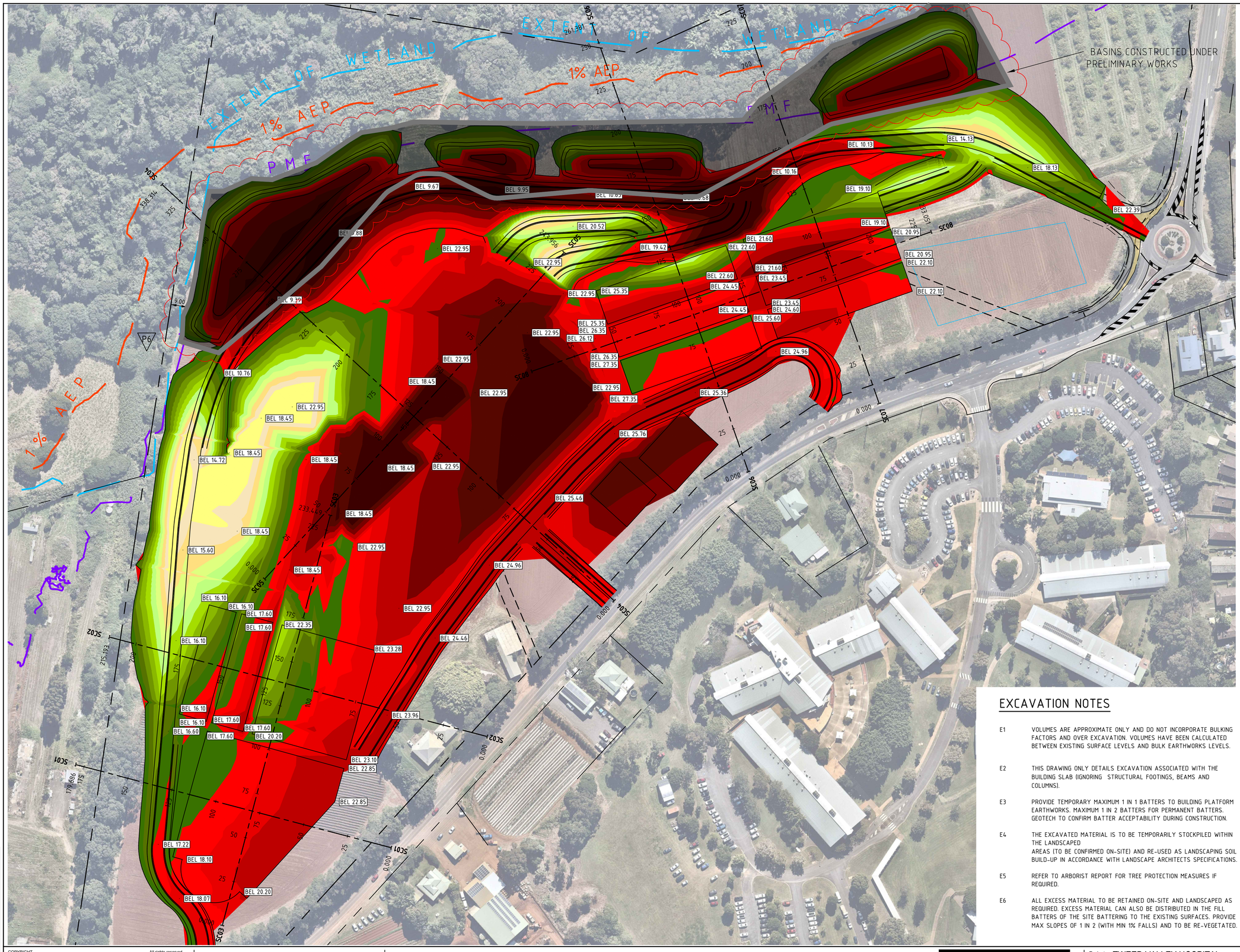

EARTHWORKS DEPTH RANGE				
Lower_value		Upper_value		Colour
-10000	to	-4	2	
-4	to	-3.5	2	
-3.5	to	-3	2	
-3	to	-2.5	2	
-2.5	to	-2	2	
-2	to	-1.5	2	
-1.5	to	-1	2	
-1	to	-.5	2	
-.5	to	0	2	
0	to	0.5	2	
0.5	to	1	2	
1	to	1.5	2	
1.5	to	2	2	
2	to	2.5	2	
2.5	to	3	2	
3	to	3.5	2	
3.5	to	4	2	
4	to	4.5	2	
4.5	to	50000	2	

NOTE

FOR SECTIONS REFER TO DRAWINGS: C020, C021, C022, C023

NOTE
1. VOLUMES ARE APPROXIMATE ONLY, WHICH ARE IN PLACE AND DO NOT INCORPORATE BULKING FACTORS AND OVER EXCAVATION
2. LEVELS PROVIDED ARE PRELIMINARY AND MIGHT CHANGE AS DESIGN PROGRESSES.
3. GROUND WATER SEEPAGE MAY OCCUR IN EXCAVATED AREAS. DE-WATERING MAY BE REQUIRED IN THIS INSTANCE.
4. RE USE OF THE EXCAVATED ROCK FOR ROAD BASE AND OTHER PURPOSES

EXCAVATION NOTES

E1 VOLUMES ARE APPROXIMATE ONLY AND DO NOT INCORPORATE BULKING FACTORS AND OVER EXCAVATION. VOLUMES HAVE BEEN CALCULATED BETWEEN EXISTING SURFACE LEVELS AND BULK EARTHWORKS LEVELS.

E2 THIS DRAWING ONLY DETAILS EXCAVATION ASSOCIATED WITH THE BUILDING SLAB (IGNORING STRUCTURAL FOOTINGS, BEAMS AND COLUMNS).

E3 PROVIDE TEMPORARY MAXIMUM 1 IN 1 BATTERS TO BUILDING PLATFORM EARTHWORKS. MAXIMUM 1 IN 2 BATTERS FOR PERMANENT BATTERS. GEOTECH TO CONFIRM BATTER ACCEPTABILITY DURING CONSTRUCTION.

E4 THE EXCAVATED MATERIAL IS TO BE TEMPORARILY STOCKPILED WITHIN THE LANDSCAPED AREAS (TO BE CONFIRMED ON-SITE) AND RE-USED AS LANDSCAPING SOIL BUILD-UP IN ACCORDANCE WITH LANDSCAPE ARCHITECTS SPECIFICATIONS.

E5 REFER TO ARBORIST REPORT FOR TREE PROTECTION MEASURES IF REQUIRED.

E6 ALL EXCESS MATERIAL TO BE RETAINED ON-SITE AND LANDSCAPED AS REQUIRED. EXCESS MATERIAL CAN ALSO BE DISTRIBUTED IN THE FILL BATTERS OF THE SITE BATTERING TO THE EXISTING SURFACES. PROVIDE MAX SLOPES OF 1 IN 2 (WITH MIN 1% FALLS) AND TO BE RE-VEGETATED.

EARTHWORKS QUANTITIES

BASINS
CUT VOLUME = 15,136m^3
FILL VOLUME = 5054m^3

NET (CUT) = -10,083m^3

EARTHWORKS QUANTITIES

REMAINDER OF WORKS
CUT VOLUME = 93814m^3
FILL VOLUME = 58909m^3

NET (CUT) = 34,905m^3

EARTHWORKS QUANTITIES

TOTAL
CUT VOLUME = 108,950m^3
FILL VOLUME = 63,963m^3

NET (CUT) = 44,987m^3

Rev	Description	Date	By	App
P5	DA ISSUE	16.01.18	DB	-
P4	ISSUED FOR EARLY AND ENABLING WORKS	16.10.18	PN	-
P3	ISSUED FOR EARLY WORKS DA	04.10.18	PN	-
P2	ISSUED FOR EARLY WORKS DA	06.09.18	PA	-
P1	ISSUED FOR EARLY WORKS DA	03.09.18	PA	-

Rev	Description	Date	By	App
P6	RESPONSE TO SUBMISSIONS	22.01.19	DB	-

25 0 10 20 30 40 50m
PLAN SCALE 1:1250 A1 SHEET

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Project Name: TWEED VALLEY HOSPITAL PRELIMINARY CIVIL WORKS

Drawing Title: BULK EARTH WORKS PLAN

CONSTRUCTION

Designed	C.G.S.	Project Director Approved	Date
Drawn	C.G.S.		
Scale	1:1000		
Date	16.01.19		
Sheet	A1		

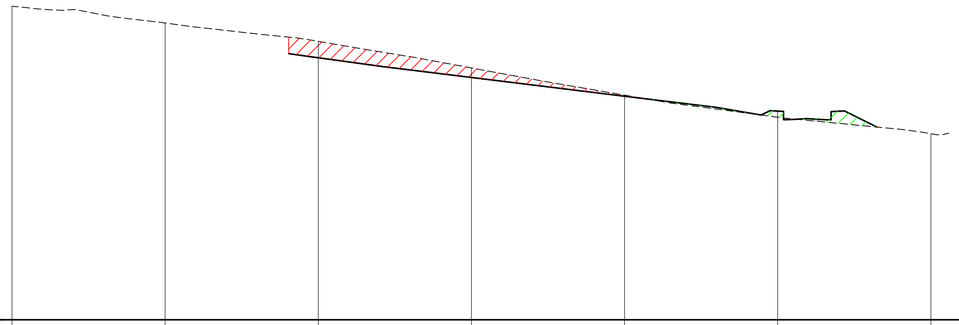
North

Project Ref	Drawing No	Rev
20 10748 01	C011	P6

File: G:\Job\10748\03 Work in Progress\02 Civil\01 CAD\01 Autocad\000 Series - Early Works\10748C-C011.dwg Plotted: 22.01.19 at 5:36 PM By: Dean Bowen

NOTE

FOR PLAN SECTION LOCATION DRAWING REFER TO DRAWING: C011



DESIGN GRADELINE

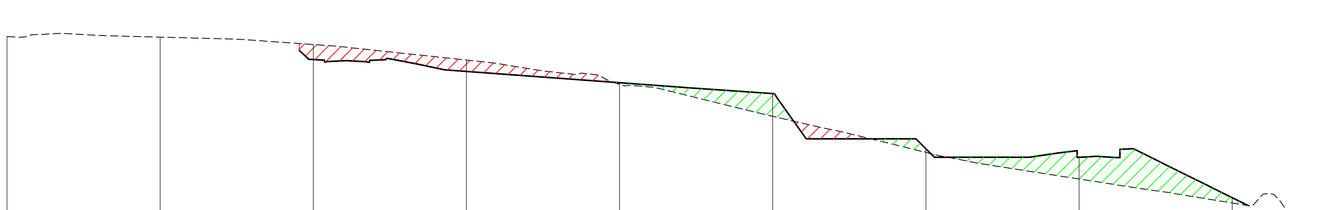
HORIZONTAL GEOMETRY

DATUM 0.5

SC01									
EARTHWORKS			21.879	20.267	18.732	17.523			
EXISTING SURFACE	26.080	24.709	23.215	21.046	18.827	17.028	15.683		
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	179.686

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC01 LONGITUDINAL SECTION



DESIGN GRADELINE

HORIZONTAL GEOMETRY

DATUM -3.0

SC02										
EARTHWORKS			24.073	23.099	22.179	21.300	16.789	16.096	12.804	
EXISTING SURFACE	25.949	25.903	25.301	24.032	22.049	19.436	16.499	14.328	12.367	
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	215.193

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC02 LONGITUDINAL SECTION

Rev	Description	Date	By	App
P1	DA ISSUE	16.01.18	DB	"

Rev	Description	Date	By	App

5.0 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:250 A1 SHEET

10.0 0 5.0 10.0 15.0 20.0m
PLAN SCALE 1:500 A1 SHEET

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Project Name: TWEED VALLEY HOSPITAL
PRELIMINARY CIVIL WORKS

Drawing Title: BULK EARTH WORKS
SECTIONS
SHEET 1

CONSTRUCTION

Designed	C.G.S.
Drawn	C.G.S.
Scale	1:1000
Date	16.01.19
Sheet	A1

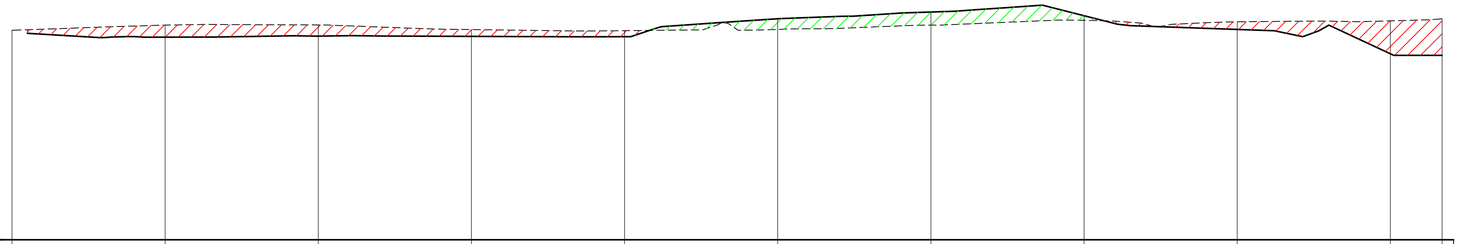
Project Director Approved Date North

Project Ref 20 10748 01 | Drawing No C020 | Rev P1

File: C:\Job\10748\03 Work in Progress\02 Civil\01 CAD\01 Autocad\000 Series - Early Works\10748C-C020.dwg Plotted: 16.01.19 at 5:54 PM By: Dean Bowen

NOTE

FOR PLAN SECTION LOCATION DRAWING REFER TO DRAWING: C011



DESIGN GRADELINE

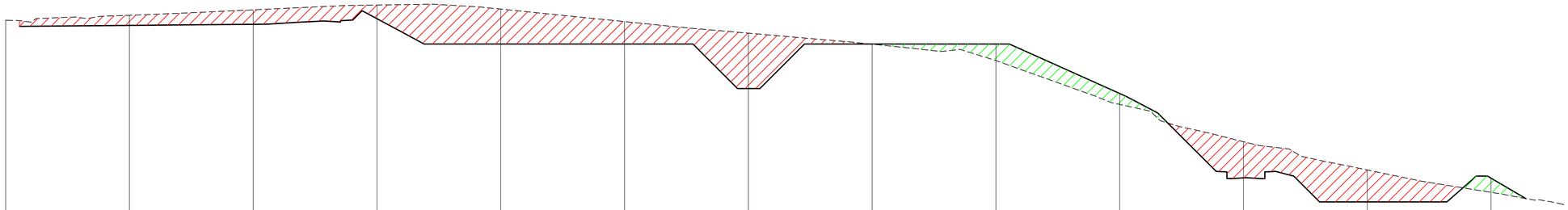
HORIZONTAL GEOMETRY

DATUM 3.4

SC03											
EARTHWORKS		19.936	20.019	19.994	19.971	21.438	21.988	21.683	20.563	18.577	18.450
EXISTING SURFACE	20.494	20.914	20.929	20.553	20.466	20.566	20.915	21.304	21.187	21.263	21.432
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	225.000	233.449

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC03 LONGITUDINAL SECTION



DESIGN GRADELINE

HORIZONTAL GEOMETRY

DATUM -8.3

SC04														
EARTHWORKS		24.832	24.942	25.510	22.950	22.950	18.450	22.950	22.950	17.952	9.429	7.000	9.391	
EXISTING SURFACE	25.352	25.851	26.405	26.890	26.479	25.215	24.047	22.930	21.275	16.842	13.082	10.228	7.967	
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	225.000	250.000	275.000	300.000	325.000	338.314

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC04 LONGITUDINAL SECTION

Rev	Description	Date	By	App
P1	DA ISSUE	16.01.19	DB	-

Rev	Description	Date	By	App

5.0 0 2.5 5.0 7.5 10.0m
PLAN SCALE 1:250 A1 SHEET

10.0 0 5.0 10.0 15.0 20.0m
PLAN SCALE 1:500 A1 SHEET

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Project Name: TWEED VALLEY HOSPITAL
PRELIMINARY CIVIL WORKS

Drawing Title: BULK EARTH WORKS
SECTIONS
SHEET 2

CONSTRUCTION

Designed	C.G.S.	Project Director Approved	Date
Drawn	C.G.S.		
Scale	1:1000		
Date	16.01.19		
Sheet	A1		

North

Project Ref: 20 10748 01
Drawing No: C021
Rev: P1

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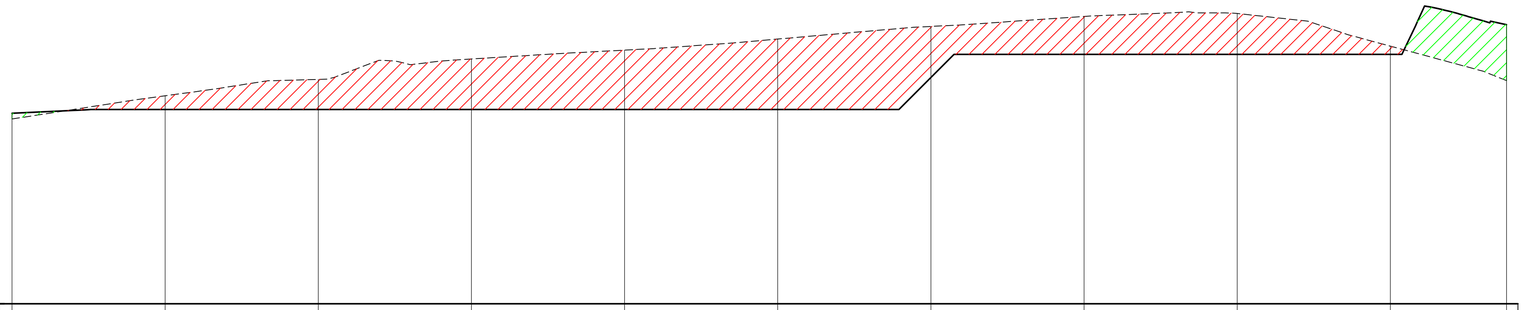
NOTE

FOR PLAN SECTION LOCATION DRAWING REFER TO DRAWING: C011



DESIGN GRADELINE

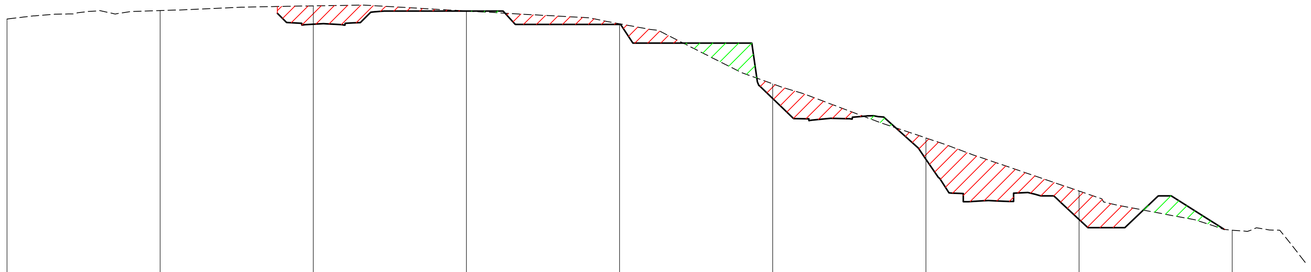
HORIZONTAL GEOMETRY

DATUM 2.6

SC05										
EARTHWORKS	18.142	18.450	18.450	18.450	18.450	18.450	21.061	22.950	22.950	22.950	25.371
EXISTING SURFACE	17.678	19.572	20.910	22.575	23.297	24.201	25.230	26.046	26.289	23.624	20.813
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	225.000	243.956

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC05 LONGITUDINAL SECTION



DESIGN GRADELINE

HORIZONTAL GEOMETRY

DATUM -9.3

SC06												
EARTHWORKS			25.209	26.278	25.186	19.141	14.195	9.272				
EXISTING SURFACE	25.628	26.317	26.703	26.283	25.239	20.341	15.926	11.593	8.399			
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	225.000	250.000	261.381

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC06 LONGITUDINAL SECTION

Rev	Description	Date	By	App
P1	DA ISSUE	16.01.19	DB	"

Rev	Description	Date	By	App

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PLAN SCALE 1:250 A1 SHEET

10.0 0 5.0 10.0 15.0 20.0m
PLAN SCALE 1:500 A1 SHEET

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www.bonaccigroup.com

Project Name: TWEED VALLEY HOSPITAL
PRELIMINARY CIVIL WORKS

Drawing Title: BULK EARTH WORKS
SECTIONS
SHEET 3

CONSTRUCTION

Designed	C.G.S.	Project Director Approved	Date
Drawn	C.G.S.		
Scale	1:1000		North
Date	16.01.19	Project Ref	Drawing No / Rev
Sheet	A1	20 10748 01	C022 P1

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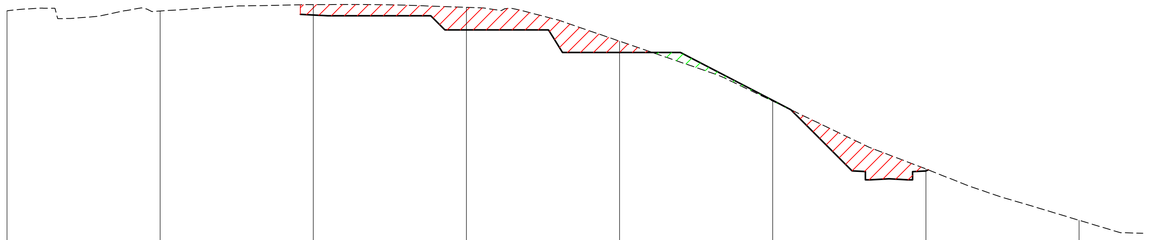
NOTE

FOR PLAN SECTION LOCATION DRAWING REFER TO DRAWING: C011



DESIGN GRADELINE

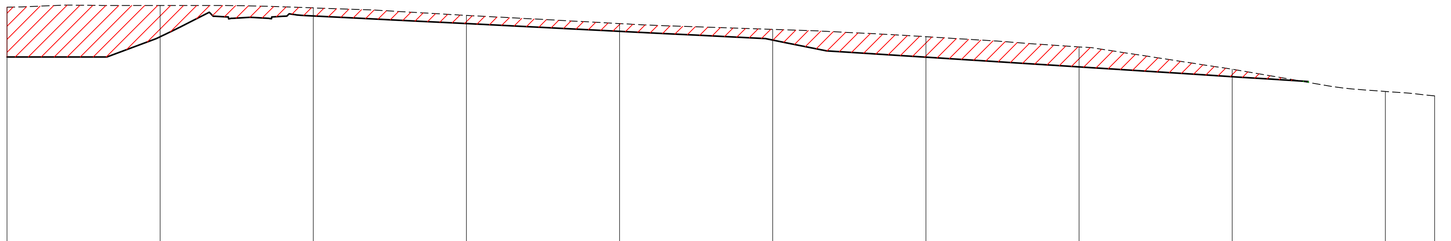
HORIZONTAL GEOMETRY

DATUM -9.5

SC07											
EARTHWORKS			23.359	22.146	20.296	16.392	10.632				
EXISTING SURFACE	23.696	23.682	24.210	23.982	21.223	16.333	10.799	6.612			
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	225.000	243.949

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC07 LONGITUDINAL SECTION



DESIGN GRADELINE

HORIZONTAL GEOMETRY

DATUM 4.7

SC08											
EARTHWORKS	22.950	24.602	26.302	25.675	25.047	24.330	22.935	22.140	21.345		
EXISTING SURFACE	27.011	27.153	26.958	26.345	25.679	25.204	24.607	23.776	21.956	20.140	19.774
CHAINAGES	0.000	25.000	50.000	75.000	100.000	125.000	150.000	175.000	200.000	225.000	233.051

1 in 500 HORIZONTAL
1 in 250 VERTICAL

SC08 LONGITUDINAL SECTION

Rev	Description	Date	By	App
P1	DA ISSUE	16.01.19	DB	-

Rev	Description	Date	By	App

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PLAN SCALE 1:250 A1 SHEET

10.0 0 5.0 10.0 15.0 20.0m
PLAN SCALE 1:500 A1 SHEET

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Project Name: TWEED VALLEY HOSPITAL
PRELIMINARY CIVIL WORKS

Drawing Title: BULK EARTH WORKS
SECTIONS
SHEET 4

CONSTRUCTION

Designed	C.G.S.	Project Director Approved	Date
Drawn	C.G.S.		
Scale	1:1000		
Date	16.01.19		
Sheet	A1		

North

Project Ref	Drawing No	Rev
20 10748 01	C023	P1

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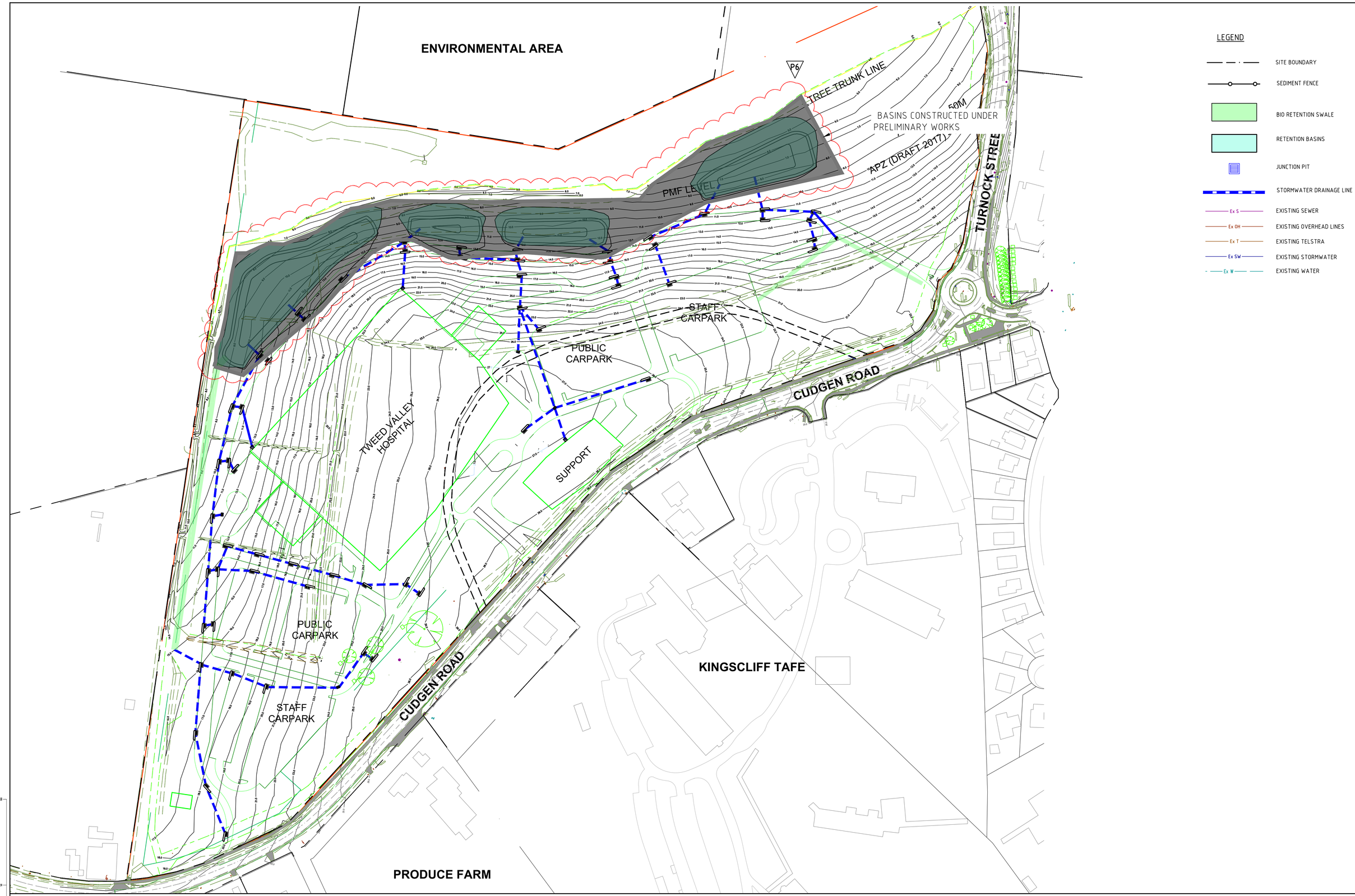

Rev	Description	Date	By	App
P5	DA ISSUE	16.01.18	DB	-
P4	ISSUED FOR EARLY AND ENABLING WORKS	16.10.18	PN	-
P3	ISSUED FOR EARLY WORKS DA	04.10.18	PN	-
P2	ISSUED FOR EARLY WORKS DA	06.09.18	PA	-
P1	ISSUED FOR EARLY WORKS DA	03.09.18	PA	-
P6	RESPONSE TO SUBMISSIONS	22.01.19	DB	-

25 0 10 20 30 40 50m
PLAN SCALE 1:1250 A1 SHEET

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Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, CUDGEN STAGE 1 EARLY WORKS

Drawing Title: CONCEPT STORMWATER MANAGEMENT PLAN

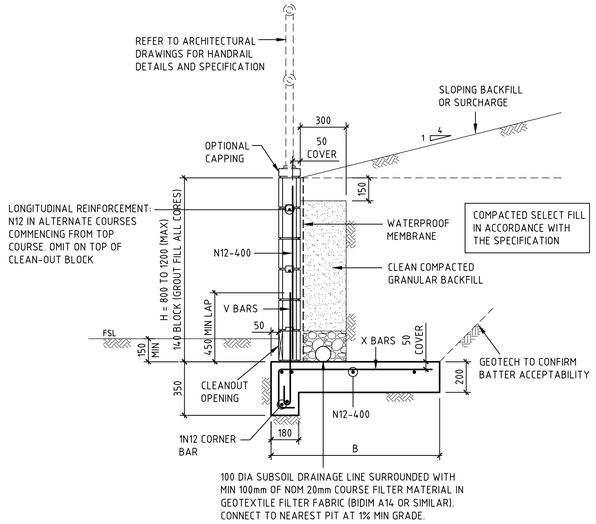
DEVELOPMENT APPLICATION

Designed	P A	Project Director Approved	Date
Drawn	P A		
Scale	1:1250		
Date	03.09.18		
Sheet	A1		

North

Project Ref: 20 10748 01 | Drawing No: C030 | Rev: P6

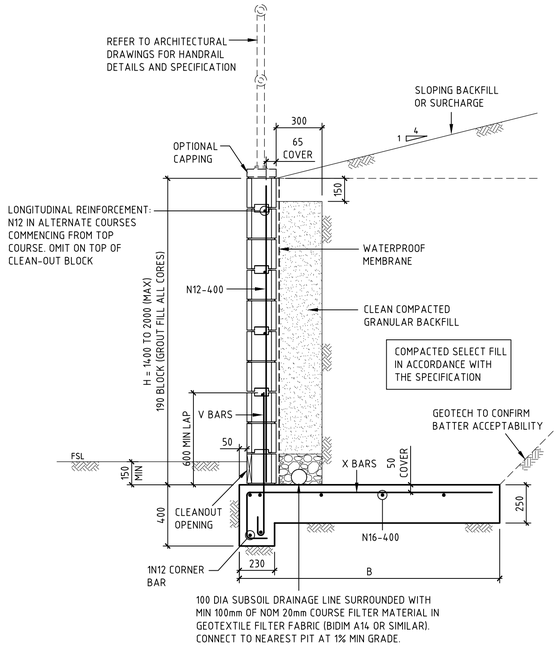
File: G:\Job\10748\03 Work in Progress\02 Civil\01 CAD\01 Autocad\000 Series - Early Works\10748C-C030.dwg Plotted: 22.01.19 at 5:36 PM By: Dean Bowen



BLOCK RETAINING WALL (MAX 1200 HIGH)

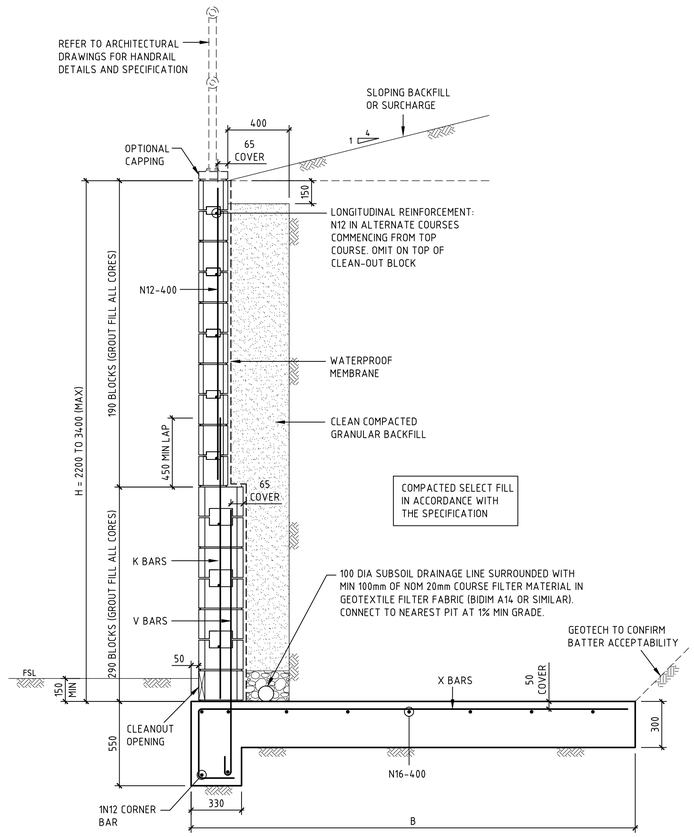
SCALE 1:20

NOTE: DESIGNER TO CHECK THE NEED FOR SHEAR KEY



BLOCK RETAINING WALL (MAX 2000 HIGH)

SCALE 1:20



BLOCK RETAINING WALL (MAX 3400 HIGH)

SCALE 1:20

BLOCK RETAINING WALL BASE TYPE 1

WALL HEIGHT				REINFORCEMENT		BASE DIMENSIONS	
TOTAL HEIGHT (mm) H	HEIGHT OF BLOCKWORK			X-BARS AND V-BARS	K-BARS	WIDTH, B (mm) WITH FOLLOWING BACKFILL CONDITIONS	
	150 SERIES	200 SERIES	300 SERIES			LEVEL	MAX 1:4 SLOPE
800	800	-	-	N12-400	-	800	1000
1000	1000	-	-	N12-400	-	1000	1200
1200	1200	-	-	N12-400	-	1100	1500
1400	-	1400	-	N12-400	-	1300	1700
1600	-	1600	-	N16-400	-	1400	2000
1800	-	1800	-	N16-400	-	1600	2200
2000	-	2000	-	N16-200	-	1700	2500
2200	-	1400	800	N16-400	N16-400	1900	2800
2400	-	1600	800	N16-400	N16-400	2000	3100
2600	-	1600	1000	N20-400	N20-400	2200	3300
2800	-	1800	1000	N20-400	N20-400	2400	3600
3000	-	2000	1000	N16-200	N16-200	2600	3900
3200	-	2000	1200	N20-200	N16-200	2800	4200
3400	-	2000	1400	N20-200	N16-200	2900	4500

Rev	Description	Date	By	App
P2	DA ISSUE	16.01.19	DB	-
P1	ISSUED FOR EARLY WORKS DA	16.10.18	PN	-

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Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, CUDGEN STAGE 1 EARLY WORKS

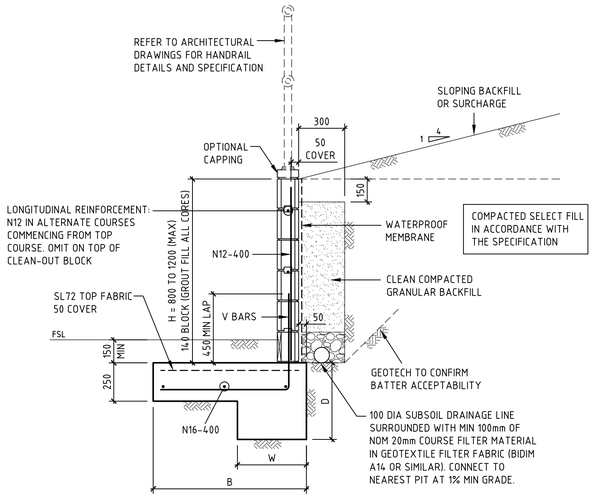
Drawing Title: RETAINING WALL DETAILS SHEET 1

DEVELOPMENT APPLICATION

Designed	PA
Drawn	PA
Scale	-
Date	03.09.18
Sheet	A1

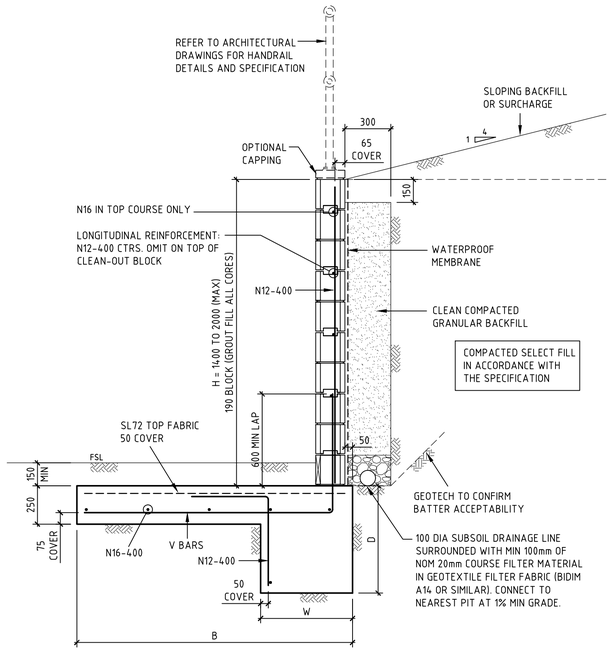
Project Director Approved | Date | North

Project Ref: 20 10748 01 | Drawing No: C055 | Rev: P2



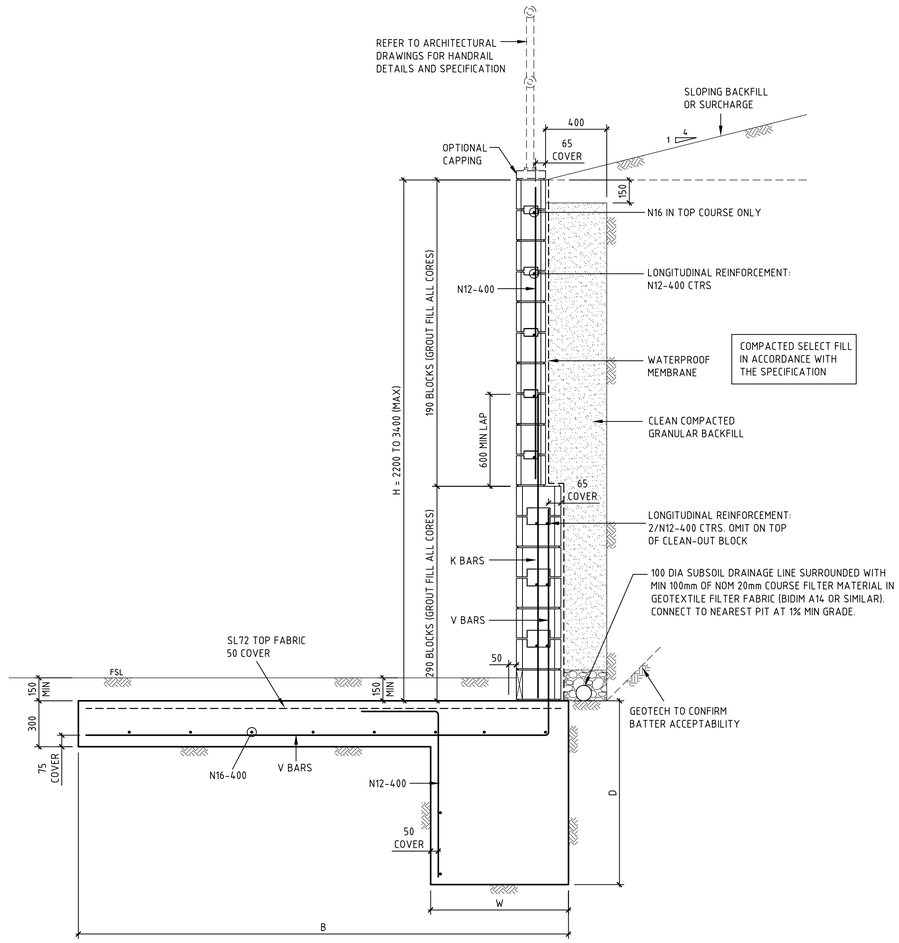
BLOCK RETAINING WALL (MAX 1200 HIGH)

SCALE 1:20



BLOCK RETAINING WALL (MAX 2000 HIGH)

SCALE 1:20



BLOCK RETAINING WALL (MAX 3400 HIGH)

SCALE 1:20

BLOCK RETAINING WALL BASE TYPE 2

WALL HEIGHT				REINFORCEMENT		BASE DIMENSIONS				
TOTAL HEIGHT (mm) H	HEIGHT OF BLOCKWORK			X-BARS AND V-BARS	K-BARS	HEEL WIDTH (mm) W	LEVEL BACKFILL		MAX 1:4 SLOPING BACKFILL	
	150 SERIES	200 SERIES	300 SERIES				BASE WIDTH (mm) B	HEEL DEPTH (mm) D	BASE WIDTH (mm) B	HEEL DEPTH (mm) D
800	800	-	-	N12-400	-	450	600	500	800	500
1000	1000	-	-	N12-400	-	450	800	500	1000	500
1200	1200	-	-	N12-400	-	450	1000	500	1200	600
1400	-	1400	-	N16-400	-	450	1200	500	1400	600
1600	-	1600	-	N16-400	-	450	1400	600	1600	700
1800	-	1800	-	N16-400	-	450	1600	700	1800	800
2000	-	2000	-	N16-200	-	600	1800	700	2000	800
2200	-	1400	800	N16-400	N16-400	600	2000	800	2200	900
2400	-	1600	800	N16-400	N16-400	600	2200	900	2400	1000
2600	-	1600	1000	N20-400	N20-400	900	2400	900	2600	1000
2800	-	1800	1000	N20-400	N20-400	900	2600	900	2800	1100
3000	-	2000	1000	N16-200	N16-200	900	2800	1000	3000	1200
3200	-	2000	1200	N20-200	N16-200	900	3000	1100	3200	1300
3400	-	2000	1400	N20-200	N16-200	900	3200	1200	3400	1500

Rev	Description	Date	By	App
P2	DA ISSUE	16.01.19	DB	-
P1	ISSUED FOR EARLY WORKS DA	16.10.18	PN	-

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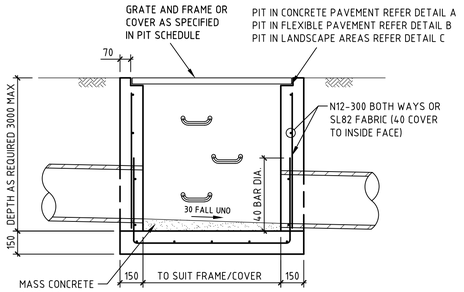
Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, CUDGEN STAGE 1 EARLY WORKS

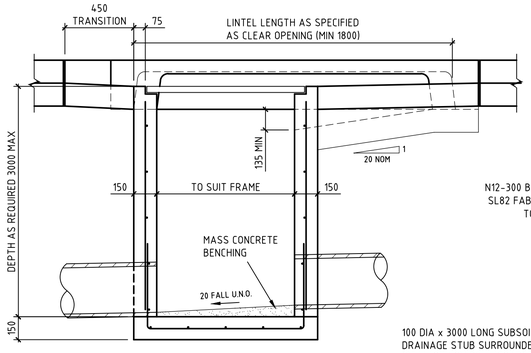
Drawing Title: RETAINING WALL DETAILS SHEET 2

DEVELOPMENT APPLICATION

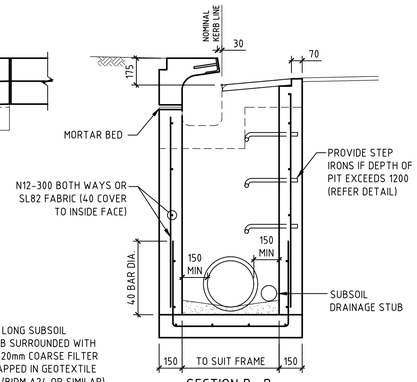
Designed	PA	Project Director Approved	Date
Drawn	PN		
Scale	-		North
Date	03.09.18	Project Ref	Drawing No / Rev
Sheet	A1	20 10748 01	C056 P2



SECTION



SECTION A -A



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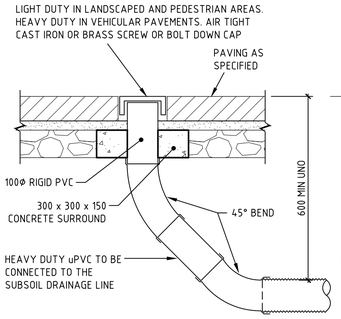
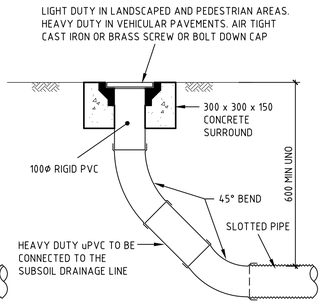


FLUSHOUT RISER (FOR) IN PAVING BRICKS

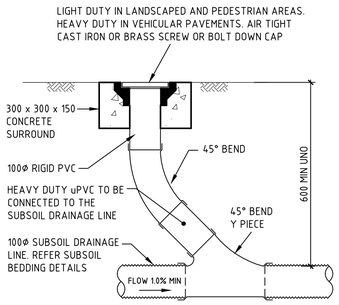
SCALE 1:10



FLUSHOUT RISER (FOR)

SCALE 1:10

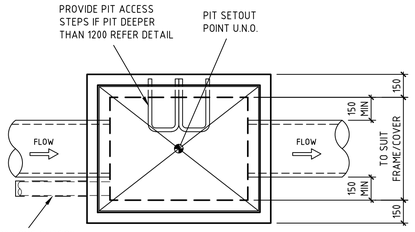
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS WITHIN DRAINAGE LAYER ONLY



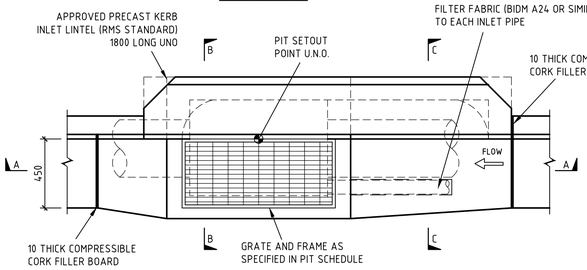
INTERMEDIATE RISER

SCALE 1:10

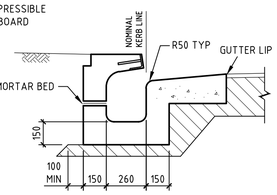
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED



PLAN



PLAN



SECTION C -C

SURFACE INLET/JUNCTION PIT DETAIL

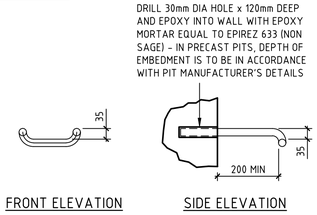
SCALE 1:20

STORMWATER PIT NOTES

1. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH (F'c) OF 25 MPa AT 28 DAYS.
2. REINFORCEMENT NOT REQUIRED IF DEPTH OF PIT IS LESS THAN 1000mm. PITS GREATER THAN 3000mm DEEP TO HAVE WALL AND BASE 200mm THICK REINFORCED WITH N12-250 EACH WAY EACH FACE WITH CONCRETE STRENGTH F'c = 40 MPa.
3. PROVIDE STEP IRONS AT MAX 350mm CTRS IF DEPTH OF PIT EXCEEDS 1200mm.
4. IF REINFORCING FABRIC IS TO BE USED REFER TO WALL AND CORNER DETAILS
5. PRECAST PITS ARE TO GENERALLY COMPLY WITH THESE DETAILS.
6. PRECAST PIT MAY BE USED SUBJECT TO ENGINEERS APPROVAL.
7. ALL PITS TO BE LOCKABLE.
8. FINAL INTERNAL PIT DIMENSIONS ARE TO COMPLY WITH AS 3500.

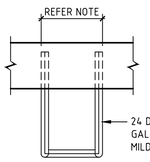
KERB INLET PIT DETAIL

SCALE 1:20



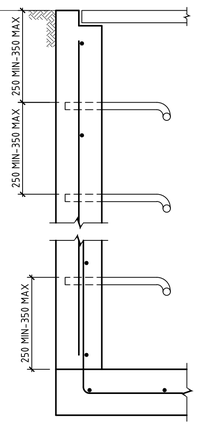
FRONT ELEVATION

SIDE ELEVATION



PLAN

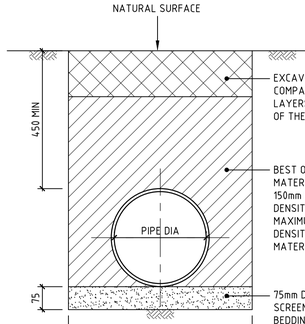
NOTES
1. WHEN POSITIONED IN STRAIGHT ALIGNMENT, STEP TO BE 400 WIDE.
2. STAGGERED STEPS TO BE 200 WIDE, STEPS TO BE STAGGERED 200 CENTRE TO CENTRE FOR ALTERNATIVE STEPS.
3. SPACING OF STEPS TO BE UNIFORM TO WITHIN ±8mm IN EACH PIT.



SECTION

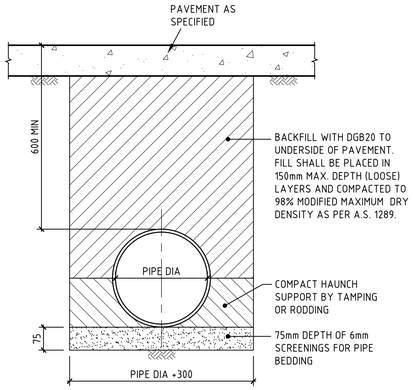
PIT ACCESS STEP DETAIL

SCALE 1:10



PIPE LAYING DETAIL (ALL PIPES) UNDER LANDSCAPED AREAS

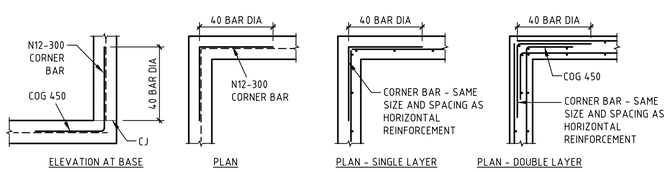
SCALE 1:10



PIPE LAYING DETAILS UNDER ALL PAVEMENTS

SCALE 1:10

NOTE: AVOID RUNNING CONSTRUCTION EQUIPMENT OVER THE PIPES UNTIL BACKFILL MATERIAL IS 300mm MIN. ABOVE CROWN OF PIPE.



ELEVATION AT BASE

PLAN

PLAN - SINGLE LAYER

PLAN - DOUBLE LAYER

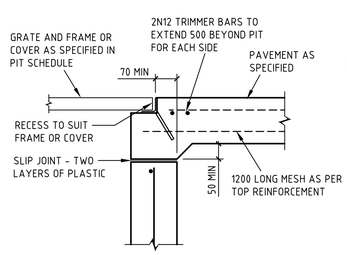
FABRIC

REINFORCEMENT

PIT CORNER DETAILS

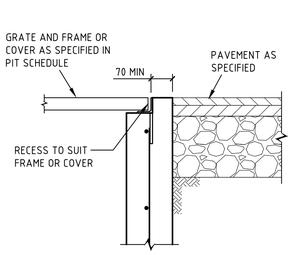
SCALE 1:20

NOTE: DESIGNER TO VERIFY EXTENT OF DETAILING



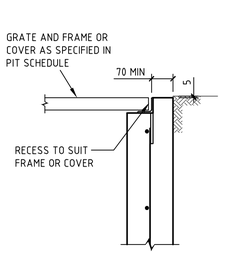
DETAIL A

SCALE 1:10



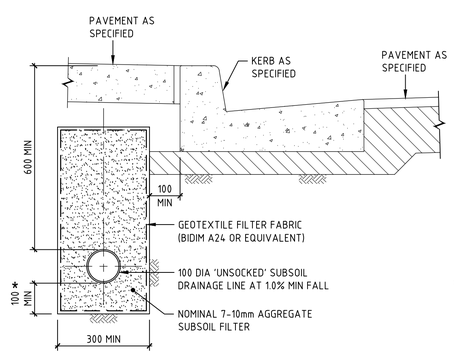
DETAIL B

SCALE 1:10



DETAIL C

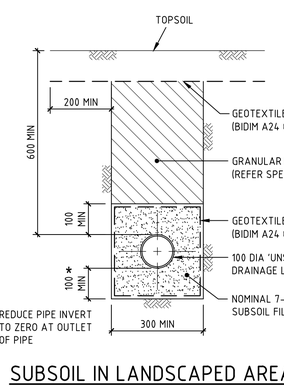
SCALE 1:10



* REDUCE PIPE INVERT TO ZERO AT OUTLET OF PIPE

SUBSOIL BEHIND KERB

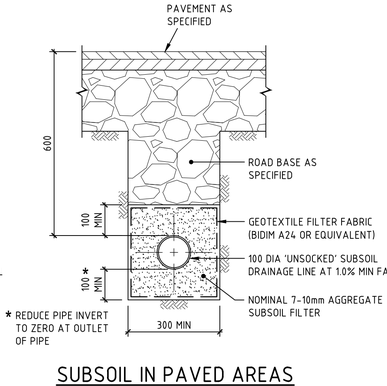
SCALE 1:10



* REDUCE PIPE INVERT TO ZERO AT OUTLET OF PIPE

SUBSOIL IN LANDSCAPED AREAS

SCALE 1:10



* REDUCE PIPE INVERT TO ZERO AT OUTLET OF PIPE

SUBSOIL IN PAVED AREAS

SCALE 1:10

Rev	Description	Date	By	App
P2	DA ISSUE	16.01.19	DB	-
P1	ISSUED FOR EARLY WORKS DA	03.09.18	PA	-

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Project Name: TWEED VALLEY HOSPITAL DEVELOPMENT, CUDGEN STAGE 1 EARLY WORKS

Drawing Title: STORMWATER DRAINAGE DETAILS

DEVELOPMENT APPLICATION

Designed	PA
Drawn	PA
Scale	-
Date	03.09.18
Sheet	A1

Project Director Approved | Date | North

Project Ref: 20 10748 01 | Drawing No: C060 | Rev: P2

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