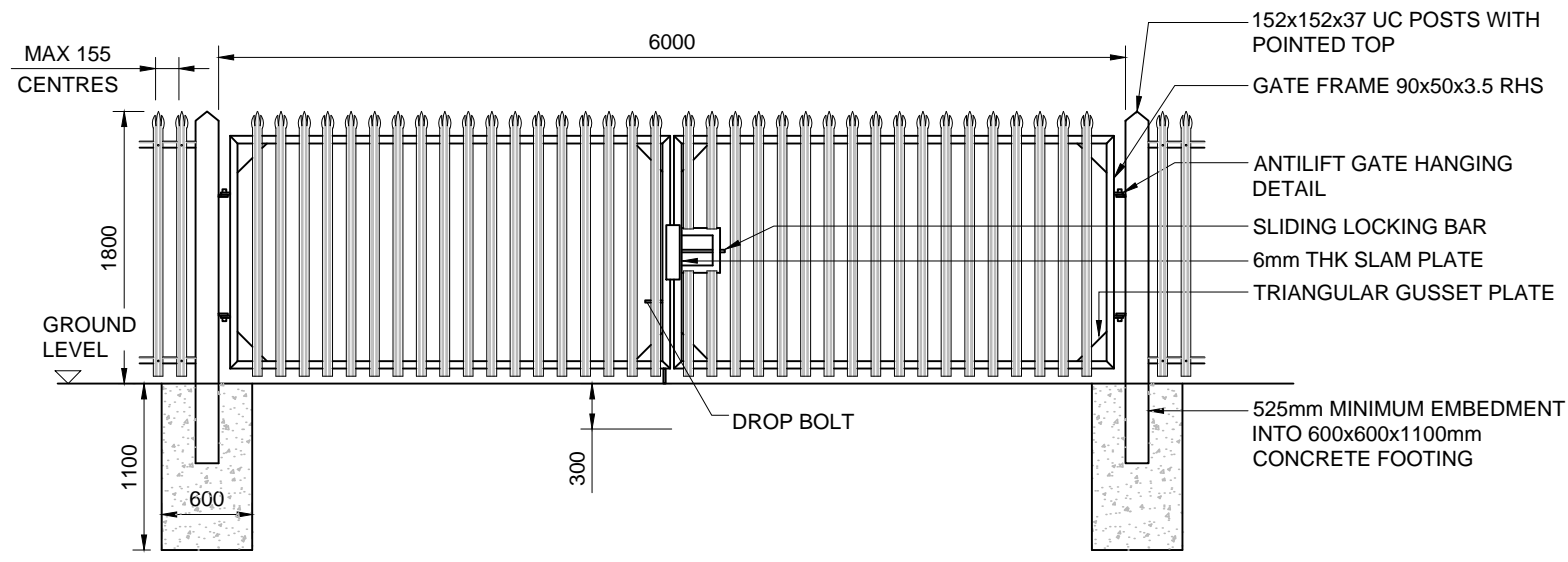
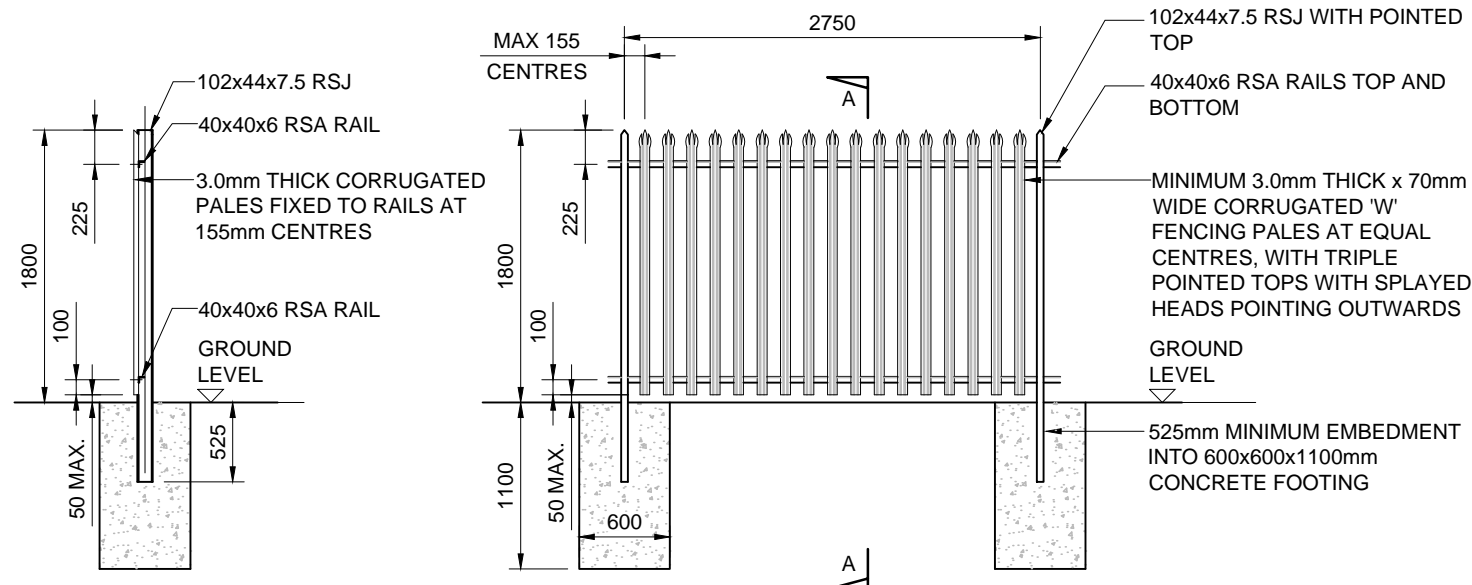


Appendix C – Standard Details



TYPICAL 1.8m HIGH 6m WIDE PALISADE GATE (1:50)
(TYPICAL EXTERNAL VIEW)



SECTION A-A (1:50)

TYPICAL 1.8m HIGH PALISADE FENCE (1:50)
(TYPICAL EXTERNAL VIEW)

SPECIFICATION:

PALISADE FENCING

ALL STEEL PALISADE FENCE SHALL BE SECURITY TYPE GP18 IN ACCORDANCE WITH BS 1722 : PART 12 AND HOT DIP GALVANISED IN ACCORDANCE WITH BS EN ISO 1461.

ALL ROLLED STEEL SECTIONS SHALL BE OF STEEL GRADE S275 TO BS EN 10025 : 1993 UNLESS OTHERWISE SPECIFIED.

ALL BOLTS SHALL COMPLY WITH BS 3692 AND SHALL BE STRENGTH GRADE 8.8. NUTS SHALL BE STRENGTH GRADE 8 AND WASHERS SHALL CONFORM TO BS 4320. ALL BOLTS, NUTS AND WASHERS SHALL BE ZINC COATED.

ALL CONNECTIONS SHALL BE BOLTED IN ACCORDANCE WITH BS 1722 : PART 12.

OPTIONAL ITEMS REQUIRED FOR ADDITIONAL SECURITY ARE TO BE SPECIFIED IN A PROJECT SPECIFIC FORM A/B

ALL BEDDING CONCRETE FOR VERTICAL FENCE POSTS TO BE MASS CONCRETE MINIMUM GRADE ST2 TO BS 8500-1.

INSTALLATION GUIDANCE: PALISADE FENCING

TO LIMIT DEFLECTION IN FENCE RAILS, THE BOTTOM HORIZONTAL RAIL SHALL BE SUPPORTED SO THAT AFTER TIGHTENING OF THE BOLTS, ALIGNING AND PLUMBING TO THE FENCE THERE IS A SLIGHT UPWARD CAMBER. THIS SUPPORT SHOULD BE REMOVED ONLY ONCE THE CONCRETE HAS SET.

CONCRETE

CONCRETE: C30/37, AC-4, DC-4, AGGREGATE: 20mm (MAX.) SULPHATE AND CHLORIDE RESISTANT
DISTANCE TO COAST: 2km, SITE ALTITUDE: 100m AMSL
WIND SPEED: 25m/s, ENVIRONMENT: TYPICAL OPEN COUNTRYSIDE
GROUND CONDITION: AVERAGE FOR PLANTED (ROOT) FOUNDATION
WATER TABLE: WELL BELOW THE FOUNDATION, AND SITE IS NOT SUSCEPTIBLE TO FLOODING

GENERAL NOTES:

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF NETWORK RAIL COMPANY PROCEDURES

- NR/SP/OHS/011: PREVENTION OF DAMAGE TO AND DANGER FROM SURFACE AND BURIED SERVICES.
- NR/PRC/MP/C10024: CONTROL AND USE OF METAL PINS AND SPIKES ON NETWORK RAIL INFRASTRUCTURE
- NR/PRC/MP/C10026 PROCESS: FOR LOCATING BURIED SERVICES PRIOR TO GROUND PENETRATION.

FENCES JOINED TO EXISTING FENCES, WALLS OR OTHER STRUCTURES TO PROVIDE A COMPLETE BARRIER TO PERSONS OR ANIMALS AS APPROPRIATE.

FENCES SHALL BE ACCURATELY SET OUT AND ERECTED TO PROVIDE A SMOOTH ALIGNMENT IN PLAN AND ELEVATION, FOLLOWING THE CONTOURS OF THE GROUND AS CLOSELY AS IS PRACTICABLE.

THE LINE OF THE FENCING SHALL BE CLEARED OF ALL IMPENDING VEGETATION AND TRIMMED TO REMOVE ANY IRREGULARITIES TO ENABLE FENCE INFILL PANELS TO BE ERECTED AT A CONSTANT DISTANCE FROM THE GROUND.

01	17.12.2014	P.J.	FIRST ISSUE	S.C.
Rev	Date	Name	Description of Revisions	Rev/Check



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Capita Property and Infrastructure Ltd.

TABLE 1

SAFETY, HEALTH & ENVIRONMENT RISK ASSESSMENT		
DESIGNERS' NOTE - CDM REG. 13(2)(b)		
THE FOLLOWING ARE SIGNIFICANT HAZARDS WHICH MIGHT AFFECT THE HEALTH AND SAFETY OF THOSE UNDERTAKING THE WORKS OUTLINED IN THIS SET OF DRAWINGS ON RAILWAY STRUCTURES OR THOSE AFFECTED BY THESE ACTIVITIES. A SITE SPECIFIC RISK ASSESSMENT SHOULD ALWAYS BE UNDERTAKEN PRIOR TO COMMENCING ANY OF THE WORKS DESCRIBED ON SITE.		
IT IS ASSUMED THAT A COMPETENT CONTRACTOR IS AWARE OF THE RISKS ASSOCIATED WITH GENERAL CONSTRUCTION ACTIVITIES UNDERTAKEN WITHIN THE RAILWAY ENVIRONMENT.		

RISK	STAGE	
CONTACT WITH OVERHEAD WIRES OR BURIED SERVICES	C	SPECIFIC METHOD STATEMENT AND RISK ASSESSMENT TO IDENTIFY AND DETAIL PROTECTION TO ALL SERVICES, BURIED AND OVERHEAD.
DAMAGE TO ROOTS OR PROTECTED TREES	C	SPECIFIC METHOD STATEMENT TO DETAIL PROVISION FOR ROOT PROTECTION OF TREES DURING WORKS.
INJURY TO ADJOINING LANDOWNERS	C	ADJOINING LANDOWNERS TO BE INFORMED AHEAD OF WORKS.
FAILURE OF FENCE DUE TO SUB-STANDARD MATERIALS	D/C	CERTIFICATE OF CONFORMITY IN ACCORDANCE WITH BS 1722 TO BE PROVIDED BY FENCE MANUFACTURER.
FAILURE OF FENCE DUE TO SUB-STANDARD INSTALLATION	D/C	CERTIFICATE OF CONFORMITY IN ACCORDANCE WITH BS 1722 TO BE PROVIDED BY FENCE INSTALLER.

NOTE : C=CONSTRUCTION, D=DESIGN

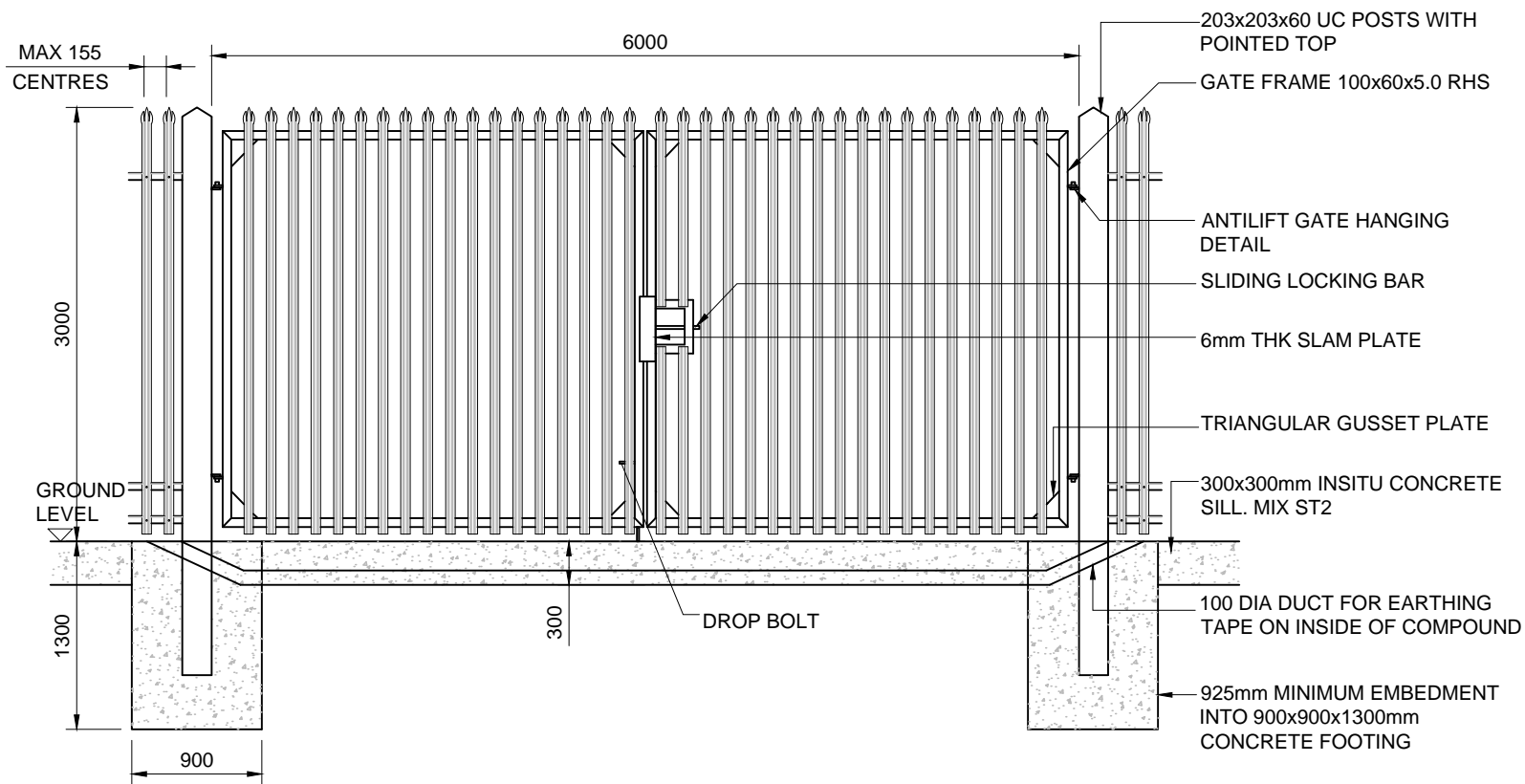
Project Title
**INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS**

Drawing Title
**1.8m HIGH 6m WIDE PALISADE
GATE & FENCE DETAILS -
SECURITY LEVEL 1 & 2**

Drawn By	Name P.JENYON	Sig. <i>P Jenyon</i>	Date 17.12.14
Checked By	Name S.CHAMBERS	Sig. <i>S Chambers</i>	Date 17.12.14
Approved By	Name J.SHERIDAN	Sig. <i>J Sheridan</i>	Date 17.12.14
Scale	AS SHOWN @ A3		Sheet 1 of 1
Site Coordinates	N/A	ELR N/A	Chainage N/A
Drawing No.	075481/CV/001		Revision 01

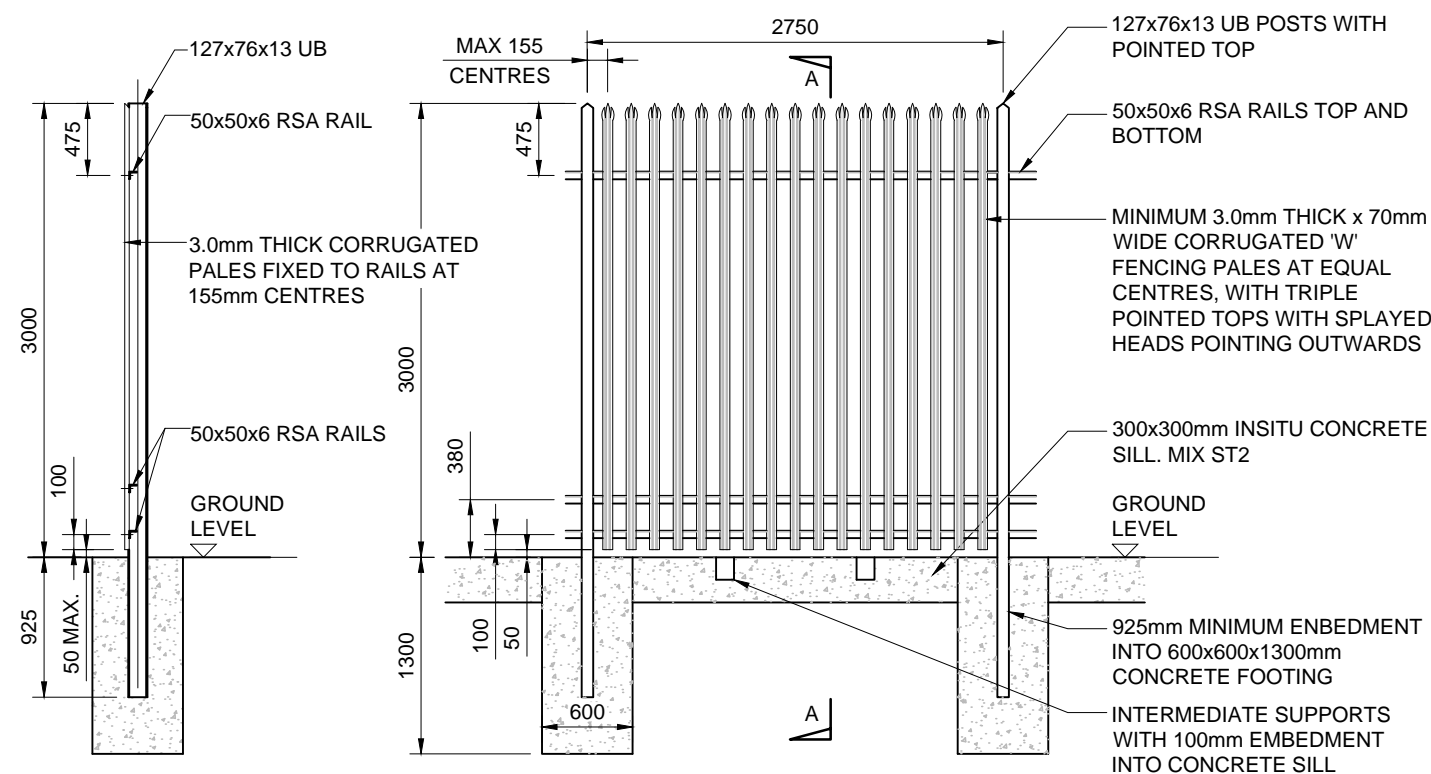
APPROVED FOR CONSTRUCTION - NETWORK RAIL CIVIL ENGINEER

Signature:	Title:
Name:	Date:



TYPICAL 3.0m HIGH 6m WIDE PALISADE GATE (1:50)

(TYPICAL EXTERNAL VIEW)



SECTION A-A (1:50)

TYPICAL 3m HIGH PALISADE FENCE (1:50)

(TYPICAL EXTERNAL VIEW)

APPROVED FOR CONSTRUCTION - NETWORK RAIL CIVIL ENGINEER	
Signature:	Title:
Name:	Date:

SPECIFICATION:

PALISADE FENCING

ALL STEEL PALISADE FENCE SHALL BE SECURITY TYPE SP30 IN ACCORDANCE WITH BS 1722 : PART 12 AND HOT DIP GALVANISED IN ACCORDANCE WITH BS EN ISO 1461.

ALL ROLLED STEEL SECTIONS SHALL BE OF STEEL GRADE S275 TO BS EN 10025 : 1993 UNLESS OTHERWISE SPECIFIED.

ALL BOLTS SHALL COMPLY WITH BS 3692 AND SHALL BE STRENGTH GRADE 8.8. NUTS SHALL BE STRENGTH GRADE 8 AND WASHERS SHALL CONFORM TO BS 4320. ALL BOLTS, NUTS AND WASHERS SHALL BE ZINC COATED.

ALL CONNECTIONS SHALL BE BOLTED IN ACCORDANCE WITH BS 1722 : PART 12.

OPTIONAL ITEMS REQUIRED FOR ADDITIONAL SECURITY ARE TO BE SPECIFIED IN A PROJECT SPECIFIC FORM A/B

ALL BEDDING CONCRETE FOR VERTICAL FENCE POSTS TO BE MASS CONCRETE MINIMUM GRADE ST2 TO BS 8500-1.

INSTALLATION GUIDANCE: PALISADE FENCING

TO LIMIT DEFLECTION IN FENCE RAILS, THE BOTTOM HORIZONTAL RAIL SHALL BE SUPPORTED SO THAT AFTER TIGHTENING OF THE BOLTS, ALIGNING AND PLUMBING TO THE FENCE THERE IS A SLIGHT UPWARD CAMBER. THIS SUPPORT SHOULD BE REMOVED ONLY ONCE THE CONCRETE HAS SET.

CONCRETE

CONCRETE: C30/37, AC-4, DC-4, AGGREGATE: 20mm (MAX.) SULPHATE AND CHLORIDE RESISTANT
 DISTANCE TO COAST: 2km, SITE ALTITUDE: 100m AMSL
 WIND SPEED: 25m/s, ENVIRONMENT: TYPICAL OPEN COUNTRYSIDE
 GROUND CONDITION: AVERAGE FOR PLANTED (ROOT) FOUNDATION
 WATER TABLE: WELL BELOW THE FOUNDATION, AND SITE IS NOT SUSCEPTIBLE TO FLOODING

TABLE 1

SAFETY, HEALTH & ENVIRONMENT RISK ASSESSMENT

DESIGNERS' NOTE - CDM REG. 13(2)(b)

THE FOLLOWING ARE SIGNIFICANT HAZARDS WHICH MIGHT AFFECT THE HEALTH AND SAFETY OF THOSE UNDERTAKING THE WORKS OUTLINED IN THIS SET OF DRAWINGS ON RAILWAY STRUCTURES OR THOSE AFFECTED BY THESE ACTIVITIES. A SITE SPECIFIC RISK ASSESSMENT SHOULD ALWAYS BE UNDERTAKEN PRIOR TO COMMENCING ANY OF THE WORKS DESCRIBED ON SITE.

IT IS ASSUMED THAT A COMPETENT CONTRACTOR IS AWARE OF THE RISKS ASSOCIATED WITH GENERAL CONSTRUCTION ACTIVITIES UNDERTAKEN WITHIN THE RAILWAY ENVIRONMENT.

RISK	STAGE	
CONTACT WITH OVERHEAD WIRES OR BURIED SERVICES	C	SPECIFIC METHOD STATEMENT AND RISK ASSESSMENT TO IDENTIFY AND DETAIL PROTECTION TO ALL SERVICES, BURIED AND OVERHEAD.
DAMAGE TO ROOTS OR PROTECTED TREES	C	SPECIFIC METHOD STATEMENT TO DETAIL PROVISION FOR ROOT PROTECTION OF TREES DURING WORKS.
INJURY TO ADJOINING LANDOWNERS	C	ADJOINING LANDOWNERS TO BE INFORMED AHEAD OF WORKS.
FAILURE OF FENCE DUE TO SUB-STANDARD MATERIALS	D/C	CERTIFICATE OF CONFORMITY IN ACCORDANCE WITH BS 1722 TO BE PROVIDED BY FENCE MANUFACTURER.
FAILURE OF FENCE DUE TO SUB-STANDARD INSTALLATION	D/C	CERTIFICATE OF CONFORMITY IN ACCORDANCE WITH BS 1722 TO BE PROVIDED BY FENCE INSTALLER.

NOTE : C=CONSTRUCTION, D=DESIGN

GENERAL NOTES:

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF NETWORK RAIL COMPANY PROCEDURES

- NR/SP/OHS/011: PREVENTION OF DAMAGE TO AND DANGER FROM SURFACE AND BURIED SERVICES.
- NR/PRC/MP/C10024: CONTROL AND USE OF METAL PINS AND SPIKES ON NETWORK RAIL INFRASTRUCTURE
- NR/PRC/MP/C10026 PROCESS: FOR LOCATING BURIED SERVICES PRIOR TO GROUND PENETRATION.

FENCES JOINED TO EXISTING FENCES, WALLS OR OTHER STRUCTURES TO PROVIDE A COMPLETE BARRIER TO PERSONS OR ANIMALS AS APPROPRIATE.

FENCES SHALL BE ACCURATELY SET OUT AND ERECTED TO PROVIDE A SMOOTH ALIGNMENT IN PLAN AND ELEVATION, FOLLOWING THE CONTOURS OF THE GROUND AS CLOSELY AS IS PRACTICABLE.

THE LINE OF THE FENCING SHALL BE CLEARED OF ALL IMPENDING VEGETATION AND TRIMMED TO REMOVE ANY IRREGULARITIES TO ENABLE FENCE INFILL PANELS TO BE ERECTED AT A CONSTANT DISTANCE FROM THE GROUND.

Rev	Date	Name	Description of Revisions	Rev/Check
01	17.12.2014	P.J.	FIRST ISSUE	S.C.

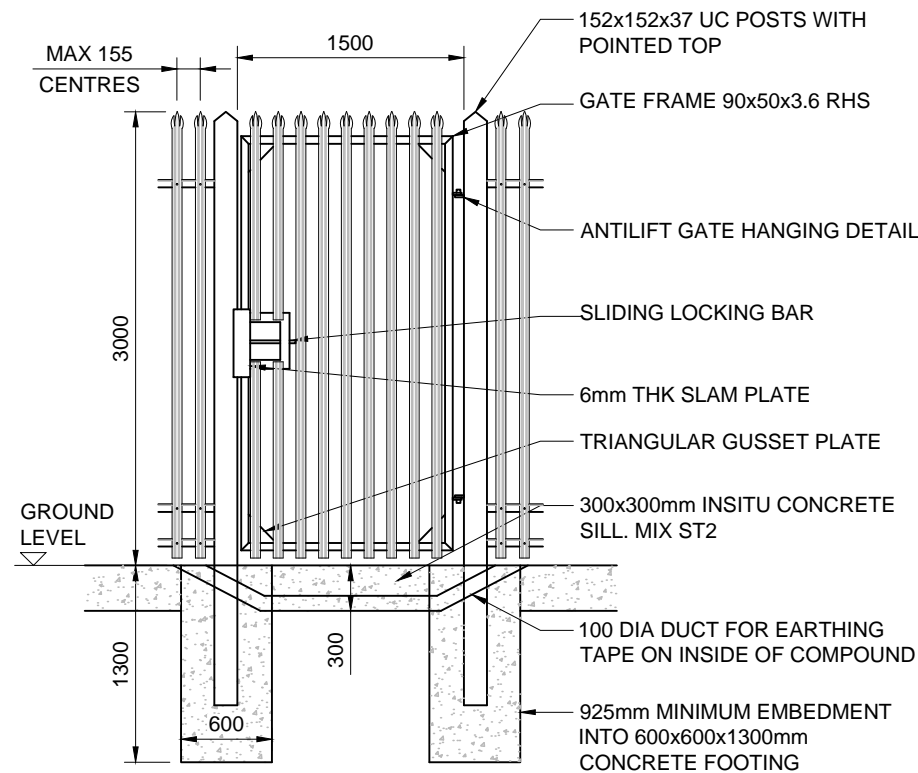
Client

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 Capita Property and Infrastructure Ltd.

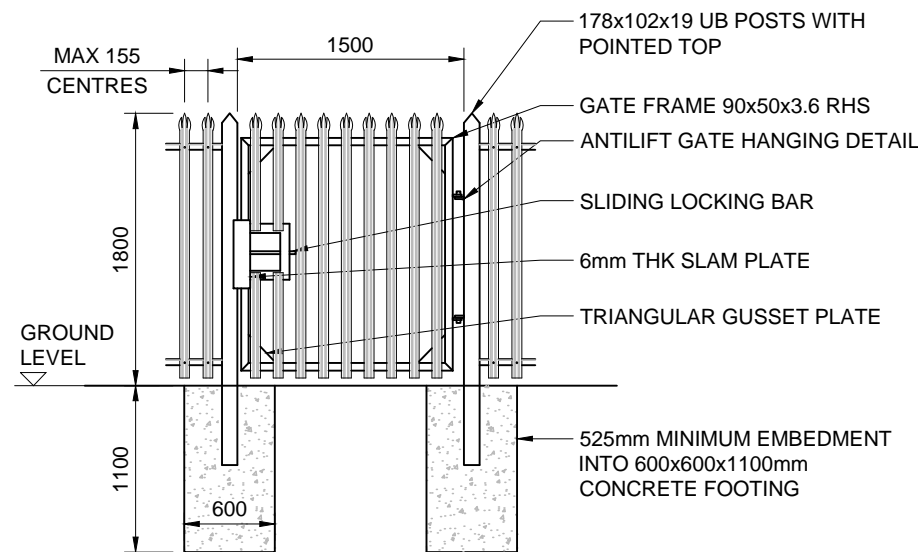
Project Title
**INFRASTRUCTURE ACCESS POINTS
 BEST PRACTICE DESIGN GUIDE
 STANDARD DETAILS**

Drawing Title
**3.0m HIGH 6m WIDE PALISADE
 GATE & FENCE DETAILS -
 SECURITY LEVEL 3**

Drawn By	Name	Sig.	Date
	P.JENYON	<i>P Jenyon</i>	17.12.14
Checked By	Name	Sig.	Date
	S.CHAMBERS	<i>S Chambers</i>	17.12.14
Approved By	Name	Sig.	Date
	J.SHERIDAN	<i>J Sheridan</i>	17.12.14
Scale	AS SHOWN @ A3		
Sheet	1 of 1		
Site Coordinates	N/A	ELR	N/A
Chaining	N/A		
Drawing No.	075481/CV/002		Revision
			01



TYPICAL 3.0m HIGH 1.5m WIDE PALISADE GATE (1:50)
(TYPICAL EXTERNAL VIEW)



TYPICAL 1.8m HIGH 1.5m WIDE PALISADE GATE (1:50)
(TYPICAL EXTERNAL VIEW)

APPROVED FOR CONSTRUCTION - NETWORK RAIL CIVIL ENGINEER

Signature:	Title:
Name:	Date:

SPECIFICATION:

PALISADE FENCING

ALL STEEL PALISADE FENCE SHALL BE SECURITY TYPE GP18/SP30 IN ACCORDANCE WITH BS 1722 : PART 12 AND HOT DIP GALVANISED IN ACCORDANCE WITH BS EN ISO 1461.

ALL ROLLED STEEL SECTIONS SHALL BE OF STEEL GRADE S275 TO BS EN 10025 : 1993 UNLESS OTHERWISE SPECIFIED.

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INSTALLATION GUIDANCE: PALISADE FENCING

TO LIMIT DEFLECTION IN FENCE RAILS, THE BOTTOM HORIZONTAL RAIL SHALL BE SUPPORTED SO THAT AFTER TIGHTENING OF THE BOLTS, ALIGNING AND PLUMBING TO THE FENCE THERE IS A SLIGHT UPWARD CAMBER. THIS SUPPORT SHOULD BE REMOVED ONLY ONCE THE CONCRETE HAS SET.

CONCRETE

CONCRETE: C30/37, AC-4, DC-4, AGGREGATE: 20mm (MAX.) SULPHATE AND CHLORIDE RESISTANT
 DISTANCE TO COAST: 2km, SITE ALTITUDE: 100m AMSL
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 GROUND CONDITION: AVERAGE FOR PLANTED (ROOT) FOUNDATION
 WATER TABLE: WELL BELOW THE FOUNDATION, AND SITE IS NOT SUSCEPTIBLE TO FLOODING

TABLE 1

SAFETY, HEALTH & ENVIRONMENT RISK ASSESSMENT		
DESIGNERS' NOTE - CDM REG. 13(2)(b)		
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RISK	STAGE	
CONTACT WITH OVERHEAD WIRES OR BURIED SERVICES	C	SPECIFIC METHOD STATEMENT AND RISK ASSESSMENT TO IDENTIFY AND DETAIL PROTECTION TO ALL SERVICES, BURIED AND OVERHEAD.
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INJURY TO ADJOINING LANDOWNERS	C	ADJOINING LANDOWNERS TO BE INFORMED AHEAD OF WORKS.
FAILURE OF FENCE DUE TO SUB-STANDARD MATERIALS	D/C	CERTIFICATE OF CONFORMITY IN ACCORDANCE WITH BS 1722 TO BE PROVIDED BY FENCE MANUFACTURER.
FAILURE OF FENCE DUE TO SUB-STANDARD INSTALLATION	D/C	CERTIFICATE OF CONFORMITY IN ACCORDANCE WITH BS 1722 TO BE PROVIDED BY FENCE INSTALLER.
NOTE : C=CONSTRUCTION, D=DESIGN		

GENERAL NOTES:

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.

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- NR/PRC/MP/C10024: CONTROL AND USE OF METAL PINS AND SPIKES ON NETWORK RAIL INFRASTRUCTURE
- NR/PRC/MP/C10026 PROCESS: FOR LOCATING BURIED SERVICES PRIOR TO GROUND PENETRATION.

FENCES JOINED TO EXISTING FENCES, WALLS OR OTHER STRUCTURES TO PROVIDE A COMPLETE BARRIER TO PERSONS OR ANIMALS AS APPROPRIATE.

FENCES SHALL BE ACCURATELY SET OUT AND ERECTED TO PROVIDE A SMOOTH ALIGNMENT IN PLAN AND ELEVATION, FOLLOWING THE CONTOURS OF THE GROUND AS CLOSELY AS IS PRACTICABLE.

THE LINE OF THE FENCING SHALL BE CLEARED OF ALL IMPENDING VEGETATION AND TRIMMED TO REMOVE ANY IRREGULARITIES TO ENABLE FENCE INFILL PANELS TO BE ERECTED AT A CONSTANT DISTANCE FROM THE GROUND.

01	17.12.2014	P.J.	FIRST ISSUE	S.C.
Rev	Date	Name	Description of Revisions	Rev/Check

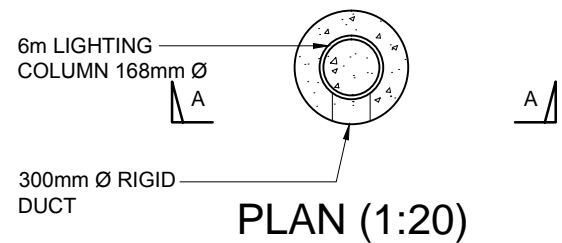


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 Capita Property and Infrastructure Ltd.

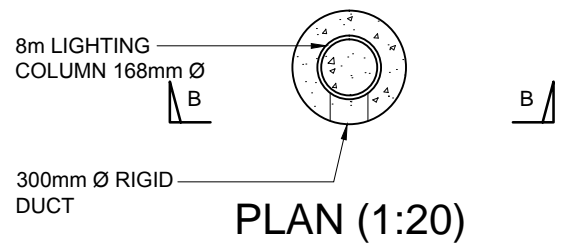
Project Title
INFRASTRUCTURE ACCESS POINTS BEST PRACTICE DESIGN GUIDE STANDARD DETAILS

Drawing Title
3.0m & 1.8m HIGH 1.5m WIDE PALISADE ACCESS GATE DETAILS

Drawn By	Name P.JENYON	Sig. P Jenyon	Date 17.12.14
Checked By	Name S.CHAMBERS	Sig. S Chambers	Date 17.12.14
Approved By	Name J.SHERIDAN	Sig. J Sheridan	Date 17.12.14
Scale	AS SHOWN @ A3		Sheet 1 of 1
Site Coordinates	N/A	ELR	N/A
Chairsage	N/A		
Drawing No.	075481/CV/003		Revision 01



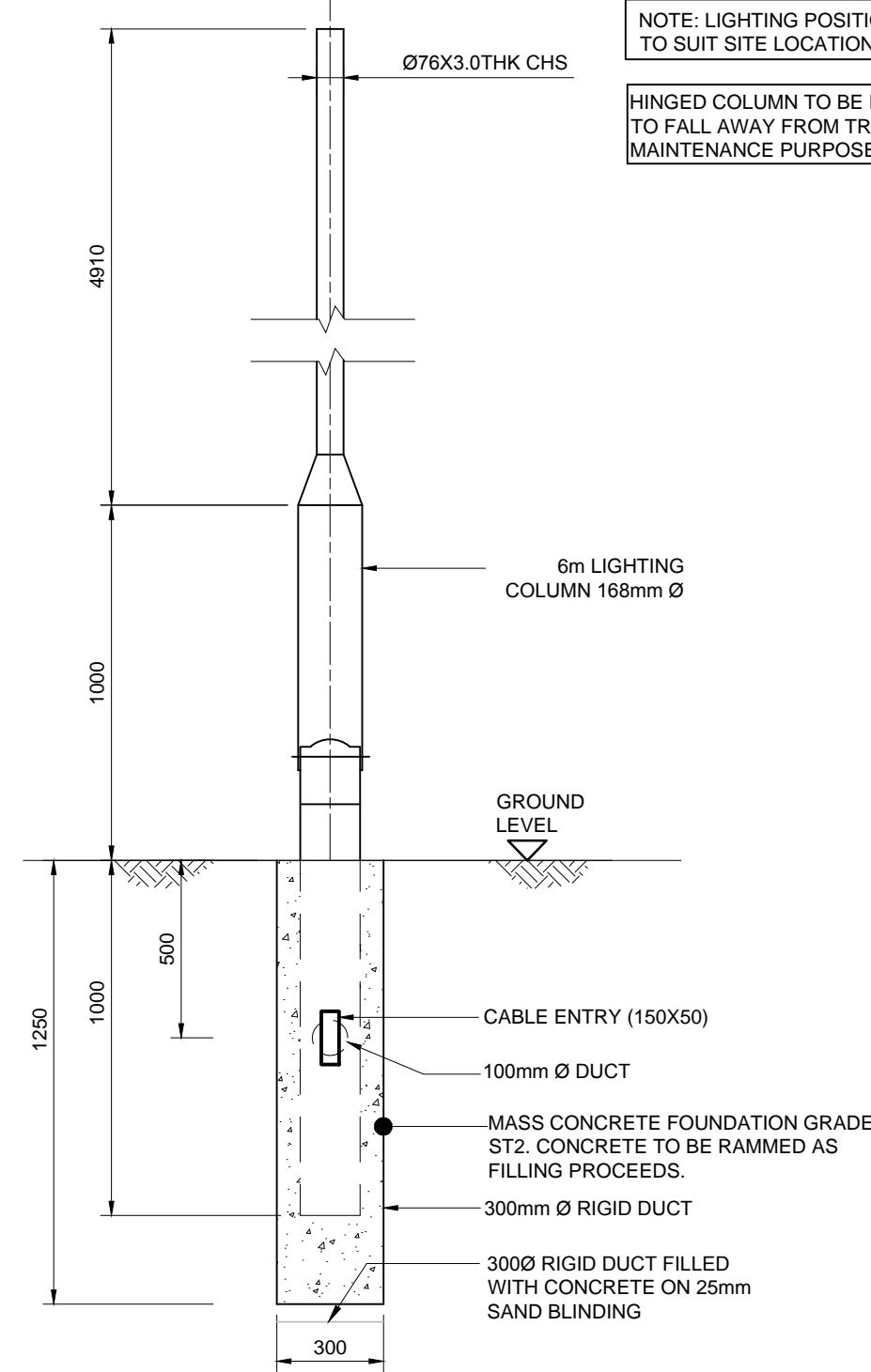
PLAN (1:20)



PLAN (1:20)

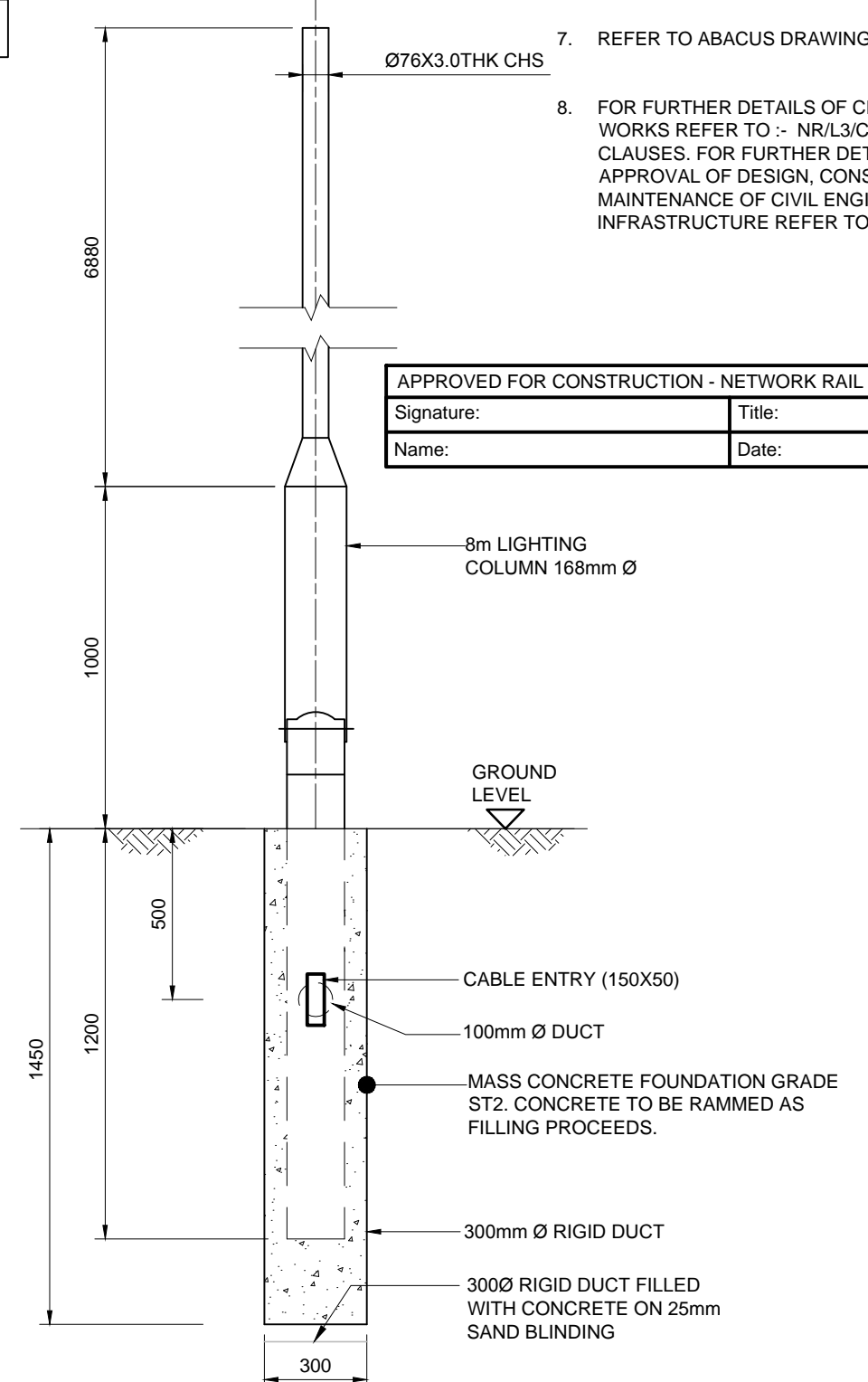
NOTE: LIGHTING POSITION MAY VARY TO SUIT SITE LOCATION

HINGED COLUMN TO BE INSTALLED TO FALL AWAY FROM TRACK FOR MAINTENANCE PURPOSES.



SECTION A-A (1:20)

TYPICAL 6m ABACUS T061RLS LIGHT DUTY LIGHTING COLUMN FOUNDATION DETAILS



SECTION B-B (1:20)

TYPICAL 8m ABACUS T081RLS LIGHT DUTY LIGHTING COLUMN FOUNDATION DETAILS

- THE VERTICAL EDGE OF THE CONCRETE FOUNDATION SHALL BE FORMED TO A CLASS F2 FINISH IN ACCORDANCE WITH SECTION 80 CLAUSE 80.033 OF THE SPECIFICATION. THE TOP OF THE FOUNDATION SHALL HAVE A SWEEP BRUSH FINISH WITH FLOATED EDGES, 100mm WIDE.
- THE TOP SURFACE OF THE FOUNDATIONS SHALL BE SET TO LEVEL WITH A TOLERANCE OF +/- 5mm. NO POINT SHALL HAVE A SAG GREATER THAN 3mm FROM A 2m STRAIGHT EDGE.
- REFER TO ABACUS DRAWINGS FOR DETAILS
- FOR FURTHER DETAILS OF CIVIL ENGINEERING WORKS REFER TO :- NR/L3/CIV/140-MODEL CLAUSES. FOR FURTHER DETAILS OF TECHNICAL APPROVAL OF DESIGN, CONSTRUCTION & MAINTENANCE OF CIVIL ENGINEERING INFRASTRUCTURE REFER TO :- NR/SP/CIV/003.

APPROVED FOR CONSTRUCTION - NETWORK RAIL CIVIL ENGINEER

Signature:	Title:
Name:	Date:

- GENERAL NOTES:
- ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - DO NOT SCALE THIS DRAWING.
 - GROUND UNDER CONCRETE FOUNDATION TO BE WELL COMPACTED PRIOR TO LAYING CONCRETE. ANY SOFT SPOTS TO BE EXCAVATED OUT AND BACKFILLED WITH TYPE 1 FILL WELL COMPACTED IN 150MM LAYERS.
 - CONCRETE TO BE DESIGNED MIX IN ACCORDANCE WITH BS8500-2. COMPRESSIVE STRENGTH CLASS C32/40 DESIGN CHEMICAL CLASS DC-2Z MAX. AGGREGATE SIZE 20mm CHLORIDE CLASS CI 0.40 CONSISTENCE CLASS S3 CONCRETE BLINDING TO BE DESIGNATED MIX GEN 1 IN ACCORDANCE WITH BS 8500-2. REINFORCEMENT TO BE GRADE 500 BAR IN ACCORDANCE WITH BS4449, OR MESH FABRIC IN ACCORDANCE WITH BS4483. COVER TO ALL REINFORCEMENT TO BE 50MM. MASS CONCRETE FILL TO BASE TO BE COMPRESSIVE STRENGTH CLASS C16/20.

Rev	Date	Name	Description of Revisions	Rev/Check
01	17.12.2014	P.J.	FIRST ISSUE	S.C.

Client

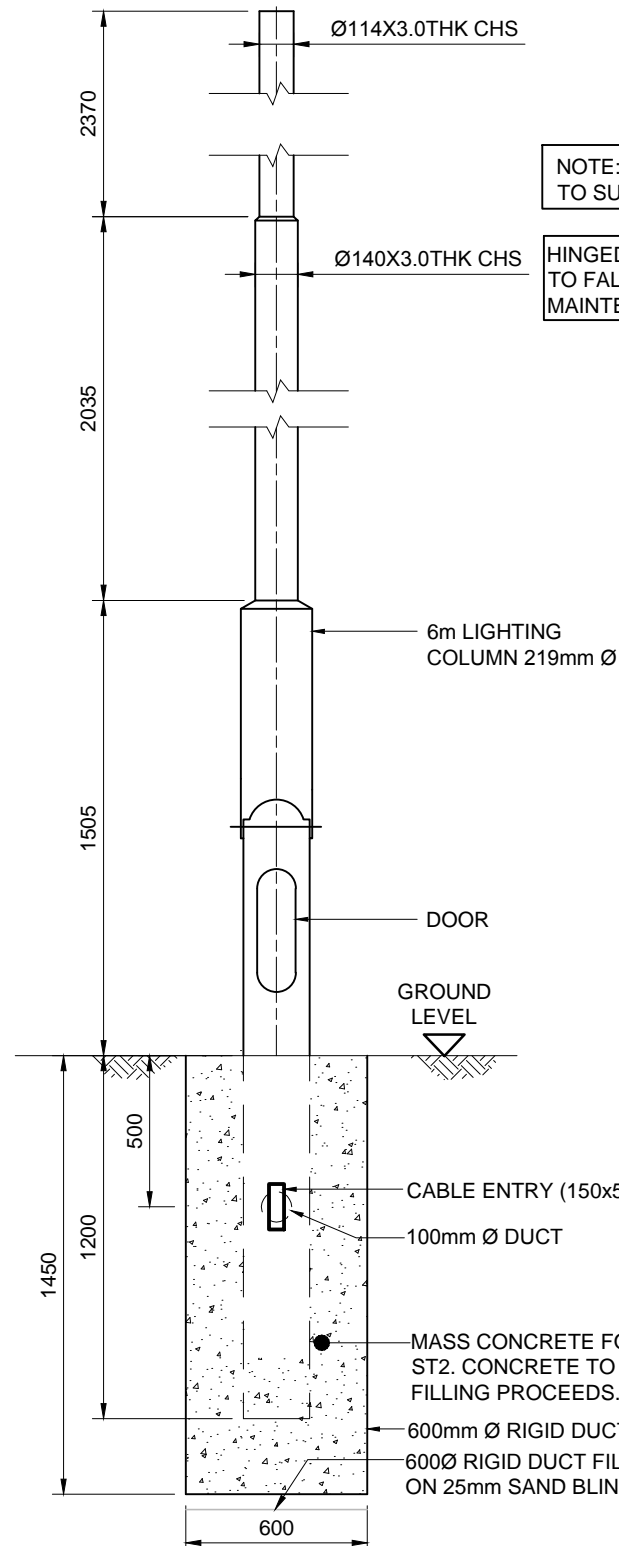
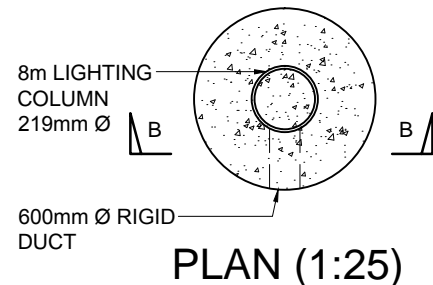
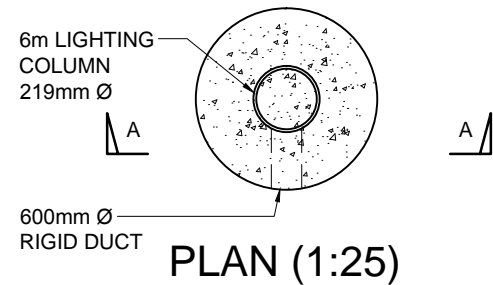
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Capita Property and Infrastructure Ltd.

Project Title
**INFRASTRUCTURE ACCESS POINTS
 BEST PRACTICE DESIGN GUIDE
 STANDARD DETAILS**

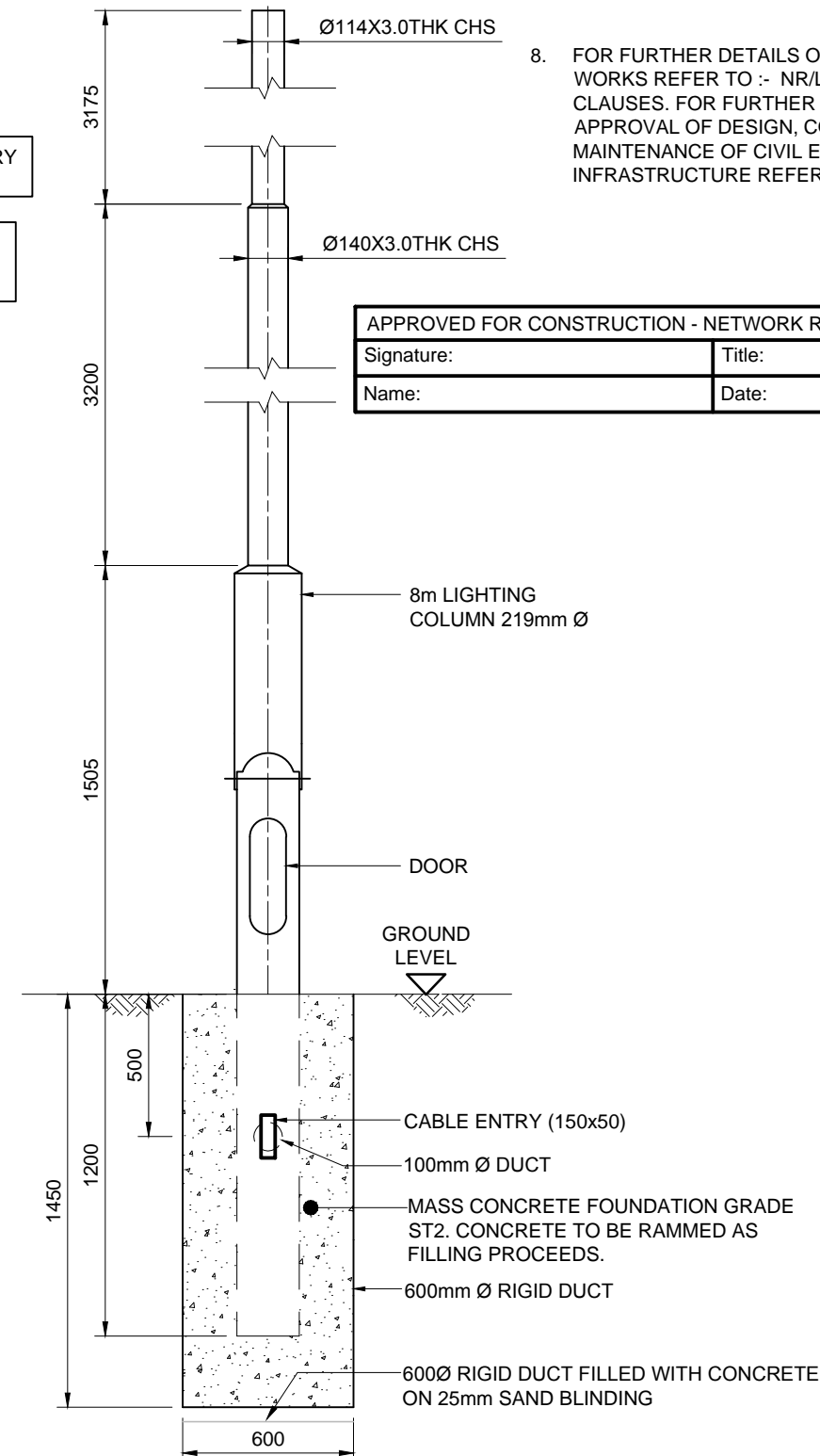
Drawing Title
**6m & 8m LIGHT DUTY HINGED LIGHTING
 COLUMN FOUNDATION DETAILS**

Drawn By	Name P.JENYON	Sig. <i>P Jenyon</i>	Date 17.12.14
Checked By	Name S.CHAMBERS	Sig. <i>S Chambers</i>	Date 17.12.14
Approved By	Name J.SHERIDAN	Sig. <i>J Sheridan</i>	Date 17.12.14
AS SHOWN @ A3		Sheet 1 of 1	
Site Coordinates	N/A	ELR	N/A
Chaining	N/A		
Drawing No.	075481/CV/004		Revision 01



NOTE: LIGHTING POSITION MAY VARY TO SUIT SITE LOCATION

HINGED COLUMN TO BE INSTALLED TO FALL AWAY FROM TRACK FOR MAINTENANCE PURPOSES.



- THE VERTICAL EDGE OF THE CONCRETE FOUNDATION SHALL BE FORMED TO A CLASS F2 FINISH IN ACCORDANCE WITH SECTION 80 CLAUSE 80.033 OF THE SPECIFICATION. THE TOP OF THE FOUNDATION SHALL HAVE A SWEEP BRUSH FINISH WITH FLOATED EDGES, 100mm WIDE.
- THE TOP SURFACE OF THE FOUNDATIONS SHALL BE SET TO LEVEL WITH A TOLERANCE OF +/- 5mm. NO POINT SHALL HAVE A SAG GREATER THAN 3mm FROM A 2m STRAIGHT EDGE.
- REFER TO ABACUS DRAWINGS FOR DETAILS
- FOR FURTHER DETAILS OF CIVIL ENGINEERING WORKS REFER TO :- NR/L3/CIV/140-MODEL CLAUSES. FOR FURTHER DETAILS OF TECHNICAL APPROVAL OF DESIGN, CONSTRUCTION & MAINTENANCE OF CIVIL ENGINEERING INFRASTRUCTURE REFER TO :- NR/SP/CIV/003.

APPROVED FOR CONSTRUCTION - NETWORK RAIL CIVIL ENGINEER

Signature:	Title:
Name:	Date:

- NOTES:
- ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
 - DO NOT SCALE THIS DRAWING.
 - GROUND UNDER CONCRETE FOUNDATION TO BE WELL COMPACTED PRIOR TO LAYING CONCRETE. ANY SOFT SPOTS TO BE EXCAVATED OUT AND BACKFILLED WITH TYPE 1 FILL WELL COMPACTED IN 150MM LAYERS.
 - CONCRETE TO BE DESIGNED MIX IN ACCORDANCE WITH BS8500-2.
COMPRESSIVE STRENGTH CLASS C32/40
DESIGN CHEMICAL CLASS DC-2Z
MAX. AGGREGATE SIZE 20mm
CHLORIDE CLASS CI 0.40
CONSISTENCE CLASS S3
CONCRETE BLINDING TO BE DESIGNATED MIX GEN 1 IN ACCORDANCE WITH BS 8500-2.
REINFORCEMENT TO BE GRADE 500 BAR IN ACCORDANCE WITH BS4449, OR MESH FABRIC IN ACCORDANCE WITH BS4483.
COVER TO ALL REINFORCEMENT TO BE 50MM.
MASS CONCRETE FILL TO BASE TO BE COMPRESSIVE STRENGTH CLASS C16/20.

Rev	Date	Name	Description of Revisions	Rev/Check
01	17.12.2014	P.J.	FIRST ISSUE	S.C.

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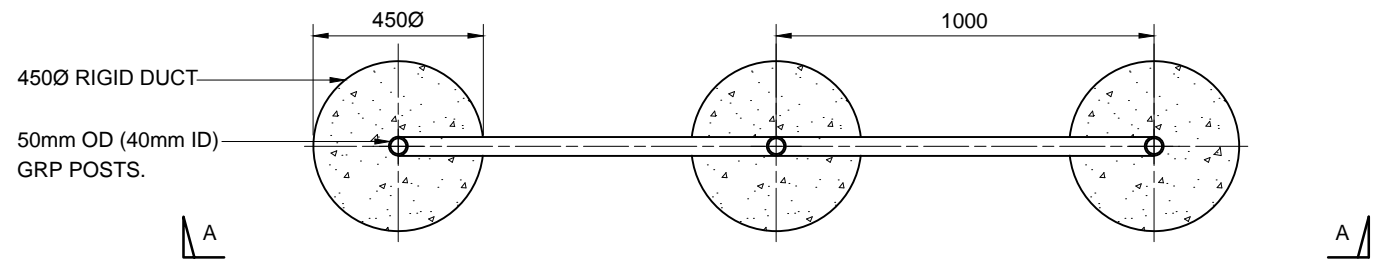
Project Title
INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS

Drawing Title
6m & 8m HEAVY DUTY HINGED LIGHTING COLUMN FOUNDATION DETAILS

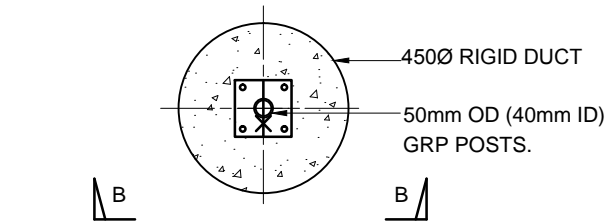
Drawn By	Name P.JENYON	Sig. <i>P Jenyon</i>	Date 17.12.14
Checked By	Name S.CHAMBERS	Sig. <i>S Chambers</i>	Date 17.12.14
Approved By	Name J.SHERIDAN	Sig. <i>J Sheridan</i>	Date 17.12.14
AS SHOWN @ A3		Sheet 1 of 1	
Site Coordinates	N/A	ELR	N/A
Chainage	N/A		
Drawing No.	075481/CV/005		Revision 01

TYPICAL 6m ABACUS T067RLH HEAVY DUTY LIGHTING COLUMN FOUNDATION DETAILS

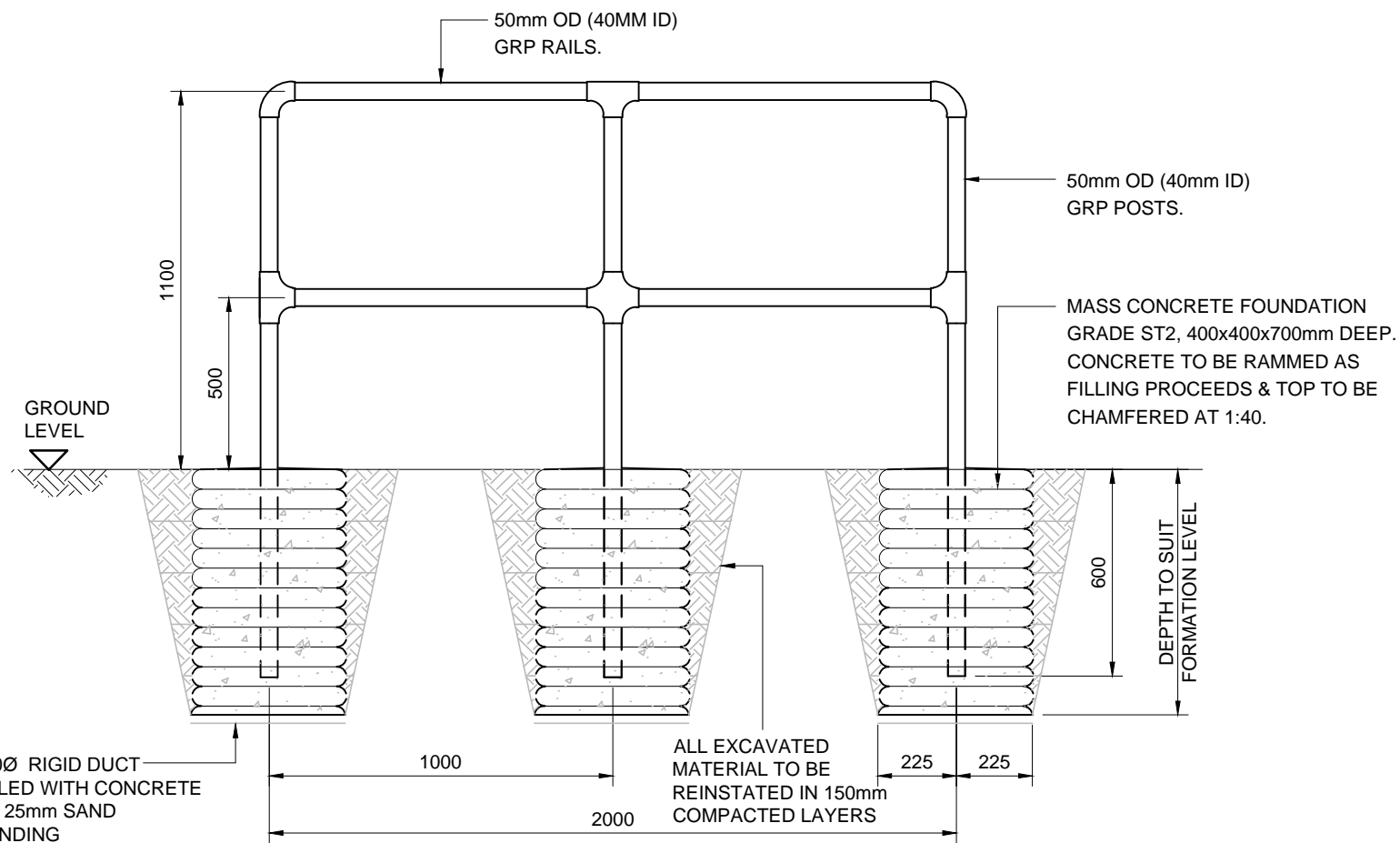
TYPICAL 8m ABACUS T087RLH HEAVY DUTY LIGHTING COLUMN FOUNDATION DETAILS



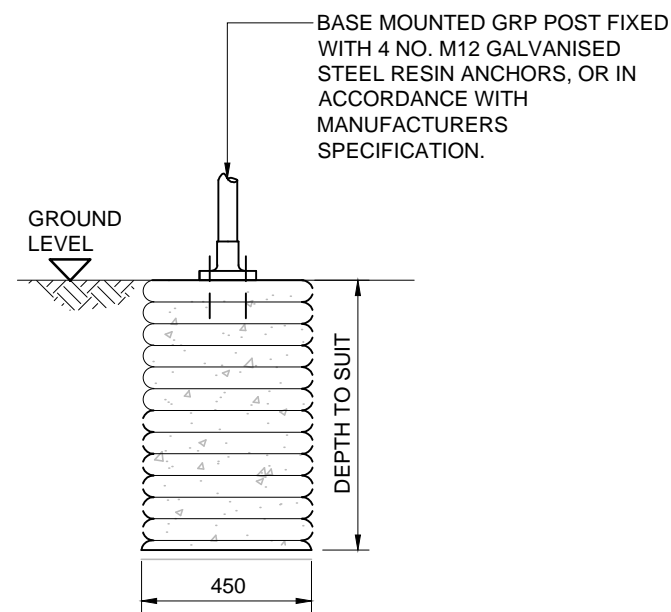
PLAN ON FOUNDATION (1:20)



PLAN ON FOUNDATION - ALTERNATIVE POST FIXING DETAIL (1:20)



SECTION A-A GRP GUARD RAIL ELEVATION (1:20)



SECTION B-B ALTERNATIVE POST FIXING DETAIL (1:20)

NOTES

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE. DO NOT SCALE THIS DRAWING.
2. GUARD RAIL TO BE IN ACCORDANCE WITH NETWORK RAIL DOCUMENT NR/GN/SIG/11210 APPENDIX 2G05
3. ALL COMPONENTS TO BE SECURED WITH EPOXY IN ACCORDANCE WITH MANUFACTURERS SPECIFICATION.
4. GUARD RAIL TO BE GREY - RAL 7047
5. FOR FURTHER DETAILS OF CIVIL ENGINEERING WORKS REFER TO :- NR/L3/CIV/140-MODEL CLAUSES. FOR FURTHER DETAILS OF TECHNICAL APPROVAL OF DESIGN, CONSTRUCTION & MAINTENANCE OF CIVIL ENGINEERING INFRASTRUCTURE REFER TO :- NR/SP/CIV/003.
6. HANDRAIL SHALL BE CAPABLE OF WITHSTANDING A HORIZONTAL FORCE OF 400N/m ACTING AT THE HEIGHT OF HANDRAILS IN ACCORDANCE WITH NETWORK RAIL COM[ANY STANDARD NR/SP/OHS/069

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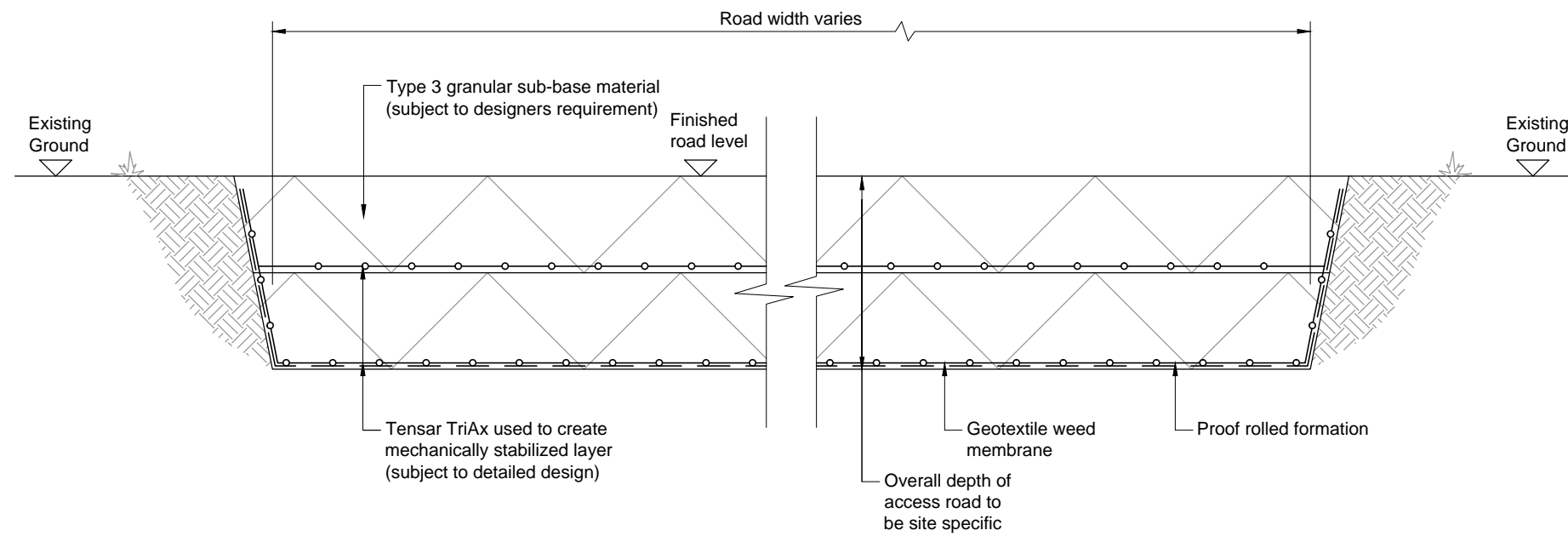
T: +44 (0) 161 488 1500 E: Special.Projects@Capita.co.uk
Capita Property and Infrastructure Ltd.

Project Title
INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS

Drawing Title
HEAVY DUTY GRP HANDRAIL DETAILS

Drawn By	Name P.JENYON	Sig. <i>P Jenyon</i>	Date 17.12.14
Checked By	Name S.CHAMBERS	Sig. <i>S Chambers</i>	Date 17.12.14
Approved By	Name J.SHERIDAN	Sig. <i>J Sheridan</i>	Date 17.12.14
AS SHOWN @ A3		Sheet 1 of 1	
Site Coordinates	N/A	ELR	N/A
Chaining	N/A		
Drawing No.	075481/CV/006		Revision 01

APPROVED FOR CONSTRUCTION - NETWORK RAIL CIVIL ENGINEER	
Signature:	Title:
Name:	Date:



STONE ACCESS ROAD DETAILS (Subject to site specific design)

Note:
All soft spots encountered are to be removed and replaced by 6F2/6F5 material in accordance with specification for Highway Works' series 600.

Alternate option
N.R. approved manufacturer surfacing
(i.e. Truck Pave).

GENERAL NOTES:

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF NETWORK RAIL COMPANY PROCEDURES

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01	17.12.2014	L.Z.	First issue	J.W.

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Capita Property and Infrastructure Ltd.

Project Title
**INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS**

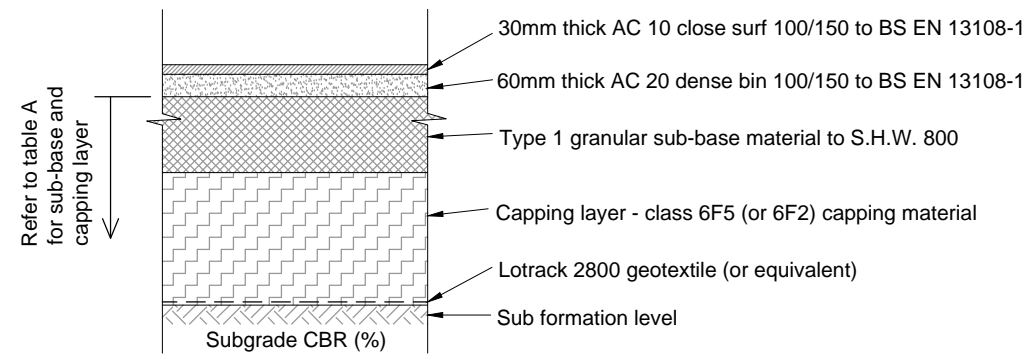
Drawing Title
**TYPICAL ROLLED STONE ACCESS
ROAD DETAILS**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:10 @ A3		Sheet	1 of 1			
Site Coordinates	N/A	ELR	N/A	Chainage	N/A		

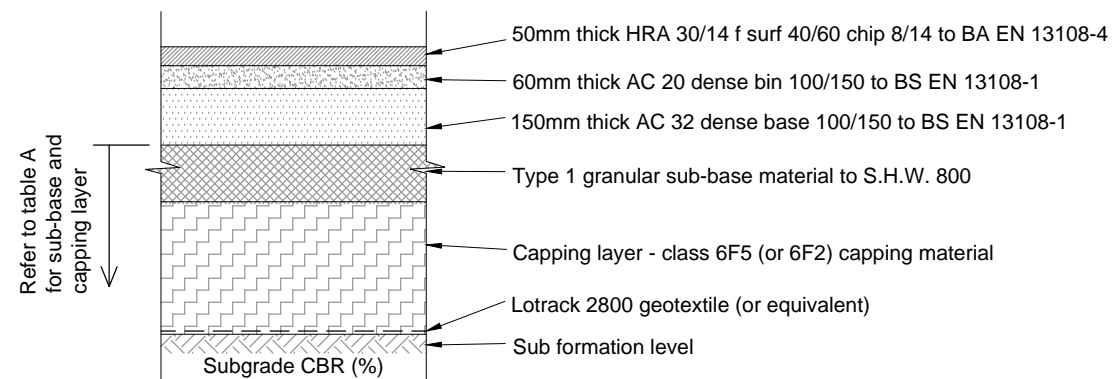
Drawing No.
075481 / CV / 007 Rev 01

GENERAL NOTES:

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF NETWORK RAIL COMPANY PROCEDURES



ACCESS TYPE 2



ACCESS TYPE 3/4

Table A: Foundation thickness based on selected subgrade CBR values - pavement and track form designed in accordance with HD26/06 foundation class 2.

SUB BASE ONLY DESIGN							
SUBGRADE CBR (%)	2.5	3	4	5	7	10	15
SUB BASE (TYPE 1) mm	450	420	360	320	290	250	200
TOTAL THICKNESS mm	450	420	360	320	290	250	200
SUB BASE AND CAPPING DESIGN							
SUBGRADE CBR (%)	2.5	3	4	5	7	10	15
SUB BASE (TYPE 1) mm	350	320	270	240	220	180	150
CAPPING (SERIES 600) mm	250	240	220	210	190	170	150
TOTAL THICKNESS mm	600	560	490	450	410	350	300

**NEW CARRIAGEWAY CONSTRUCTION
STANDARD DETAIL**

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01	17.12.2014	L.Z.	First issue	J.W.

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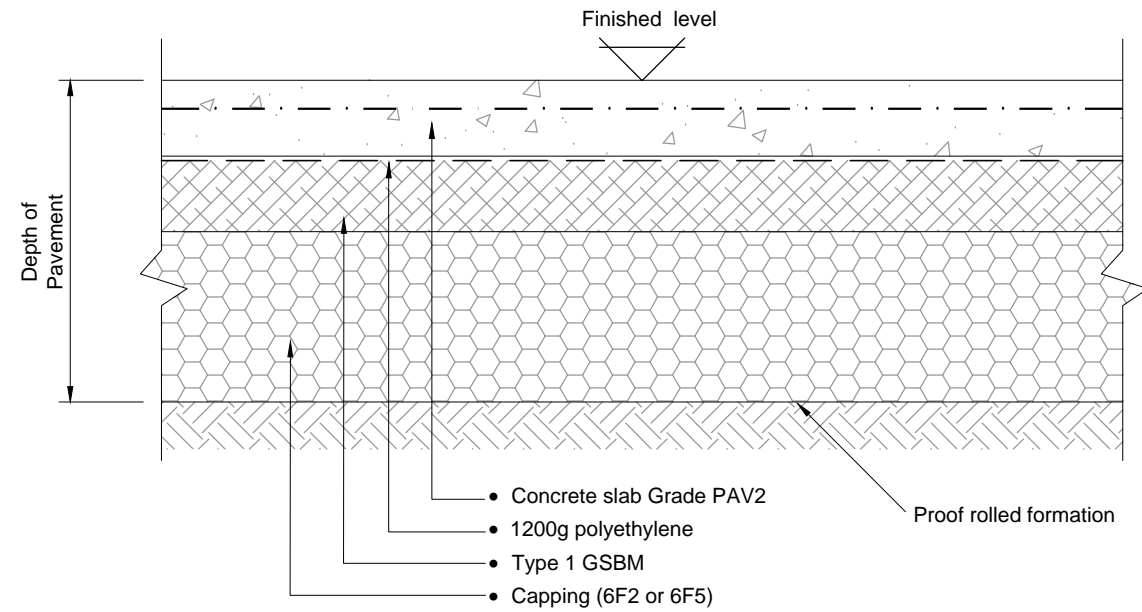
Capita Property and Infrastructure Ltd.

Project Title
**INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS**

Drawing Title
**TYPICAL ASPHALT CONCRETE
ACCESS ROAD DETAILS**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:20 @ A3			Sheet	1 of 1		
Site Coordinates	N/A		ELR	N/A		Chainage	N/A

Drawing No.
075481 / CV / 008 Rev 01



CONCRETE SURFACING DETAIL

(Insitu testing of formation level required - thickening of capping may be required for lower strength values; Soft spots to be replaced by 6F2/6F5 material)

Subject to detail design.

GENERAL NOTES:

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Project Title
**INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS**

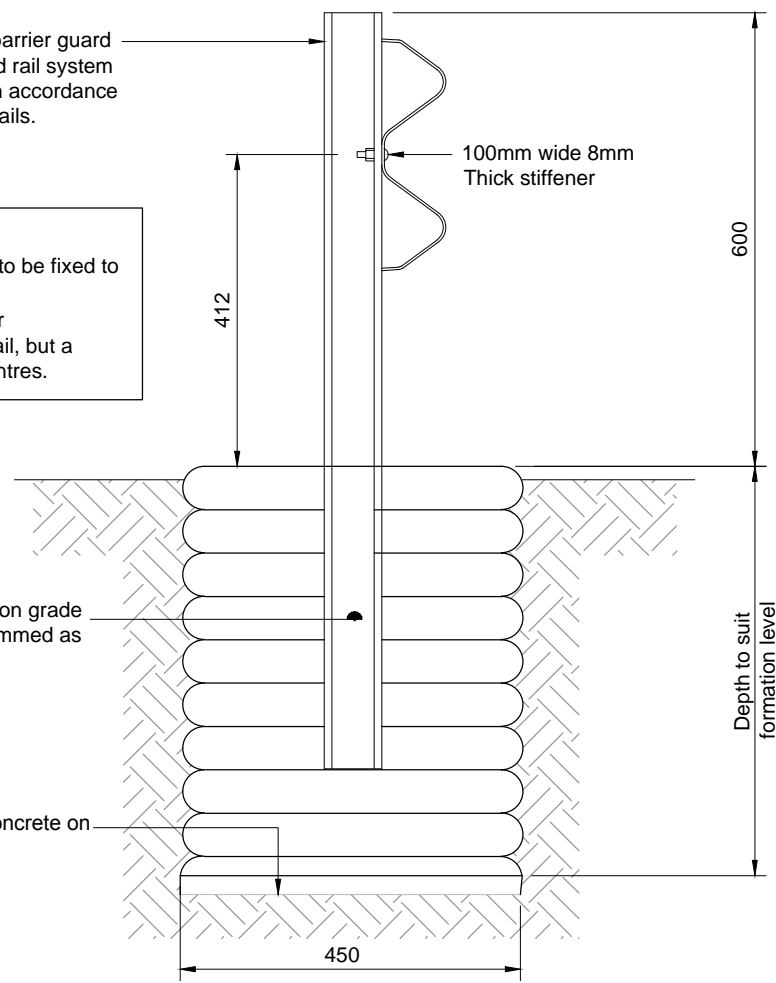
Drawing Title
**TYPICAL CONCRETE
HARDSTANDING / ACCESS ROAD
DETAILS**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	NTS @ A3		Sheet	1 of 1			
Site Coordinates	N/A	ELR	N/A	Chainage	N/A		

Drawing No. **075481 / CV / 009 Rev 01**

Galvanized mild steel barrier guard rail complete with guard rail system to be installed strictly in accordance with manufacturers details.

- Notes:
1. Fishtailed end unit to be fixed to all barrier ends.
 2. Post centres as per manufacturers detail, but a minimum of 2m centres.

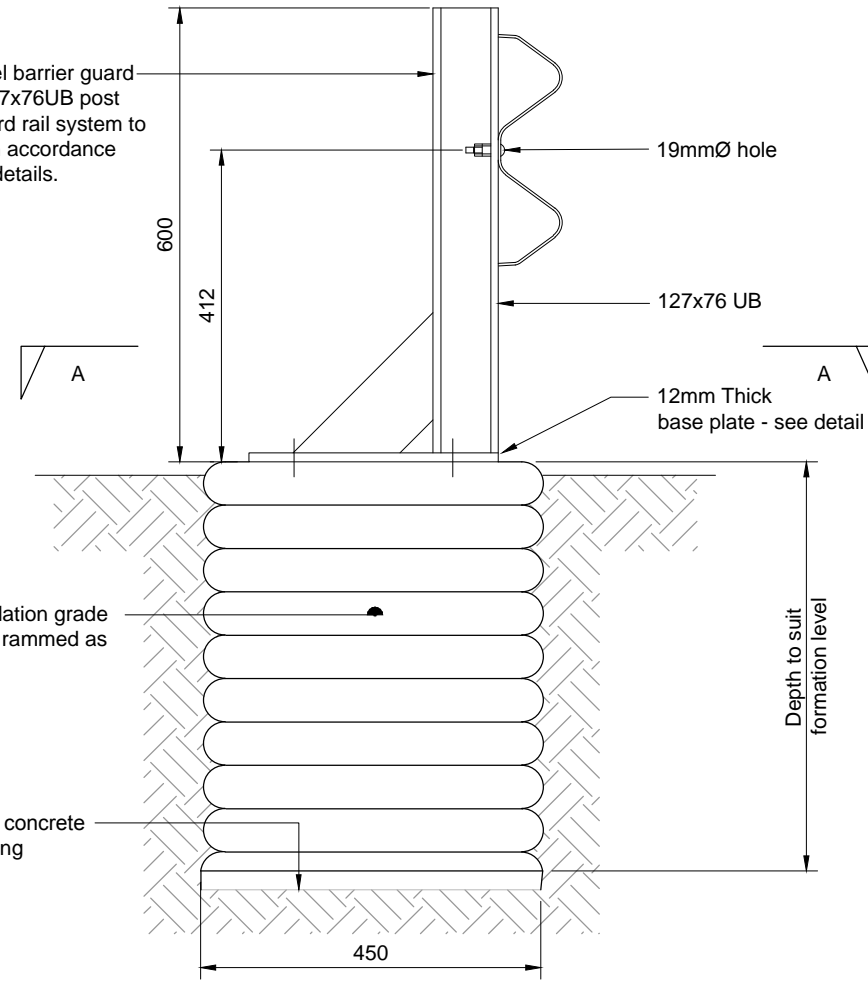


ROOTED ARMCO BARRIER DETAIL (PREFERRED OPTION)

Galvanized mild steel barrier guard rail complete with 127x76UB post and base plate. Guard rail system to be installed strictly in accordance with manufacturers details.

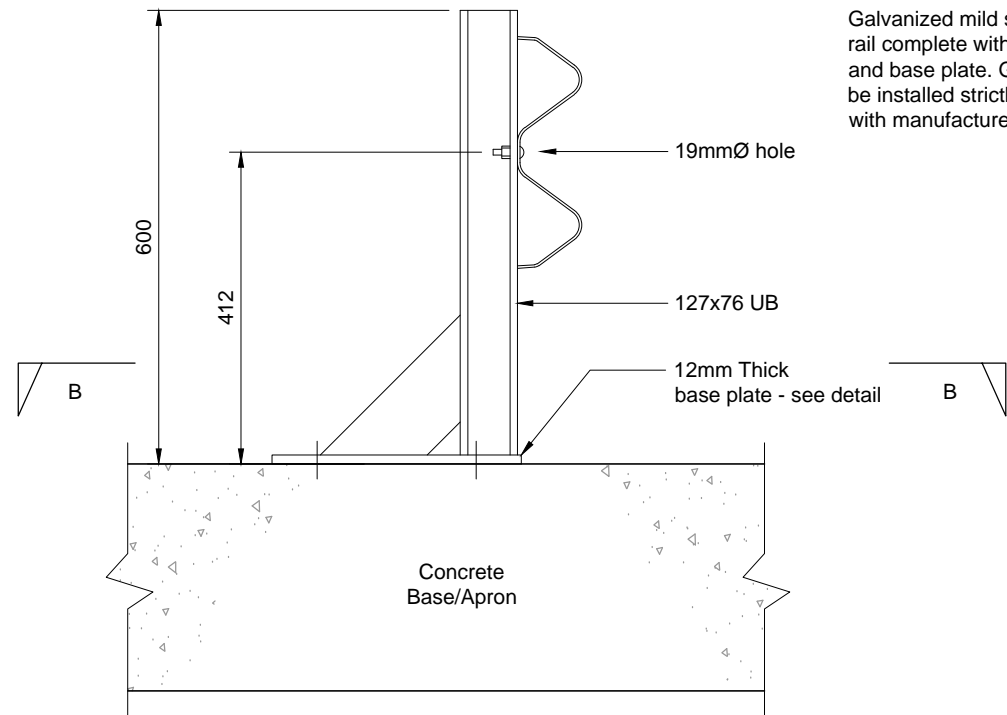
Mass concrete foundation grade ST2. Concrete to be rammed as filling proceeds.

450Ø rigid duct with concrete on 25mm sand blinding

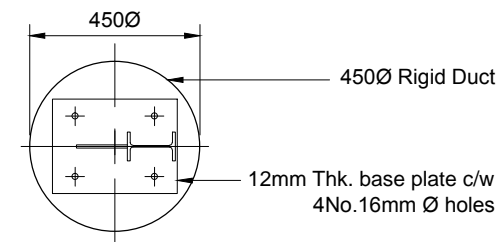


ARMCO BARRIER RIGID DUCT DETAIL

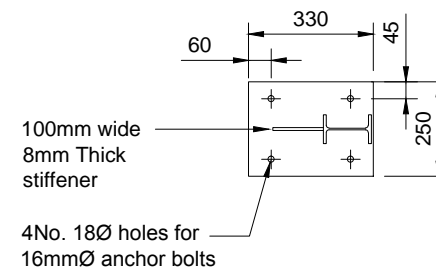
Galvanized mild steel barrier guard rail complete with 127x76UB post and base plate. Guard rail system to be installed strictly in accordance with manufacturers details.



ARMCO BARRIER DETAIL FIXED TO CONCRETE BASE/APRON



SECTION A-A PLAN ON FOUNDATION



SECTION B-B ARMCO BARRIER BASE PLATE DETAIL

GENERAL NOTES:

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01	17.12.2014	L.Z.	First issue	J.W.

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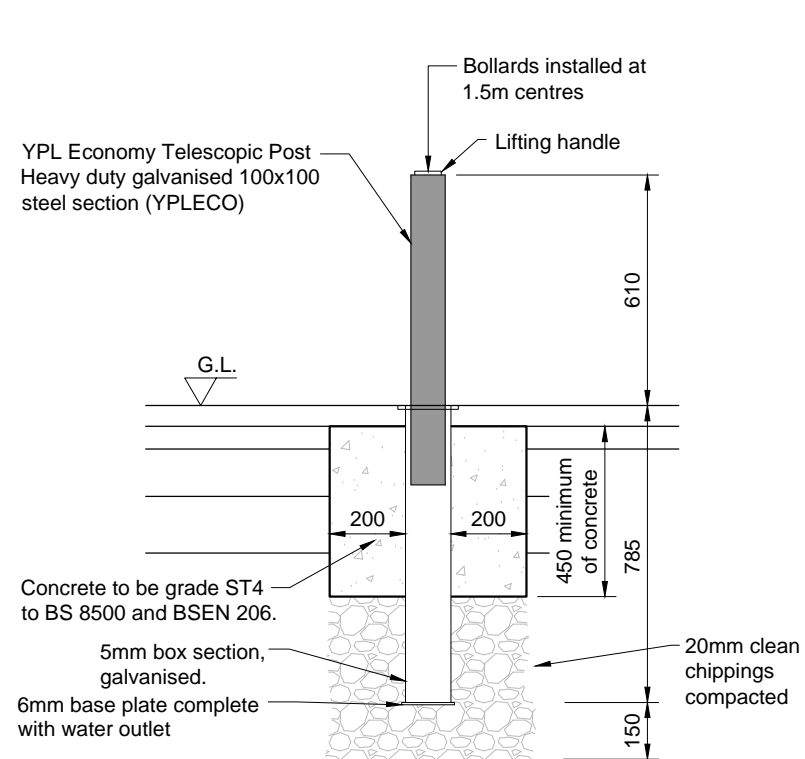
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Project Title
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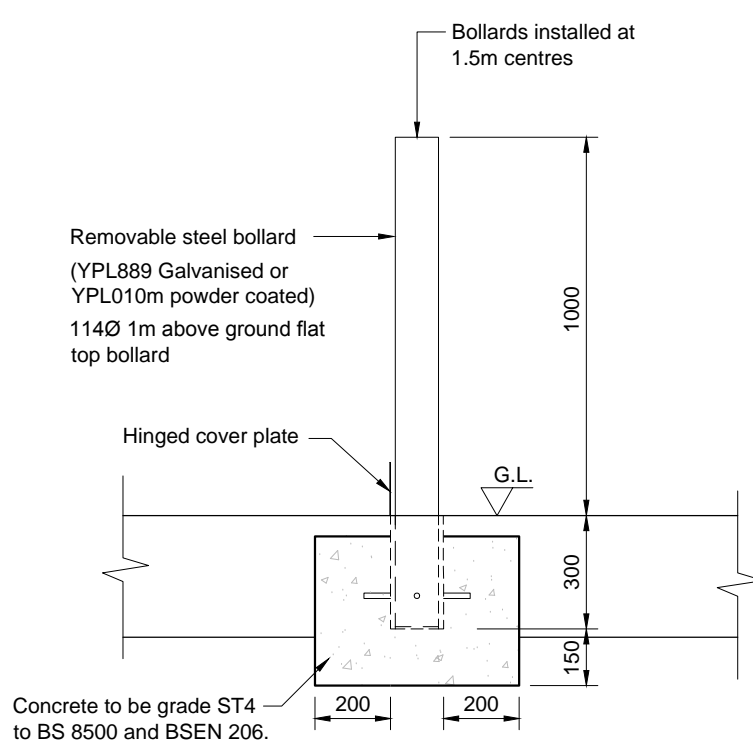
Drawing Title
ARMCO BARRIER DETAILS

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	NTS @ A3		Sheet	1 of 1			
Site Coordinates	N/A	ELR	N/A	Chainage	N/A		

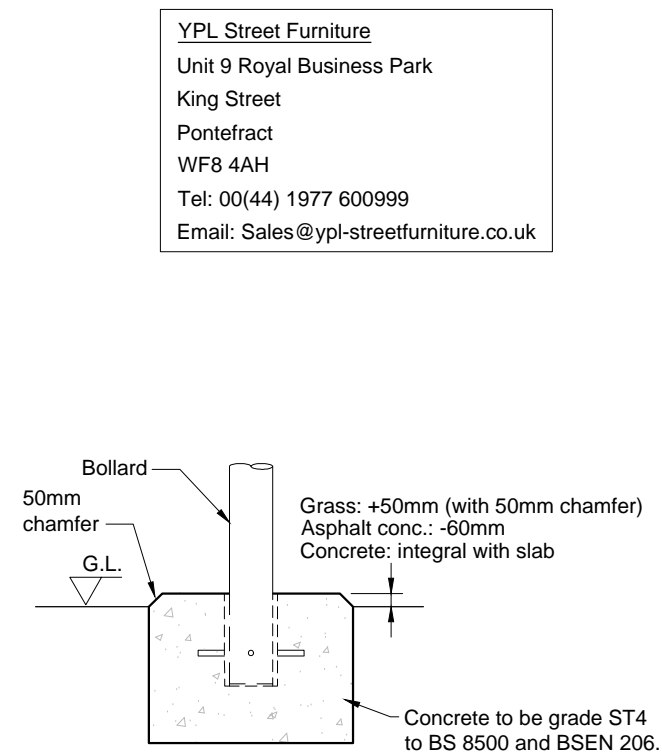
Drawing No. **075481 / CV / 010 Rev 01**



DROP BOLLARD

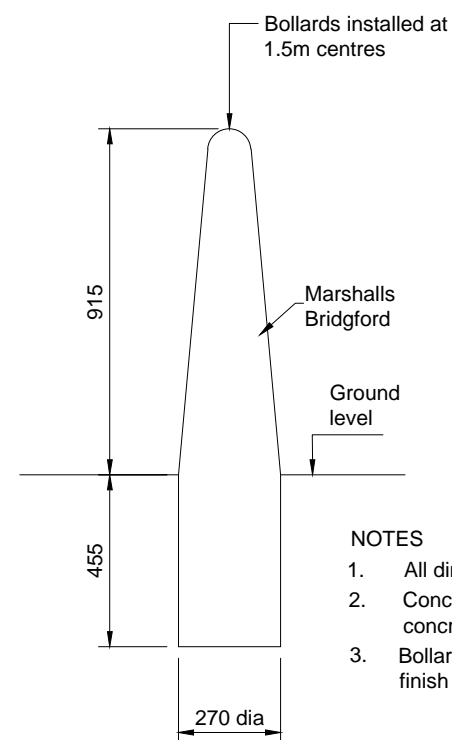


REMOVABLE BOLLARD



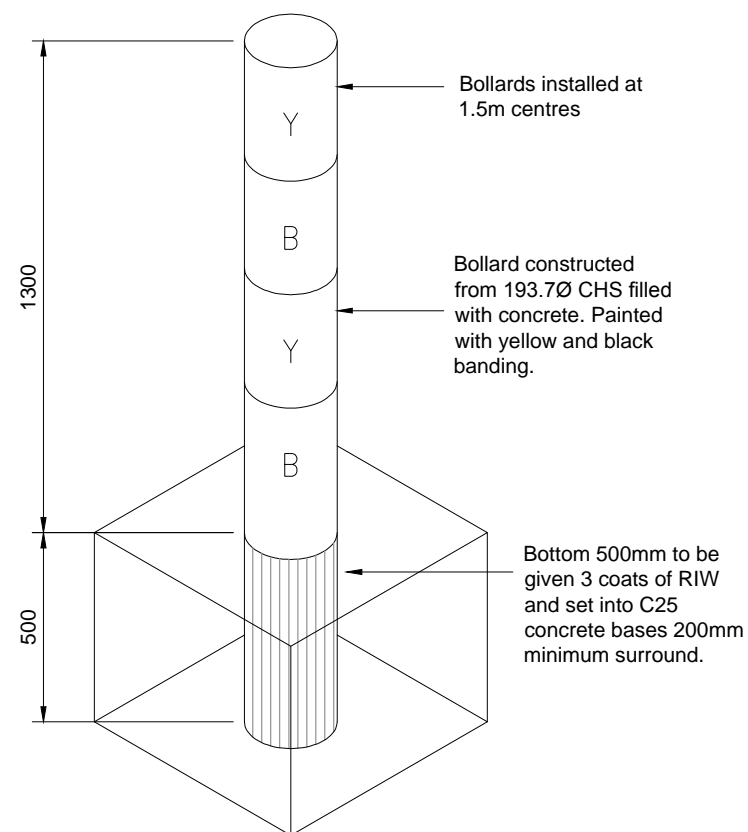
TYPICAL CONCRETE BASE

YPL Street Furniture
 Unit 9 Royal Business Park
 King Street
 Pontefract
 WF8 4AH
 Tel: 00(44) 1977 600999
 Email: Sales@ypl-streetfurniture.co.uk



PRECAST CONCRETE BOLLARD

- NOTES**
1. All dimensions in millimetres.
 2. Concrete markers and bollards to be ST4 concrete to BS.5328 PT2
 3. Bollards to have smooth plain white concrete finish or beadlite finish if required.



PERMANENT STEEL BOLLARD

GENERAL NOTES:

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Project Title
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 BEST PRACTICE DESIGN GUIDE
 STANDARD DETAILS**

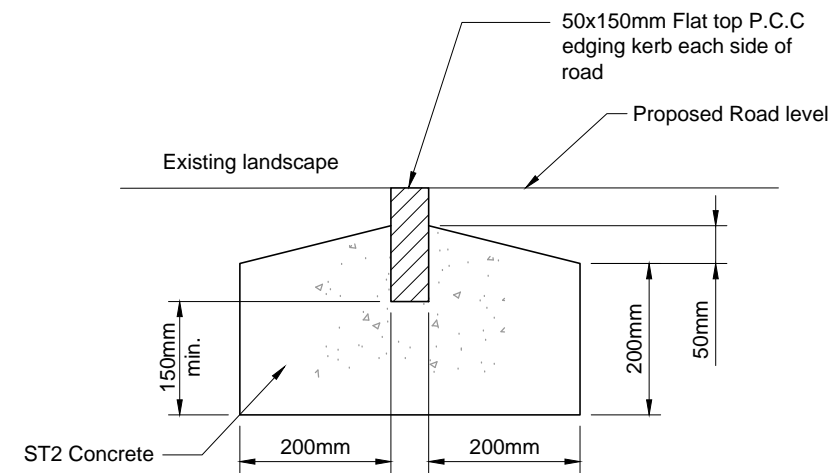
Drawing Title
BOLLARD DETAILS

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	NTS @ A3			Sheet	1 of 1		
Site Coordinates	N/A		ELR	N/A		Chainage	N/A

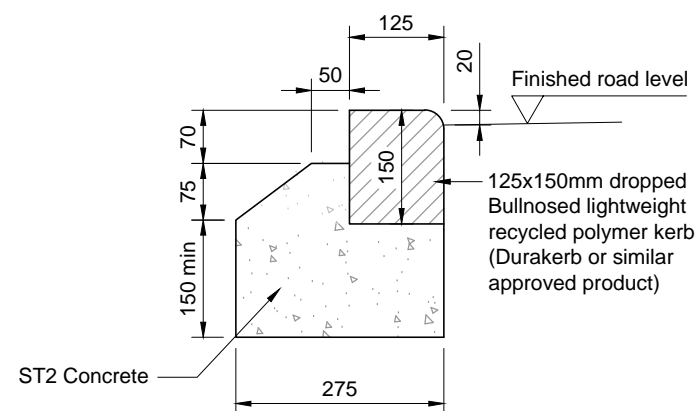
Drawing No. **075481 / CV / 011 Rev 01**

GENERAL NOTES:

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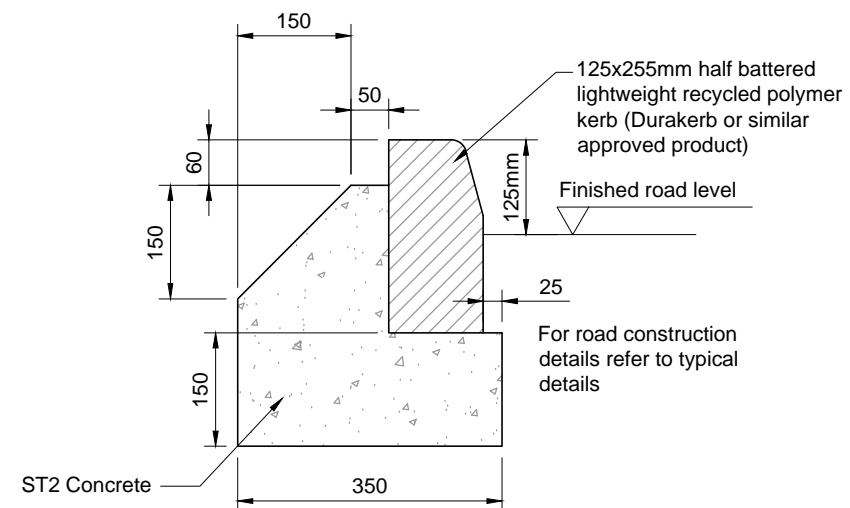


EDGING KERB



DROPPED KERB

Not for use on public highways



HALF BATTER KERB

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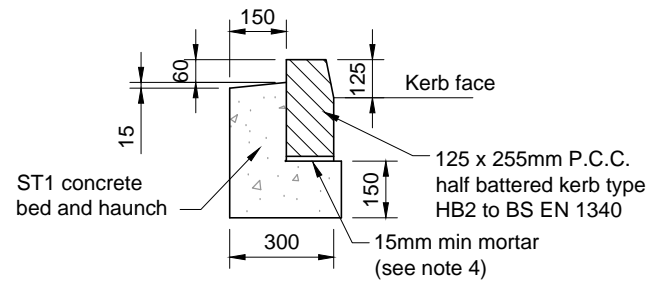
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Project Title
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BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS**

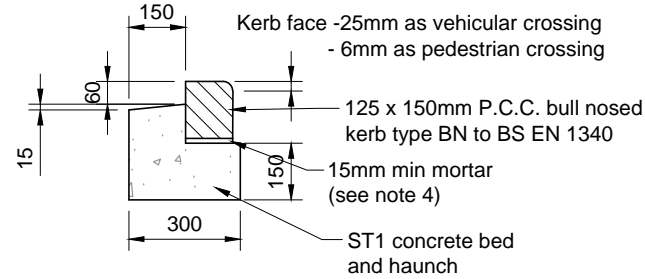
Drawing Title
**LIGHTWEIGHT KERBING DETAILS -
(DURAKERBS)**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:10 @ A3			Sheet	1 of 1		
Site Coordinates	N/A	ELR	N/A	Chainage	N/A		

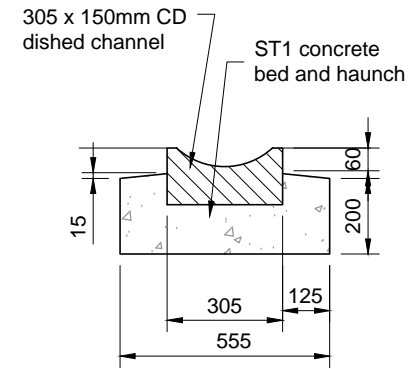
Drawing No.
075481 / CV / 012 Rev 01



**KERB TYPE HB2
(HALF BATTERED KERB
125x255mm)**

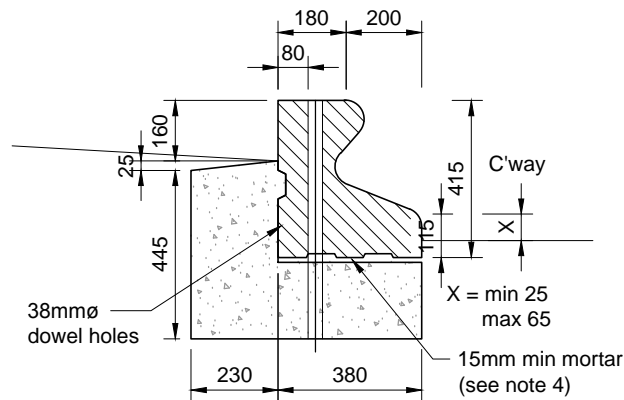


**KERB TYPE BN
(BULL NOSED KERB
125x150mm)**

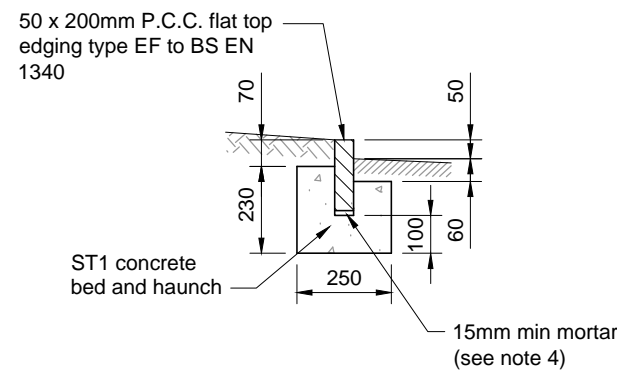


**DISHED CHANNEL TYPE
CD**

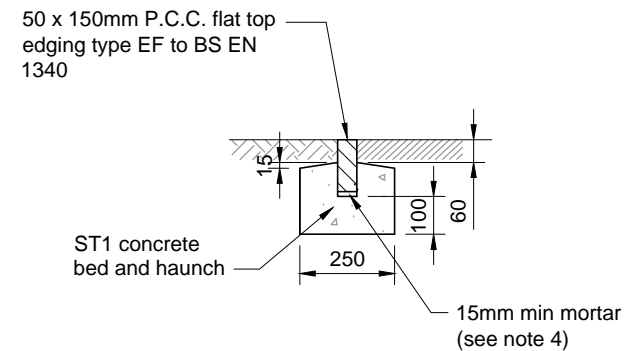
NB. Where insufficient haunching/backing is available, vertical dowel holes are moulded into the unit. dowel bars should then be put into the unit & anchored securely.



**HIGH CONTAINMENT
KERB WITH DOWEL
HOLES**



**EDGING TYPE EF
50mm upstand
(Edging 50x200mm)**



**EDGING TYPE EF
Flush
(Edging 50x150mm)**

NOTES

1. Do not scale off this drawing.
2. All dimensions in millimetres unless otherwise stated.
3. Unless specified otherwise steel dowel bars shall be used where kerb bedding / backing is laid separately. If used dowel bars shall be 300mm long 20mm diameter mild steel at 450mm centres.
4. Mortar only to be used when kerb laid on cured concrete. Designation (i) mortar to be used.
5. All kerbs to be precast concrete.

GENERAL NOTES:

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Project Title
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STANDARD DETAILS**

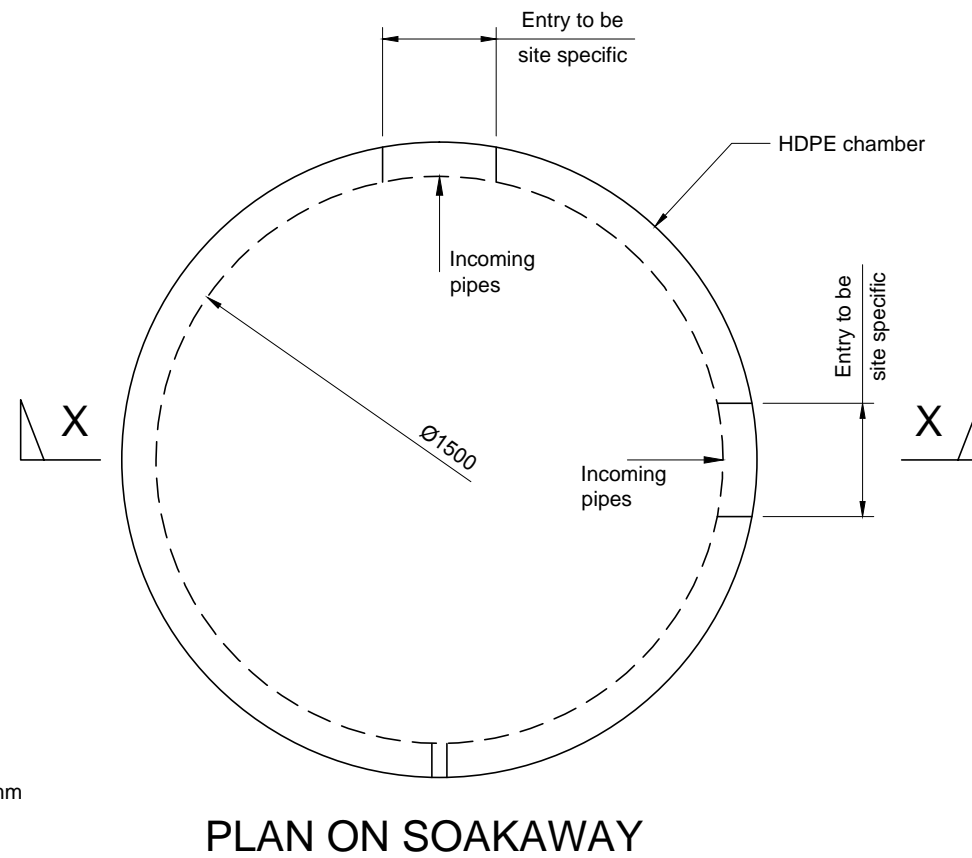
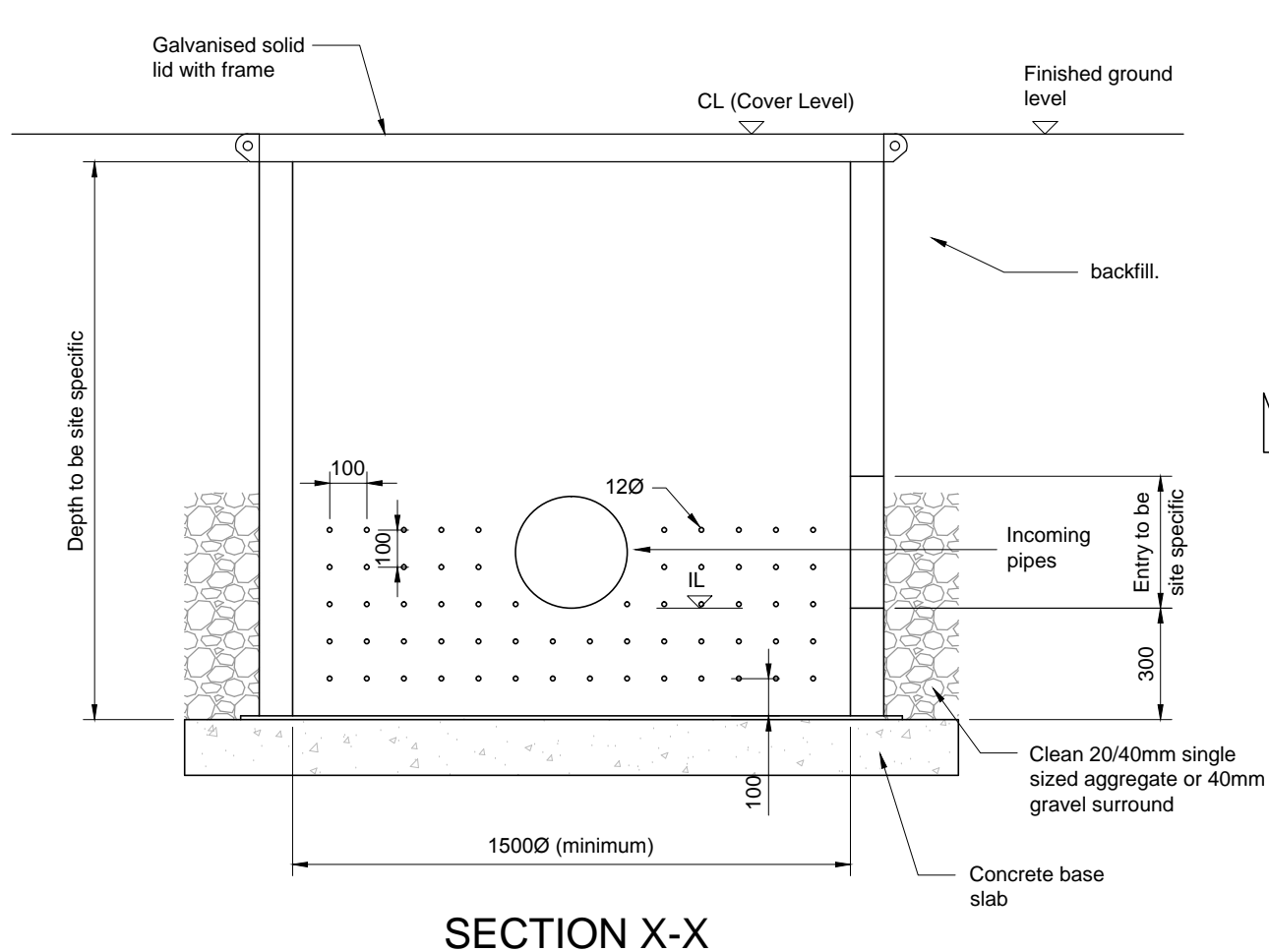
Drawing Title
**PRE-CAST CONCRETE KERBING
DETAILS**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:20 @ A3			Sheet	1 of 1		
Site Coordinates	N/A		ELR	N/A		Chainage	N/A
Drawing No.	075481 / CV / 013 Rev 01						

NOTES:

1. All dimensions in millimetres unless noted otherwise. Do not scale this drawing.
2. For further details, refer to manufacturer.

AQUA.
 Belmont House,
 Garnett Place,
 Skelmersdale,
 Lancashire,
 WN8 9UB.
 Tel 01695 51933.
 Email. sales@aquafab.co.uk.
 Fax. 01695 51891.
 Web. www.aquafab.co.uk



SECTION X-X

PLAN ON SOAKAWAY

TYPICAL AQUA SOAKAWAY DETAILS

For non-vehicle traffic only. Subject to detail design & liaison with manufacture based on Aqua Thieel chamber.

Rev	Date	Name	Description of Revisions	Rev' Check
01	17.12.2014	L.Z.	First issue	J.W.

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 Capita Property and Infrastructure Ltd.

Project Title
**INFRASTRUCTURE ACCESS POINTS
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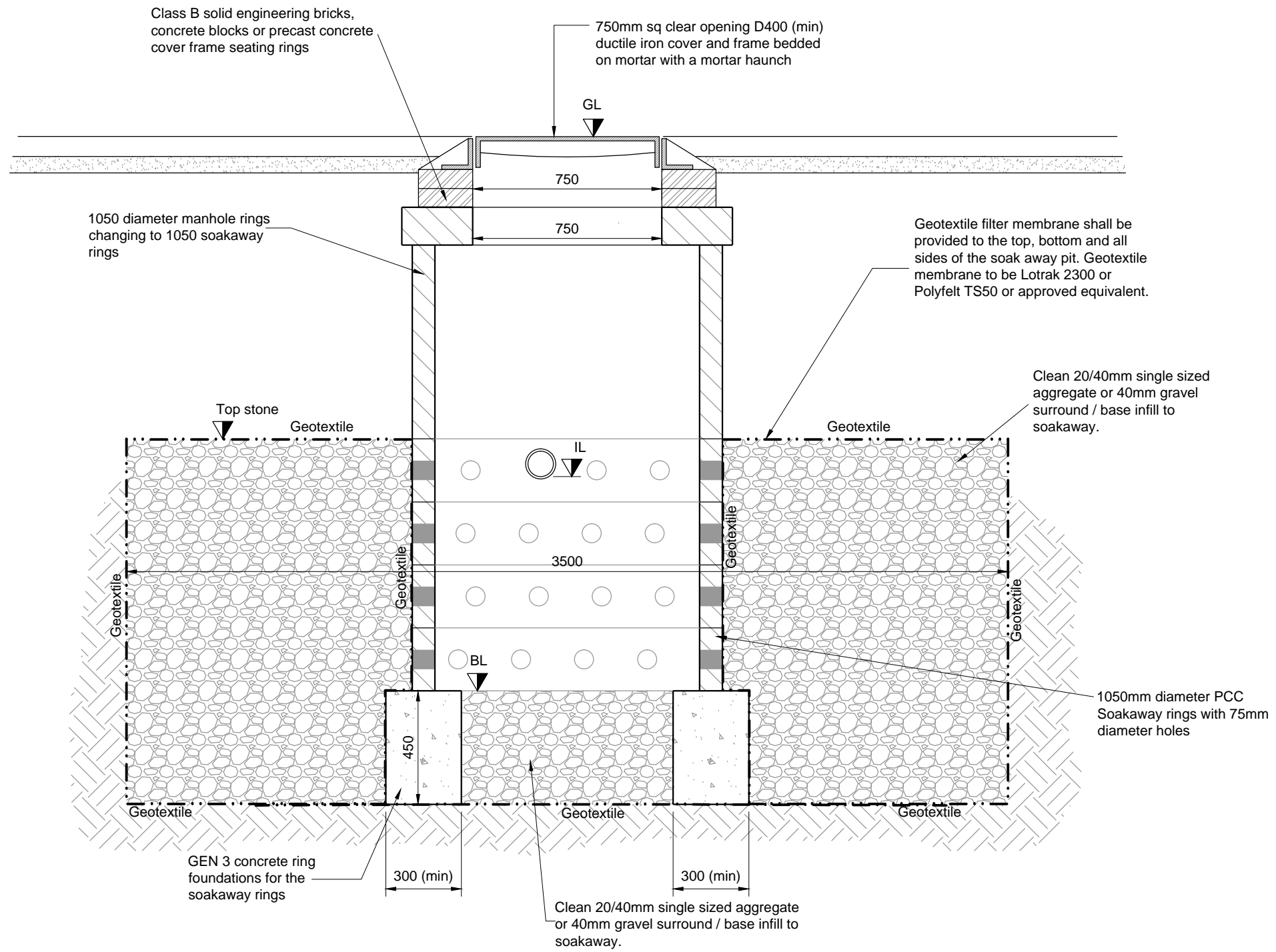
Drawing Title
**TYPICAL SOAKAWAY DETAIL
 NON TRAFFICKED AREAS**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:20 @ A3			Sheet	1 of 1		
Site Coordinates	N/A		ELR	N/A		Chainage	N/A

Drawing No. **075481 / CV / 014 Rev 01**

GENERAL NOTES:

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF NETWORK RAIL COMPANY PROCEDURES




TYPICAL SECTION THROUGH SOAKAWAY

Subject to detail design.

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Project Title
**INFRASTRUCTURE ACCESS POINTS
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STANDARD DETAILS**

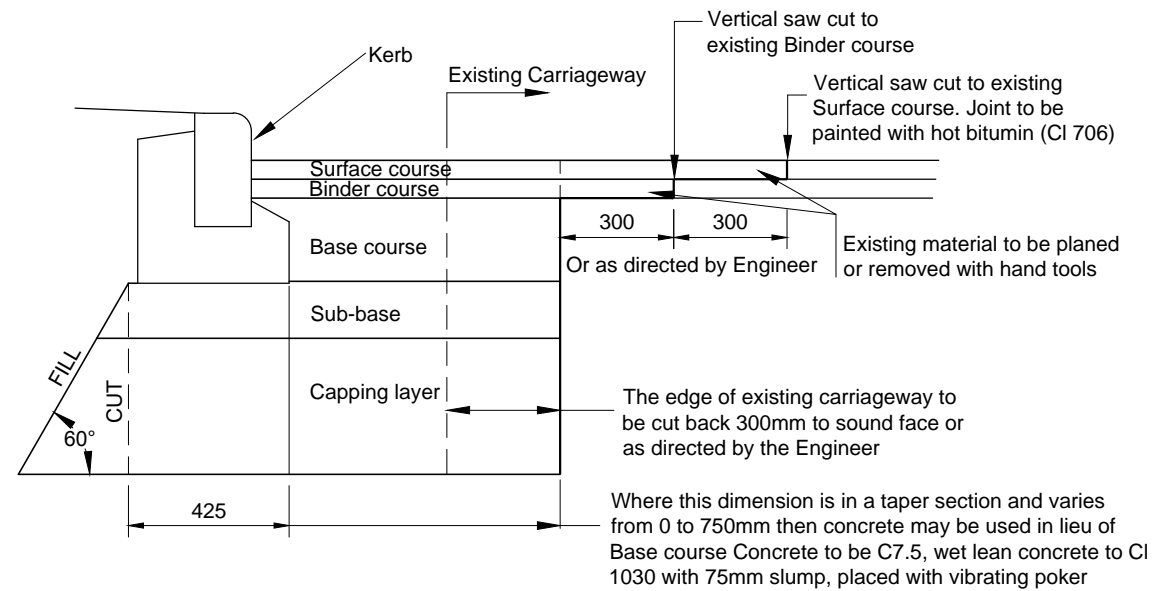
Drawing Title
**TYPICAL SOAKAWAY DETAIL
TRAFFICKED AREAS**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:20 @ A3			Sheet	1 of 1		
Site Coordinates	N/A		ELR	N/A		Chainage	N/A

Drawing No. **075481 / CV / 015 Rev 01**

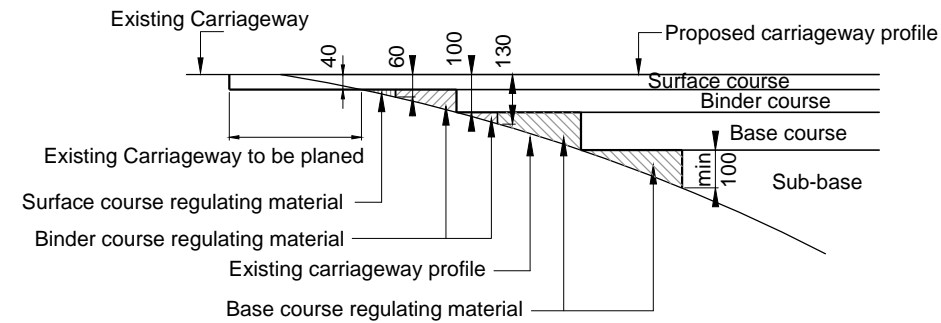
GENERAL NOTES:

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF NETWORK RAIL COMPANY PROCEDURES

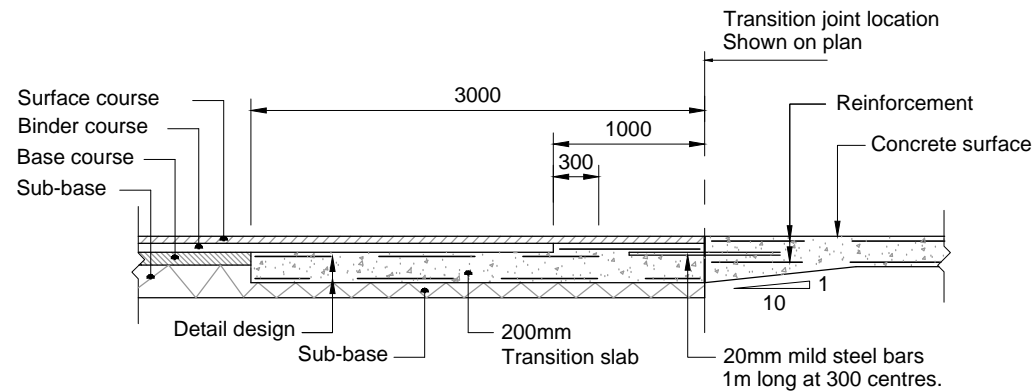


CONSTRUCTION DETAILS ADJACENT TO EXISTING CARRIAGEWAY (LONGITUDINAL TIE-IN DETAIL)

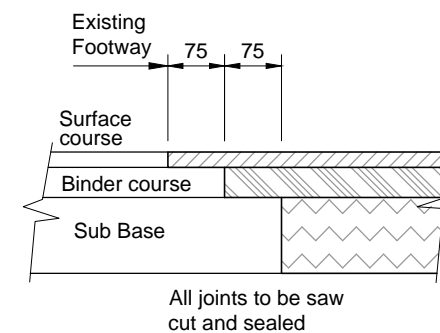
CLAUSES REFER TO THE SPECIFICATION FOR HIGHWAY WORKS



REGULATING COURSE IN AREA OF BUILD UP ON EXISTING CARRIAGEWAY (TRANSVERSE TIE-IN DETAIL)



TRANSITION JOINT BETWEEN CONCRETE AND ASPHALT CONCRETE SURFACING



FOOTWAY TIE-IN DETAIL

01	17.12.2014	L.Z.	First issue	J.W.
Rev	Date	Name	Description of Revisions	Rev/Check

Client

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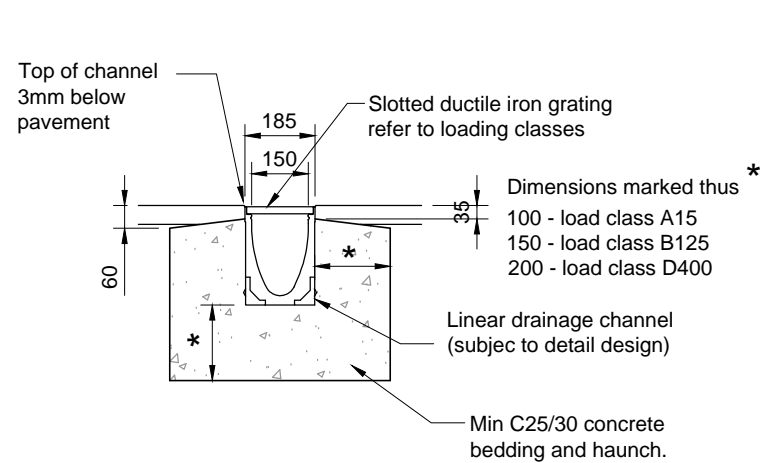
Capita Property and Infrastructure Ltd.

Project Title
INFRASTRUCTURE ACCESS POINTS BEST PRACTICE DESIGN GUIDE STANDARD DETAILS

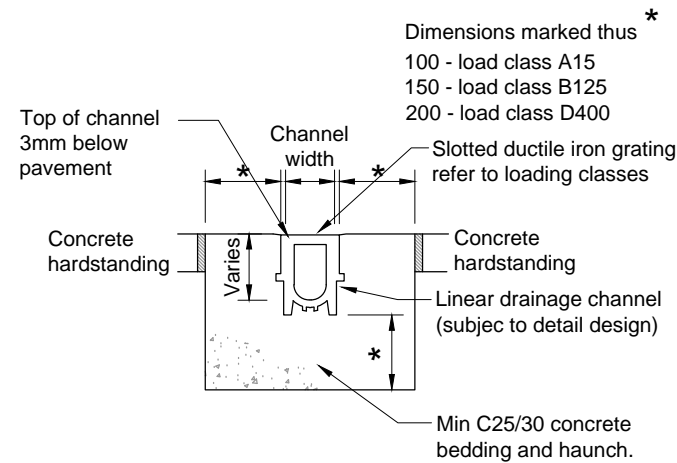
Drawing Title
TYPICAL HARDSTANDING / ACCESS ROAD TIE-IN DETAILS

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	NTS @ A3			Sheet	1 of 1		
Site Coordinates	N/A	ELR	N/A	Chainage	N/A		

Drawing No. **075481 / CV / 016 Rev 01**



LINEAR DRAINAGE UNIT
DETAIL ASPHALT
PAVEMENT



LINEAR DRAINAGE UNIT
DETAIL CONCRETE
PAVEMENT

GENERAL NOTES:

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01	17.12.2014	L.Z.	First issue	J.W.

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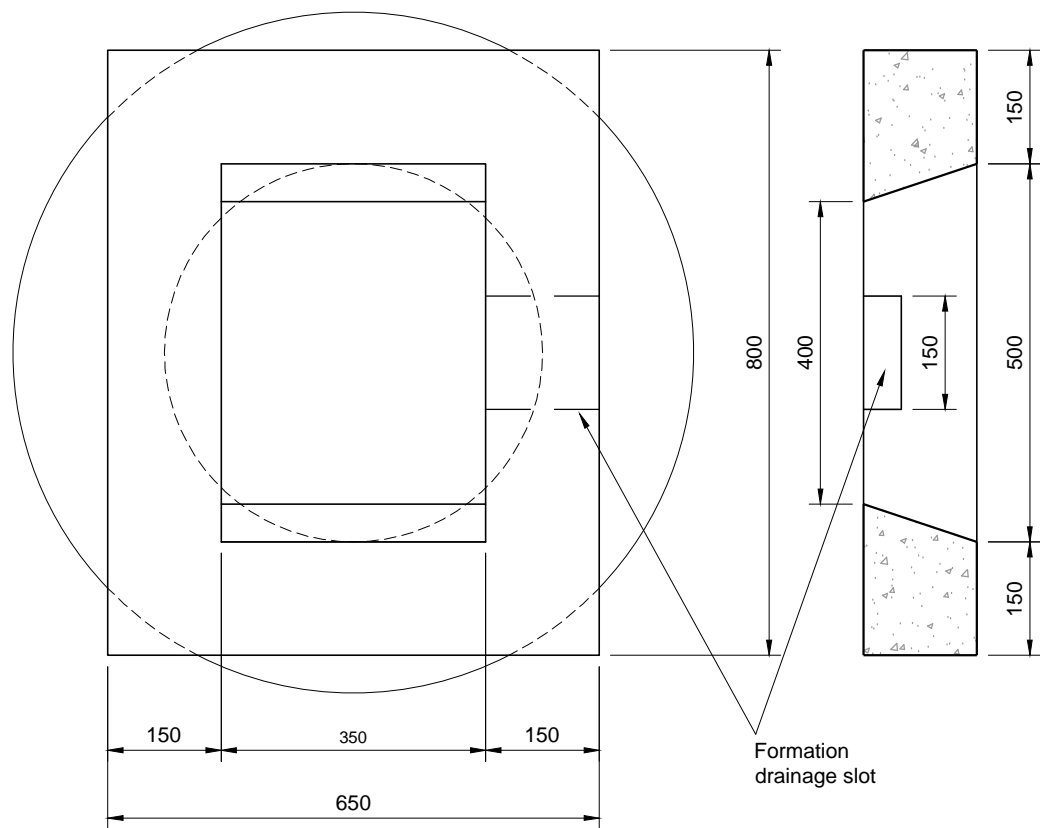
Capita Property and Infrastructure Ltd.

Project Title
INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS

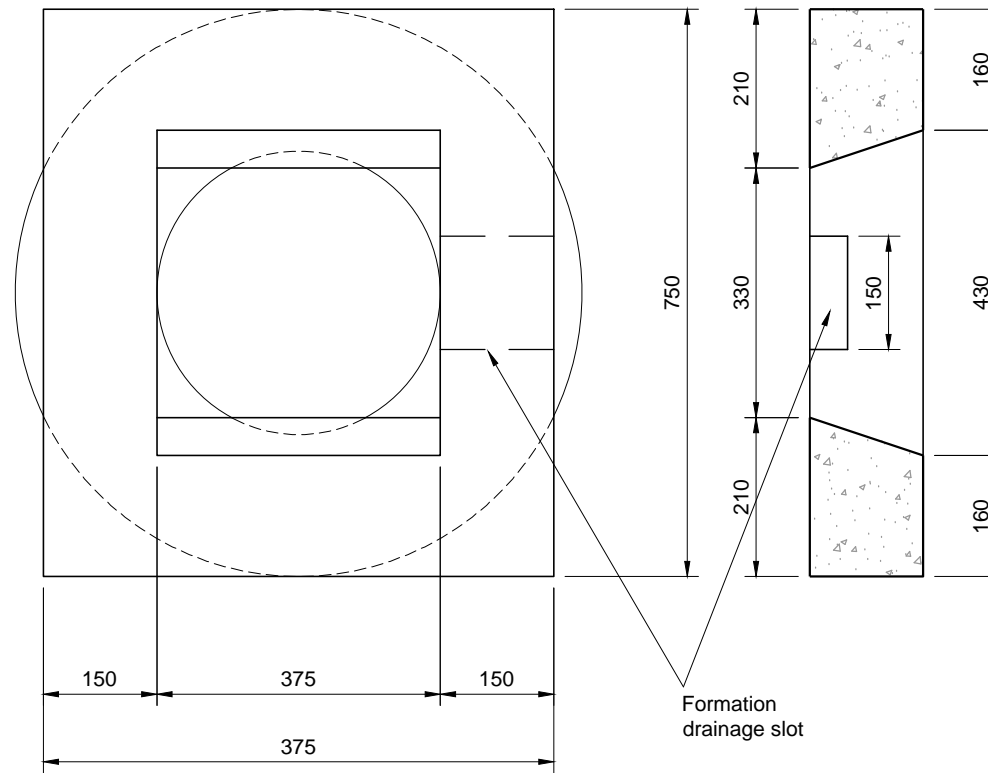
Drawing Title
TYPICAL LINEAR DRAINAGE
CHANNEL DETAILS

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:20 @ A3		Sheet	1 of 1			
Site Coordinates	N/A	ELR	N/A	Chainage	N/A		

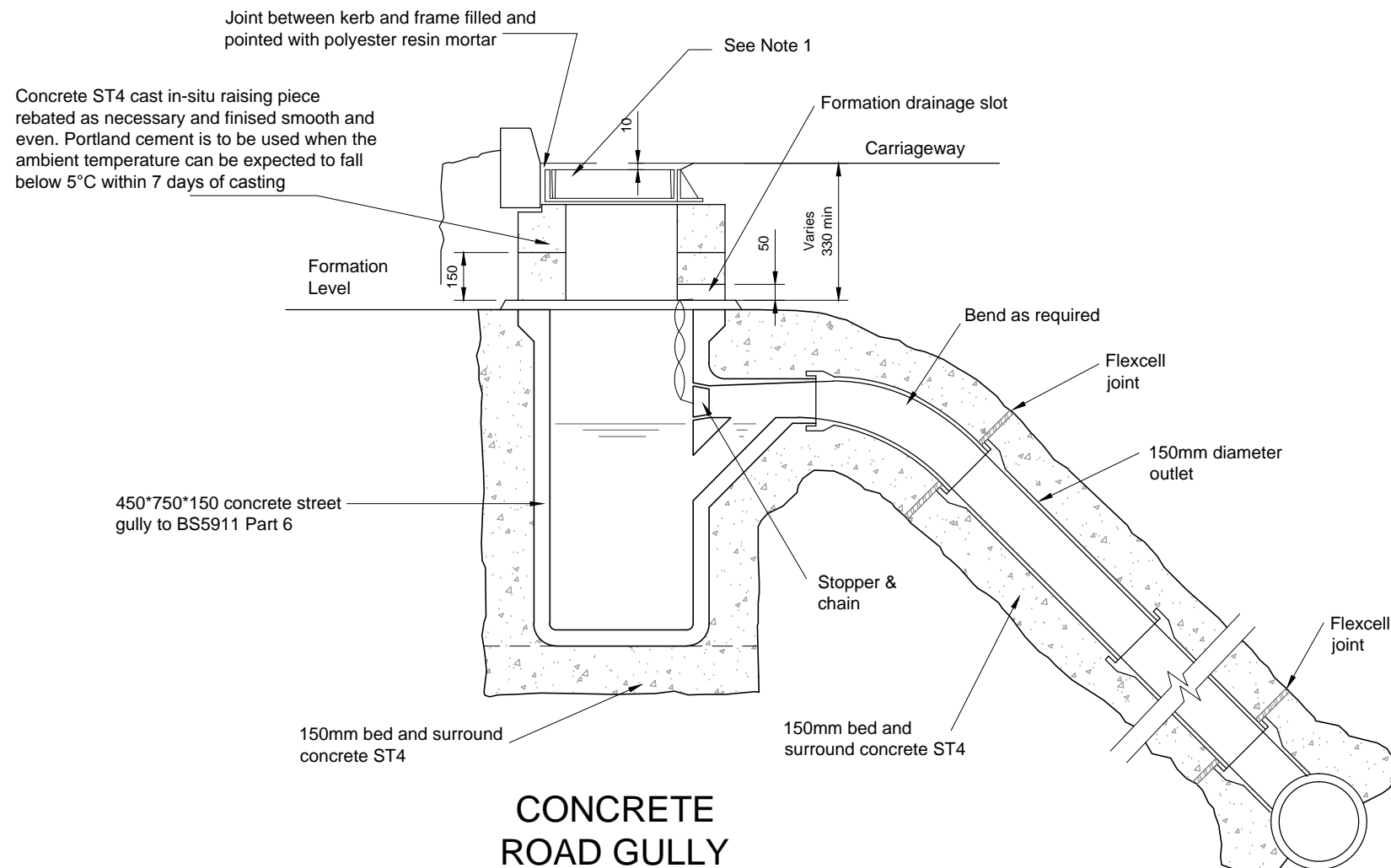
Drawing No. **075481 / CV / 017 Rev 01**



PLAN OF P.C. COVER SLAB FOR
500mm * 350mm GRATING AND FRAME



PLAN OF P.C. COVER SLAB FOR
430mm * 370mm GRATING AND FRAME



CONCRETE
ROAD GULLY

NOTES

1. End hinged ductile iron gully grating and frame to BS EN 124:1994 Class D400 (see note 5) bedded on polyester resin mortar 10 to 20mm thick.
2. Gratings shall be available with either left or right hand hinges as viewed when facing the kerb. Hinged end to be nearest on-coming traffic. The grating shall be captive within the frame.
3. All in-situ concrete to be medium workability / 75mm slump.
4. Precast concrete gully cover slab ST4 with minimum cement content 300 kg/m³ and 0.60 maximum water/cement ratio. Workability to suit method of manufacture.
5. Dimensions of opening on upper face of PC cover slab shall be the same as the clear opening at the underside of the frame. Tolerance is permitted on all other cover slab dimensions

GENERAL NOTES:

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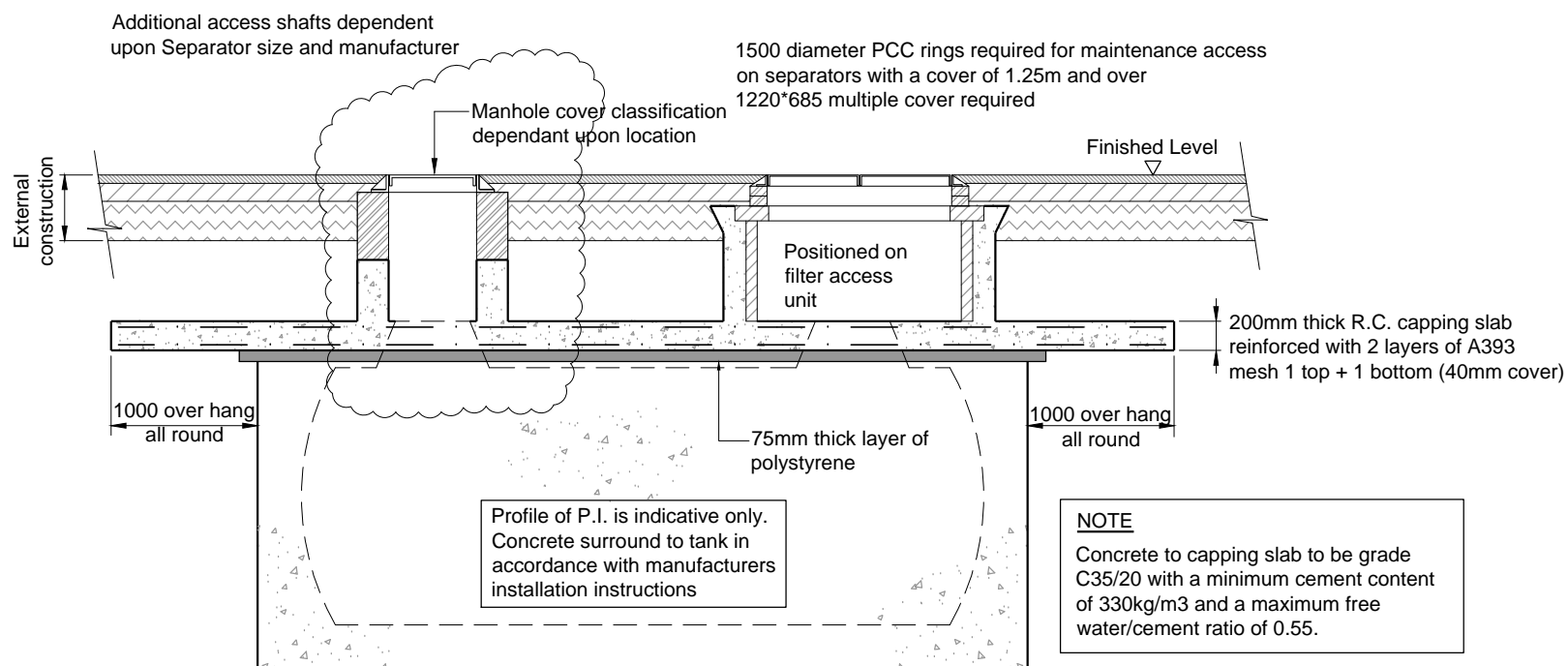
Capita Property and Infrastructure Ltd.

Project Title
**INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS**

Drawing Title
**CONCRETE ROAD GULLY
FOR ACCESS ROAD**

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:10 @ A3			Sheet	1 of 1		
Site Coordinates	N/A		ELR	N/A		Chainage	N/A

Drawing No. **075481 / CV / 018 Rev 01**



TYPICAL SECTION THROUGH OIL SEPARATOR IN TRAFFICKED AREA

GENERAL NOTES:

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01	17.12.2014	L.Z.	First issue	J.W.

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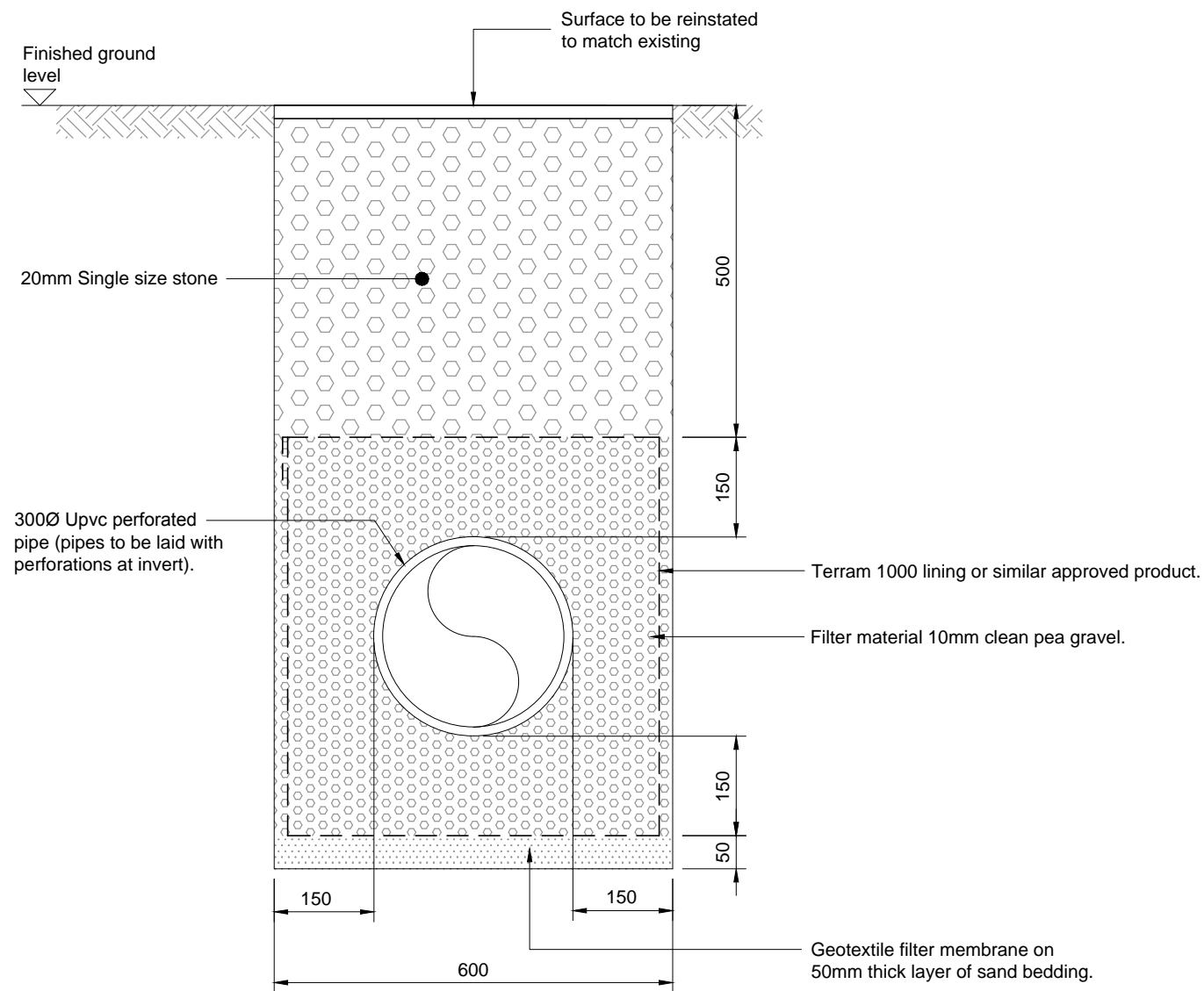
Capita Property and Infrastructure Ltd.

Project Title
INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS

Drawing Title
TYPICAL OIL SEPARATOR

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:50 @ A3		Sheet	1 of 1			
Site Coordinates	N/A	ELR	N/A	Chainage	N/A		

Drawing No. 075481 / CV / 019 Rev 01



FILTER DRAIN DETAIL

GENERAL NOTES:

ALL WORKS TO BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF NETWORK RAIL COMPANY PROCEDURES

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01	17.12.2014	L.Z.	First issue	J.W.

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Project Title
**INFRASTRUCTURE ACCESS POINTS
BEST PRACTICE DESIGN GUIDE
STANDARD DETAILS**

Drawing Title
FILTER DRAIN DETAILS

Drawn By	L.Z.	Name	L.ZEMAN	Sig.		Date	17.12.14
Checked By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Approved By	J.W.	Name	J.WHITE	Sig.		Date	17.12.14
Scale	1:10 @ A3			Sheet	1 of 1		
Site Coordinates	N/A		ELR	N/A		Chainage	N/A

Drawing No. **075481 / CV / 020 Rev 01**