

DATED

27 September

2016

SECTION 38 AGREEMENT UNDER THE HIGHWAYS ACT 1980

between

**THE COUNCIL OF THE BOROUGH OF TORBAY
AND**

MILLWOOD HOMES (DEVON) LIMITED

and

NATIONAL WESTMINSTER BANK PLC

A G R E E M E N T

**under Section 38 of the Highways Act 1980
and section 111 of the Local Government Act 1972**

**in connection with
street works at
Phase 6
Sharkham Village
Brixham
in the Borough of Torbay**

NWB REF. TFPLDG351621

CONTENTS

CLAUSE

1.	Interpretation	1
2.	Statutory provisions	4
3.	Developer's obligations	4
4.	Developer's declaration	5
5.	Extension of time to complete the Works	5
6.	Suspension of the Works	5
7.	Access to the land	5
8.	Procedure for inspection and issue of certificates	6
9.	Part 1 Certificate	6
10.	Part 2 Certificate	7
11.	Certificates for part or parts of the Road	7
12.	The Maintenance Period	7
13.	Final Certificate	8
14.	Adoption	9
15.	Materials sampling and testing	9
16.	New Roads and Street Works Act 1991	9
17.	Keeping the existing highway clean	9
18.	Connecting to existing services	9
19.	Occupation of buildings	10
20.	Grant of easements	10
21.	CDM Regulations	11
22.	Surety's obligations	11
23.	Council's covenants	13
24.	Specification to take precedence	13
25.	Technical advice	13
26.	Making up of private streets	14
27.	Indemnities	14
28.	Insurance	15
29.	Default events	15
30.	Council's power to execute works in default	16
31.	Disputes	16
32.	Legal and other costs	17
33.	Assignment	17
34.	Local land charges register	17
35.	Notices	17
36.	Third party rights	18
37.	Governing law	18

THIS AGREEMENT is dated

2016

PARTIES

- (1) THE COUNCIL OF THE BOROUGH OF TORBAY of Town Hall Castle Circus Torquay Devon TQ1 3DR ("the Council")
- (2) MILLWOOD HOMES (DEVON) LIMITED (Co. Reg. No. 1643131) whose registered office is 4PH Office 4, Dean Court Business Park, Lower Dean, Buckfastleigh, Devon, TQ11 0LT ("the Developer").
- (3) NATIONAL WESTMINSTER BANK PLC (Co. Reg. No. 929027) whose registered office is at 135 Bishopsgate, London, EC2M 3UR ("the Surety").

BACKGROUND

- A. The Council is the local highway authority for the area in which the Land is situated.
- B. The Developer owns the Land which includes the site of the proposed Road and all other land required for the Works.
- C. The Developer has requested that after the Works have been completed and maintained, the Council shall adopt the Road as a highway maintainable at the public expense, which the Council has agreed to do on the terms and conditions of this agreement.
- D. The Surety has agreed to enter into this agreement for the purposes set out in clause 22.

AGREED TERMS

1. INTERPRETATION

The following definitions and rules of interpretation apply in this agreement.

1.1 Definitions:

Advance Payments Code: the advance payments code as defined in section 329(1) of the Highways Act 1980.

CDM Regulations: the Construction (Design and Management) Regulations 2015 (SI 2015/51).

Client: the client as defined by the CDM Regulations.

Default Cost: subject to clause 22.1(b) all of the following:

- (a) the cost of carrying out the Default Work;
- (b) the cost of maintaining the Works for the Maintenance Period; and
- (c) the usual establishment charges of the Council.

Default Notice: written notice given by the Proper Officer to the Surety under clause 22.1.

Default Work: work required to be carried out by or on behalf of the Surety so that the Works are constructed or completed in accordance with this agreement.

Drawings: the Drawings numbered

- i. Section 38 Layout Drawing No 12775 – 521 Rev G
- ii. Linear Drainage DR004346A-1
- iii. Long Section Drawing No 12775 – 540 Rev C
- iv. Construction Details Drawing No 12775 – 530 Rev B
- v. Street Lighting Design BxmVL_SLD_7-15

attached to this agreement and signed by or on behalf of the parties and any amended drawing signed by on or behalf of the Proper Officer.

Estimated Cost: the sum of £167,000 which, in the reasonable opinion of the Proper Officer, is the cost of carrying out the Works within the period specified in clause 3.1(f).

Final Certificate: the certificate to be issued on satisfactory completion of the Works under clause 13.

Health and Safety File: the health and safety file as required by the CDM Regulations.

Land: the freehold land at Phase 6 Sharkham Village Brixham Devon shown edged red on the attached plan being part of the land registered at HM Land Registry with absolute title under title number DN357856

Maintenance Period: the maintenance period specified in clause 12.1(a).

Part 1 Certificate: the certificate to be issued under clause 9 on satisfactory completion of the Part 1 Works.

Part 1 Works: the works set out in ~~Error! Reference source not found..~~

Schedule 1.

National Westminster
Bank Plc
Manchester Trade
Services Centre

Part 2 Certificate: the certificate to be issued under clause 10 on satisfactory completion of the Part 2 Works.

Part 2 Works: the works set out in ~~Error! Reference source not found..~~

Schedule 2.

National Westminster
Bank Plc
Manchester Trade
Services Centre

Proper Officer: any officer of the Council for the time being appointed for the purposes of this agreement.

Road: the carriageway and footway of the road shown edged red on the Drawings, including:

- (a) any off-site highway drainage shown coloured yellow on the Drawings;
- (b) the footpaths, street lighting, all verges, service strips, service margins, vehicular crossings, road surface water drainage system (if any); and
- (c) all other ancillary items.

and **Roads** shall mean more than one of them.

Road Land: the freehold estate in the land comprising the Road.

Sewer Adoption Agreement: an agreement made under section 104 of the Water Industry Act 1991.

Specification: the publication entitled "Highways in Residential and Commercial Estates Design Guide" and dated January 1996 by Devon County Council and the Design Guide Exception Report dated April 2003 by the Council

Statutory Undertaker: a statutory undertaker, as defined in section 329(1) of the Highways Act 1980 and including:

- (a) persons authorised under any enactment to carry on an undertaking for the supply of electricity, gas, water and any sewerage undertaking;
- (b) the Environment Agency;
- (c) a holder of a licence to operate telecommunication systems;
- (d) the Civil Aviation Authority; and
- (e) the holder of a licence to supply cable television.

Street Furniture: objects and pieces of equipment installed for various purposes on the carriageway and footway of the private road shown on the Drawings including street lighting, traffic lights and traffic signs.

Surety's Counter Notice: written notice of the Surety's intention to carry out the Default Work.

VAT: value added tax chargeable under the Value Added Tax Act 1994 and any similar replacement tax and any similar additional tax.

Working Day: any day which is not a Saturday, a Sunday, or a bank holiday or public holiday in England.

Works: the Part 1 Works and the Part 2 Works.

- 1.2 Clause, Schedule and paragraph headings shall not affect the interpretation of this agreement.
- 1.3 A **person** includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).
- 1.4 The Schedules form part of this agreement and shall have effect as if set out in full in the body of this agreement. Any reference to this agreement includes the Schedules.
- 1.5 A reference to a **company** shall include any company, corporation or other body corporate, wherever and however incorporated or established.
- 1.6 Unless the context otherwise requires, words in the singular shall include the plural and in the plural shall include the singular.
- 1.7 Unless the context otherwise requires, a reference to one gender shall include a reference to the other genders.

- 1.8 A reference to any party shall include that party's personal representatives, successors and permitted assigns and in the case of the Council the successors to its respective statutory functions.
- 1.9 Unless the context otherwise requires, a reference to a statute or statutory provision is a reference to it as amended, extended or re-enacted from time to time.
- 1.10 A reference to a statute or statutory provision shall include any subordinate legislation made from time to time under that statute or statutory provision.
- 1.11 References to clauses and Schedules are to the clauses and Schedules of this agreement and references to paragraphs are to paragraphs of the relevant Schedule.
- 1.12 Any obligation on a party not to do something includes an obligation not to allow that thing to be done.
- 1.13 Any words following the terms **including, include, in particular, for example** or any similar expression shall be construed as illustrative and shall not limit the sense of the words, description, definition, phrase or term preceding those terms.

2. STATUTORY PROVISIONS

This agreement is made under section 38 of the Highways Act 1980, section 111 of the Local Government Act 1972 and any other enabling powers of the Council.

3. DEVELOPER'S OBLIGATIONS

- 3.1 The Developer shall, at its own cost, use all reasonable endeavours to carry out and complete the Works:
- (a) in a good and workmanlike manner;
 - (b) using only good quality materials approved by the Proper Officer;
 - (c) in accordance with this agreement, the Specification (a copy of which has been received by the Developer) and the Drawings;
 - (d) to the Proper Officer's reasonable satisfaction; and
 - (e) in compliance with all relevant British Standards, codes of practice and good building practice; and
 - (f) within twelve calendar months following the date of this Agreement
- 3.2 The Developer shall give to the Proper Officer not less than 10 Working Days written notice of the date of starting the Works.
- 3.3 The Developer shall maintain the Road until the date of issue of the Final Certificate.

4. DEVELOPER'S DECLARATION

The Developer declares and warrants to the Council that throughout the duration of this agreement the Developer has or will have full right, liberty and consent to carry out such works as may be necessary to connect the Road to a highway that is, or will be, maintainable at the public expense.

5. EXTENSION OF TIME TO COMPLETE THE WORKS

- 5.1 Without prejudice to any remedy of the Council, the Proper Officer may at any time, exercising absolute discretion grant an extension of time to complete the Works for a further period or periods by giving written notice to the Developer and providing
- i. that if such extension of time (to be confirmed in writing by the Proper Officer) is granted the Developer shall pay to the Council such additional inspection fee (based on the estimated cost of any outstanding works) as shall be agreed between the Proper Officer and the Developer; and
 - ii. the Developer and the Proper Officer shall review the amount of the Bond (as specified in Clause 22) in force at that time and the Developer shall if required by the Proper Officer in writing arrange for the amount of the Bond to be increased to such reasonable amount as shall be required by the Proper Officer subject to the Surety's prior written approval.

6. SUSPENSION OF THE WORKS

- 6.1 If the Developer intends to suspend construction of the Works for a period of more than twenty (20) Working Days, the Developer shall notify the Proper Officer in writing of:
- (a) the intended suspension not less than five (5) Working Days before the start of the suspension; and
 - (b) the Developer's intention to re-commence construction of the Works not less than five (5) Working Days before such re-commencement.
- 6.2 If the Developer fails to notify the Proper Officer under clause 3.2 and clause 6.1, the inspection fee referred to in clause 32 shall be increased by such amount as the Proper Officer, exercising absolute discretion, sees fit in order to reimburse the Council any additional cost incurred by the Council in inspecting the Works because of such failure.

7. ACCESS TO THE LAND

- 7.1 During construction of the Works, the Developer shall give to the Proper Officer and any other Council officer free access to every part of the Works and Land for the purpose of inspecting the Works and all materials used, or intended to be used, for the Works.

- 7.2 While carrying out any inspection under clause 7.1, the Proper Officer and any other Council officer shall comply with any reasonable health and safety requirements notified to them by the Developer.
- 7.3 During construction of the Works, the Proper Officer may require the Developer to open up or expose any of the Works that have been covered up without previously being inspected by the Proper Officer. If the Developer fails to comply with any such request, the Council may take up or expose the relevant part of the Works causing as little damage or inconvenience as possible to or in respect of any other part or parts of the Works. The Developer shall pay the Council's reasonable and proper costs of such taking up, exposure and reinstatement.

8. PROCEDURE FOR INSPECTION AND ISSUE OF CERTIFICATES

- 8.1 The Developer must apply to the Proper Officer in writing for a:
- (a) Part 1 Certificate;
 - (b) Part 2 Certificate; and
 - (c) Final Certificate.
- 8.2 Within ten Working Days following receipt of a written application from the Developer for the issue of a Part 1 Certificate or Final Certificate and within 20 Working Days following written application from the Developer for the issue of a Part 2 Certificate, the Proper Officer shall:
- (a) inspect the Works to which the application relates; and
 - (b) provide the Developer (where necessary) with a definitive written list of any works required to be carried out to remedy any defect or damage to the Road before the issue of that certificate.
- 8.3 The Developer must carry out the works referred to in clause 8.2(b) without unreasonable delay and at its own cost.
- 8.4 The works referred to in clause 8.2(b) shall be subject to the same inspection procedure detailed in this clause 8 until such time as the works have been completed to the reasonable satisfaction of the Proper Officer.
- 8.5 The Proper Officer shall issue the relevant certificate in accordance with clause 9, clause 10 or clause 13.

9. PART 1 CERTIFICATE

Within 20 Working Days following completion of the Part 1 Works to the reasonable satisfaction of the Proper Officer, the Proper Officer shall issue the Part 1 Certificate to the Developer.

10. PART 2 CERTIFICATE

Within 20 Working Days following completion of the Part 2 Works to the reasonable satisfaction of the Proper Officer, the Proper Officer shall issue the Part 2 Certificate to the Developer provided that

- (a) a camera survey of the surface water drains serving the Road has been carried out and provided to the Proper Officer; and
- (b) the maintenance period of any sewer constructed on or under the Road in accordance with a Sewer Adoption Agreement is currently running or has expired.

11. CERTIFICATES FOR PART OR PARTS OF THE ROAD

- 11.1 The Developer can apply to the Proper Officer for a Part 1 Certificate or a Part 2 Certificate for any part of the Road (being the whole width of the Road between specified points to be agreed by the Proper Officer and defined in the application).
- 11.2 If the Proper Officer is satisfied that the part of the Road defined is suitable to be treated as a separate road for the purposes of construction and adoption under this agreement, the Proper Officer may issue a separate Part 1 Certificate or Part 2 Certificate, as the case may be, for that part of the Road.
- 11.3 The same procedures may then be taken in respect of the said part of the Road as if it were the subject of a separate agreement under which the terms of this agreement applied, but without affecting the application of this agreement to the remainder of the Road.
- 11.4 Following the date of issue of a Part 1 Certificate or a Part 2 Certificate, as the case may be, for part of the Road, the liability of the Surety shall be reduced as may be directed by the Proper Officer.

12. THE MAINTENANCE PERIOD

- 12.1 From and including the date of the Part 2 Certificate:
 - (a) the Maintenance Period shall commence to run for a period of twelve calendar months or, if construction vehicles continue to travel along the Road, such longer period as the Proper Officer may reasonably determine; and
 - (b) the Road shall become a highway open for use by the public at large, but shall not be regarded as a highway maintainable at the public expense.
- 12.2 During the Maintenance Period, the Developer shall, at its own cost and to the reasonable satisfaction of the Proper Officer:

- (a) maintain the Works, including all grassed and planted areas, and carry out routine maintenance of the Road, including sweeping, gully emptying and snow clearance; and
 - (b) clear all abandoned vehicles, rubbish, or other unauthorised materials from the Road.
- 12.3 During the Maintenance Period the Council shall, at its own cost undertake routine maintenance of and be responsible for, the supply of energy all the street lights and illuminated traffic signs.
- 12.4 Before the Maintenance Period expires, the Developer shall, without unreasonable delay and at its own expense, reinstate and make good any defect or damage to the Road, which may have arisen from any cause or be discovered, during the Maintenance Period (including any defect in, or damage to, the road surface water drainage system) of which the Developer has been notified in writing by the Proper Officer, so that the Works comply with the Specification and the Drawings.

13. FINAL CERTIFICATE

The Proper Officer shall issue the Final Certificate to the Developer provided that:

- (a) the Developer has paid to the Council all amounts due to the Council under this agreement;
- (b) any necessary reinstatement or other works notified in writing to the Developer in accordance with clause 12.4 have been completed to the reasonable satisfaction of the Proper Officer;
- (c) the Road connects directly to a highway maintainable at public expense;
- (d) the Developer has delivered to the Proper Officer each of the following:
 - (i) one printed set and one electronic set of coloured drawings showing to a scale of 1:500 the Works as constructed, in a format specified by the Proper Officer;
 - (ii) one copy of the Health and Safety File in electronic form; and
 - (iii) highways inventory data in a format specified by the Proper Officer.
- (e) The Developer has at its own expense provided the Proper Officer with verification that any sewers constructed on or under the Road, in accordance with a Sewer Adoption Agreement, have been adopted by a Statutory Undertaker;
- (f) the Developer has obtained and delivered to the Council all necessary deeds of easement under clause 20;
- (g) the Developer has procured that an independent safety auditor, approved by the Council, has undertaken road safety audit stages 1, 2, 3 and (if required by the Proper Officer) 4 (**Road Safety Audits**) on the Works in

accordance with H.D 19/03 (Road safety audit volume 5: design manual for roads and bridges); and

- (h) The Developer has carried out, at its own expense, all the remedial works identified in the Road Safety Audits to the reasonable satisfaction of the Proper Officer;

14. ADOPTION

From and including the date of issue of the Final Certificate, the Road or any part of the Road, as the case may be, shall become a highway maintainable at the public expense.

15. MATERIALS SAMPLING AND TESTING

- 15.1 The Developer shall, if requested by the Proper Officer, make all necessary arrangements for an independent accredited testing facility, approved by the Council, to test the materials proposed to be used in connection with the Works. The Developer shall bear the full cost of such testing and give to the Proper Officer, at no expense to the Council, copies of all material testing certificates.
- 15.2 Any material rejected by the Proper Officer acting reasonably, as a result of the tests carried out under clause 15.1 shall not be used by the Developer for any of the Works.

16. NEW ROADS AND STREET WORKS ACT 1991

Until the date of issue of the Final Certificate, the Developer shall:

- (a) appoint a supervisor qualified in accordance with the provisions of section 67 of the New Roads and Street Works Act 1991; and
- (b) remain the street manager of the Road under section 49(4) of the New Roads and Street Works Act 1991.

17. KEEPING THE EXISTING HIGHWAY CLEAN

The Developer shall:

- (a) before commencing the Works provide suitable vehicle and wheel cleaning apparatus on the Land; and
- (b) during construction of the Works ensure the cleaning apparatus is well maintained and used by all vehicles immediately before leaving the Land to prevent mud and other materials being deposited on the highway.

18. CONNECTING TO EXISTING SERVICES

- 18.1 The Developer shall

- (a) At its own cost and expense advise all Statutory Undertakers who may or do have apparatus or any part of their services affected by the Works
 - (b) Execute all works or pay any costs that may become due and payable in respect of any further works that are required by the Statutory Undertaker as a result of the Developer undertaking the Works
- 18.2 Before connecting the Road to the carriageway of a highway maintainable at the public expense, the Developer shall give notice to the relevant Statutory Undertaker of any service or services laid in, on, or under the existing highway of the proposal to make such connection as if the connection were works for road purposes or major highway works as defined in section 86 of the New Roads and Street Works Act 1991.
- 18.3 The Developer shall:
 - (a) carry out, at its own cost, any works or measures required by a Statutory Undertaker as a result of the Works; and
 - (b) indemnify the Council for the cost of any works or measures carried out, as a result of the Works, by the Council at the request of the Statutory Undertaker.

19. OCCUPATION OF BUILDINGS

No buildings erected by or on behalf of the Developer that front, adjoin, abut or have access to the Road shall be occupied until:

- (a) the Proper Officer has issued the Part 1 Certificate for the Road, or the part of the Road that will provide the occupier with access to a vehicular highway;
- (b) a base course pedestrian access (where applicable) to such highway has been provided;
- (c) the Road or that part of the Road referred to in clause 19(a) has operational street lighting columns erected in accordance with the Specification and the Drawings and the Developer has arranged with the service provider for an electricity supply to the lighting by giving at least six weeks' prior notice in writing or as may otherwise be agreed in writing by the Proper Officer; and
- (d) the Road or that part of the Road referred to in clause 19(a) has street name plates erected as agreed with the Proper Officer.

20. GRANT OF EASEMENTS

- 20.1 Before the Proper Officer issues a Final Certificate, the Developer shall, without cost to the Council, execute and complete or procure the execution and completion of:
 - (a) any deeds of easement that are in the opinion of the Council necessary to secure for the Council full drainage rights to such parts of the surface water

drainage system of the Road Land that are not within the Road Land as detailed in Schedule 3; and

- (b) any other deeds of easement required by the Council for the future maintenance by the Council of any street furniture not within the Road Land.

20.2 The Developer shall pay the Council's proper and reasonable legal costs and disbursements in connection with the grant of any deeds of easement.

20.3 The Council shall not be liable for the payment of compensation or legal or any other costs or fees arising on account of the completion of any deeds of easement referred to in clause 20.1 or due to the subsequent use of the easement.

21. CDM REGULATIONS

21.1 The Developer elects to be treated for the purposes of the CDM Regulations as the only Client. The Council agrees with such election by the Developer.

21.2 The Developer agrees to undertake all the obligations of a Client and to use its reasonable endeavours to ensure that the Works are carried out in accordance with the CDM Regulations.

21.3 Before commencement of the Works, the Developer shall ensure that the Works are properly notified to the Health and Safety Executive in accordance with the CDM Regulations and shall give the Council a copy of the notification and any acknowledgement from the Health and Safety Executive.

21.4 The Developer shall ensure that the Health and Safety File is maintained correctly and is available for inspection in accordance with the CDM Regulations.

21.5 The Developer warrants it has taken or shall take all reasonable steps to be satisfied that all contractors engaged on the Works are suitable and competent having regard to their responsibilities in relation to the Works and the CDM Regulations.

21.6 The Developer shall indemnify and keep the Council indemnified against any breach of the Developer's obligations under this clause 21.

22. SURETY'S OBLIGATIONS

22.1 If any of the default events listed in clause 29 occur, the Proper Officer may, without affecting any statutory rights or powers or any other right, claim, or remedy under this agreement for such non-performance or non-observance, give to the Surety a Default Notice:

- (a) specifying the Default Work; and
- (b) containing an estimate by the Proper Officer of the Default Cost. The Default Cost shall not exceed:

- (i) the Estimated Cost;
- (ii) £83,500 (50% of the Estimated Cost) on and after the issue of the Part 1 Certificate; or
- (iii) £41,750 (25% of the Estimated Cost) on and after the issue of the Part 2 Certificate; or
- (iv) an amount to be determined by the Proper Officer in accordance with clause 11.4 above, exercising absolute discretion, after the issue of either part of a Part 1 Certificate or part of a Part 2 Certificate PROVIDED THAT such amount shall not exceed:
 - (A) the Estimated Cost; or
 - (B) after the issue of the final Part 1 Certificate, the amount specified in sub-paragraph (ii) above.
 - (C) after the issue of the final Part 2 Certificate, the amount specified in sub-paragraph (iii) above.

22.2 Within 20 Working Days following the date of receipt of the Default Notice, the Surety shall:

- (a) pay the Default Cost to the Council; or
- (b) send the Surety's Counter Notice to the Council.

22.3 If the Surety, having sent the Surety's Counter Notice to the Council, fails to start the Default Work within 20 Working Days from and including the date of receipt by the Council of the Surety's Counter Notice, the Surety shall without delay, pay the Default Cost to the Council together with simple interest at a rate of 5% per annum above the base rate of National Westminster Bank PLC from time to time, calculated from and including the date on which the Default Notice was sent to the Surety to and including the date the payment is made.

22.4 If the Surety, having sent the Surety's Counter Notice to the Council, starts the Default Work, and the Default Work is not completed within four calendar months from and including the date the Surety's Counter Notice was received by the Council, or within such further period or periods as may be agreed by the Proper Officer, the Surety shall forthwith on demand by the Proper Officer, pay to the Council:

- (a) such sum as the Proper Officer may determine as being the cost of carrying out any Default Work not carried out by the Surety or the cost of maintaining the Works for a period of twelve calendar months before the Road becomes maintainable at public expense (or the cost of both); and
- (b) the amount determined by the Proper Officer as representing the usual establishment charges of the Council.

22.5 The sum payable under clause 22.4 shall not exceed the Default Cost.

22.6 A demand stated to be made under this agreement and signed on behalf of the Council shall be conclusive as to the Surety's obligation to pay the amount demanded and there shall be no obligation or duty on the Surety to serve a Surety's Counter Notice

22.7 Following the issue of a Final Certificate for:

- (a) any part of the Road, the liability of the Surety shall be reduced by an amount as may be directed by the Proper Officer acting reasonably; or
- (b) all of the Road or the final part of the Road, the Surety shall be released from all liability under this agreement.

23. COUNCIL'S COVENANTS

The Council covenants with the Developer and the Surety for the benefit of each and every building plot fronting, adjoining, abutting, or having access to the Road:

- (a) to use all reasonable endeavours in consultation with the Surety to mitigate any loss or damage sustained because of any default by the Developer, by taking such reasonable steps as the Council thinks fit;
- (b) to use all monies received from the Surety pursuant to clause 22 towards the carrying out or completing the Works and maintaining and making good all defects for a period of twelve calendar months after completion of the Works. The amount received from the Surety shall be deducted from any sum that would otherwise be recoverable from the owners of premises fronting the Road under the Highways Act 1980;
- (c) if the sum paid by the Surety to the Council exceeds the cost of carrying out or completing the Works and maintaining and making good all defects as set out in this agreement (together with the amount of the Council's usual establishment charges) to repay to the Surety within 20 Working Days following the date of the Final Certificate, the amount of any excess; and
- (d) on the issue of the Final Certificate to give such notices and do whatever else may be required for securing that the Road or any part thereof, as the case may be, shall become a highway maintainable at public expense.

24. SPECIFICATION TO TAKE PRECEDENCE

If there is any conflict between the Specification and the Drawings, the Specification shall take precedence unless otherwise agreed in writing by the Proper Officer.

25. TECHNICAL ADVICE

If the Proper Officer determines that technical advice is required before any feature or structure included as part of the Works or that is under or over the Road can be approved, the Developer shall reimburse to the Council, within 20 Working Days

following receipt of an invoice, all reasonable and proper costs incurred by the Council in obtaining such technical advice.

26. MAKING UP OF PRIVATE STREETS

If the Developer fails to perform any of its obligations under this agreement, nothing in this agreement shall prevent or restrict the Council from exercising its powers under the Private Street Works Code contained in Part XI of the Highways Act 1980 or any other statutory provision.

27. INDEMNITIES

27.1 The Developer shall indemnify the Council in respect of any actions, charges, claims, costs, losses, damages, demands, liabilities and proceedings arising out of any breach or non-observance by the Developer of its obligations in this agreement including (but not limited to):

- (a) third party claims for death, personal injury or damage to property;
- (b) statutory or other liability for the safety or security of the Land, working methods, employment practices, protection of the environment and control of pollution; and
- (c) third party claims for unlawful interference with any rights of light, air, support, water, drainage or any other easement or right.

27.2 The Developer shall indemnify the Council in respect of any claims for compensation under section 10 of the Compulsory Purchase Act 1965 and claims under the Land Compensation Act 1973 arising out of, in connection with or incidental to, the carrying out of the Works and their subsequent use, other than those arising out of or in consequence of any negligent act default or omission of the Council.

27.3 The indemnification referred to in clause 27.2 includes:

- (a) compensation payments under Part I of the Land Compensation Act 1973;
- (b) all fees incurred by claimants, and those of the Council or its agent or contractor, in negotiating any claims (together with VAT payable on the claimants' professional advisors' fees);
- (c) statutory interest payments to claimants and their professional advisors; and
- (d) the Council's reasonable and proper legal costs in making the compensation, fees and interest payments under clause 27.3.

27.4 The Developer shall only be required to indemnify the Council in accordance with this agreement if:

- (a) the Council notifies the Developer as soon as reasonably practicable on becoming aware of any matter which becomes the subject of a claim for indemnity;

- (b) the Council keeps the Developer reasonably informed of all progress of which it is, or becomes, aware of in connection with that matter and of any proposed settlement;
- (c) where it is permitted by the Council's insurer, not settling or compromising that matter without the previous consent of the Developer, such consent not to be unreasonably withheld or delayed. Where the Developer does not consent it shall indemnify the Council against all costs incurred by the Council in litigating that matter and will assist the Council in such litigation by providing such witnesses and other evidence as it is able to do relating to any matter in contention.

28. INSURANCE

From and including the date of completion of this agreement until the date of issue of the Final Certificate, the Developer shall maintain public liability insurance in the Developer's own name to cover claims for injury to or death of any person or loss or damage to any real or personal property for an indemnity of not less than £5,000,000 for any one occurrence or series of occurrences arising out of the same event.

29. DEFAULT EVENTS

Subject to clause 31 the Council may terminate this agreement (except for clause 1, clause 3, clause 7, clause 18, clause 19, clauses 21-23, clause 26 and clauses 30-39) immediately by written notice to the Developer without prejudice to any other rights the Council may have, if any of the following events occur:

- (a) the Developer is in fundamental breach of any of its conditions, stipulations or obligations and liabilities in this agreement; or
- (b) the Developer is in substantial breach of any of its conditions, stipulations or obligations and liabilities in this agreement and has failed to rectify the breach within a reasonable time after receiving notice to rectify from the Proper Officer; or
- (c) where the Developer is a corporation:
 - (i) has an administrative receiver or receiver appointed over the whole or part of the Developer's assets or suffers the appointment of an administrator; or
 - (ii) any step is taken in connection with any voluntary arrangement or any other compromise or arrangement for the benefit of any creditors of the Developer; or
 - (iii) in relation to the Developer, the appointment of an administrator, the filing of documents with the court for the appointment of an administrator or the giving of notice of intention to appoint an administrator by the Developer or its directors, or by a qualifying floating charge holder (as defined in paragraph 14 of Schedule B1 to the Insolvency Act 1986); or

- (iv) a receiver or manager is appointed in relation to any property or income of the Developer; or
 - (v) a liquidator is appointed in respect of the Developer; or
 - (vi) a voluntary winding-up of the Developer is commenced, except a winding-up for the purpose of amalgamation or reconstruction of a solvent company in respect of which a statutory declaration of solvency has been filed with the Registrar of Companies; or
 - (vii) the Developer is struck-off from the Register of Companies; or
 - (viii) the Developer otherwise ceases to exist; or
- (d) Where the Developer is an individual:
- (i) the taking of any step in connection with any voluntary arrangement or any other compromise or arrangement for the benefit of any creditors of the Developer; or
 - (ii) the presentation of a petition for a bankruptcy order or the making of a bankruptcy order against the Developer.

30. COUNCIL'S POWER TO EXECUTE WORKS IN DEFAULT

- 30.1 Without affecting clause 3 and clause 29, if the Developer fails to carry out or complete the Works in accordance with the Developer's obligations under this agreement, the Council, after giving to the Developer and the Surety not less than 20 Working Days written notice, shall be entitled to carry out or complete the Works in default, using the Council's own employees, or by contractors or otherwise and to recover from the Developer or Surety the cost of carrying out or completing the Works as certified by the Proper Officer.
- 30.2 The Developer hereby grants to the Council and the Council's agents, contractors and employees full right and licence to enter together with all machinery plant and materials onto and remain on that part of the Land necessary in order to carry out or complete the Works and remedy any defects or damage to the Road pursuant to clause 30.1.

31. DISPUTES

Any dispute, controversy or claim arising out of or relating to this agreement, including any question regarding its breach, existence, validity or termination or the legal relationships established by this agreement, shall be finally resolved by arbitration in accordance with the Arbitration Act 1996. It is agreed that:

- (a) the tribunal shall consist of one arbitrator appointed jointly by the Developer and the Council;
- (b) in default of the Developer's and the Council's agreement as to the arbitrator, the arbitrator shall be appointed ~~or~~ either the Developer's or the

by
National Westminster
Bank Plc
Manchester Trade
Services Centre

Council's request by the President for the time being of the Institution of Civil Engineers; and

- (c) the costs of the arbitration shall be payable by the Developer and the Council in the proportions determined by the arbitrator (or if the arbitrator makes no direction, then equally between the Developer and the Council).

32. LEGAL AND OTHER COSTS

32.1 On the date of completion of this agreement or whenever demanded, within ten Working Days of written demand, the Developer shall pay to the Council:

- (a) £10,020 in respect of the reasonable and proper costs and expenses incurred or to be incurred by the Council in connection with the technical assessment, and inspection of the Works being 6% of the total of the Estimated Cost;
- (b) the Council's reasonable and proper legal costs and disbursements in connection with the preparation, completion and registration of this agreement;
- (c) any costs incurred by the Council in making and implementing any orders that regulate traffic which the Proper Officer deems necessary because of the Works and whether made or implemented before, during or after completion of the Works; and

32.2 Receipt by the Council of the payment of any sum shall not create any contractual relationship between the Council and the Developer, nor absolve the Developer from any liability or obligation imposed on the Developer by the terms of this agreement, or by statute or at common law.

33. ASSIGNMENT

The Developer may not assign this agreement without the prior written consent of the Council such consent not to be unreasonably withheld or delayed.

34. LOCAL LAND CHARGES REGISTER

As soon as practicable, following the date of completion of this agreement, the Council shall enter this agreement and its terms and conditions in the local land charges register.

35. NOTICES

35.1 A notice or other communication to be given under this agreement must be in writing and must be:

- (a) delivered by hand; or
- (b) sent by pre-paid first class post or other next working day delivery service.

35.2 Any notice or other communication to be given under this agreement must be sent to the relevant party as follows:

- (a) to the Council at: the Highways and Engineering Department, Town Hall, Torquay TQ1 3DR marked for the attention of the Principal Engineer];
- (b) to the Developer at: Office 4, Dean Court Business Park, Lower Dean, Buckfastleigh, Devon, TQ11 0LT marked for the attention of Mr Dan Salt, Managing Director;
- (c) to the Surety at: Natwest Trade Services, 7th Floor, 1 Hardman Boulevard, Manchester M3 3AQ;

or as otherwise specified by the relevant party by notice in writing to each other party.

35.3 Any notice or other communication given in accordance with clause 35.1 and clause 35.2 will be deemed to have been received:

- (a) if delivered by hand, on signature of a delivery receipt or at the time the notice or other communication is left at the address provided that if delivery occurs before 9.00 am on a Working Day, the notice will be deemed to have been received at 9.00 am on that day, and if delivery occurs after 5.00 pm on a Working Day, or on a day which is not a Working Day, the notice will be deemed to have been received at 9.00 am on the next Working Day;
- (b) if sent by pre-paid first class post or other next working day delivery service, at 9.00 am on the second Working Day after posting.

35.4 A notice or other communication required to be given under this agreement shall not be validly given if sent by e-mail.

35.5 This clause does not apply to the service of any proceedings or other documents in any legal action.

36. THIRD PARTY RIGHTS

A person who is not a party to this agreement shall not have any rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any term of this agreement.

37. GOVERNING LAW

This agreement and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the law of England and Wales.

This agreement has been entered into on the date stated at the beginning of it.

SCHEDULE 1 PART 1 WORKS

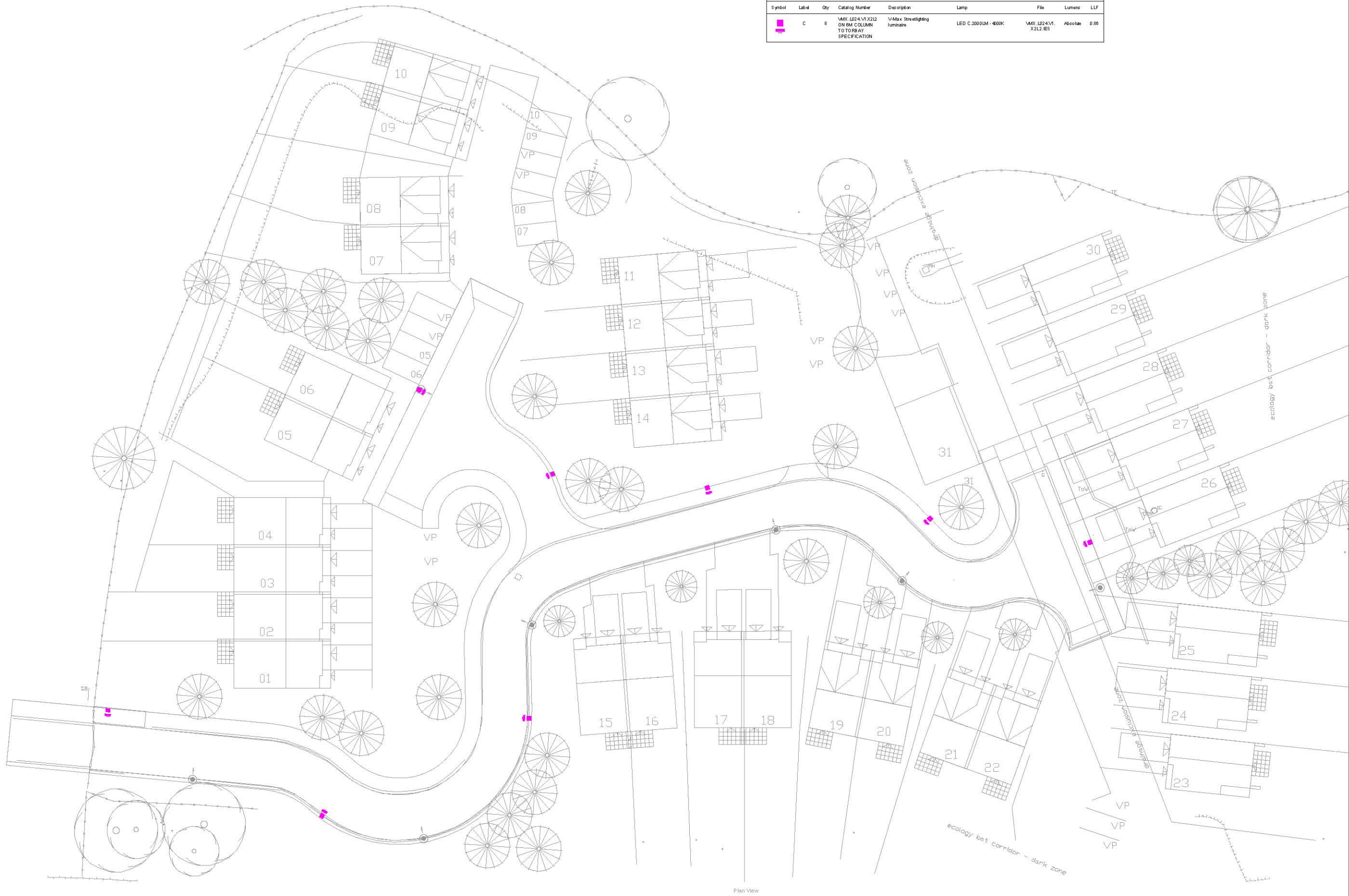
- All highway drainage.
- All other drainage contained within the Road.
- All kerb foundations and where appropriate, kerbs including lowering at vehicle crossings, pram-ramps, sub-base and base course surfacing to pedestrian way.
- Carriageway sub-base, road base, vehicle crossings and any supporting structures to the same.
- Carriageway base course surfacing and all vehicle crossings where appropriate.
- Demarcation of sight lines and clearance of vision splays.
- Operational street lighting.
- Temporary street name plates.

SCHEDULE 2 **PART 2 WORKS**


- All outstanding kerbing not completed as part of the Part 1 Works.
- Pedestrian ways and cycle ways.
- Carriageway wearing course and carriageway base course including (where appropriate) speed restraint measures.
- Vision splays, verges and service strips.
- All outstanding street lighting and street furniture.
- Street name plates.
- Road markings and traffic signs.
- All other works described in the Specification and shown in the Drawings.

SCHEDULE 3 **DETAILS OF EASEMENT**

A right of access for the purpose of maintenance to the inspection cover on plot 26 shown coloured yellow on drawing 12775 – 521 Rev G



STATISTICS						
Description	Symbol	Avg	Max	Min	MinMax	MinAvg
54	+	5.7 lux	13.0 lux	1.3 lux	0.10	0.23

LUMINAIRE SCHEDULE							
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumen LLF
	C	8	V MAX L02 4x1 X212 ON 6M COLUMN TO TORBAY SPECIFICATION	V Max Streetlighting luminaire	LED C 200 DIM - 4000K	V MAX L02 4x1 X212.IES	Absolute 0.88

REVISIONS			rev.	A
no.	date	details		

NOTES	
no.	details
	<p><u>Holophane V Max LED Luminaire</u></p> <p>V Max 2000, Lumen, 4000K. Aluminum body that conforms to EN1706 AC-46500, IP66 Metallic silver RAL 9006 Complete with integral electronic driver and Harvard uninode suitable for 230 / 240v 50/60 Hz supply</p> <p>The site is to be controlled by Harvard Leafnut monitoring system. Each lantern to include a driver compatible with the Harvard Leafnut CMS system and Leafnode (ref WMLN 868A) as appropriate. A branch node (ref LCBN 868A) shall be installed at a convenient location which acts as the main controller unit.</p> <p>Details obtained from support@harvardeng.com or Tel: 0113 383 1000 option 5</p> <p><u>Columns</u></p> <p>6m CU Phosco ref FR2506T015355L2/ GFR. 5m Raise and lower on Footpaths - ref 900003974. All columns except Raise and Lowers will be painted in Torbay Green (RAL 12-C-39), sign posts will normally be painted Grey (RAL 18-B-25), however some units will be black to form part of the street scene.</p>

drawn	SG	scale(s)	Not to scale
checked	DS	date	July 2015
		ACAD Ref	



HIGHWAYS MANAGEMENT
LOWER GROUND FLOOR
TOWN HALL
TORQUAY
TQ1 3DR

SCHEME TITLE

Brixham - Phase VI

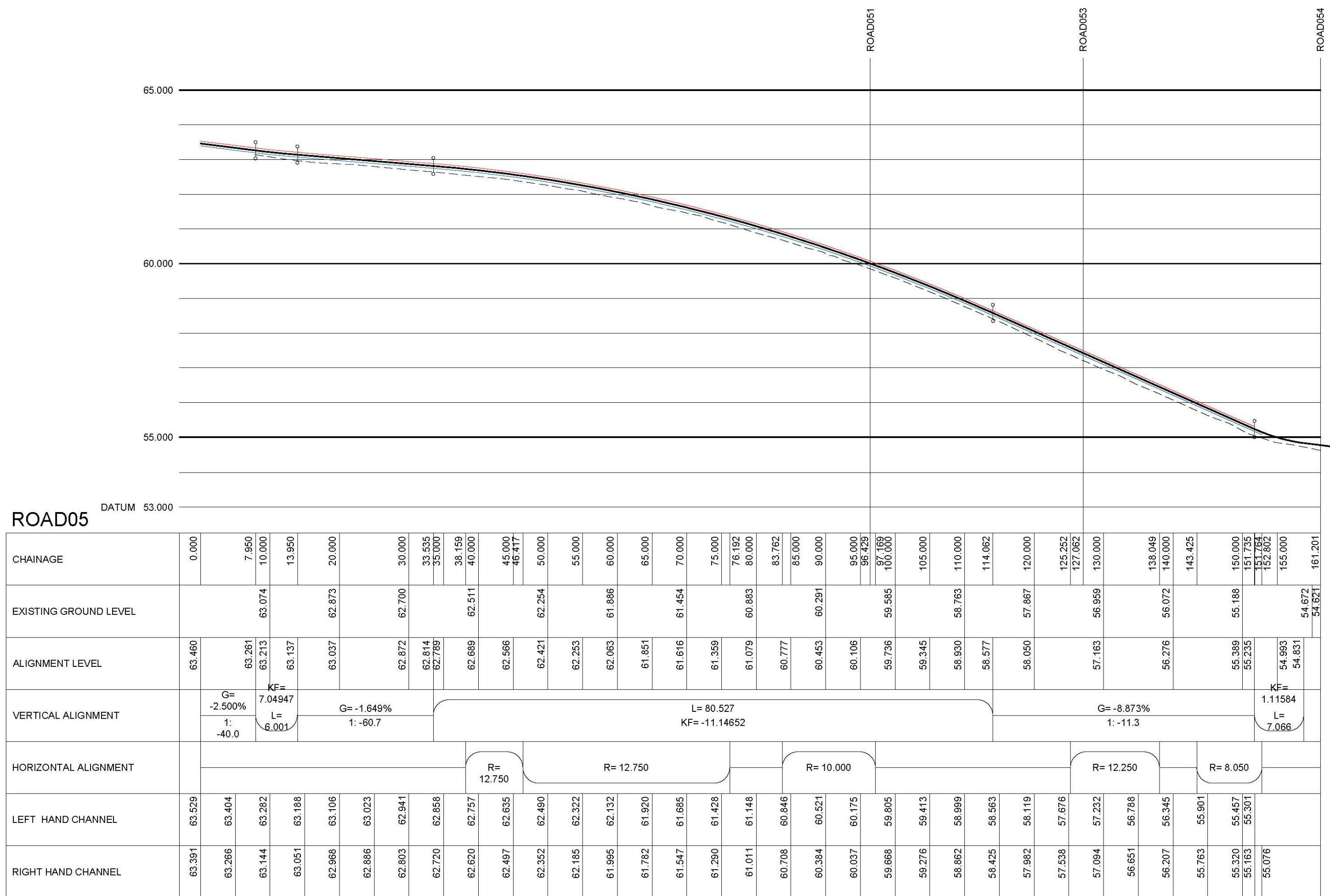
DRAWING TITLE

Street Lighting Design

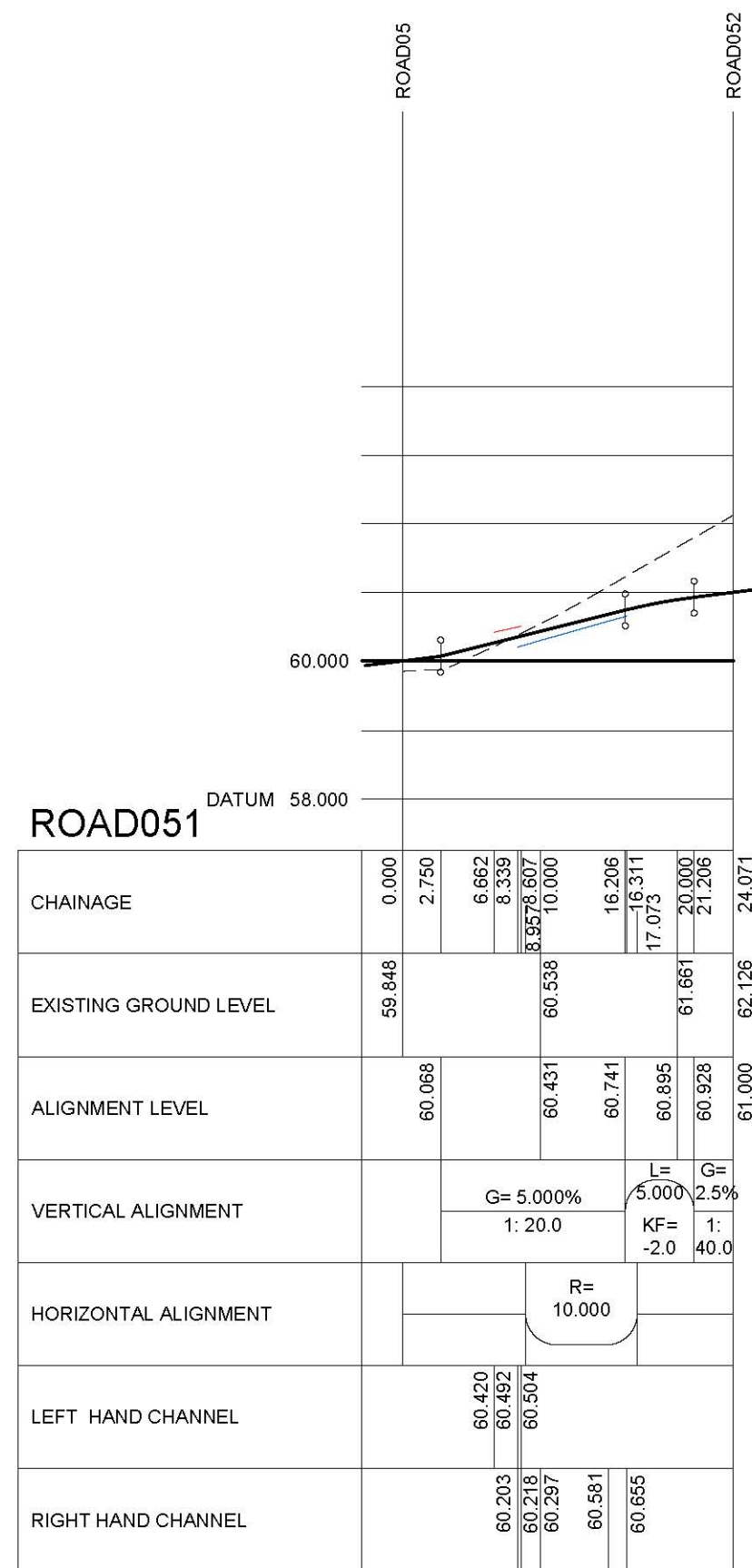
drawing number	rev.
BxmVI_SLD_7-15	A

GENERAL NOTES

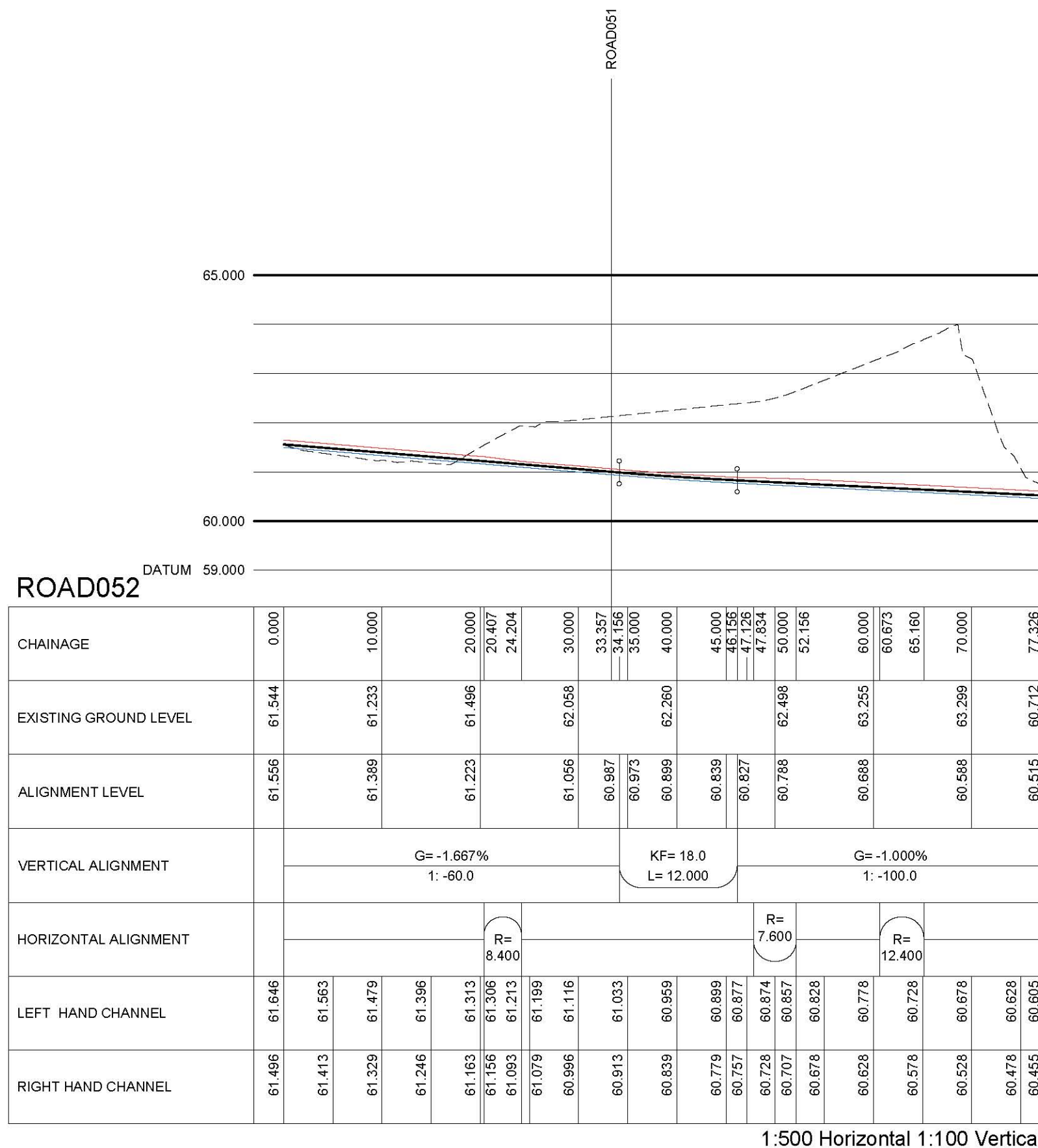
- This drawing is to be read in conjunction with all other relevant Architect's, Engineers & Specialist drawings, details and the relevant Health and Safety Plan (as appropriate).
- DO NOT SCALE FROM THIS DRAWING. Use figured dimensions only.
- All dimensions to be confirmed by the Architect prior to construction.



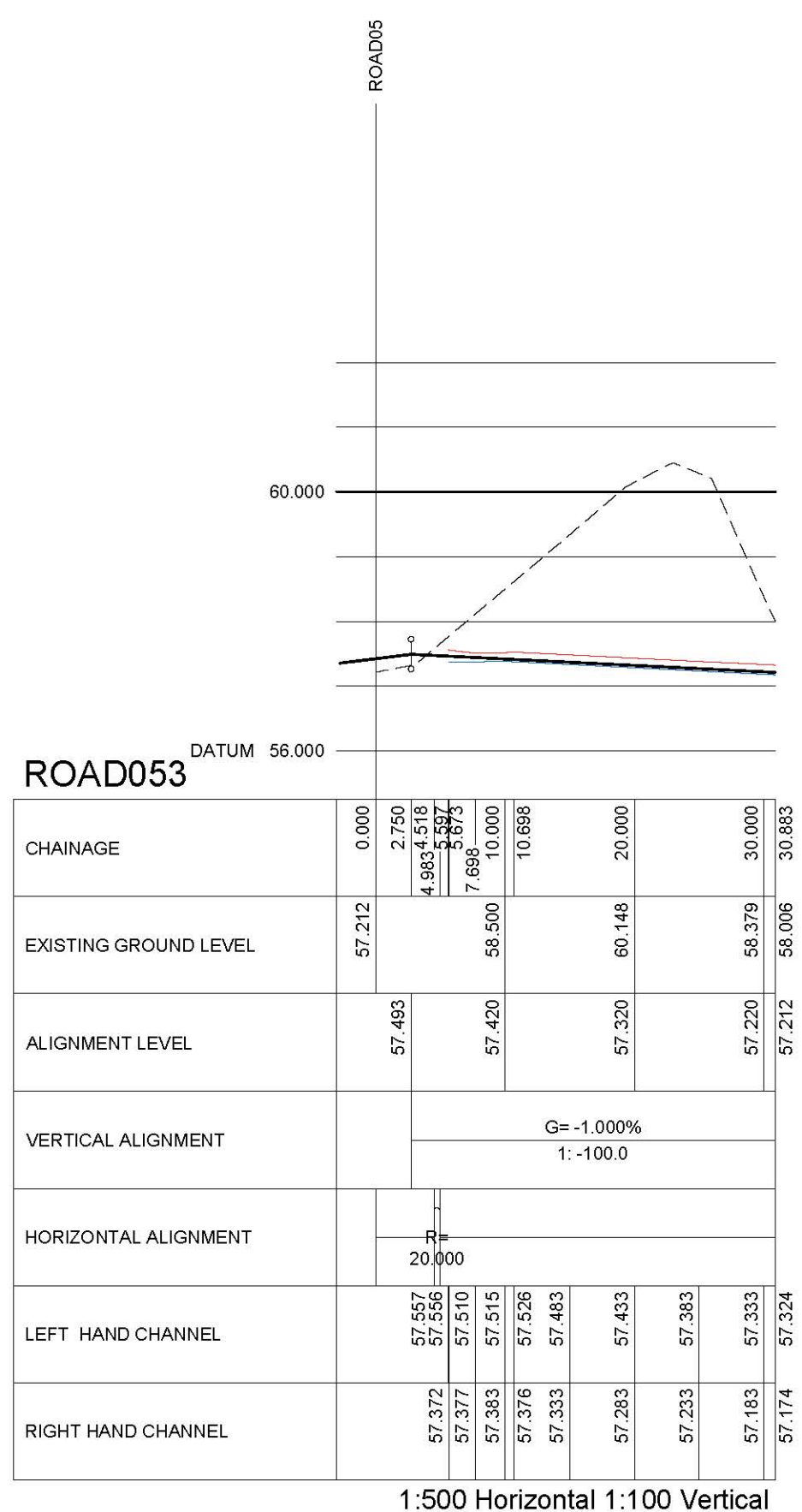
1:500 Horizontal 1:100 Vertical



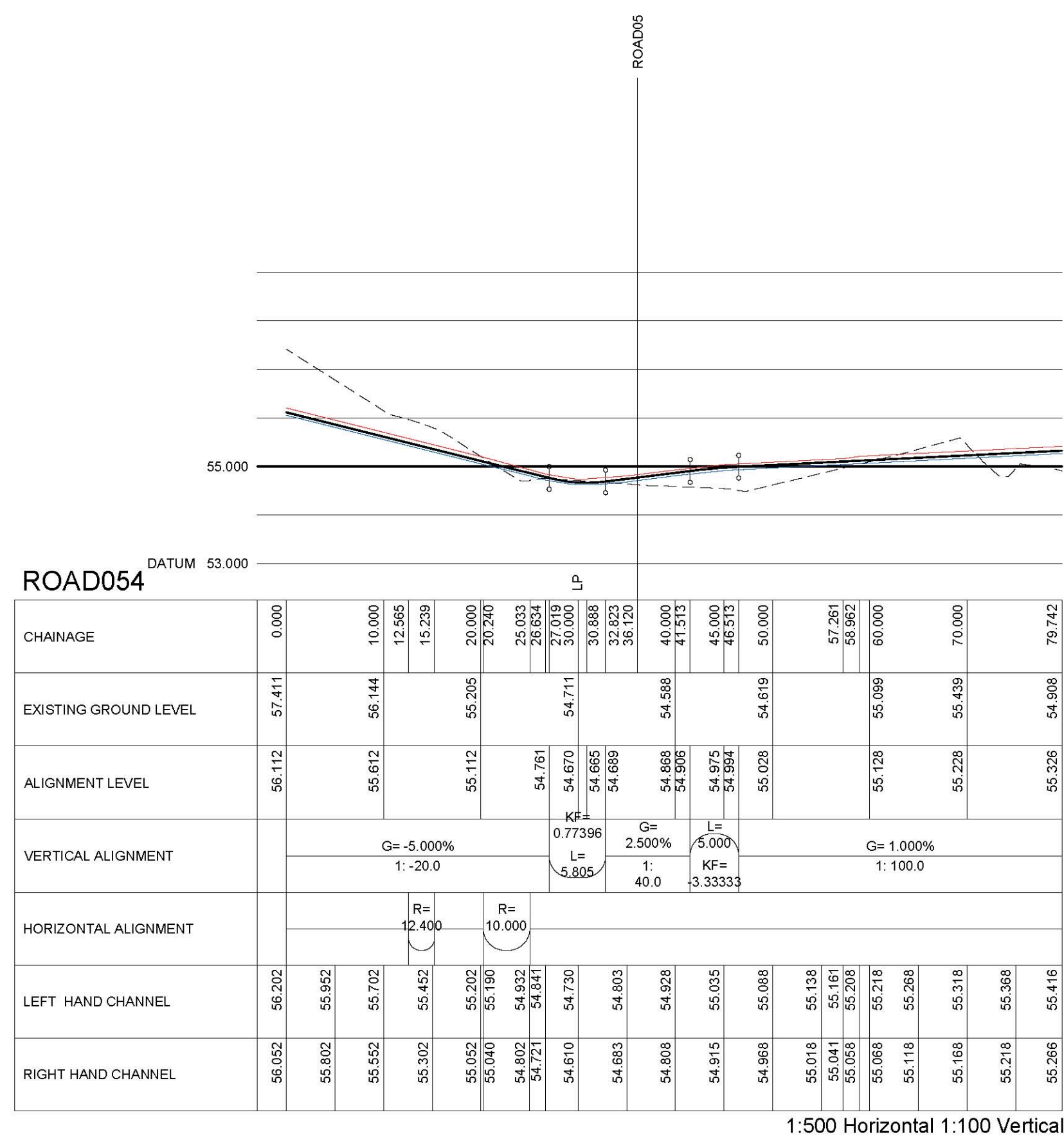
1:500 Horizontal 1:100 Vertical



1:500 Horizontal 1:100 Vertical



1:500 Horizontal 1:100 Vertical



1:500 Horizontal 1:100 Vertical

PAUL CARPENTER ASSOCIATES
Consulting Civil and Structural Engineers

117 FORE STREET, KINGSBRIDGE, DEVON, TQ7 1AL
TEL: 01548 853097 FAX: 01548 853405
E-mail: pca@paulcarpenterassociates.com
Web: www.paulcarpenterassociates.com

EXETER: 01392 363497 LONDON: 0208 940 7810

BRIXHAM
PHASE 6

PROPOSED
HIGHWAY
LONG SECTIONS

SCALE @ A1 As Shown

DRAWING NUMBER REVISION

12775-540

C

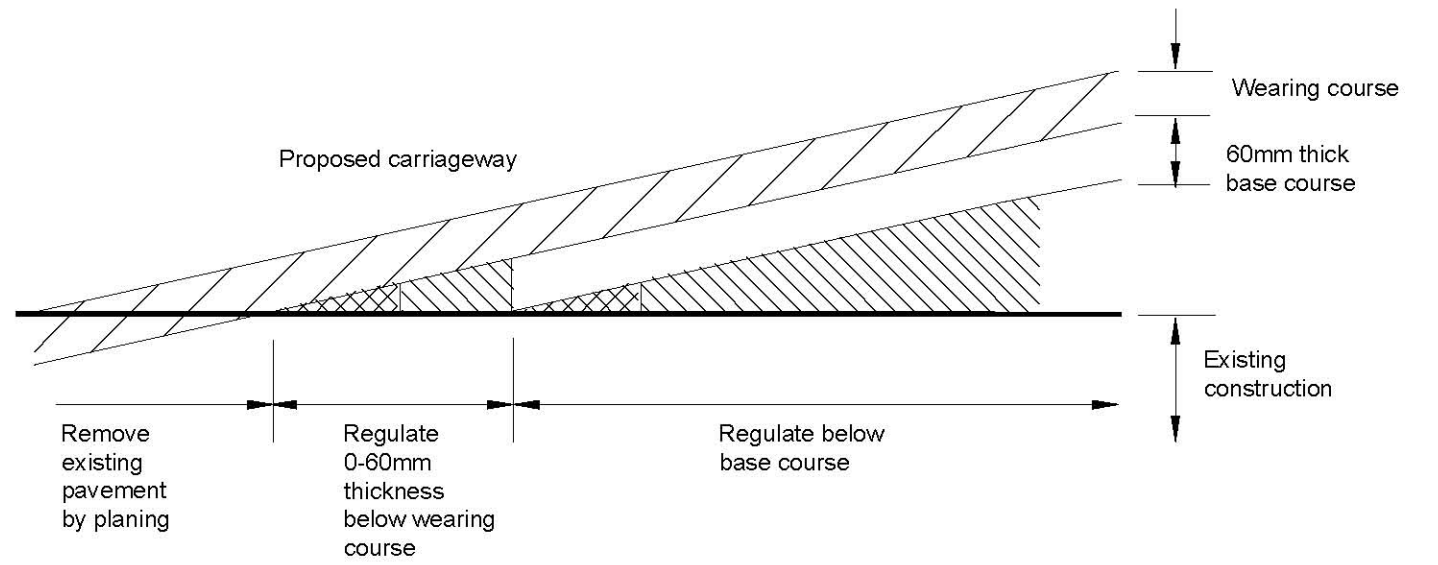
Drawn by
Date

WP
Dec 14

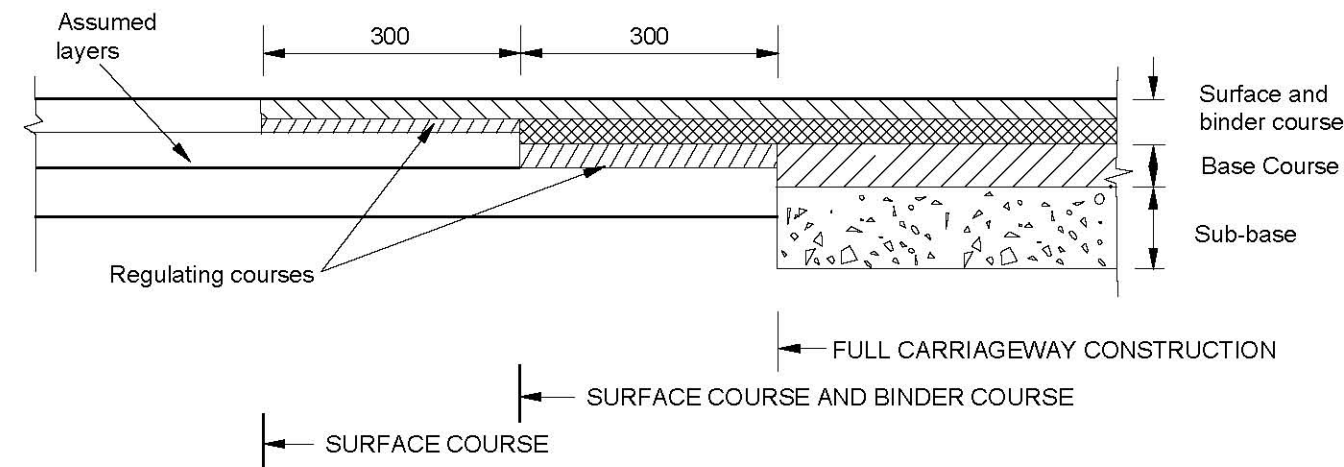
Checked by
Date

AH
Dec 14

Copyright



LONGITUDINAL SURFACING TIE-IN



TRANSVERSE SURFACING TIE-IN

TIE-IN NOTES

GENERAL

1. All dimensions in millimeters
2. Unless otherwise stated Clause numbers refer to Clauses 1.2 in the Department of Transport Specification for Highway Works

MATERIALS

3. See standard details for details of surface course and binder course.
4. Regulating materials to be as follows:-
0-30mm thick 6mm SMA >30mm thick 20mm SMA

CONSTRUCTION

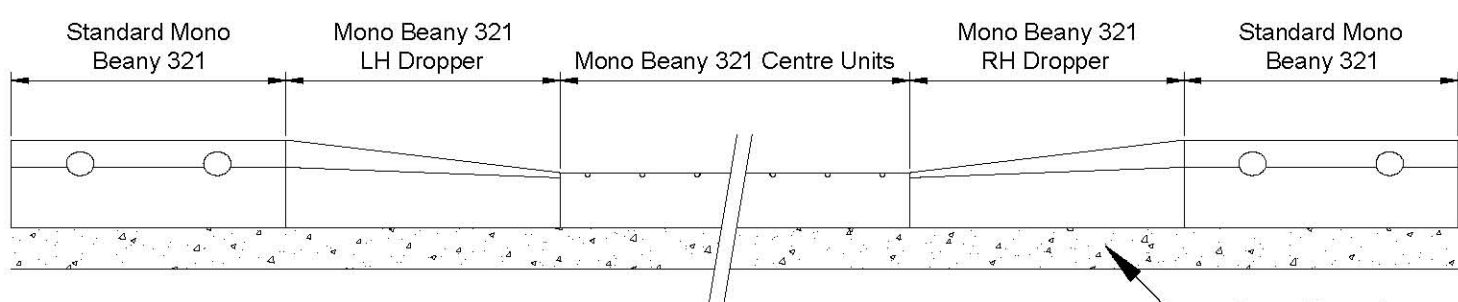
5. The existing pavement at the tie in is to be planed to provide a neat vertical joint to a depth which matches the abutting new wearing course. Additional planing down to the next pavement course may be necessary to remove unacceptable material and the voids so created are to be reinstated with regulating material. Prior to laying the new base or surface course on the existing pavement the surface shall be brushed clean and a tack coat applied to the requirement of Clause 920.
6. All vertical joints to be coated with asphalt cement (hot bitumen) prior to the laying of the new surface and base course.

KERB & CHANNEL NOTES:

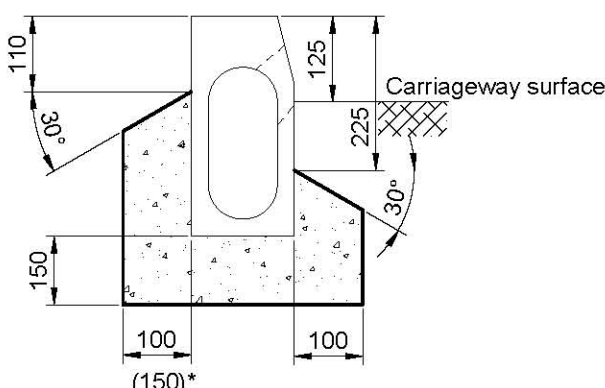
1. Precast concrete kerbs shall be in accordance with SVMH clause 1101.
2. The depth of concrete foundation shall not be less than the minimum shown & shall be sufficient to allow the foundation to be placed on or below the top of the sub-base course.
3. All necessary steps shall be taken to provide temporary drainage outlets to prevent ponding of surface water on lower footway layers until the completion of the pavement & it's permanent drainage.
4. 15mm 3:1 mortar required on existing bedding.

GENERAL NOTES

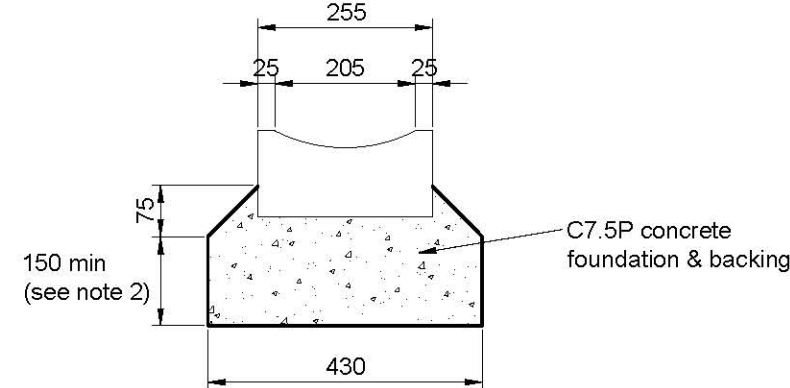
- This drawing is to be read in conjunction with all other relevant Architect's, Engineers & Specialist drawings, details and the relevant Health and Safety Plan (as appropriate).
- DO NOT SCALE FROM THIS DRAWING. Use figured dimensions only.
- All dimensions to be confirmed by the Architect prior to construction.
- Finishes to the Architect's requirements.



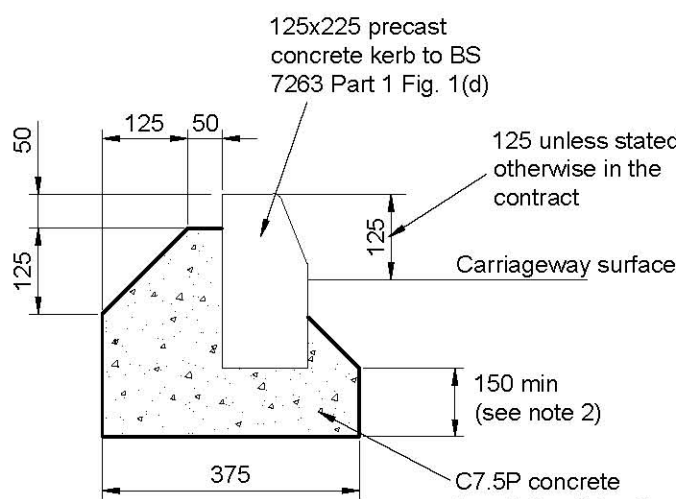
HB/SPLAY MONO BEANY 321 CROSSING DETAIL



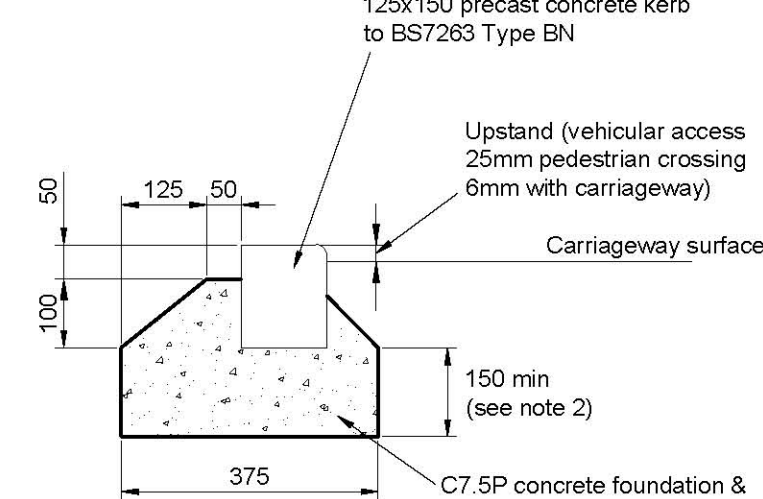
HB MONO BEANY 321



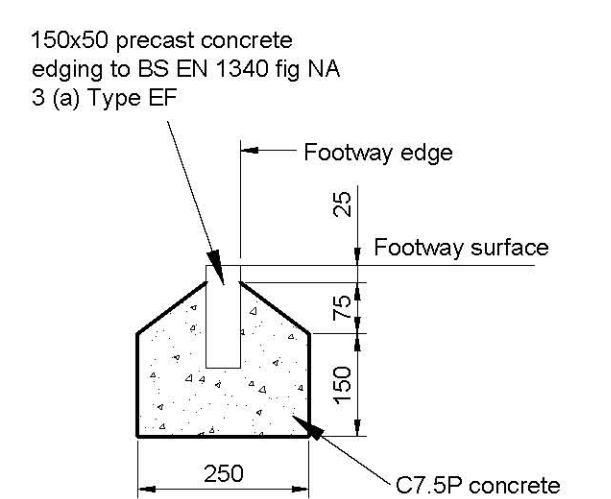
DISHED CHANNEL TYPE CD



TYPE HB2 KERB



TYPE BN KERB DROPPED KERB



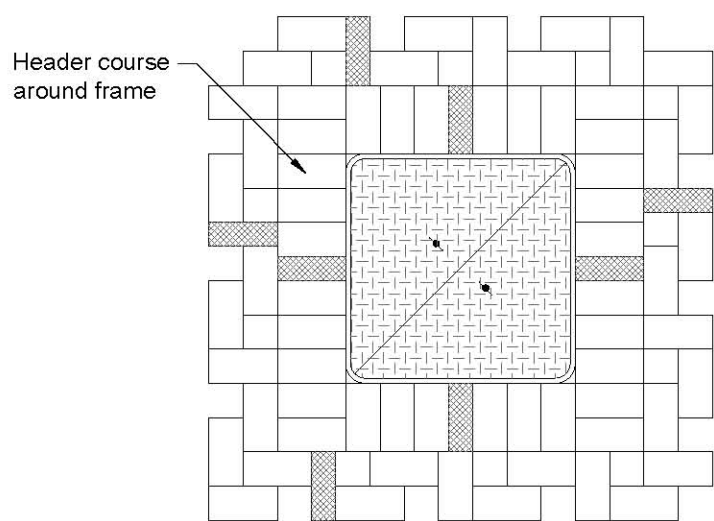
TYPE EF CONCRETE EDGING TO FOOTWAY

Minimum sub-base thickness (mm)			
CBR of Sub-Grade	Sub-Base alone (mm)	Geotextile	Sub-Base plus Capping (mm)
1% or less	no	To be agreed with Engineer	
less than 2%	no	yes	150 + 600
greater than 1%	no	yes	150 + 450
2%	no	yes	150 + 350
3%	no	yes	150 + 300
4%	no	no	150 + 250
5%	240 (350)	no	
6%	220 (290)	no	

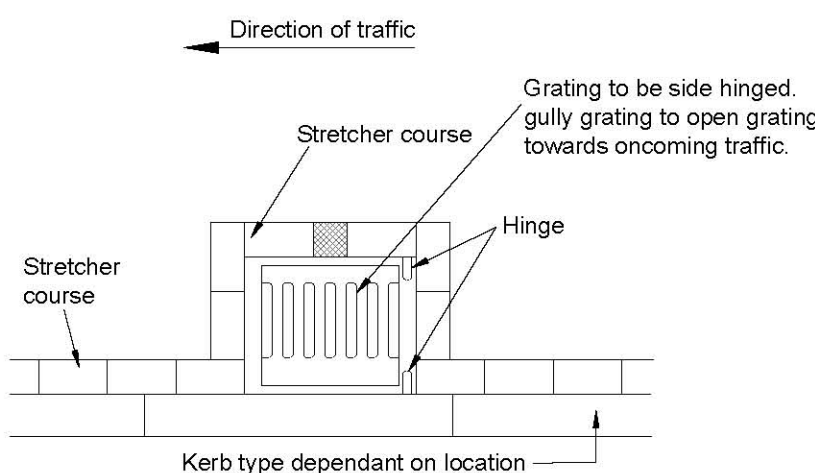
(350) - Construction thickness shown in brackets to be used if the water table is within less than 600mm to the formation level.

notes

1. This detail to apply to block paved areas only.
2. There shall be a minimum of one course of stretcher bond adjacent to all kerbs.
3. No block shall be cut less than half size (100x100mm) without the permission of the engineer.
4. Cut blocks shown thus

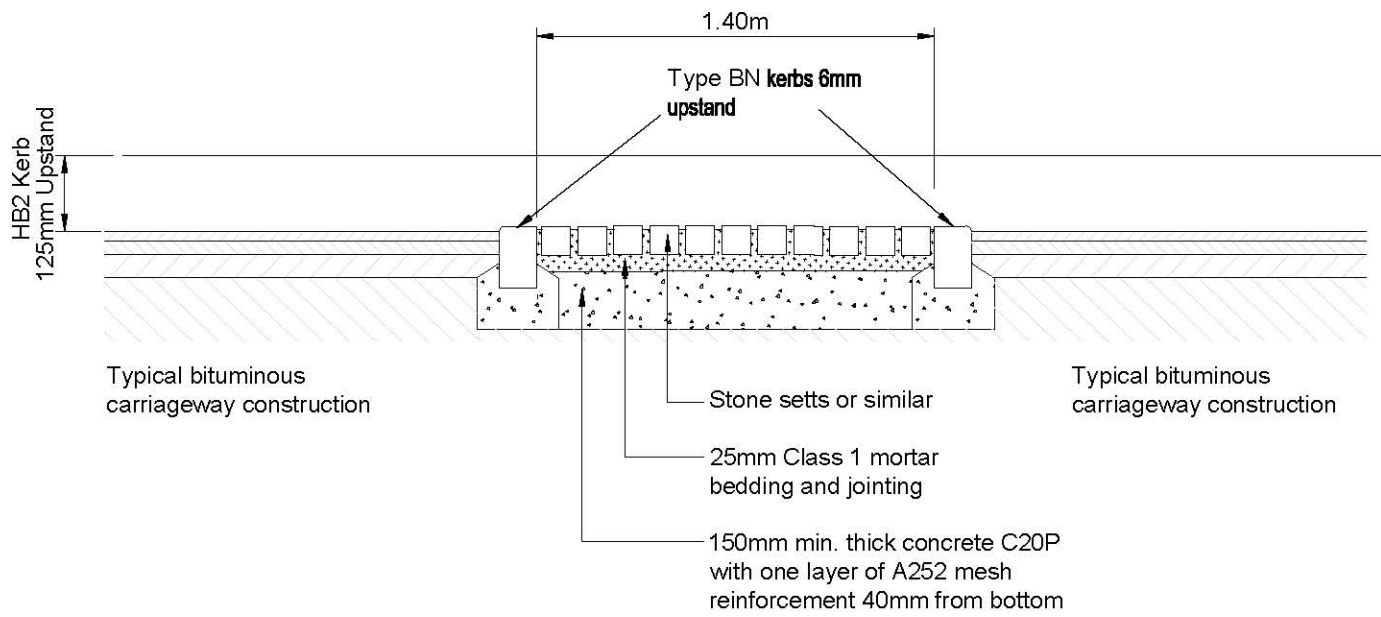


TYPICAL BLOCKWORK DETAIL AROUND DUCTILE IRON MANHOLE COVER

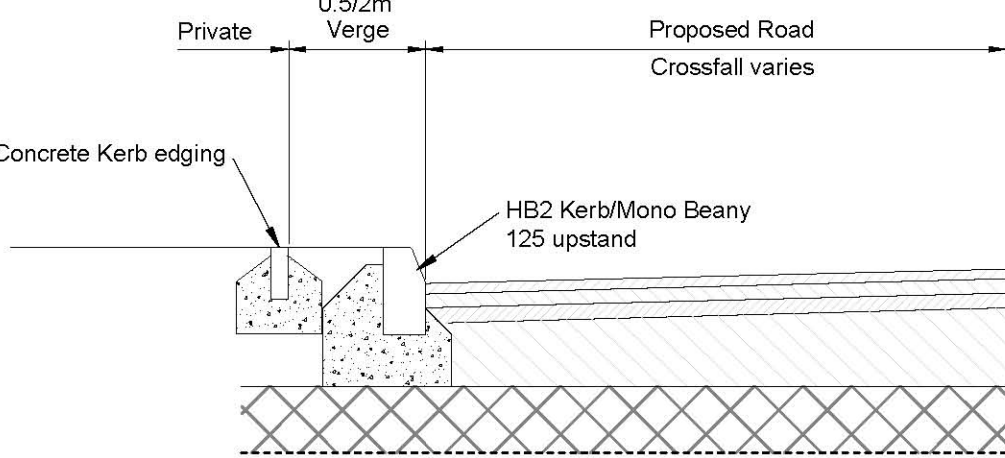


Note: This detail applies to block paved areas only

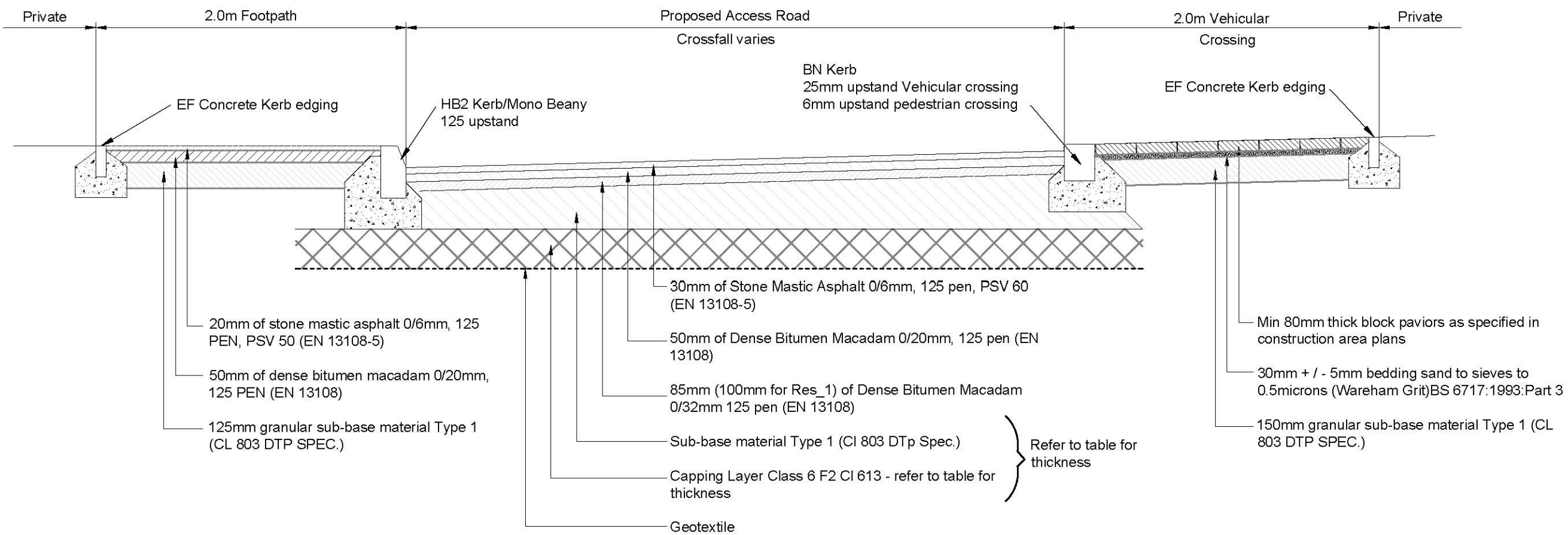
ROAD GULLY SURROUND



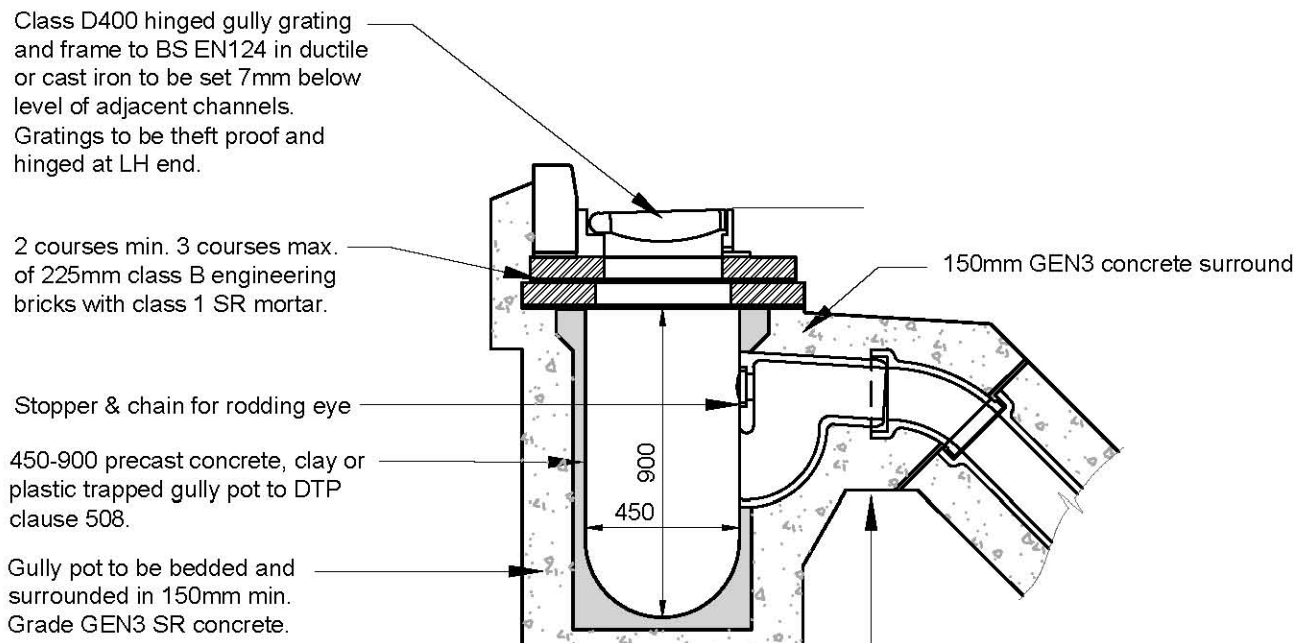
SECTION THROUGH "FLAT" RAMP



ACCESS ROAD TARMAC CARRIAGEWAY TYPICAL CROSS SECTION THROUGH VERGE

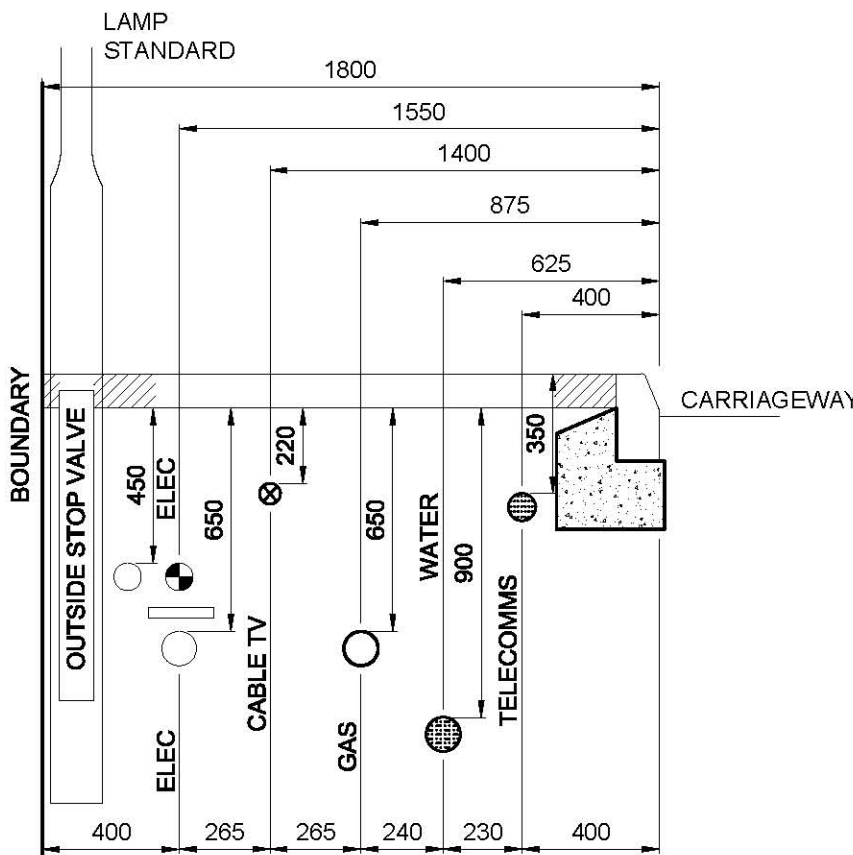


ACCESS ROAD TARMAC CARRIAGEWAY TYPICAL CROSS SECTION

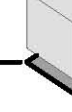


1. Unless otherwise stated all concrete to have class II resistance to sulphates.
2. Excavation for gully under paved areas to be backfilled in accordance with DTP specification clause 508.
3. All pipes to gully connections shall be bedded on and surrounded with minimum 150mm concrete with flexible joints formed by a shaped form of compressive filler.

TRAPPED ROAD GULLY



TYPICAL SERVICE LAYOUT IN FOOTWAY

B	23.04.15	Kerb bedding increased to 150mm	TR	WP
A	23.03.15	Issued FOR APPROVAL	TR	WP
REV.	DATE	DETAILS	DRAWN	CHECKED
<div></div> <div>PAUL CARPENTER ASSOCIATES Consulting Civil and Structural Engineers 117 FORE STREET, KINGSBRIDGE, DEVON, TQ7 1AL TEL: 01548 853097 FAX: 01548 853405 E-mail: pca@paulcarpenterassociates.com Web: www.paulcarpenterassociates.com EXETER: 01392 363497 LONDON: 0208 940 7810</div>				
BRIXHAM PHASE 6				
HIGHWAY STANDARD DETAILS				
SCALE @ A1 NTS				
DRAWING NUMBER 12775-530			REVISION B	
Drawn by TR Date March 2015			Checked by WP Date March 2015	
© Copyright				

Linear Drainage Design Team
Landscape House, Premier Way,
Lowfields Business Park,
Elland, Halifax.
West Yorkshire.
HX5 9HT

01422 312000
www.marshalls.co.uk
design.team@marshalls.co.uk

Marshalls Mono Limited
Registered Office:
Landscape House, Lowfields Business
Park, Elland, Halifax, HX5 9HT

Registered in England No. 509579

A subsidiary of Marshalls Plc

Linear Drainage Design Proposals

Brixham Phase 6

Prepared for InfraDesign
Our Ref: DR004346 Rev A
Date:23/03/15

Contents:

- 1. Drainage Design Notes**
- 2. Summary of Drainage Proposals**
- 3. Hydraulic Design**
- 4. Schedule of Components**
- 5. Location Plan**
- 6. Model Specification**

1) Notes on Drainage Designs


Marshalls Drainage Design Proposals are provided on the following basis:-

- Design proposals can only be based upon the information supplied to us. The recipient must assume that dimensions have been scaled from drawings unless specific dimensions have been supplied. We may have made assumption regarding levels, or other aspects of the scheme.
- All advice given assumes the use of Marshalls product in your project specification. If you use any other manufacturer's products, Marshalls can accept no responsibility whatsoever for the performance of those products, or generally for the advice we have given.
- As Marshalls are not involved in the overall design, management and supervision, or the selection of materials or contractors, we cannot be liable for the performance of our products on site and in use. This does not detract from the customers rights under common law for claims made against the quality of our products, should the situation arise.
- As the scheme's designer retains overall control of the project, it must remain their responsibility to check our proposals to ensure that all design and statutory requirements are met. Marshalls are not able to accept any responsibility for failure to check our proposals.
- Schedules of Quantities are provided in good faith, but must be checked by the customer prior to ordering. No responsibility can be accepted for shortfall or excess of materials. Any costings are provided for guidance purposes only, and are subject to confirmation on an official quotation.

2) Summary of Drainage Proposals

The following is a brief summary of the drainage system proposed for each of the drainage runs.

We would draw your attention to the 'Notes' within each run – these highlight any special comments or assumptions made in the design, which may require further consideration.

	Marshalls Mono Beany	
	Run Ref	1
	Total	115 linear metres
	Layout:	Constant depth channels, laid to follow surface gradient.
	Outfall:	<p>Mono Beany Inline Side Outfall - trapped and rodable gulley unit, provides side connection to 150Ø pipe at an invert depth of 450mm.</p> <p>Mono Beany Inline End Outfall - trapped and rodable gulley unit, provides end connection to 150Ø pipe at an invert depth of 450mm.</p> <p>Mono Beany High Capacity outfall - trapped and rodable gulley unit, provides connection to 225Ø pipe.</p>
	Grating / Top:	<p>Standard Mono Beany Half Battered Top Block</p> <p>Standard Mono Beany Splayed Top Block</p>
	Notes:	<p>Mono Beany is a cost effective combined kerb and drainage system, suitable for the drainage of small to medium-sized areas. It is a very cost effective option where the position of drainage channels naturally coincides with the kerb line.</p>

Rainfall assumed at 50mm/hour.

Run extended slightly, so that the outfall finishes on a full height kerb, not a drop crossing.

Centre stones and droppers (1 metre long) are all straight units; some of these may need trimming where radii are required.

Revision A

Additional drainage area to Run 1.1

Different background to drawing.

3) Hydraulic Design

There are a number of standards which may apply to the design of surface water drainage schemes. These are described in the following pages.

In all cases, the basic principle is to make an estimate of the peak rate of surface water run-off from each area, and compare this against the available capacity of the drainage system.

This document includes hydraulic calculations for each run within this project, or representative 'worst case' calculations. We have used the following design approach:

Design Standard(s) used:

- Building Regulations 2002 - Approved Document H3, Section 2, 'Drainage of Paved Areas'.
- The Highways Agency - Design Manual for Roads and Bridges. HD33/96 'Surface and Sub-surface Drainage Systems for Highways'.
- Sewers for Adoption – 6th Edition

Run – Off Calculation Method:

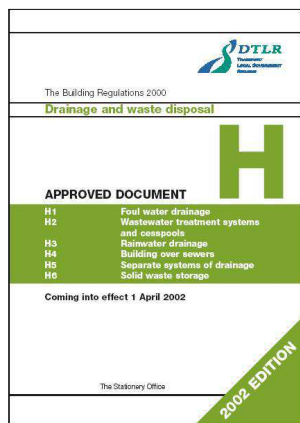
- Simple Area Run-off, based on Design Rainfall Intensity of 50mm/hr (0.014 L/sec/m²).

Available Capacity of system:

- Reference to graphs and tables from Marshalls 'Drainage Design Guide'. Figures have been calculated using the Colebrook-White Equations, or using the method described in HR Wallingford Report SR581 'Hydraulic Capacity of Drainage Channels with Lateral Inflow'.

	Run dimensions					Run-off			Channel Design System & Deepest Unit	Capacity Check					Notes
	Run Length	Start Level	End Level	Surface fall	Area Drained	Design rainfall	Calculated run-off	External input ?		Effective Channel Gradient	grad in calc	Available Capacity (L/sec)	Required Capacity (L/sec)	% of capacity used	
	(m)	(m)	(m)	(m)	(m2)	(mm/hr)	(L/sec)	(L/sec)							
Run 1.1	58.5	62.400	59.500	2.900	805	50	11.18		Mono Beany 320	1 in 21	20	44.12	11.18	25	OK
Run 1.2	7	59.500	59.000	0.500	50	50	0.69	11.18	Mono Beany 320 centre stone	1 in 14	14	22.44	11.88	53	OK
Run 1.3	9	59.000	58.250	0.750	50	50	0.69	11.88	Mono Beany 320	1 in 12	12	54.85	12.57	23	OK
Run 1.4	7	58.250	57.600	0.650	35	50	0.49	12.57	Mono Beany 320 centre stone	1 in 11	11	22.44	13.06	58	OK
Run 1.5	10	57.600	56.600	1.000	70	50	0.97	13.06	Mono Beany 320	1 in 10	10	79.34	14.03	18	OK
Run 1.6	4	56.600	56.220	0.380	30	50	0.42	14.03	Mono Beany 320 centre stone	1 in 11	11	22.44	14.44	64	OK
Run 1.7	6	56.220	55.750	0.470	35	50	0.49	14.44	Mono Beany 320	1 in 13	13	54.85	14.93	27	OK
Run 1.8	4	55.750	55.510	0.240	20	50	0.28	14.93	Mono Beany 320 centre stone	1 in 17	17	22.44	15.21	68	OK
Run 1.9	5	55.510	55.220	0.290	25	50	0.35	15.21	Mono Beany 320	1 in 18	17	54.85	15.56	28	OK
Run 1.10	3	55.220	55.000	0.220	20	50	0.28	15.56	Mono Beany 320 centre stone	1 in 14	14	22.44	15.83	71	OK
Run 1.11	1.5	55.000	54.980	0.020	10	50	0.14	15.83	Mono Beany 320	1 in 75	75	26.86	15.97	59	OK

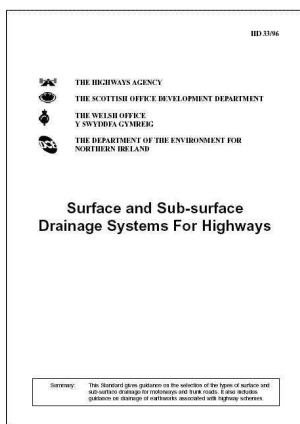
Drainage Design Standards:



Publication: Building Regulations 2002 - Approved Document H3, Section 2, 'Drainage of Paved Areas'.

Applies to: Drainage of pavements around buildings, up to 4000m².

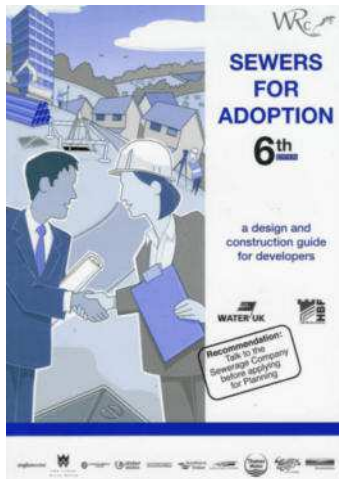
Requirements: Calculate discharge from the area using the 'simple area run-off' method. A typical design rainfall intensity of 0.014 litres/second/m² (50mm/hr) is suggested, but site-specific values can also be obtained from a rainfall intensity map. For 'high risk' or larger areas, design should be carried out using BS EN 752-4:1998.



Publication: The Highways Agency- Design Manual for Roads and Bridges, HD33/96 'Surface and Sub-surface Drainage Systems for Highways'.

Applies to: Motorways and Trunk Roads. Local Highway Authorities may also apply this guidance to other road schemes.

Requirements: Provides guidance on the selection and design of highway drainage systems. Recommends the use of the Modified Rational Method, typically with storm return periods of 1 to 5 years. Use of professional judgement and guidance from other sources is also acceptable - e.g. for smaller projects, the use of 'simple area run-off' methods may be appropriate.

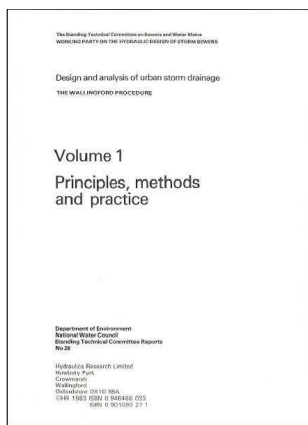


Publication: Sewers for Adoption – 6th Edition

Applies to: Adoptable surface water sewers.

Requirements: No specific requirements for Linear Drainage or Combined Kerb & Drainage systems, however the document recommends that surface water drainage should be designed using the 'Modified Rational Method', unless otherwise agreed with the Statutory Undertaker / Council. Again, this may permit the use of 'simple area run off' design methods for smaller areas.

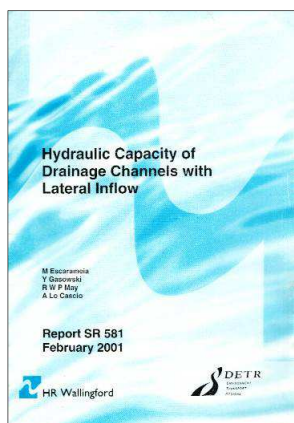
Other References:



Publication: HR Wallingford - Design and Analysis of Urban storm drainage - The Wallingford Procedure.

A detailed surface water drainage design method, which takes into account local rainfall figures, and critical storm duration (based on time of flow) to determine peak design rainfall intensity. Also known as the Modified Rational Method.

For larger areas and longer runs, this may result in a less conservative and more cost effective design, however it is not generally suitable for smaller areas.



Publication: HR Wallingford Report SR581 'Hydraulic Capacity of Drainage Channels with Lateral Inflow'.

Provides guidance for calculating the capacity of linear drainage and combined kerb and drainage systems. This report was used for certain Marshall's products, as detailed in our 'Drainage Design Guide'.

4) Schedule of Components

COMPONENTS		Marshall's Reference	GRAND TOTAL	RUN 1.1 Nr	RUN 1.2 Nr	RUN 1.3 Nr	RUN 1.4 Nr	RUN 1.5 Nr	RUN 1.6 Nr	RUN 1.7 Nr	RUN 1.8 Nr	RUN 1.9 Nr	RUN 1.10 Nr	RUN 1.11 Nr
MONO BEANY HB 321	Straight 1m	DR6630300	24	10		7		3		4				
MONO BEANY HB 321	Straight 0.5m	DR6630350	2	1				1						
MONO BEANY HB 321	Ext Rad 20/10 0.5m	DR6630750	8					8						
MONO BEANY HB 321	Ext Rad 5/9 0.5m	DR6630700	22	22										
MONO BEANY HB 321	Int Rad 20/10 0.5m	DR6630550	75	70								5		
MONO BEANY HB/SPLAYED 321	END CAP	DR6642350	2	1										1
MONO BEANY HB	Access Cover & Frame 0.5m	DR6640100	5	2				1				1		1
MONO BEANY 321	Rodding Box 0.5m	DR6641850	4	2				1				1		
MONO BEANY HB 321	LH DROPPER 1.0m	DR6631000	5			1		1		1		1		1
MONO BEANY HB 321	RH DROPPER 1.0m	DR6630900	5	1		1		1		1		1		
MONO BEANY HB 321	CENTRE STONE 1.0m	DR6631100	25		7		7		4		4		3	
INLINE OUTFALL	Side 150Ø	DR6641800	1											1
ANCILLARIES	M Flex Gun+Nozzle	DR9201600	1											
	M Flex Spare Nozzle	DR9201700	2											
	M Flex 600cc	DR9201500	22	11.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00

5) Location Plan

The attached plan, DR004346A-1.pdf, illustrates the location of each drainage run within the site.

6) Model Specification for Marshalls Mono Beany

The following specification covers the complete Mono Beany system including ancillary fittings and is compatible with the Standard Detail Sheets.

MONO BEANY

1. - The combined kerb & drainage system shall be Mono Beany, manufactured in pre-cast concrete, with the exception of certain fittings which are manufactured in cast iron as supplied by Marshalls Mono Ltd, Halifax HX3 9HT in accordance with Standard Detail Sheets.
2. - The combined kerb & drainage shall consist of a single unit consisting of top blocks with a straight backed half battered or straight backed 45° splayed profile together with constant depth base units that are 320 and 500 deep. The overall width of the system shall be not less than 150mm.
3. - All components of the Mono Beany system, shall comply with the Highways Agency Manual of Contract Documents for Highway Works and the British Standard BS EN1433, Load classification D400 and the following:
 - (i) - The water inlet aperture shall increase in size towards the inside of the unit with a minimum divergence angle of 5°.
 - (ii) - The angle of incline of the water inlet aperture shall be at least 30° to the horizontal.
 - (iii) - Water inlet apertures shall be wholly within individual units and not within 100mm of the end of each unit.
 - (iv) - When installed, the depth of construction from the top of the base units to the drained area surface shall be not less than 100mm.
 - (v) - The Top Block shall have an Unpolished Skid Resistance Value (USRV) in excess of 70 when tested in accordance with BS 7263:Part 3.
 - (vi) - The system shall have a minimum of 13,500mm²/m water inlet aperture area.
4. - The combined kerb & drainage system comprising straight top and base units, splay cut top and base units for radius use, straight and radius cover plates, cable duct blocks, outfalls, silt traps, junctions, access covers, end caps, cap outlets and sealant shall be installed to the line and levels indicated in the contract documents and in accordance with the manufacturer's instructions and Standard Details.

Marshalls Design Warranty



“Marshalls” means Marshalls Mono Limited, its direct and indirect holding companies and any subsidiary of it or of such holding companies.

1. Copyright in our designs

- 1.1 This Design has been produced specifically for the site stated in the drawing block title below. All design advice is specific to your Project. The finished Design together with all drawings, plans, specifications and other preparatory material and advice produced by or on behalf of Marshalls is subject to the law of copyright and Marshalls asserts its exclusive copyright in such material and retains all copyright and other intellectual property rights in such materials. This Design and/or design advice may not be copied or used for other projects without the express prior written approval of Marshalls.
- 1.2 For these purposes “Design” means the design attached to these conditions, any design included in the specification and/or any other design or technical advice provided by Marshalls in writing in connection with the Project, including any revisions, amendments and updates made by Marshalls to these designs and/or design advice, and “Project” means the customer’s specified project (where “customer” includes any contractor, architect, specifier or agent who is identified as the customer) in connection with which the Design is supplied.

2. Exclusion of Liability

- 2.1. This Design and any advice provided to you by Marshalls in connection with this design are specific to your Project. You acknowledge that in preparing the Design and providing the advice we have relied upon information supplied by you and/or your professional advisers, agents and/or contractors relating to the Project site and we take no responsibility for any failure or defect arising directly or indirectly from incomplete, inaccurate or misleading information provided to us, or arising as a consequence of any act, omission or failure by you or any third party contractor, engineer, quantity surveyor, architect or other professional adviser engaged in relation to the Project.
- 2.2. This Design and any advice provided by Marshalls have been prepared and delivered on the basis that Marshalls products are explicitly specified and will be used. If you use any other manufacturer’s products, Marshalls can accept no responsibility whatsoever for the performance of those products, nor can we give any assurance that this Design and/or advice provided by Marshalls will be suitable for use with those products.
- 2.3. As Marshalls is not involved in the overall management and supervision or the selection of materials or contractors on site we will not be liable for any failure in our products caused by the actions or omissions of third parties or the treatment of our products on site and in use. This does not affect your statutory rights.
- 2.4. Marshalls will have no liability for loss of profit, loss of use, loss of contract and/or any indirect or consequential loss or for any liquidated damages that may arise in respect of the Project. Our total liability to you arising in connection with the Project in any event will not exceed the lower of the aggregated value of materials supplied by Marshalls to the Project or £500,000.
- 2.5. To the extent permitted by law, the warranties and remedies set out in this document relating to the Design and any advice provided by Marshalls in relation to the Project are exclusive and in lieu of all warranties and remedies and contract terms, express or implied by law, including any contract terms implied by law as to quality or fitness for any particular purpose provided that this clause does not exclude liability for death, personal injury or fraudulent misrepresentation to the extent such exclusion would be prohibited by law.

3. Design warranty

- 3.1 In providing this Design and any written advice in relation to the Project Marshalls has used the standard of skill and care which would reasonably be expected from an experienced manufacturer of paving and drainage products of the type supplied by Marshalls to the Project.
- 3.2 To maintain best practice and in keeping with the BS EN ISO 9001 quality management system, Marshalls has its own internal checking procedure in place which involves a design verification process for work carried out by members of Marshalls’

Marshall's Design Warranty



engineering teams. It is essential that the qualified individual appointed by the customer agrees with the design data inputs and outputs particular to their Project before installation, as project requirements can change during the lifespan of the Project prior to commencement of the installation stage.

- 3.3 Marshall's warrants that it will repair or replace or provide a refund (at Marshall's discretion) in respect of any failure of the Design or of any Marshall's product installed in accordance with the Design to conform to the stated standard within 10 years of installation up to a total aggregated cost of £50,000, provided that:
- 3.3.1 Marshall's specification and guidance (as provided by Marshall's in writing) has been followed diligently including our recommendation for all component materials that form part of the Design.
 - 3.3.2 Only Marshall's paving products have been used.
 - 3.3.3 The relevant Design has been checked and signed off prior to the installation stage by a qualified individual associated with the Project acting on behalf of the customer, such as a project/design manager.
 - 3.3.4 The finished Project incorporating the products in the Design must have been installed and maintained at all times in accordance with Marshall's guidance.
 - 3.3.5 Any claims are submitted to Marshall's in writing within 10 years of the Project having completed (or such part of the Project that includes the Design) and in any event within 2 calendar months of the date on which the claimant became aware or should have become aware of the event or circumstance giving rise to the claim.

If any of the above conditions (a) to (e) inclusive have not been met, the above warranty will be invalid and Marshall's shall have no liability in respect of the Design and/or the products installed in accordance with the Design.

- 3.3. The above warranty will cover the performance of a sub-base incorporated into the Design. It expressly excludes any liability of Marshall's in respect of workmanship in relation to the sub-base and/or any installation whatsoever, including installation of any Product and/or the sub-base, and/or any defects or damage which occurs as a result of ground conditions (including but not limited to hydrological, climatic natural and/or physical conditions and man-made and other physical obstructions and pollutants).
- 3.3. The above warranty is for the exclusive benefit of the customer and may not be assigned or otherwise transferred to any other party without the written consent of Marshall's in its absolute discretion.

4. Insurance

Marshall's carries public and products liability insurance to a level of at least £10m and professional indemnity insurance to a level of £5m in respect of its designs.

5. Terms and Conditions

These conditions are in addition to and do not exclude the standard terms and conditions of Marshall's applicable to the sale of products to the Project from time to time. To the extent that any provisions of these design terms conflict with Marshall's standard terms and conditions of sale, these provisions shall prevail insofar as they apply to the Design and any advice in connection with the Design. These conditions will also prevail over any terms and conditions which any contractor, architect, specifier and/or other customer may seek to impose on Marshall's in relation to the Project.

These conditions will be governed by English law.