TCP/11/16(583) – Planning Application – 18/01662/FLL – Change of use of office to dwellinghouse, erection of 2 units (class 4), erection of 7 dwellinghouses, 8 flats and associated works, land 60 metres north of Burnside Joiners, Home Street, Aberfeldy

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(a) Papers submitted by the Applicant ***(Pages 63-398)***

(b) Decision Notice ***(Pages 389-390)***

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Reference Documents ***(Pages 79-87, 109-114 and 419-434)***

(c) Representations ***(Pages 435-472)***

TCP/11/16(583) – Planning Application – 18/01662/FLL – Change of use of office to dwellinghouse, erection of 2 units (class 4), erection of 7 dwellinghouses, 8 flats and associated works, land 60 metres north of Burnside Joiners, Home Street, Aberfeldy

PAPERS SUBMITTED BY THE APPLICANT

NOTICE OF REVIEW

Under Section 43A(8) Of the Town and County Planning (SCOTLAND) ACT 1997 (As amended) In Respect of Decisions on Local Developments
The Town and Country Planning (Schemes of Delegation and Local Review Procedure) (SCOTLAND) Regulations 2013
The Town and Country Planning (Appeals) (SCOTLAND) Regulations 2013

IMPORTANT: Please read and follow the guidance notes provided when completing this form. Failure to supply all the relevant information could invalidate your notice of review.

PLEASE NOTE IT IS FASTER AND SIMPLER TO SUBMIT PLANNING APPLICATIONS ELECTRONICALLY VIA https://www.eplanning.scot

1. Applicant's Details		2. Agent's Details (if any)	
Title		Ref No.	
Forename		Forename	Andrew
Surname		Surname	Bennie
Company Name	Lomond Group	Company Name	Andrew Bennie Planning Ltd
Building No./Name	c/o Andrew Bennie Planning Ltc	Building No./Name	
Address Line 1		Address Line 1	3 Abbotts Court
Address Line 2		Address Line 2	
Town/City		Town/City	Dullatur
Postcode		Postcode	G68 0AP
Telephone		Telephone	
Mobile		Mobile	07720 700210
Fax		Fax	
Email		Email	[redacted]

3. Application Details

Planning authority: Perth and Kinross Council

Planning authority's application reference number: 18/01662/FLL

Site address:

Land 60m north of Burnside Joiners, Home Street, Aberfeldy.

Description of proposed development:

Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works.

Date of application 12/9/18 Date of decision (if any) 20/10/18

Note. This notice must be served on the planning authority within three months of the date of decision notice or from the date of expiry of the period allowed for determining the application.

4. Nature of Application

Application for planning permission (including householder application) ☒

Application for planning permission in principle ☐

Further application (including development that has not yet commenced and where a time limit has been imposed; renewal of planning permission and/or modification, variation or removal of a planning condition) ☐

Application for approval of matters specified in conditions ☐

5. Reasons for seeking review

Refusal of application by appointed officer ☒

Failure by appointed officer to determine the application within the period allowed for determination of the application ☐

Conditions imposed on consent by appointed officer ☐

6. Review procedure

The Local Review Body will decide on the procedure to be used to determine your review and may at any time during the review process require that further information or representations be made to enable them to determine the review. Further information may be required by one or a combination of procedures, such as: written submissions; the holding of one or more hearing sessions and/or inspecting the land which is the subject of the review case.

Please indicate what procedure (or combination of procedures) you think is most appropriate for the handling of your review. You may tick more than one box if you wish the review to be conducted by a combination of procedures.

Further written submissions ☐
One or more hearing sessions ☐
Site inspection ☒
Assessment of review documents only, with no further procedure ☐

If you have marked either of the first 2 options, please explain here which of the matters (as set out in your statement below) you believe ought to be subject of that procedure, and why you consider further submissions or a hearing necessary.

7. Site inspection

In the event that the Local Review Body decides to inspect the review site, in your opinion:

Can the site be viewed entirely from public land? ☐
Is it possible for the site to be accessed safely, and without barriers to entry? ☐

If there are reasons why you think the Local Review Body would be unable to undertake an unaccompanied site inspection, please explain here:

Access to the site may be restricted for security reasons and as such an accompanied visit may be required to allow full and unobstructed access to the site.

8. Statement

You must state, in full, why you are seeking a review on your application. Your statement must set out all matters you consider require to be taken into account in determining your review. Note: you may not have a further opportunity to add to your statement of review at a later date. It is therefore essential that you submit with your notice of review, all necessary information and evidence that you rely on and wish the Local Review Body to consider as part of your review.

If the Local Review Body issues a notice requesting further information from any other person or body, you will have a period of 14 days in which to comment on any additional matter which has been raised by that person or body.

State here the reasons for your notice of review and all matters you wish to raise. If necessary, this can be continued or provided in full in a separate document. You may also submit additional documentation with this form.

Please refer to the attached Statement in Support of Review.

Have you raised any matters which were not before the appointed officer at the time your application was determined? Yes ☒ No ☐

If yes, please explain below a) why your are raising new material b) why it was not raised with the appointed officer before your application was determined and c) why you believe it should now be considered with your review.

Please refer to the matters raised within Section 5.0 of the Statement in Support of Request to Review.

9. List of Documents and Evidence

Please provide a list of all supporting documents, materials and evidence which you wish to submit with your notice of review

Please refer to the attached Schedule of Review Documents.

Note. The planning authority will make a copy of the notice of review, the review documents and any notice of the procedure of the review available for inspection at an office of the planning authority until such time as the review is determined. It may also be available on the planning authority website.

10. Checklist

Please mark the appropriate boxes to confirm that you have provided all supporting documents and evidence relevant to your review:

Full completion of all parts of this form ☑

Statement of your reasons for requesting a review ☑

All documents, materials and evidence which you intend to rely on (e.g. plans and drawings or other documents) which are now the subject of this review. ☑

Note. Where the review relates to a further application e.g. renewal of planning permission or modification, variation or removal of a planning condition or where it relates to an application for approval of matters specified in conditions, it is advisable to provide the application reference number, approved plans and decision notice from that earlier consent.

DECLARATION

I, the applicant/agent hereby serve notice on the planning authority to review the application as set out on this form and in the supporting documents. I hereby confirm that the information given in this form is true and accurate to the best of my knowledge.

Signature: [redacted] Name: Andrew Bennie Date: 7th January 2019

Any personal data that you have been asked to provide on this from will be held and processed in accordance with Data Protection Legislation.

Schedule of Review Documents

Planning Application Ref: 18/01662/FLL

Document 1: Application forms and Associated Certificates

Document 2i: Proposed Site Plan

Document 2ii: Proposed Elevations and Floor Plans, Plots 1 – 4

Document 2iii: Proposed Elevations and Floor Plans, Plots 5 – 7

Document 2iv: Proposed Elevations and Floor Plans, Plots 8 – 15

Document 2v: Proposed Light Industrial Unit B

Document 2vi: Proposed Street Elevations

Document 2vii: Proposed Light Industrial Unit E

Document 2viii: Location Plan

Document 2ix: Existing Site Plan

Document 3i: Planning Statement

Document 3ii: Planning Statement Appendix 1

Document 3iii: Planning Statement Appendix 2

Document 3iv: Planning Statement Appendix 3

Document 4i: Flood Risk Assessment

Document 4ii: Flood Risk Assessment, Update December 2018

Document 5: Noise Impact Assessment

Document 6: Design Statement

Document 7: Existing Elevations

Document 8i: Additional Planning Statement

Document 8ii: Additional Planning Statement, Appendix

Document 9: Decision Notice

Document 10: SEPA Land Use Vulnerability Guidance

Pullar House 35 Kinnoull Street Perth PH1 5GD Tel: 01738 475300 Fax: 01738 475310 Email: onlineapps@pkc.gov.uk

Applications cannot be validated until all the necessary documentation has been submitted and the required fee has been paid.

Thank you for completing this application form:

ONLINE REFERENCE 100136863-004

The online reference is the unique reference for your online form only. The Planning Authority will allocate an Application Number when your form is validated. Please quote this reference if you need to contact the planning Authority about this application.

Type of Application

What is this application for? Please select one of the following: *

☒ Application for planning permission (including changes of use and surface mineral working).

☐ Application for planning permission in principle.

☐ Further application, (including renewal of planning permission, modification, variation or removal of a planning condition etc)

☐ Application for Approval of Matters specified in conditions.

Description of Proposal

Please describe the proposal including any change of use: * (Max 500 characters)

It is proposed to develop 15 new build residential units, one change of use of Parkfield House from office to residential, and 2 new light industrial units (in addition to 3 existing on site) in a mixed use development on the site of the former Fisher's Laundry on Home Street, Aberfeldy.

Is this a temporary permission? * ☐ Yes ☒ No

If a change of use is to be included in the proposal has it already taken place? (Answer 'No' if there is no change of use.) * ☐ Yes ☒ No

Has the work already been started and/or completed? *

☒ No ☐ Yes – Started ☐ Yes - Completed

Applicant or Agent Details

Are you an applicant or an agent? * (An agent is an architect, consultant or someone else acting on behalf of the applicant in connection with this application) ☐ Applicant ☒ Agent

Agent Details

Please enter Agent details

Company/Organisation:	Aim Design		
Ref. Number:		You must enter a Building Name or Number, or both: *	
First Name: *	Ged	Building Name:	Unit 5
Last Name: *	Young	Building Number:	
Telephone Number: *	01382200505	Address 1 (Street): *	City Quay
Extension Number:		Address 2:	Camperdown Street
Mobile Number:		Town/City: *	Dundee
Fax Number:		Country: *	Scotland
		Postcode: *	DD1 3JA
Email Address: *	admin@aimdesign.co.uk		

Is the applicant an individual or an organisation/corporate entity? *

☐ Individual ☒ Organisation/Corporate entity

Applicant Details

Please enter Applicant details

Title:		You must enter a Building Name or Number, or both: *	
Other Title:		Building Name:	[redacted]
First Name: *		Building Number:	
Last Name: *		Address 1 (Street): *	
Company/Organisation	Lomond Group	Address 2:	
Telephone Number: *		Town/City: *	
Extension Number:		Country: *	
Mobile Number:		Postcode: *	
Fax Number:			
Email Address: *			

Site Address Details

Planning Authority: Perth and Kinross Council

Full postal address of the site (including postcode where available):

Address 1:

Address 2:

Address 3:

Address 4:

Address 5:

Town/City/Settlement:

Post Code:

Please identify/describe the location of the site or sites

Northing 749360 Easting 285756

Pre-Application Discussion

Have you discussed your proposal with the planning authority? * ☒ Yes ☐ No

Pre-Application Discussion Details Cont.

In what format was the feedback given? *

☒ Meeting ☐ Telephone ☐ Letter ☐ Email

Please provide a description of the feedback you were given and the name of the officer who provided this feedback. If a processing agreement [note 1] is currently in place or if you are currently discussing a processing agreement with the planning authority, please provide details of this. (This will help the authority to deal with this application more efficiently.) * (max 500 characters)

A meeting was held with John Williamson on 30.11.17 to review the first submission (REF: 17/01864/FLL). Revisions were tabled and provisionally considered acceptable. Application 17/01864/FLL was then withdrawn. The revisions discussed form the new submission particulars. Various correspondence were issued throughout the 1st application and included liaison with environmental officer Martin Petrie.

Title: Mr Other title:

First Name: John Last Name: Williamson

Correspondence Reference Number: Date (dd/mm/yyyy): 30/11/2017

Note 1. A Processing agreement involves setting out the key stages involved in determining a planning application, identifying what information is required and from whom and setting timescales for the delivery of various stages of the process.

Site Area

Please state the site area: 8228.00

Please state the measurement type used: ☐ Hectares (ha) ☒ Square Metres (sq.m)

Existing Use

Please describe the current or most recent use: * (Max 500 characters)

Historically the site operated as a laundry works for Fisher's Laundry. Since its closure the building has failed to attract a viable operator and has lain empty whilst on the market. Three existing light industrial units are located in the North and East corners of the site. Parkfield House, originally a domestic residence, is currently used as office space.

Access and Parking

Are you proposing a new altered vehicle access to or from a public road? * ☒ Yes ☐ No

If Yes please describe and show on your drawings the position of any existing. Altered or new access points, highlighting the changes you propose to make. You should also show existing footpaths and note if there will be any impact on these.

Are you proposing any change to public paths, public rights of way or affecting any public right of access? * ☐ Yes ☒ No

If Yes please show on your drawings the position of any affected areas highlighting the changes you propose to make, including arrangements for continuing or alternative public access.

How many vehicle parking spaces (garaging and open parking) currently exist on the application Site? 0

How many vehicle parking spaces (garaging and open parking) do you propose on the site (i.e. the Total of existing and any new spaces or a reduced number of spaces)? * 52

Please show on your drawings the position of existing and proposed parking spaces and identify if these are for the use of particular types of vehicles (e.g. parking for disabled people, coaches, HGV vehicles, cycles spaces).

Water Supply and Drainage Arrangements

Will your proposal require new or altered water supply or drainage arrangements? * ☒ Yes ☐ No

Are you proposing to connect to the public drainage network (eg. to an existing sewer)? *

☒ Yes – connecting to public drainage network

☐ No – proposing to make private drainage arrangements

☐ Not Applicable – only arrangements for water supply required

Do your proposals make provision for sustainable drainage of surface water?? * ☐ Yes ☒ No
(e.g. SUDS arrangements) *

Note:-

Please include details of SUDS arrangements on your plans

Selecting 'No' to the above question means that you could be in breach of Environmental legislation.

Are you proposing to connect to the public water supply network? *

☒ Yes

☐ No, using a private water supply

☐ No connection required

If No, using a private water supply, please show on plans the supply and all works needed to provide it (on or off site).

Assessment of Flood Risk

Is the site within an area of known risk of flooding? * ☒ Yes ☐ No ☐ Don't Know

If the site is within an area of known risk of flooding you may need to submit a Flood Risk Assessment before your application can be determined. You may wish to contact your Planning Authority or SEPA for advice on what information may be required.

Do you think your proposal may increase the flood risk elsewhere? * ☐ Yes ☒ No ☐ Don't Know

Trees

Are there any trees on or adjacent to the application site? * ☒ Yes ☐ No

If Yes, please mark on your drawings any trees, known protected trees and their canopy spread close to the proposal site and indicate if any are to be cut back or felled.

Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste (including recycling)? * ☒ Yes ☐ No

If Yes or No, please provide further details: * (Max 500 characters)

Each individual residence is provided with private back garden for private bin storage. The flatted developments (units 8-15) are provided with bin store area to the North East as noted on the plans. The two new light industrial units are provided with bin store areas each.

Residential Units Including Conversion

Does your proposal include new or additional houses and/or flats? * ☒ Yes ☐ No

How many units do you propose in total? * 16

Please provide full details of the number and types of units on the plans. Additional information may be provided in a supporting statement.

All Types of Non Housing Development – Proposed New Floorspace

Does your proposal alter or create non-residential floorspace? * ☒ Yes ☐ No

All Types of Non Housing Development – Proposed New Floorspace Details

For planning permission in principle applications, if you are unaware of the exact proposed floorspace dimensions please provide an estimate where necessary and provide a fuller explanation in the 'Don't Know' text box below.

Please state the use type and proposed floorspace (or number of rooms if you are proposing a hotel or residential institution): *

Class 4 Business (Office/Light Industry)

Gross (proposed) floorspace (In square meters, sq.m) or number of new (additional) Rooms (If class 7, 8 or 8a): * 278

If Class 1, please give details of internal floorspace:

Net trading spaces:

Non-trading space:

Total:

If Class 'Not in a use class' or 'Don't know' is selected, please give more details: (Max 500 characters)

Schedule 3 Development

Does the proposal involve a form of development listed in Schedule 3 of the Town and Country Planning (Development Management Procedure (Scotland) Regulations 2013 * ☐ Yes ☒ No ☐ Don't Know

If yes, your proposal will additionally have to be advertised in a newspaper circulating in the area of the development. Your planning authority will do this on your behalf but will charge you a fee. Please check the planning authority's website for advice on the additional fee and add this to your planning fee.

If you are unsure whether your proposal involves a form of development listed in Schedule 3, please check the Help Text and Guidance notes before contacting your planning authority.

Planning Service Employee/Elected Member Interest

Is the applicant, or the applicant's spouse/partner, either a member of staff within the planning service or an elected member of the planning authority? * ☐ Yes ☒ No

Certificates and Notices

CERTIFICATE AND NOTICE UNDER REGULATION 15 – TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND) REGULATION 2013

One Certificate must be completed and submitted along with the application form. This is most usually Certificate A, Form 1, Certificate B, Certificate C or Certificate E.

Are you/the applicant the sole owner of ALL the land? * ☒ Yes ☐ No

Is any of the land part of an agricultural holding? * ☐ Yes ☒ No

Certificate Required

The following Land Ownership Certificate is required to complete this section of the proposal:

Certificate A

Land Ownership Certificate

Certificate and Notice under Regulation 15 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

Certificate A

I hereby certify that –

(1) - No person other than myself/the applicant was an owner (Any person who, in respect of any part of the land, is the owner or is the lessee under a lease thereof of which not less than 7 years remain unexpired.) of any part of the land to which the application relates at the beginning of the period of 21 days ending with the date of the accompanying application.

(2) - None of the land to which the application relates constitutes or forms part of an agricultural holding

Signed: Ged Young

On behalf of: Lomond Group

Date: 12/09/2018

☒ Please tick here to certify this Certificate. *

Checklist – Application for Planning Permission

Town and Country Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

Please take a few moments to complete the following checklist in order to ensure that you have provided all the necessary information in support of your application. Failure to submit sufficient information with your application may result in your application being deemed invalid. The planning authority will not start processing your application until it is valid.

a) If this is a further application where there is a variation of conditions attached to a previous consent, have you provided a statement to that effect? *

☐ Yes ☐ No ☒ Not applicable to this application

b) If this is an application for planning permission or planning permission in principal where there is a crown interest in the land, have you provided a statement to that effect? *

☐ Yes ☐ No ☒ Not applicable to this application

c) If this is an application for planning permission, planning permission in principle or a further application and the application is for development belonging to the categories of national or major development (other than one under Section 42 of the planning Act), have you provided a Pre-Application Consultation Report? *

☐ Yes ☐ No ☒ Not applicable to this application

Town and Country Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

d) If this is an application for planning permission and the application relates to development belonging to the categories of national or major developments and you do not benefit from exemption under Regulation 13 of The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013, have you provided a Design and Access Statement? *

☐ Yes ☐ No ☒ Not applicable to this application

e) If this is an application for planning permission and relates to development belonging to the category of local developments (subject to regulation 13. (2) and (3) of the Development Management Procedure (Scotland) Regulations 2013) have you provided a Design Statement? *

☒ Yes ☐ No ☐ Not applicable to this application

f) If your application relates to installation of an antenna to be employed in an electronic communication network, have you provided an ICNIRP Declaration? *

☐ Yes ☐ No ☒ Not applicable to this application

g) If this is an application for planning permission, planning permission in principle, an application for approval of matters specified in conditions or an application for mineral development, have you provided any other plans or drawings as necessary:

- [x] Site Layout Plan or Block plan.
- [x] Elevations.
- [x] Floor plans.
- [x] Cross sections.
- [x] Roof plan.
- [ ] Master Plan/Framework Plan.
- [x] Landscape plan.
- [x] Photographs and/or photomontages.
- [ ] Other.

If Other, please specify: * (Max 500 characters)

Provide copies of the following documents if applicable:

A copy of an Environmental Statement. *	☐ Yes	☒ N/A
A Design Statement or Design and Access Statement. *	☒ Yes	☐ N/A
A Flood Risk Assessment. *	☒ Yes	☐ N/A
A Drainage Impact Assessment (including proposals for Sustainable Drainage Systems). *	☐ Yes	☒ N/A
Drainage/SUDS layout. *	☐ Yes	☒ N/A
A Transport Assessment or Travel Plan	☐ Yes	☒ N/A
Contaminated Land Assessment. *	☐ Yes	☒ N/A
Habitat Survey. *	☐ Yes	☒ N/A
A Processing Agreement. *	☐ Yes	☒ N/A

Other Statements (please specify). (Max 500 characters)

Planning Policy Statement & Noise Impact Assessment

Declare – For Application to Planning Authority

I, the applicant/agent certify that this is an application to the planning authority as described in this form. The accompanying Plans/drawings and additional information are provided as a part of this application.

Declaration Name: Mr Ged Young

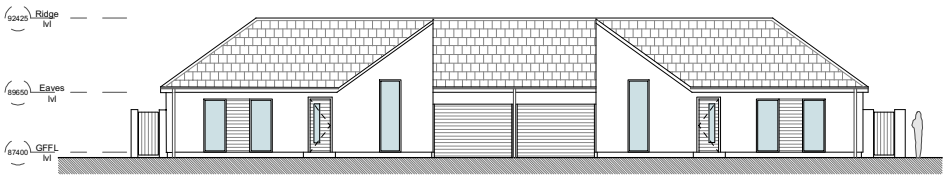
Declaration Date: 12/09/2018

	PLOT(m²)	HOUSE(m²)	GARDEN(m²)	PRIVATE(m²)	BUILD TO PLOT
1	322.5	98	224.5	145.5	30%
2	307.8	98	209.8	131.7	32%
3	300	98	202	131.5	33%
4	316	98	218	135.8	31%
5	301	83.6	217.4	168	27.7%
6	270	75	195	129	27.7%
7	273.7	75	198.7	126.7	27.4%
8-11	407.8	153.5	254.3	106	
12-15	418	153.7	254.3	106	

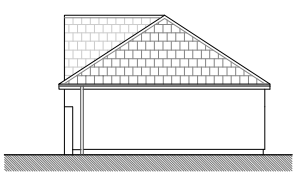
	COMMERCIAL(m²)
A	100 (exist)
B	108
C	135.7 (exist)
D	90 (exist)
E	170

Extent of adoptable access road
Application boundary
Asphalt paving
Asphalt rd
Permeable concrete sets
600x600 concrete pavours
Grassed area

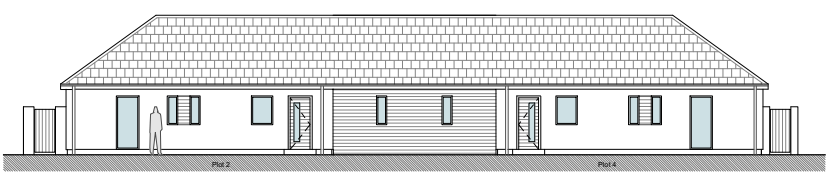
BUSINESS PARK ACCESS AND PARKING
PRIVATE PARKING COURT (MIXED USE)
PRIVATE PARKING COURT (MIXED USE)
TURNING AREA
FOOTWAY
FOOTWAY
Home Street
Existing (A)
Existing (B)
Existing (C)
Existing (D)
(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8-11)
(12-15)
Parkfield
1.8m high fence
2m high acoustic barrier
Existing boundary fence
Existing chainlink fence
Existing hedge
Existing vegetation to be retained
Extent of trees retained
Boundary wall
Bin store
Bin store
Bin store



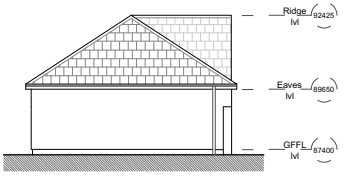
Proposed NE Elevation



Proposed NW Elevation

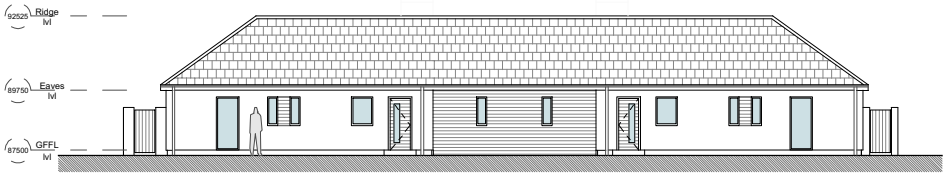


Proposed SW Elevation

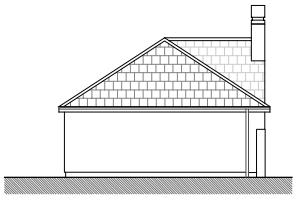


Proposed SE Elevation

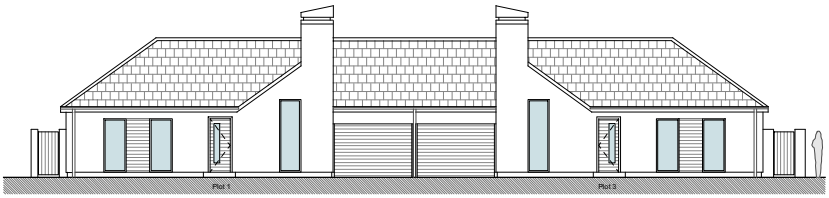
Plots 3&4



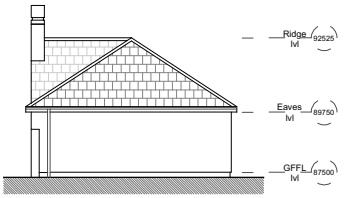
Proposed NE Elevation



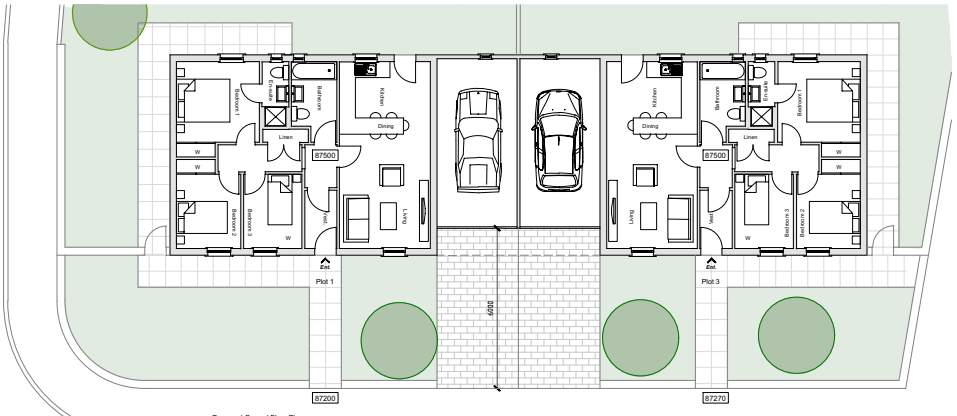
Proposed NW Elevation



Proposed SW Elevation



Proposed SE Elevation



Proposed Ground Floor Plan

External finishes:	Colour
Roof: Concrete tile.	Charcoal
Render: K-Rend smooth render.	White
Timber: Scottish larch.	Factory finished smoked grey
Base course: Smooth cement bond.	Grey
Copings, chimney features: Cast concrete	Grey
Windows: UPVC	RAL 7016 (grey)
Fascias: as required	White
Rainwater goods: UPVC	Black

0 1 2 3 4 5

Rev	Description	Date
A	Side elevations added. Plots 2 & 4 added.	25.10.17
B	External landscape amended	06.03.18

Client: Lomond Group

Project: Home Street, Aberfeldy

Title: Proposed House Type A (1-4)

aim design limited
architectural design
tel 0141 427 5511
fax 0141 427 5512
admin@aimdesign.co.uk
www.aimdesign.co.uk

date	scale	as indicated
10.07.17	AR	—
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job no.	dwg no.	Rev
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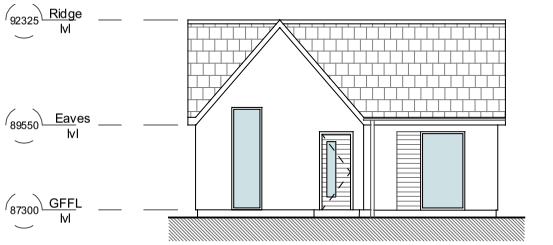
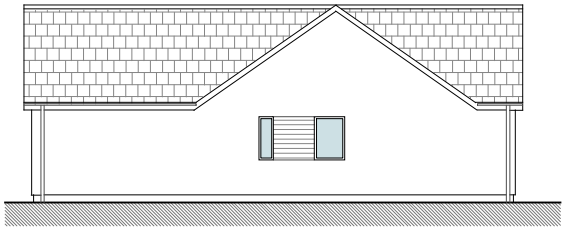
Plots 1&2



Proposed North Elevation



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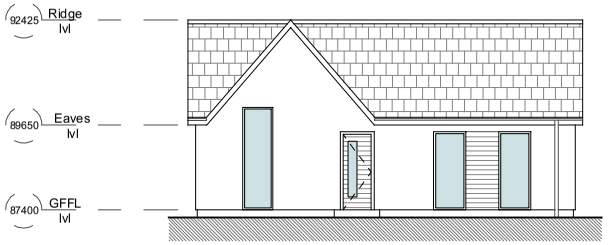

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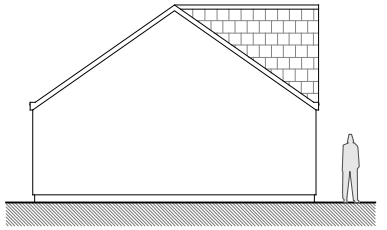

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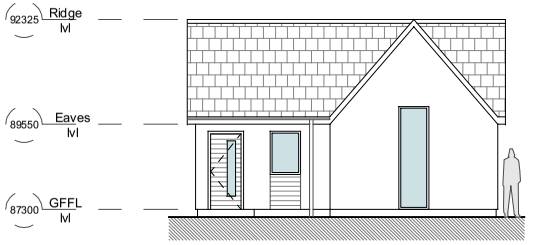

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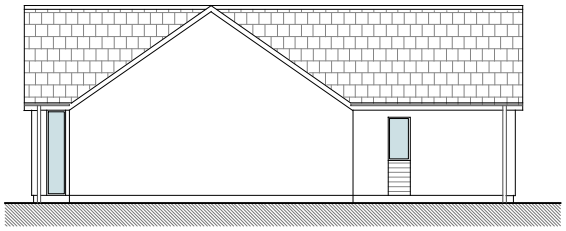
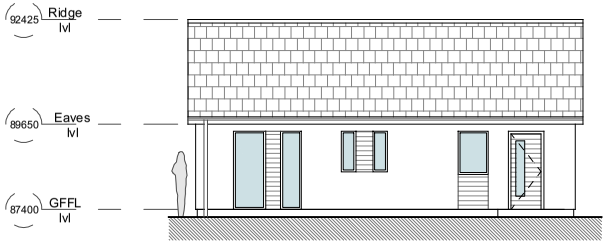


Proposed West Elevation



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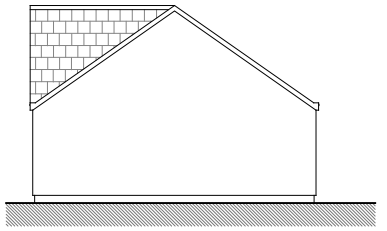
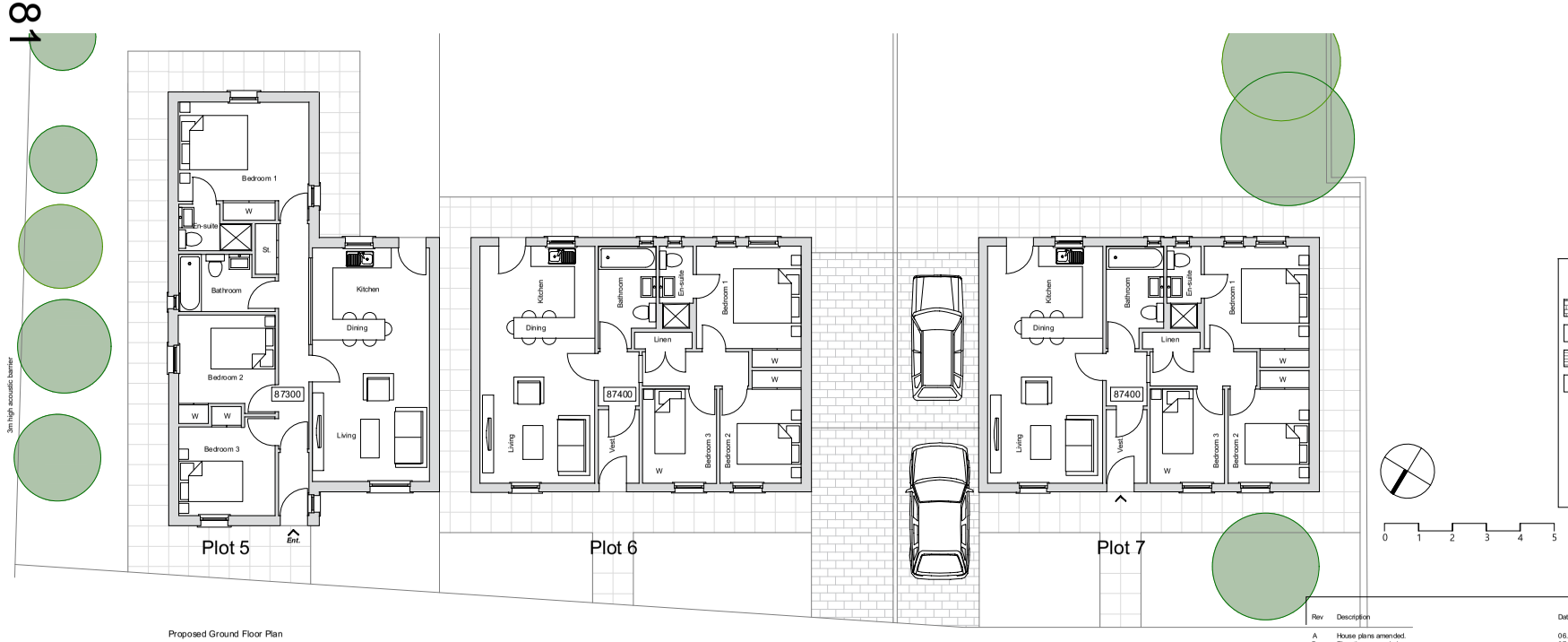


Proposed West Elevation

Plot 5

Plot 6&7



Proposed Ground Floor Plan

External finishes:	Colour
Roof: Concrete tile.	Charcoal
Render: K-Rend smooth render.	White
Timber: Scottish larch.	Factory finished smoked grey
Base course: Smooth cement bond.	Grey
Copings, chimney features: Cast concrete	Grey
Windows: UPVC	RAL 7016 (grey)
Fascias: as required	White
Rainwater goods: UPVC	Black

Rev	Description	Date
A	House plans amended.	06.03.18
B	Elevations amended.	07.09.18

Client: Lomond Group

Project: Home Street, Aberfeldy

Title: Proposed House Type B (5-7)

Document 2iii

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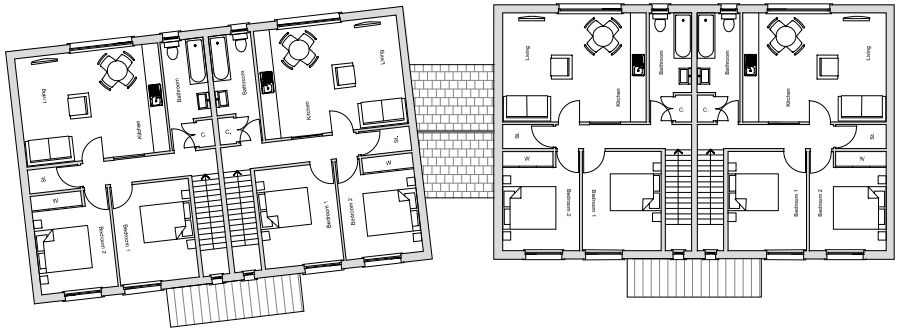
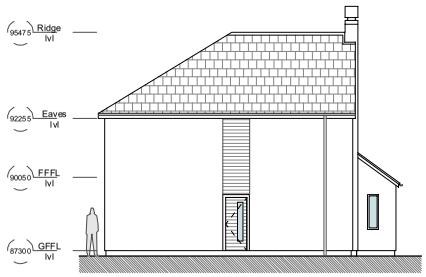
Proposed West Elevation

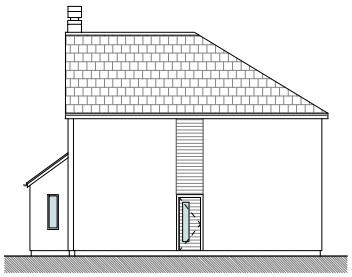
Proposed East Elevation



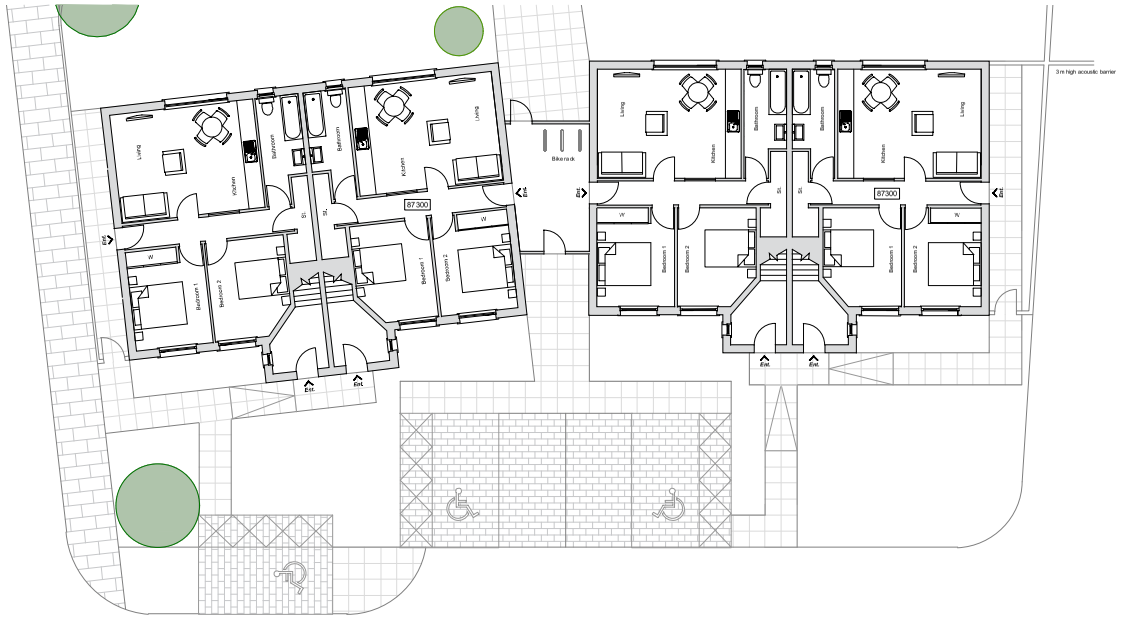
Proposed First Floor Plan



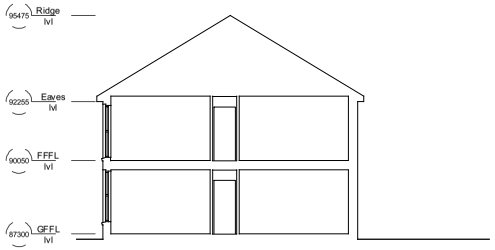
Proposed North Elevation



Proposed South Elevation



Proposed Ground Floor Plan



Proposed Typical Cross Section

External finishes:	Colour
Roof: Concrete tile.	Charcoal
Render: K-Rend smooth render.	White
Timber: Scottish larch.	Factory finished smoked g
Base course: Smooth cement bond.	Grey
Copings, chimney features: Cast concrete	Grey
Windows: UPVC	RAL 7016 (grey)
Fascias: as required	White
Rainwater goods: UPVC	Black

0 1 2 3 4 5

Rev	Description	Date
A	Bedrooms moved. Elevations updated accordingly	06.03.18

Client: Lomond Group

Project: Home Street, Aberfeldy

Title: Proposed House Type C (8-15)

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date	drawn	checked
10.07.17	AR	—
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job no.	dwg no.	rev
17014	PL 04	A

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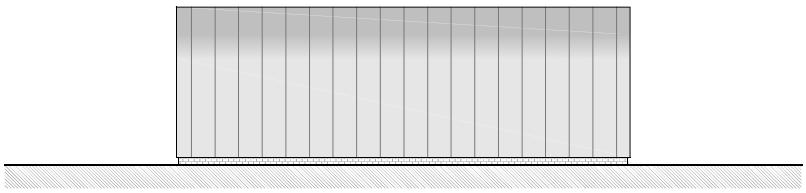
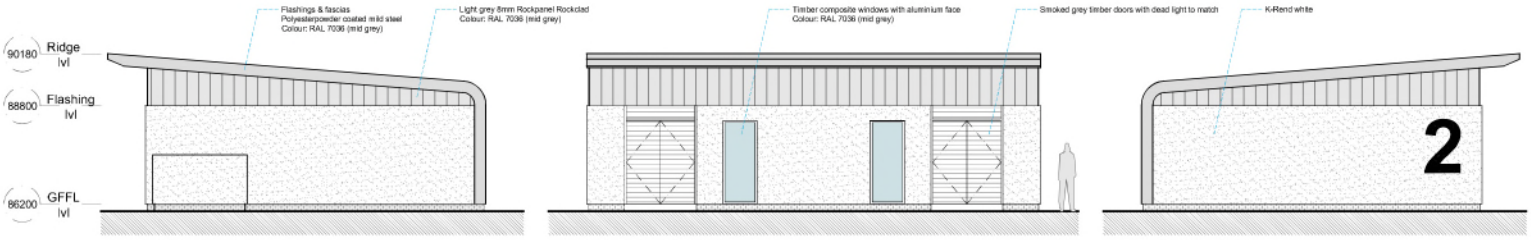


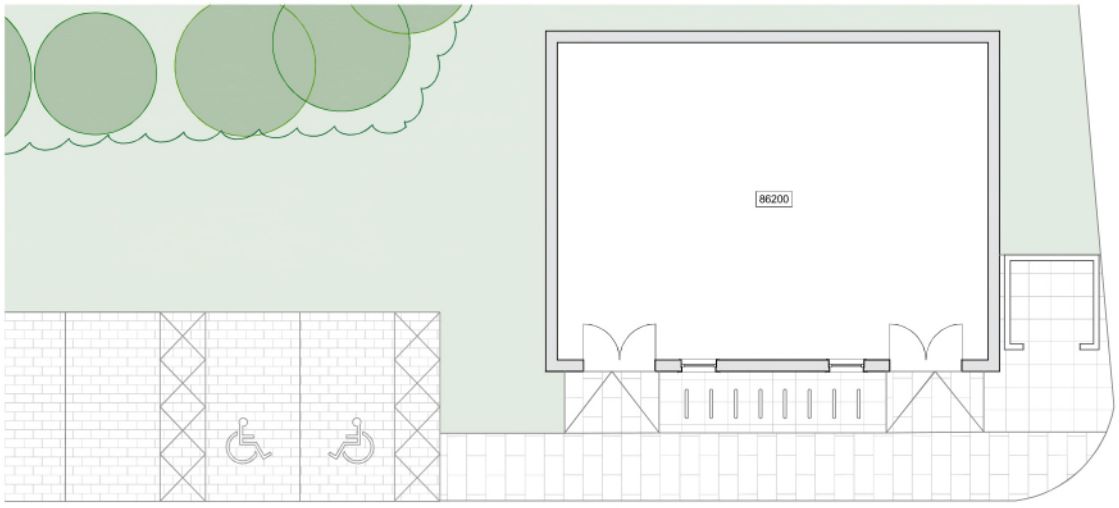
Proposed rear facing elevation



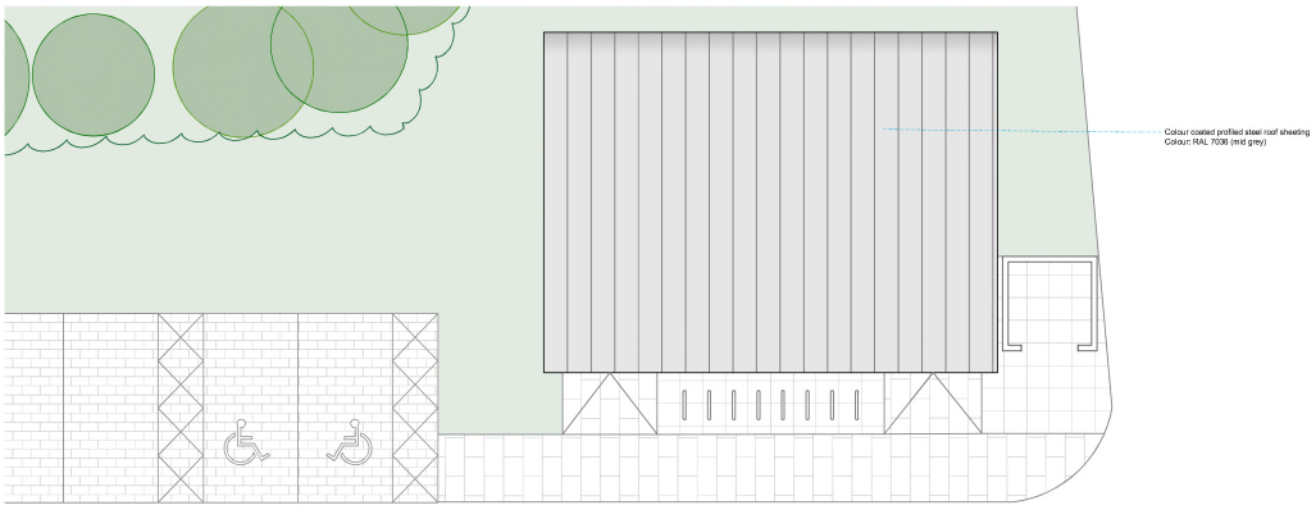
Proposed rear side elevation

Proposed road-facing elevation

Proposed side elevation



Proposed Floor Plan



Proposed Roof Plan

Rev	Description	Date
A	Elevations added.	25.10.17
B	Unit E added.	06.03.18
C	Unit B floor plan added	07.09.18

Client:
Lomond Group

Project:
Home Street, Aberfeldy

Title:
Proposed Typical Industrial Unit B

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date	drawn	checked
15.08.17	AR	--
scale	drawing size	approved
1:100	A3	--
Job no	Drg no	Rev
17014	PL 05	C

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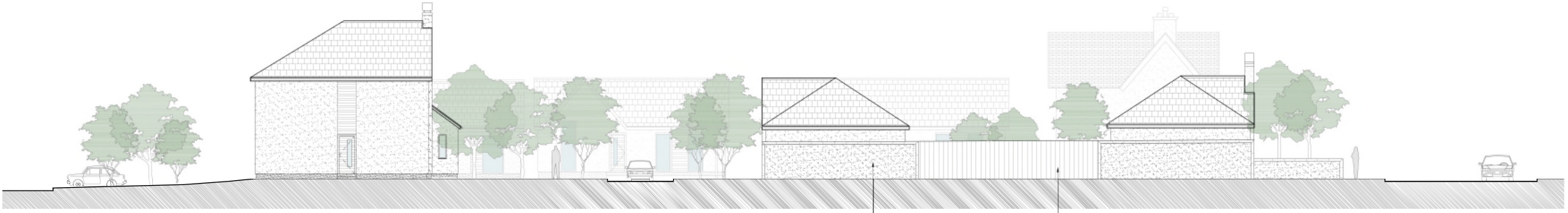
Proposed West Site Elevation

Existing wall retained

Rendered wall with smooth band edge and coping stones in Portland grey



Proposed North Site Elevation

Timber hit and miss fencing

Rendered wall with smooth band edge and coping stones in Portland grey

0 1 2 3 4 5

Rev	Description	Date
A	Inner courtyard elevation updated	06.05.15
B	Levels updated	07.08.15

Client
Lamond Group

Project
Home Street, Aberfeldy

Title
Proposed Street Elevations

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Date	Sheet	Checked
10.07.17	AR	
Scale	Drawing size	Approved
1:100	A1	
Job No.	Dwg No.	Rev
17014	PL 06	B

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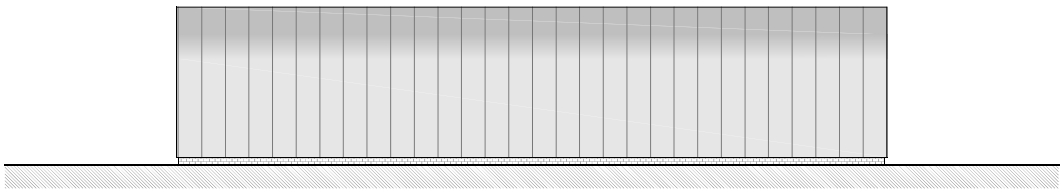
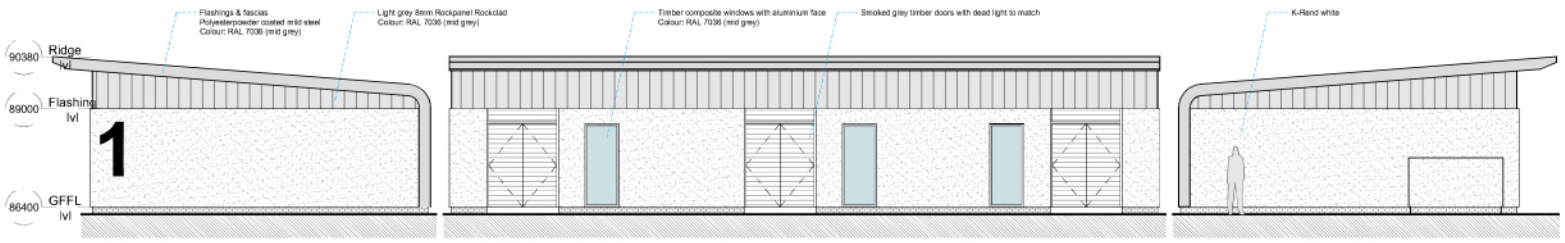


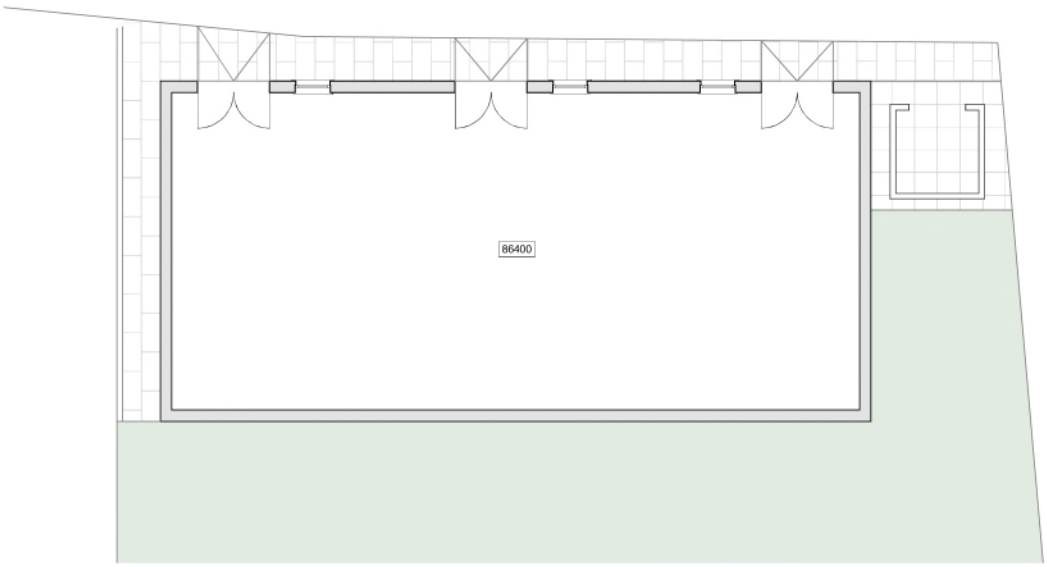
Proposed rear facing elevation



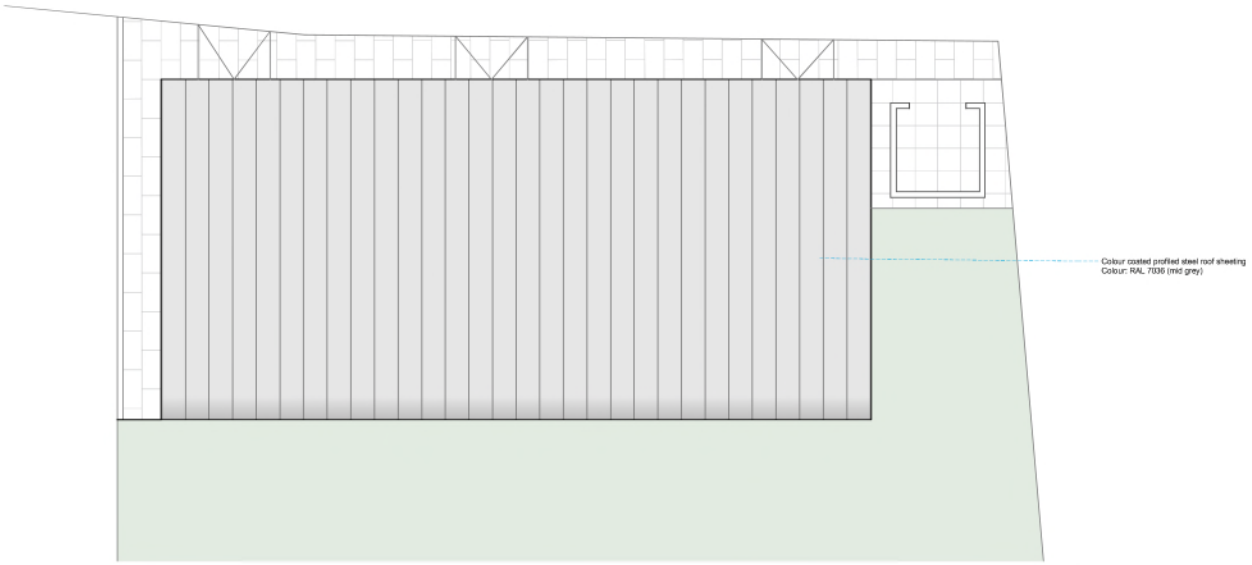
Proposed side elevation

Proposed road-facing elevation

Proposed rear side elevation



Proposed Floor Plan



Proposed Roof Plan

Rev	Description	Date
-	-	-

Client
Lomond Group

Project
Home Street, Aberfeldy

Title
Proposed Typical Industrial Unit E

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Location Plan 1:1250

0 5 10 20 50

Rev	Description	Date
A	Boundary line amendment	23.01.18

Client:
Lomond Group

Project:
Home Street, Aberfeldy

Title:
Location Plan

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Site

Rev	Description	Date
A	Proposed demolition noted of existing building	17.11.17

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Client:
Lomond Group

Project:
Home Street, Aberfeldy

Title:
Existing Site Plan

Document 2ix

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PLANNING STATEMENT IN SUPPORT OF PLANNING APPLICATION FOR ERECTION OF A MIXED USE DEVELOPMENT COMPRISING RESIDENTIAL AND LIGHT INDUSTRIAL UNITS LAND AT HOME STREET, ABERFELDY

Prepared by:

Andrew Bennie Planning Limited
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Email: andrew@andrewbennieplanning.com

September 2018

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2.0 The Application Site and its Surroundings

3.0 Planning Policy Background

4.0 The Application Proposals

5.0 Planning Assessment

6.0 Conclusions

Appendix 1: JLL letter dated 11/12/17

Appendix 2: J&E Shepherd letter dated 26/2/18

Appendix 3: J&E Shepherd letter dated 20/6/18

Appendix 4: Financial Report

1.0 INTRODUCTION

1.1 This Planning Statement has been prepared by Andrew Bennie Planning Limited, on behalf of Lomond Group, and is submitted in support of an application for full planning permission for the erection of a mixed use development comprising fifteen new build residential units and five light industrial units on land at Home Street, Aberfeldy.

1.2 This statement provides information on both the Application Site and its surroundings and sets out an assessment of the policy basis against which the application proposals require to be assessed. The statement also provides an outline of the form of development proposed under this application.

1.3 Following the refusal by the Council of an earlier application for the Site, which sought planning permission for the erection of eight dwelling houses, attempts were made by the then applicant to address, through engagement with the local community, the various issues that had been raised within the objections that had been lodged in respect of this earlier application.

1.5 Should Perth & Kinross Council require any further, relevant information or clarification of any matters relating to these proposals, Andrew Bennie Planning Limited would be pleased to assist in its timeous provision.

2.0 THE APPLICATION SITE AND ITS SURROUNDINGS

2.1 The application site, herein after referred to as the "Site", comprises the site of the former Fishers Laundry facility, which is located on the east side of Home Street, Aberfeldy.

2.2 The Site benefits from an existing vehicular entrance, which leads eastwards into the Site from Home Street.

2.3 The Site is dominated by a large single storey industrial scale building which occupies the central/northern section of the Site, with there being a number of smaller scale industrial buildings located at the northeastern (1no.) and southeastern (2no.) corners of the Site.

2.4 An existing dwelling house, which was formerly used as the offices serving the site operations, is located at the southwestern corner of the Site, this building fronting onto Home Street.

2.5 The Site is bounded on its southern and western sides by existing residential properties, to the north by existing sports fields (Breadalbane Football Club) and to the east by commercial/industrial premises.

3.0 PLANNING POLICY BACKGROUND

3.1 The current approved development plan covering the Site comprises the approved TAYplan Strategic development Plan (2012) and the adopted Perth & Kinross Council Local Development Plan (2014).

3.2 Given the scale of the development, which is proposed for the Site, it is considered that the proposed development raises no issues of strategic consequence and that as such, the provisions of the TAYplan Strategic Development Plan are not considered further within this Statement.

3.3 In terms of the adopted Perth & Kinross Council Local Development Plan, the site is located within the established settlement boundary which relates to the village of Aberfeldy, with the site itself being covered by the terms of Policy ED1: Employment and Mixed Use Areas.

3.4 Policy ED1 advises that:

"Areas identified for employment uses should be retained for such uses. Within these areas any proposed development must be compatible with surrounding land uses. In addition all the following criteria will be applied to development proposals in these areas (individual sites may also have specific requirements):

(a) Proposals should not detract from the amenity of adjoining, especially residential, areas.
(b) The local road network should be suitable for the traffic generated by the proposals.
(c) There should be good walking, cycling and public transport links to new employment generating uses.
(d) Proposals for retail uses in employment areas will not generally be acceptable unless they are ancillary to an acceptable use on the site.
(e) Proposals for waste management facilities can be considered to be acceptable subject to detailed site specific considerations.
(f) Proposals should not result in adverse impacts, either individually or in combination, on the integrity of any European designated site."

3.5 The front section of the Site lies within the boundary of one of the Council's designated Conservation Areas, to which the provisions of HE3: Conservation Areas.

3.6 Policy HE3, at parts A and B advises that:

*"**Policy HE3A: New Development***

Development within a Conservation Area must preserve or enhance its character or appearance. The design, materials, scale and siting of new development within a conservation area, and development outwith an area that will impact upon its special qualities should be appropriate to its appearance, character and setting.

Where a Conservation Area Appraisal has been undertaken for the area, the details contained in that appraisal should be used to guide the form and design of new development proposals. Applications for Planning Permission in Principle in Conservation Areas will not be considered acceptable without detailed plans, including elevations, which show the development in its setting.

Policy HE3B: Demolition within Conservation Areas

When assessing applications for the demolition of unlisted buildings in Conservation Areas, the Council will give careful consideration to the merits of the building and its contribution to the character and appearance of the Conservation Area. Where a building is considered to be of value, either in itself or as part of a group, there will be a presumption in favour of its retention, restoration for the current or another appropriate use.

In those exceptional circumstances where demolition is considered acceptable and is to be followed by the redevelopment of the site, the application for proposed demolition should be accompanied by a detailed application for the replacement development. This is to allow for their consideration in parallel, and to ensure that the replacement scheme will enhance or preserve the character of the area and avoid the formation of gap sites."

3.7 Policy RD1: Residential Areas is also of relevance to the consideration of the proposed development and advises that:

"The Plan identifies areas of residential and compatible uses where existing residential amenity will be protected and, where possible, improved. Small areas of private and public open space will be retained where they are of recreational or amenity value. Changes away from ancillary uses such as employment land, local shops and community

facilities will be resisted unless there is demonstrable market evidence that the existing use is no longer viable.

Generally encouragement will be given to proposals which fall into one or more of the following categories of development and which are compatible with the amenity and character of the area:

(a) Infill residential development at a density which represents the most efficient use of the site while respecting its environs.
(b) Improvements to shopping facilities where it can be shown that they would serve local needs of the area.
(c) Proposals which will improve the character and environment of the area or village.
(d) Business, home working, tourism or leisure activities.
(e) Proposals for improvements to community and educational facilities."

3.8 Policy EP2: New Development and Flooding states that:

"There will be a general presumption against proposals for built development or land raising on a functional flood plain and in areas where there is a significant probability of flooding from any source, or where the proposal would increase the probability of flooding elsewhere. In addition, built development should avoid areas at significant risk from landslip, coastal erosion and storm surges.

Where a risk of flooding is known or suspected the Council will use the flood risk framework shown in the diagram overleaf and considers that areas of:

(i) medium to high flood risk are not suitable for essential civil infrastructure;
(ii) low to medium flood risk are suitable for most forms of development; and
(iii) little or no flood risk shown present no flood related constraints on development.

All development within areas of medium to high flood risk must incorporate a 'freeboard' allowance and the use of water resistant materials and forms of construction appropriate to its function, location, and planned lifetime relative to the anticipated changes in flood risk arising from climate change.

To allow for adaption to increased flood risk associated with climate change, development should not:

(a) Increase the rate of surface water run-off from any site;

(b) Reduce the naturalness of the river;

(c) Add to the area of land requiring flood protection measures;

(d) Affect the flood attenuation capability of the functional flood plain; nor

(e) Compromise major options for future shoreline or river management.

Note: Please refer to the further detailed guidance on flood risk and flood risk assessment which is contained within the Supplementary Guidance accompanying this Plan."

4.0 THE APPLICATION PROPOSALS

4.1 A full and detailed description of the development which is proposed under this application is set out with the Design Statement which accompanies and forms part of the overall application, with the details of the proposed development being set out in summary below.

4.2 The proposed development comprises the erection of fifteen new residential units, with a further residential unit being created through the refurbishment and return to residential use of Parkfield House and the creation of five small industrial units, three of which consist of the refurbishment of existing industrial units on the Site, with the remaining units being new build.

4.3 The fifteen new build residential units comprise of a mix of bungalows (seven in total) and two storey flatted units (eight in total).

4.4 The proposed bungalow units would range in size from 75m^2 to 84m^2 in floor area, with all of the flatted units having a floor area of 73m^2.

4.5 Two of the bungalow units would face directly onto Home Street, with a further two units being located to the east and parallel to the units facing onto Home Street. The remaining bungalows would be located along the southern boundary of the Site, to the rear and east of Parkfield House.

4.6 All of the proposed bungalow units would be provided with 2 no. dedicated off street parking spaces.

4.7 The flatted units, which stand two storeys in height, would be accommodated within two linked blocks, located in a central position on the Site.

4.8 A total of twenty off street parking spaces, including three dedicated disabled parking bays, would be provided for the proposed flatted units.

4.9 The two new proposed light industrial units would be located in the eastern section of the Site, with one of the new build units being sited to the east side of the bungalows which lie along the southern boundary of the Site. The second new build light industrial unit is located at the north eastern corner of the Site.

4.10 A total of sixteen off street parking spaces, including two dedicated disabled parking bays, would be provided to serve the needs of the light industrial units.

4.11 Vehicular access to the Site would be by way of an upgrading of the existing site access road, with the internal road layout providing access to both the residential units and the light industrial units.

5.0 PLANNING ASSESSMENT

5.1 Section 25 of the Town and Country Planning (Scotland) Act 1997 provides that:

"Where in making any determination under the Planning Act, regard is to be had to the development plan, the determination shall be in accordance with the plan unless material considerations indicate otherwise".

5.2 Section 37(2) of the Act further provides that in dealing with applications for planning permission:

"... the Authority shall have regard to the provisions of the development plan, so far as material to the application, and to any other material considerations."

5.3 For the purposes of the determination of the planning application, the current approved development plan comprises the approved TAYplan Strategic development Plan (2012) and the adopted Perth & Kinross Council Local Development Plan (2014).

5.4 Given the scale of the development, which is proposed for the site, it is considered that the proposed development raises no issues of strategic consequence and that as such, an assessment of the application against the provisions of the TAYplan Strategic Development Plan is not provided for within this Statement.

5.5 In terms of the adopted Perth & Kinross Council Local Development Plan, the site is located within the established settlement boundary which relates to the village of Aberfeldy, with the site itself being covered by the terms of Policy ED1: Employment and Mixed Use Areas.

5.6 As is noted above at paragraph 3.4, Policy ED1 advises that within the boundaries of those areas covered by the Policy, existing employment uses should be retained as such.

5.7 It is clear from the terms of part A of Policy ED1, that the Council wishes to retain, and hence protect, the use, for employment purposes, of all of those areas covered by the terms of the Policy.

5.8 Whilst the aims and objectives of the Council in this regard are both acknowledged and in general supported, in seeking to apply the provisions of this Policy, regard must of necessity be had to the specific circumstances of any development proposals which seek to redevelopment land covered by the Policy for an alternative use in order to establish whether or not it is appropriate to seek to achieve full compliance with the provisions of the Policy.

5.9 The important consideration that requires to be established in this regard is whether there is any market evidence of a continued demand for the retention of the land in question for employment related purposes.

5.10 During the course of the early part of 2016, Fishers Laundry (the former long term owners of the site) took the decision that the site was surplus to their operational requirements, the operations having been relocated to alternative premises operated by the company, and consequently took the decision to place the site on the market.

5.11 Jones Lang LaSalle Ltd (JLL) were appointed to undertake the marketing of the site, with this marketing campaign having commenced on 26th July 2016.

5.12 The site was the subject of a full marketing exercise, comprising of the following:

1: Direct discussions with developers who were known to be active in the area;
2: The electronic mailshot of a 4 page marketing brochure, issued to the JLL database of over 750 developer and agent contacts;
3: The erection of on-site marketing signage;
4: Website advertising via JLL, Estates Gazette and CoStar websites; and,
5: Press release (circulated via Weber Shandwick PR Consultants) and via a social media campaign.

5.13 Throughout the course of the marketing campaign undertaken by JLL, a total of ten enquiries were received in respect of this site, five of which relates solely to the potential purchase of Parkfield House (relative to the change of use of said property back into residential use).

5.14 In total, the marketing campaign generated three formal notes of interest in the potential purchase of the site, one from Lomond Group, which in due course resulted in their purchase of the site in August 2017, and two other notes of interest from parties

who sought to acquire the site on a speculative basis with no formal proposals having been tabled in relation to the redevelopment/re-use of the site.

5.15 JLL have confirmed that aside from the successful offer to purchase the site, which was made by Lomond Group, there was no other developer interest in the purchase of the site for either commercial/industrial or residential purposes.

5.16 A copy of a letter from JLL to the former owners of the site, confirming the matters set out above, is included at Appendix 1 of this Statement.

5.17 It should also be noted that during the course of the marketing campaign, no contact was made with the Council to discuss the potential future (redevelopment) of the site, this point having been confirmed during the course of a recent meeting with planning officials of the Council.

5.18 As a direct consequence of the outcome of this full site marketing exercise, it can be reasonably stated that there is independent, verifiable evidence to support the submission that there is no market demand for the continued use of the site for employment related purposes.

5.19 Following their purchase of the site, and as a means of providing further independent verification of the market demand or otherwise for the use of the site for employment purposes, the site owners commissioned J & E Shepherds Surveyors to undertake an assessment of the likely demand for first of all the occupation of the site and existing buildings thereon by a single party or secondly, the extent to which it would be possible to sub-divide the existing buildings to allow for their occupation by a number of separate parties.

5.20 In additional to these considerations, J & E Shepherd have also provided a view on the nature of the demand for new commercial premises within this part of the Council area, with a view to confirming what type and scale of new commercial provision would be most appropriate for the site.

5.21 Dealing with these various issues in turn, J & E Shepherd have advised as follows.

5.22 First of all, they have assessed the findings of the JLL marketing exercise and have indicated that they were not surprised that a potential commercial operator for the whole site was not identified.

5.23 On the matter of the potential sub-division of the existing buildings on the site, they have advised that:

"The buildings as they stand do not satisfy modern industrial/commercial occupier's needs with low eaves height in places, lack of good yard and the general age and condition of the buildings. The building as a whole would unlikely generate tenant or owner occupier interest for continuation of the light industrial use. We are not aware of any existing property requirements which this building would satisfy. Substantial investment would therefore be necessary to render the building suitable and this would include sub division of the property to create smaller units. The cost of doing so versus the level of rent that could be achieved in our opinion would render a development of this nature unviable. The likely covenant strength of the occupiers, i.e. small local businesses and the length of the lease they would enter into, i.e. generally short term flexible agreements would limit the investors return. Furthermore the building would not sub divide easily and the size of units available may be in excess of that required in the current market."

5.24 These findings on the part of J & E Shepherd support the contention that there is no demand for the site in terms of a potential single occupier and that when assessed against the possible rent returns, the costs associated with the potential sub-division of the existing buildings on the site would render any such proposals unviable.

5.25 J & E Shepherd have then gone onto assess the nature of the demand that does potentially exist for new commercial space within Aberfeldy.

5.26 To this end, they have indicated that in common with the whole of the Perth & Kinross area, the majority of requirements for industrial/commercial premises are for units in the region of 1,000$^{sq.ft}$ in area.

5.27 Furthermore, they have indicated that in the main, these types of occupiers are seeking premises where they can qualify for 100% rates relief and where the rent/capital values are generally less than £10,00 per annum or £100,000.

5.28 To this end, J & E Shepherd have advised that the new commercial/industrial units which will be provided as part of the redevelopment proposals which the Lomond Group have put forward for the site are reflective of what potential occupiers are looking for.

5.29 In summary, J & E Shepherd conclude by advising that:

"In summary and on the basis of information available and our local market knowledge

we are of the opinion that the scheme proposed by Lomond Group is most appropriate for this site. The residential part of the development sits adjacent to other residential occupiers whilst the rear part of the site will act as a smaller extension of Aberfeldy Industrial Estate. Comprising five units we believe it will more properly accommodate the demand for light industrial space in Aberfeldy."

5.30 A copy of the letter from J & E Shepherd to the Lomond Group setting out the above noted matters is provided at Appendix 2 of this Statement.

5.31 By letter dated 20th June 2018 (see Appendix 3), J & E Shepherd provided further commentary on the potential retention of the entirety of the Site for industrial/commercial purposes, the terms of which advise that this course of action is not considered to make any economic/commercial sense and would lead to a loss on the part of Lomond Group in terms of their investment in the Site.

5.32 When taken together, it is considered that the outcome of the JLL site marketing exercise and the reports from J & E Shepherd provide sufficient independent verification that there is not demand for the retention of the whole of the site for employment purposes and that the mixed use redevelopment proposals which are out forward under this application represent and opportunity to provide, on a speculative basis, a total of five commercial/industrial units which are of a size and type that has the potential to meet an known demand for this type of accommodation.

5.33 In addition to the matters set out above, it is also considered relevant to note that the potential number of jobs that could be created on site through the provision of the five proposed units would be approximately equal to the previous number of jobs on the site during the period that it was operated by its former owners.

5.34 During the final years of its operation of the site, Fishers Laundry Services, on average, employed some 30-35 full time workers on the site. Advice obtained from J & E Shepherd indicates that in their experience, businesses of the type and size, which would occupy units of the size, which are proposed under this application employ, on average, 5 -6 full time workers.

5.35 As such, the five units, which are proposed under this application, have the potential to create something in the order of 25 -30 full time jobs, which is approximately equal to the number of jobs that previously existed on the site.

5.36 Accordingly, it is submitted that in terms of the employment generating potential of the proposed development, the proposed development will not result in any significant reduction in the number of full time jobs that could be accommodated on the site.

5.37 As the overall purpose of Part A of Policy ED1 is to "protect" employment land not as a means in itself but rather the ensure that the job generating potential of this land is suitable maintained, it is considered that as the proposed development will not result in any significant reduction in the job generating potential of the site, the proposed development can be considered to be wholly in keeping with the spirit and purpose of the Policy.

5.38 In addition to the matters set out above, in assessing the reasonableness of the retention/redevelopment of the Site solely for industrial commercial purposes, it is also considered to be of relevance to consider the financial viability of this potential course of action.

5.39 To this end, a report has been prepared which sets out details of the financial modeling associated with the redevelopment of the Site for industrial/commercial purposes only. A copy of this report is provided at Appendix 4 of this Statement.

5.40 In summary, the terms of this report highlight clearly that the redevelopment of the Site solely for industrial/commercial purposes would fail to make a positive financial return and that hence it would not be commercially viable to pursue this course of action.

5.41 **For the reasons set out above, it is submitted that as the retention of the entirety of the site for industrial/commercial purposes cannot be reasonably justified or supported, the proposed development of the site for the mixed use form of development proposed under this application can be fully and reasonably justified against the provisions of Policy ED1.**

5.42 Turning to the residential element of the proposed development, it is considered appropriate to assess the suitability of the Site to accommodate such a use against the provisions of Policy RD1 of the Local Development Plan.

5.43 As is noted above at paragraph 3.7, Policy RD1 seeks, amongst other things, to protect and where possible, improve the amenity within existing residential areas and provides general encouragement to proposals which fall within one or more of a number of defined categories of development.

5.45 The first of the stated categories of development relates to "infill residential development" at a density, which represents the most efficient use of the site in question whilst at the same time respecting the surrounding area.

5.46 When the details of the proposed residential element of the proposed development are considered against these requirements it is submitted that the proposed residential units make an appropriately efficient use of the section of the Site which will accommodate the same whilst at the same time ensuring that the residential development density which is proposed reflects that which is to be found within the surrounding residential area.

5.47 In addition to this density consideration, it is also submitted that in terms of their scale and massing, the proposed residential units are suitably respectful of the general character of the existing residential units, which are to be found within the surrounding area.

5.48 Accordingly, it is considered that the residential component of the proposed development can be fully and reasonably justified against this aspect of Policy RD1.

5.49 The second category/criterion detailed under Policy RD1 is not of material relevance to the assessment of the application proposals and as such is not considered further within this Statement.

5.50 The third category/criterion covers proposals, which will improve the character and environment of either the area or village within which the development is located.

5.51 Whilst accepting that the Site had been in industrial/commercial use for many years prior to it's closure, with it being understood that the operation of the Site did not give rise to any significant level of conflict with the adjacent residential properties, it is considered that the nature and appearance of the main building on the Site is such that it cannot on any reasonable measure be considered to contribute in any positive sense to the quality of the character and amenity of the surrounding area.

5.52 In contrast to this, it is considered that the high design quality of the residential component of the proposed development is such that it will make a real and positive contribution the character, environment and general amenity of the surrounding area.

5.53 On this basis, it is submitted that the residential element of the proposed development can be fully and reasonably justified against this aspect of Policy RD1.

5.54 The final two categories/criteria detailed under Policy RD1 are not of material relevance to the assessment of the application proposals and as such is not considered further within this Statement.

5.55 **On the basis of the considerations set out above, it is submitted that the residential component of the proposed development can be fully and reasonably justified against the relevant provisions of Policy RD1.**

5.56 Policy HE3 concerns proposals, which relate to development within designated conservation areas.

5.57 The first part of Policy HE3 requires that developments should preserve or enhance the character or appearance of the conservation area in question. When consideration is given the nature and appearance of the industrial building which occupies the majority of the Site, it is considered that the proposed development, and in particular the residential element thereof, will make a real and positive improvement to the overall quality of the visual amenity of the Site, which in turn will enhance the character of the surrounding conservation area.

5.58 The second part of the Policy relates to demolition works within conservation areas and requires that when demolition works are justified, that full details of the proposed replacement buildings must be provided.

5.59 On the basis that the main building on the Site makes little if any contribution to the quality and character of the surrounding conservation area, it is considered that it's demolition can be fully and reasonably justified, with the full architectural details of the new buildings for the Site providing the information required to satisfy the second requirement of this part of the Policy.

5.60 **In view of the matters set out above, it is submitted that the proposed development can be fully and reasonably justified against the provisions of Policy HE3.**

5.61 In considering the terms of Policy EP2, a full Flood Risk Assessment (FRA) has been undertaken in support of the proposed development of the Site.

5.62 The findings of this FRA indicate that that section of the Site, which is proposed for the residential component of the overall development falls outwith the boundary of the 1:200 year flood plain plus climate change allowance.

5.63 Given this consideration, it is respectfully submitted that as the section of the Site, which is proposed for residential development is not subject to any flood risk, flood risk does not represent an impediment to the development of this section of the Site for this purpose.

5.64 Turning now to the industrial component of the proposed development, the FRA shows this land to fall within the boundary of the 1:200 year flood plain plus climate change.

5.65 Whilst noting this point, the FRA does not indicate that this consideration presents any impediment to the development of this section of the Site and as a means of further reducing any potential concerns in this regard, presents a number of mitigating measures, which should be accommodated as part of the proposed development.

5.66 It is also of further material relevance to note that in line with the guidance which is set out within Tables 1 and 2 SEPA's publication "Flood Risk and Land Use Vulnerability Guidance", as the proposed use of the effected part of the Site falls within the "Least Vulnerable Uses" classification (Table 1) and as the development which is proposed for the effected part of the Site comprises the same land use and involves the "Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or the erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use" (Table 2), the proposed development of this part of the Site fall within the scope of this stated exemption to the general presumption against development.

5.67 **In view of the forgoing, it is considered that in submitted FRA has demonstrated that the form of development which is proposed for the Site is not compromised or impeded by any flood related considerations and that hence, the proposed development can be fully and reasonably justified against the provisions of Policy EP2.**

6.0 CONCLUSIONS

6.1 In line with the provisions of Sections 25 and 37(2) of the Town and Country Planning (Scotland) Act 1997, the application proposals fall to be assessed against the terms of the approved development plan, so far as they are of material relevance to the determination of the application, and in the light of any other relevant material considerations.

6.2 For the purposes of this application, the approved development plan comprises the approved TAYplan Strategic Development Plan (2012) and the adopted Perth & Kinross Council Local Development Plan (2014).

6.3 The provisions of the TAYplan Strategic Development Plan are not considered to be of material relevance to the determination of the application proposals.

6.4 With regard to the adopted Perth & Kinross Council Local Development Plan, the relevant provisions thereof are identified as being Policies ED1, RD1, HE3 and EP2.

6.5 These policies are assessed in detail within Section 5 above, with the overall conclusion being that the application proposals can be reasonably justified against the provisions of the adopted Local Development Plan.

6.6 **For the reasons set out above, it is submitted that the application proposals can be fully and reasonably justified against the provisions of the approved development plan.**

6.7 **No material considerations have been identified which would outweigh the acceptability, in terms of the development plan, of the application proposals.**

6.8 **Accordingly, it is respectfully requested that Perth and Kinross Council grant full planning permission pursuant to this application.**

11 December 2017

Michael Jones
Fisher Services Ltd
Riggs Place
Cupar
Fife KY15 5JA

Dear Michael

Former Fishers Laundry Premises, Home Street, Aberfeldy, PH15 2AL
Marketing Summary

We write in connection with the former Fishers Laundry Premises on Home Street, Aberfeldy, PH15 2AL, and provide a summary of the disposal process for the site which is now under offer to the Lomond Group.

JLL acted as marketed agents for the disposal of the 0.8 Hectares (1.99 acre) site on Home Street. An extensive open marketing campaign commenced on 26 July 2016. The site was fully exposed to the market, and marketed through the following outlets:

1. Series of 1 to 1 discussions with developers that were active within the area.
2. Electronic mailshot of 4 page marketing brochure (attached) to the JLL Residential database of over 750 developer and agent contacts.
3. On site marketing signage.
4. Website advertising via JLL, Estates Gazette and CoStar websites.
5. Press release (circulated via Weber Shandwick PR consultants) and social media campaign.

Throughout the marketing process, ten enquiries were received, five of which were solely for Parkfield House (to convert back into residential premises).

Three notes of interest were received for the site. Aside from the Lomond Group, the two other notes of interest were received from speculative purchasers who had no detailed developed proposals for the site. We can confirm that during the course of marketing, aside from the Lomond Group, there were no developer interests in the site for a residential or commercial development.

Feedback from residential developers during the marketing process highlighted concerns regarding the amenity of any residential properties along the boundary of the site overlooking the Aberfeldy Recycling Centre and other uses at Aberfeldy Industrial Estate. We believe the Lomond Group may share this concern, hence the location of the uses proposed on site.

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Following the 13 months of open marketing, the Lomond Group submitted an offer for the site in August 2017. Fishers Laundry Group subsequently accepted this offer. The sale will allow Fishers Laundry Group an exit from the site which is now surplus to operational requirements, with the comfort that the site is being sold to Lomond Group, a reputable developer with a track record of delivering.

We would be pleased to provide any additional detail on the marketing process should this be required.

Yours sincerely

[redacted]

Nina Stobie
Director

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Mark Hall BSc MRICS

JR/CG

26th February 2018

Phil Ritchie,
Lomond Group,
Unit 5,
Lomond Business Park,
Baltimore Road,
Glenrothes,
Fife,
KY6 2PJ.

Dear Phil,

Former Fishers Laundry, Home Street, Aberfeldy

Further to our meeting and your subsequent instructions in connection with the above I write to confirm our support for Lomond Groups proposed mixed use commercial and residential development at Home Street, Aberfeldy. For record purposes I am a Partner within the firm of J & E Shepherd working within the Commercial Department. I have over 20 years experience in the valuation and disposal of similar commercial properties within the Perth, Fife, Dundee and Angus areas.

The site comprises buildings formerly occupied by Fishers Laundry which lie in close proximity to the town centre and directly neighbours residential accommodation whilst backing on to Aberfeldy Industrial Estate at the rear.

The total site area is understood to extend to 0.8 hectares (1.99 acres) and comprises an original 1950's brick factory which was extended during the 1980's.

The property was marketed by JLL since July 2016 and has now been acquired by Lomond Group. We have read a summary of the enquiries received during the marketing process.

In our opinion it is not surprising an occupier was not secured to operate the buildings and site for continuation of the existing industrial/commercial use. We would have advised any owner of the site that a marketing exercise should particularly target developers during the sale process and it would be highly unlikely that a single commercial occupier could be secured to continue the existing use.

The buildings as they stand do not satisfy modern industrial/commercial occupier's needs with low eaves height in places, lack of good yard and the general age and condition of the buildings. The building as a whole would unlikely generate tenant or owner occupier interest for continuation of the light industrial use. We are not aware of any existing property requirements which this building would satisfy. Substantial investment would therefore be necessary to render the building suitable and this would include sub division of the property to create smaller units. The cost of doing so versus the level of rent that could be achieved in our opinion would render a development of this nature unviable. The likely covenant strength of the occupiers, i.e. small local businesses and the length of the lease they would enter into, i.e. generally short term flexible agreements would limit the investors return. Furthermore the building would not sub divide easily and the size of units available may be in excess of that required in the current market.

The majority of requirements for industrial/commercial premises within Aberfeldy and indeed Perth & Kinross as a whole are for units in the region of 1,000 sq. ft.

In the main these type of occupiers are seeking premises where they can qualify for 100% rates relief and where the rent/capital value are generally less than £10,000 per annum or £100,000. There is a distinct lack of opportunities for these types of operators and from the plans provided it would appear what you are proposing will suitably cater for this sector of the market.

We are unaware of any active requirements that would suit single use of this site and indeed we are of the opinion that most operators and occupiers seeking premises of this size will prefer to focus their attention on Perth given the easier access and road network facilities.

We have referred to the CoStar property database and since 2012 there is only one registered light industrial letting and this was for a unit of 1,936 sq. ft. We are aware of requirements within the town which remain unsatisfied however as mentioned above this is generally for units in the region of 1,000 sq. ft. up to a maximum of 2,500 sq. ft. Widening the location search on CoStar shows that there have only been two further lettings for light industrial space registered and these were for two units of 1,000 sq. ft. in Pitlochry.

In summary and on the basis of information available and our local market knowledge we are of the opinion that the scheme proposed by Lomond Group is most appropriate for this site. The residential part of the development sits adjacent to other residential occupiers whilst the rear part of the site will act as a smaller extension of Aberfeldy Industrial Estate. Comprising five units we believe it will more properly accommodate the demand for light industrial space in Aberfeldy.

I trust this brief response is sufficient for your purposes and should you have any queries please do not hesitate to contact me.

Kind regards.

Yours sincerely,

Jonathan Reid, BLE (Hons) MRICS
for J & E Shepherd

SHEPHERD
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JR/CG

20th June 2018

Phillip Ritchie,
Lomond Group,
Unit 5,
Lomond Business Park,
Baltimore Road,
Glenrothes,
Fife,
KY6 2PJ.

Dear Phil,

Former Fishers Laundry, Home Street, Aberfeldy

I refer to my report dated 15th March 2018 in connection with the above and our subsequent discussion in relation to the comments from Perth & Kinross Council.

I note they are suggesting the entire site should be set aside for commercial uses and unfortunately I am of the view this would not make economic sense and would fail to deliver you a return on the capital invested and indeed result in a loss.

You have provided me with a copy of your development appraisal where the total cost of development has been estimated at £1.373 million. Whilst I am of the opinion there would be demand for the completed units this would not be immediate and it would take at least 12 to 18 months to secure full or close to full occupancy. In turn many tenants would be seeking relatively short term and flexible lease agreements which would hamper the final investment value of the development. Many investors would not consider an acquisition of a let property of this nature within Aberfeldy and would be seeking an appropriate return to reflect the location and risk/costs involved in managing such an estate.

In simple terms I would estimate if fully let you might be able to secure a sale at circa 9% to 10% net initial yield which would give rise to an end value of approximately £700,000 to £775,000. This is clearly well short of the actual development costs rendering the project unviable.

OFFICES AT:
ABERDEEN 01224 202800
AYR 01292 267987
COATBRIDGE 01236 436561
CUMBERNAULD 01236 780000
DUMFRIES 01387 264333
DUNDEE 01382 200454
DUNFERMLINE 01383 722337
EAST KILBRIDE 01355 248535
EDINBURGH 0131 225 1234
ELGIN 01343 553939
FALKIRK 01324 635999
FRASERBURGH 01346 517456
GALASHIELS 01896 750150
GLASGOW 0141 353 2080
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REGULATED BY RICS
HAMILTON 01698 897548
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KILMARNOCK 01563 520318
KIRKCALDY 01592 205442
LIVINGSTON 01506 416777
MONTROSE 01674 676768
MOTHERWELL 01698 252229
MUSSELBURGH 0131 653 3456
PAISLEY 0141 889 8334
PERTH 01738 638188
PETERHEAD 01779 470766
ST. ANDREWS 01334 477773
SALTCOATS 01294 464228
STIRLING 01786 450438

As an example we are instructed on behalf of Barhaul who occupy a number of units in Aberfeldy Industrial Estate and are scaling down their operation to concentrate on the haulage side of the business. We have been instructed to market one of their surplus units and interest to lease as a single unit has been poor. The client has therefore decided to sub divide the unit into 3 smaller properties and this has resulted in an increase in demand. This unit however benefits from good yard space to the front. The tenants looking at these particular units are already local occupiers and will simply be relocating from other commercial premises. In addition there are only prepared to commit to relatively short term lease agreements with the benefit of break options. Once these 3 units are occupied this will swallow up a large proportion of the demand for commercial premises within the local area.

In summary I would confirm that the scheme you originally proposed showing a mix of residential and commercial units remains the most appropriate for this site.

Should you have any further queries please do not hesitate to contact me.

Kind regards.

Yours sincerely,

[redacted]

Jonathan Reid, BLE (Hons) MRICS
for J & E Shepherd

Proposed Mixed Use Development
Of
Residential and Industrial
At
Home Street
Aberfeldy
Flood Risk Assessment

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Quality Management

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Checked by	STC	Sean Turner	Sean Turner	
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Document Reference
Flood Risk Assessment, Home Street, Aberfeldy
Revision "B"

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1. Introduction

McGregor McMahon (Scotland) Ltd have been instructed by Lomond Group to carry out a Flood Risk Assessment in relation to the proposed re-development of former Fishers Laundry facility at Home Street, Aberfeldy.

The Flood Risk Assessment has been carried out in accordance with the requirements of the Scottish Planning Policy (SPP) and utilizes procedures set out in the Flood Estimation Handbook and software packages FEH and WIN FAP. The model analysis was carried out using HEC-RAS software.

In accordance with normal procedure for domestic and light industrial developments the flood risk is assessed against a 1 in 200 year flood event.

2. Site

The proposed redevelopment site sits at the North end of Home Street, Aberfeldy at a site centred grid reference of 285585, 749603 and has a total site area of approximately 0.65ha (see Appendix A).

The site was formerly a large Laundry facility with service yard, stores and general associated outbuildings together with a re-developed house which was used as the supporting office buildings (see Appendix B).
The site fronts onto Home Street and is bounded to the North and South by domestic properties and to the East by an Industrial Estate and the local Scottish Water sewage works. The ground gently falls to the North towards the River Tay across the football ground and open space and golf course/caravan park beyond. The gradient of the land towards the River Tay is approximately 1 in 100 and the general site level is 87.3m AOD.

The main flood risk is from out of bank flooding from the River Tay although all types of flood risk need to be assessed.

Namely

- **Coastal**
- **Surface**
- **River**

The first two can be discounted as the site is remote from the coast and sits elevated above the ground to the North. River flooding only needs to be considered from the River Tay out of bank flooding.

To provide a full assessment of the Flood Risk from the River Tay the river, surrounding lands including the golf course, caravan park, football ground and public open space were surveyed from upstream of the B846 road bridge to downstream of the Caravan park . This is a total distance of 1570m of the river and banksides that was surveyed. A total of 23 cross-sections were taken through the Tay and across to the Northern bankside incorporating the golf course and surrounding lands.

In general terms the Northern bankside levels, along this stretch of the River Tay, are higher than the Southern bank meaning that the preferred flow path is Southerly towards the site should out of bank flooding take place .Out of bank flooding to the North does take place but due the rising ground level it does not encapsulate a large area of ground, whereas to the south at a gradient of 1 in 100, 100 mm of rise in ground level floods 10 m length of ground

3. General Overview

The objective of the Flood Risk Assessment is to analyse the flows in the River Tay and to define appropriate flood levels and flood water envelope affecting the site.

The flood risk has been assessed against the 0.5% probability event i.e. 1 in 200 year to which a provision for climate change needs to be applied where appropriate .The current climate change provision is an uplift of 30 % above the peak 1 in 200 year flood flow.

The site was previously Fishers Laundry and discussion's and a site and surrounding land walkover took place with a previous employee and resident of Aberfeldy to determine the previous flood history of the site. This particular individual had worked in the facility and lived locally for in excess of 30 years so have a wealth of experience and local knowledge of recent flooding

In additional SEPA were approached and provided photographic evidence of previous flooding in 2006 together with recorded flows taken and a recording station some 5 km downstream of the Development site.

Given the historical data on flood risk we were able to calibrate the model against known flood events and the use of appropriate Mannings "n" figures gave good correlation between events

It was determined through assessment of this information that the site had not flooded although in 2006 and 1993 it approached the boundary fence and flooded part of the adjacent football pitch. A photograph showing this event is enclosed in Appendix C which shows the site free from flooding

4. Estimation of Peak Flow

As discussed earlier and enclosed in Appendix C flow measurements (Annual Maxima) were received from SEPA for the period continuously from 1951 till 2015.

The peak recorded flow was in December 2006 at 797.22 m^3/sec although a figure of 733.59 m^3/sec was reached in 2015.

The catchment area at the recording station at Pitnacaree is 1150 km^2 whereas at the downstream end of our site is 1076 km^2 a reduction of 7%. It is known that the 2006 flood flow did reach the boundary of the site and from this topographical survey information we would estimate the peak water level at the site to be approximately 85.5m AOD under this event

An initial assessment of the Flood flows for the Tay was done using the Catchment Descriptor Method. These descriptors define various physical and hydrological properties of the land area that drains into the catchment of the River Tay at the caravan park. A copy of these results is enclosed in Appendix E and also includes adjustments for the urbanisation of the catchment and statistical rainfall patterns.

This method produces a mean annual flood **Qmed** on the index flood which is the flow along the river exceeded on average once a year.

The **Qmed** determined from the Catchment descriptors is **361 m^3/sec** and as a comparison the **Qmed** at the Pitnacree is **354 m^3/sec** so this gives good correlation.

A copy of the Pitnacree recording station peak flow data is enclosed in Appendix D.

By use of FEH software a flood frequency curve was set up which gave a 1 in 200 year peak flow at the site of 897 m^3/sec.

The Q200 figure was used to determine the extent of the functional flood plain and with the addition of climate change used to determine the peak water level and minimum floor levels.

Q200	=	897 m^3/sec
Q200 + c/c 30%	=	1166 m^3/sec

Based on figures from the flood frequency curve these figures were used to determine the peak water levels using HEC-RAS geometric software this flood frequency curve is enclosed in Appendix E

5. Determination of Peak Water Levels

As discussed previously a full land survey was carried out from upstream of the B846 road bridge to downstream of the caravan park. This is a surveyed area in excess of 40ha and is a distance of 1570m of River channel and banksides. A copy of this survey is in Appendix F which shows the location of the cross sections. The land is generally flat on the development (south) side of the river whereas the North side generally sits higher than the site and rises steeply in some locations

On this basis the preferred flow path for flooding is across the golf course towards the site.
A total of 23 cross-sections were taken generally at regular intervals, however, in the vicinity of the site the centre of the cross-section were closed up to give a more accurate and realistic representation of the flood risk at the site and likely flood water levels.

This geometric model was set up using HEC-RAS model software which is recognised by the relevant Authorities as giving verifiable results. Mannings 'n' roughness co-efficients were selected for the site based on the site inspection and the following were selected:-

- Main channel **'n' = 0.035** clean straight fill no deep pools
- Flood Plain (North) **'n' = 0.1** Bushes, trees etc.
- Flood Plan (South) **'n' = 0.045** Heavy weeds, scattered brush for golf course

Once the mannings 'n' values were determined the downstream condition was selected which was normal depth flow commensurate with the average channel gradient of 1 in 1250.

A site inspection of the River Tay downstream of the site did not reveal any constrictions to flow that would give rise to downstream backup or flow constriction so a normal depth flow is appropriate.

The model analysis was run to check for completeness and robustness and the 2006 flow. This peak flow of 737.22m³/sec gave a peak water level at the site of approximately 85.5m which gave good correlation to the water levels and location actually noted in 2006.

A copy of these results are enclosed ion Appendix F.

To determine the extent of the functional flood plan the Q200 = 897m³/sec (the flood without climate change) was run and the results are enclosed in Appendix G.

The sections of the HEC-RAS model through the site are as follows with the peak water levels recorded

Section	WL (AOD)
3	**85.73m**
4	**85.93m**
5	**86.06m**

This peak flow does encroach onto the site at the Northern and Eastern extent but does not encroach into the buildings or towards the office building. These results are enclosed in Appendix G.

To determine the actual flood risk at the site Climate Change of 30% is added to the peak flow, on this basis the peak flow is:-

Q200+c/c = 897+30%
= 1166m³/sec

The model was rerun and the peak water levels at the site determined as follows:-

Section	WL (Add)
3	**86.70m**
4	**86.62m**
5	**86.51m**

A copy of these results are enclosed in Appendix H.

6. Recommendations and Conclusions

The Flood Risk Assessment carried out has determined that the site has only marginal flooding under Q=797m³/sec (see Appendix F) which is the extent of the functional flood plain. The flooding does not encroach into the area for the new build industrial or domestic dwellings.

On this basis there is no proposed new building taking place on the functional flood plain which would be contrary to SPP.

Under Q200 plus 30% climate change the peak water level at the site reaches 86.7m at the West side of the site The main building has a floor level of 87.3m which is 580mm above the peak water level at the site.

As part of the development it is proposed to demolish the original buildings and re-develop into domestic dwellings and light industrial units.

A copy of the development plan is enclosed in Appendix I.

Drawings in Appendix J show the following:-

- Existing site plan showing Q200+c/c work outline.
- Proposed Site plan showing Q200+c/c water outline.

It has been proved earlier that the site does not form part of the functional flood plain of the River Tay and as such is available for development.
The existing site plan shows the extent of the flood water on the site under the 1 in 200 year flow plus climate change with a peak level at the West of 86.7m and at the East of 86.51m. The existing floor level of the original Laundry Building is at 87.3m which is a minimum of 600mm above the peak water level at the Western edge of the site. The industrial area of the site does flood to an approximate depth of 300 mm under this peak flood flow.

The proposal is to erect private dwellings and also some light industrial units to the East of the housing. The drawing attached in Appendix I shows the new development layout together with proposed finished floor levels which are consistent with the original building levels or slightly above so that the minimum free board available is always at or above 600 mm for the domestic dwellings. The car park to the flatted block does becalm inundated under the peak flow inclusive of climate change, however the disabled access is to the West out the front door and free dry access is available under these conditions out this door so that in an emergency situation safe access and egress is available.

The industrial area to the West end of the development only floods when climate change provision is added. On this basis the existing units would flood to a depth of approximately 300 mm. Given the limited area and distances between units it is not possible to raise the ground locally and still provide reasonable access so the new build units need to have similar floor levels to the existing.

On this basis we would recommend the following for the construction of these units

- They are constructed in flood resistant materials steel block concrete floors etc.
- All electrical sockets are distributed vertically form the roof and are set no lower than 1200 from floor level.
- The units are provided with flood gates as protection against flooding
- Flood warning systems are installed
- These flood warnings are also installed in the existing units and if they are to be refurbished then the electrical sockets can also be raised

On the basis of our Flood risk assessment the site is free from flooding in the 1 in 200 year event and with the additional of climate change the domestic properties have at least 600 mm of freeboard above the highest peak water level.
The industrial units are in an area that floods and so if the precautions noted above are implemented then the proposed Domestic and Industrial development has acceptable flood risk.

K.D.Simpson
B.Sc.C.Eng.M.I.C.E.
11TH October 2018

Appendix A

Site Location Plan

Site

Location Plan 1:1250

0 5 10 20 50

Rev	Description	Date
A	Boundary line amendment	23.01.18

Client:
Lomond Group

Project:
Home Street, Aberfeldy

Title
Location Plan

aim architecture interiors media
unit 5, city quay
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dundee dd1 3ja
t: 01382 200505
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admin@aimdesign.co.uk
www.aimdesign.co.uk

date	drawn	checked
10.07.17	AR	GY
scale	drawing size	approved
1:1250	A4	--
Job no.	Drg no.	Rev
17014	EX 00	A

This is a planning drawing. Drawing not for construction purposes.
Any discrepancies must be referred to the architects.

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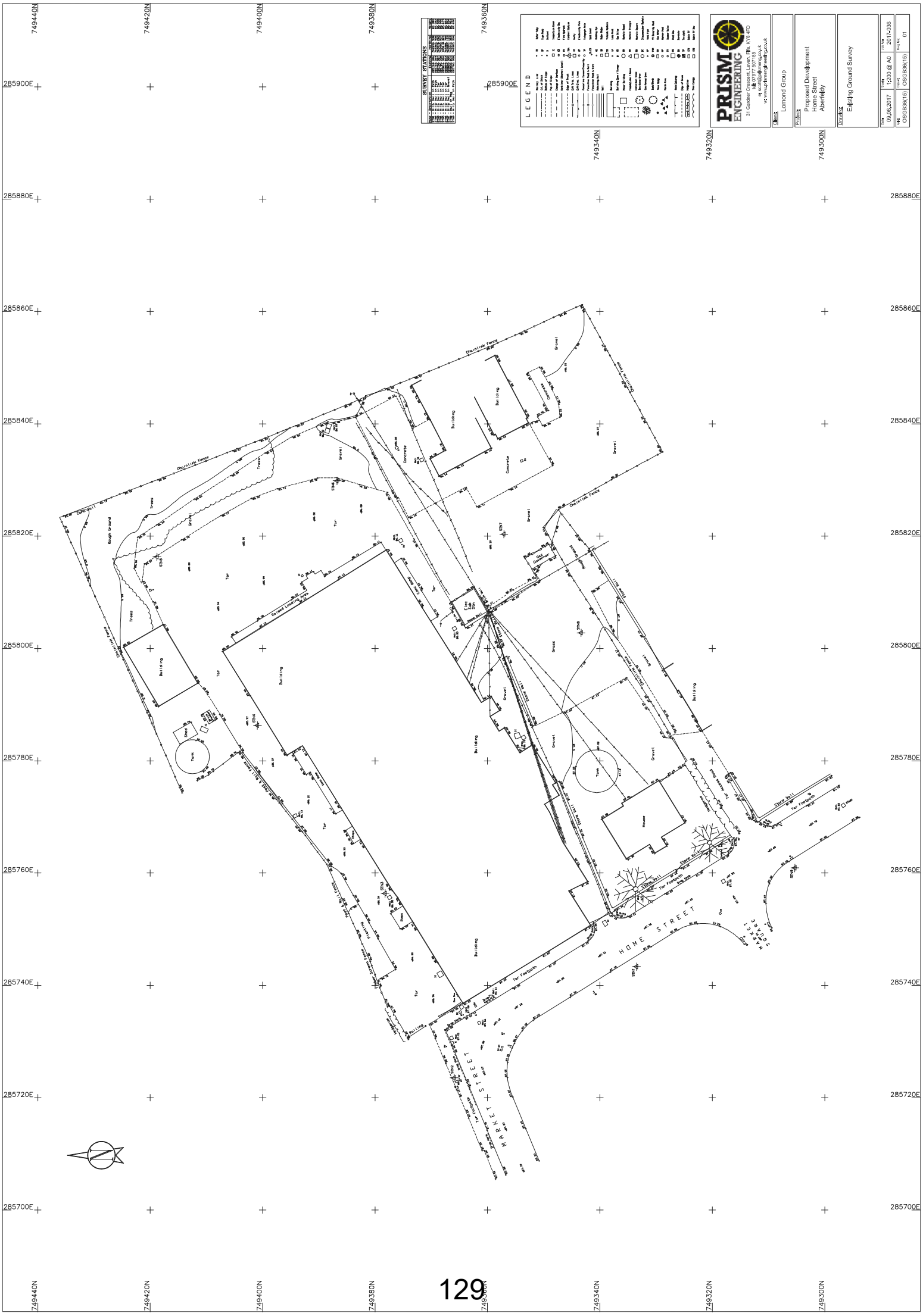
Appendix B

Site Topographical Survey Plan



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Client: Lomond Group
Project: Proposed Development Home Street Aberfeldy
Drawing: Existing Ground Survey
Date: 09.06.2017
Scale: 1:200 @ A0
Job No: 2017-036
File: OSGB36(15)
Object: OSGB36(15)
Dwg No: 01
SURVEY STATIONS
LEGEND
HOME STREET
MARKET STREET
MARKET SQUARE
Chainlink Fence
Building
Concrete
Gravel
Grass
Tar
Trees
Tank
House
Shed
Rough Ground
Stone Wall
Tar Footpath
Elec Sub Stn
Gas Governor
Raised Loading Area
Conc Wall
Front & Wall Fence
Plasting
Tower
Wall
Hedge
Fence
Gate
Pond
Stone Wall
Tar Access Road
749440N
749420N
749400N
749380N
749360N
749340N
749320N
749300N
285900E
285880E
285860E
285840E
285820E
285800E
285780E
285760E
285740E
285720E
285700E

Appendix C

- **Peak Flows from Pitnacree Gauging Station**
- **Photograph of Flooding 2006**

Pitncaree
Water Years
AnnMax

Hyd yr	Date	Time	Stage	Flow
1951	05/11/1951	00:00	2.71	487.36
1952	28/10/1952	00:00	2.13	345.47
1953	07/11/1953	00:00	2.29	383.31
1954	04/12/1954	00:00	2.53	441.97
1955	28/12/1955	00:00	2.97	554.94
1956	15/12/1956	00:00	2.7	484.81
1957	20/12/1957	09:45	2.17	354.83
1958	19/01/1959	00:00	1.64	236.44
1959	07/12/1959	10:00	1.777	266.47
1960	28/09/1961	00:00	1.8	270.83
1961	12/02/1962	09:15	2.798	510.49
1962	14/03/1963	12:00	1.798	270.83
1963	24/11/1963	00:00	1.42	191.24
1964	26/09/1965	00:00	2.103	338.49
1965	27/02/1966	00:00	1.74	257.79
1966	17/12/1966	08:30	2.595	446.95
1967	15/01/1968	10:30	1.847	281.83
1968	11/10/1968	00:00	1.69	247.05
1969	02/11/1969	23:00	1.87	286.26
1970	09/01/1971	00:00	1.865	286.26
1971	21/10/1971	21:00	1.85	281.83
1972	13/12/1972	09:00	1.57	221.79
1973	18/01/1974	20:30	2.905	537.86
1974	15/01/1975	21:00	2.620	464.54
1975	22/01/1976	21:00	2.500	309.71
1976	02/03/1977	04:00	2.22	251.09
1977	07/11/1977	11:30	2.345	276.72
1978	03/03/1979	09:15	3.152	462.43
1979	04/12/1979	22:30	2.317	270.9
1980	26/09/1981	06:00	2.568	324.61
1981	20/11/1981	11:30	2.379	283.85
1982	05/01/1983	02:30	3.013	428.06
1983	31/12/1983	00:00	2.877	395.37
1984	27/11/1984	18:30	2.8	377.27
1985	21/12/1985	13:00	2.537	317.79
1986	05/12/1986	00:00	2.673	348.09
1987	12/01/1988	00:00	2.484	306.25
1988	07/02/1989	00:00	3.552	566.5
1989	04/02/1990	00:00	4.01	694.65
1990	01/01/1991	08:45	2.884	397.02
1991	02/01/1992	04:00	3.02	429.76
1992	16/01/1993	06:45	4.143	733.59
1993	08/03/1994	18:45	2.758	367.52
1994	11/12/1994	10:00	3.129	456.67
1995	26/10/1995	11:00	2.846	388.04
1996	02/03/1997	07:00	3.168	466.44
1997	18/11/1997	10:00	2.692	352.4
1998	21/09/1999	00:30	2.748	365.22
1999	24/12/1999	05:00	2.965	416.41
2000	29/10/2000	10:45	2.443	297.42
2001	01/02/2002	17:45	2.754	366.6

2002	28/11/2002	01:15	1.985	207.38
2003	11/08/2004	14:00	3.083	445.24
2004	10/01/2005	06:00	3.925	670.16
2005	11/11/2005	13:15	2.406	289.54
2006	14/12/2006	04:45	4.355	797.22
2007	26/01/2008	09:00	3.408	528.16
2008	25/10/2008	19:15	2.605	332.81
2009	23/11/2009	02:45	2.606	333.04
2010	16/01/2011	09:00	2.986	421.49
2011	01/12/2011	06:30	3.065	440.8
2012	31/12/2012	14:30	2.669	347.18
2013	23/02/2014	16:45	3.185	470.72
2014	07/03/2015	17:45	2.773	370.99
2015	30/12/2015	14:00	4.143	733.59

Appendix D

Peak flow Data
from
Pitnacree Gauging station

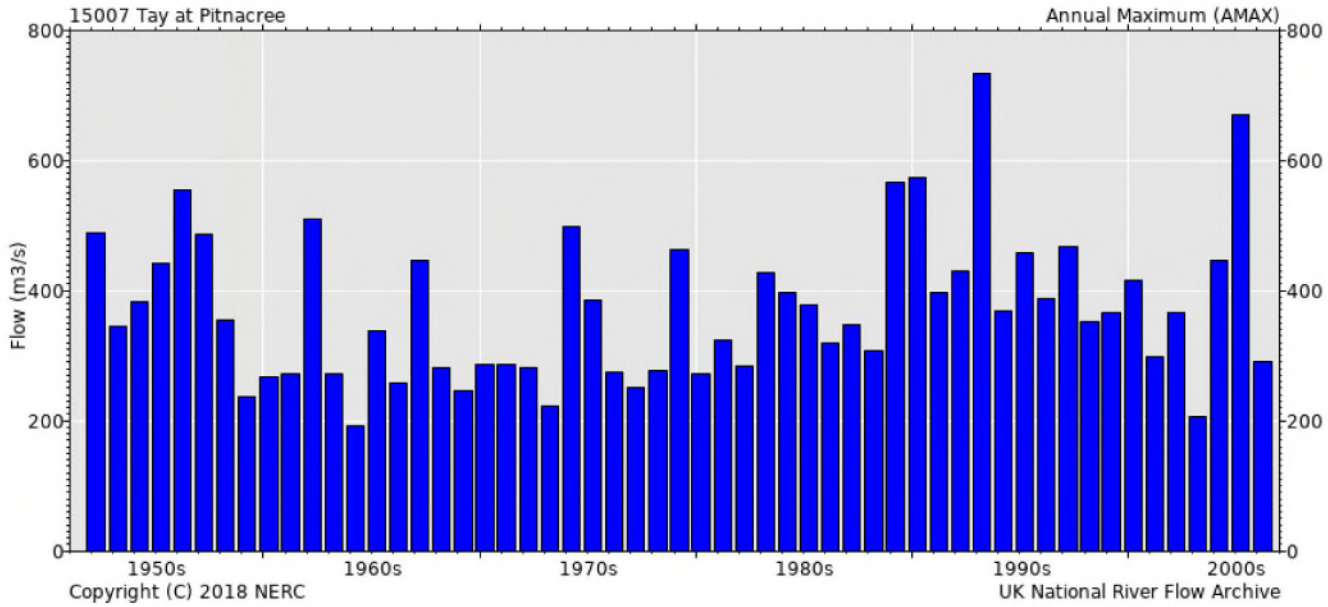
15007 - Tay at Pitnacree

Station Info | Daily Flow Data | **Peak Flow Data** | Catchment Info

FEH Indicative Suitability for QMED:	Yes - No comment	FEH Indicative Suitability for Pooling:	Yes - No comment
QMED (m^3/s):	354.832	POT Threshold (m^3/s):	209.475
Period of Record:	02/11/1951 - N/A	Chart Data Start / End:	02/11/1951 - 01/01/1991
CEH POT Data Start / End:	02/11/1951 - 29/09/1970	Digital Data Start / End:	01/01/1991 - 24/09/2006
Max gauging level (m):	4.143	Max gauging flow (m^3/s):	732
Max gauging level date:	17/01/1993	Max gauging flow date:	17/01/1993
Wing Wall Height (m):	N/A	Bankfull Stage (m):	3.03

Annual Maximum (AMAX) data

The graph and table below represent the series of maximum instantaneous peak flows within a given water year (October to September). Yellow shading indicates periods of missing data. Pink shading represents periods of unrepresentative data. Red bars indicate rejected annual maximum values.



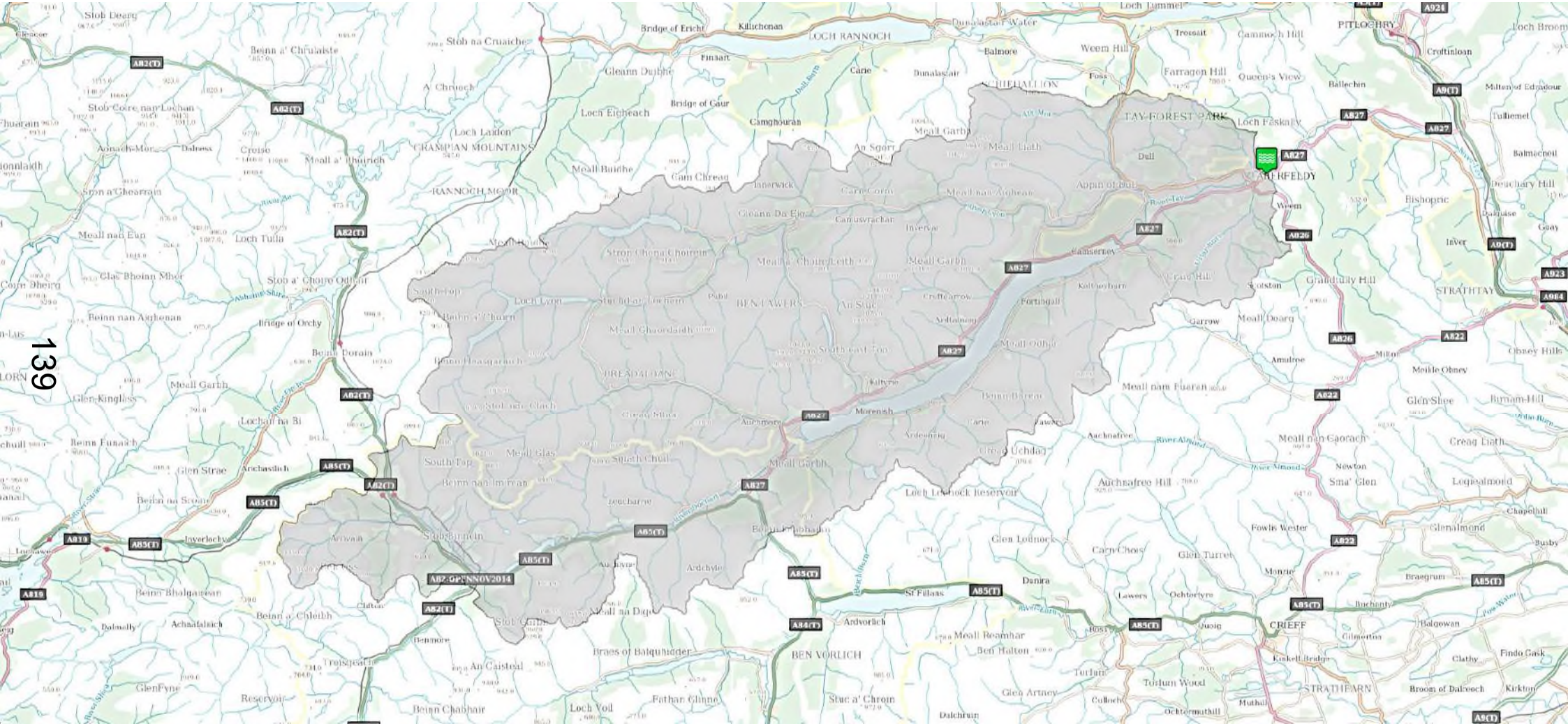
Rank	Water Year	Date	Time	Stage (m)	Flow (m^3/s)	Rating	Source	Ref	Comments
8	1951-1952	05/11/1951	00:00	2.71	487.362	In Range	CEH POT	1a	
31	1952-1953	28/10/1952	00:00	2.13	345.468	In Range	CEH POT	1a	
23	1953-1954	07/11/1953	00:00	2.29	383.314	In Range	CEH POT	1a	
15	1954-1955	04/12/1954	00:00	2.53	441.967	In Range	CEH POT	1a	
5	1955-1956	28/12/1955	00:00	2.97	554.939	In Range	CEH POT	1a	
9	1956-1957	15/12/1956	00:00	2.7	484.809	In Range	CEH POT	1a	
28	1957-1958	20/12/1957	00:00	2.17	354.832	In Range	CEH POT	1a	
52	1958-1959	19/01/1959	00:00	1.64	236.438	In Range	CEH POT	1a	

Rank	Water Year	Date	Time	Stage (m)	Flow (m /s)	Rating	Source	Ref	Comments
48	1959-1960	07/12/1959	00:00	1.78	266.467	In Range	CEH POT	1a	
46	1960-1961	28/09/1961	00:00	1.8	270.834	In Range	CEH POT	1a	
6	1961-1962	12/02/1962	00:00	2.8	510.491	In Range	CEH POT	1a	
46	1962-1963	14/03/1963	00:00	1.8	270.834	In Range	CEH POT	1a	
55	1963-1964	24/11/1963	00:00	1.42	191.241	In Range	CEH POT	1a	
32	1964-1965	26/09/1965	00:00	2.1	338.488	In Range	CEH POT	1a	
49	1965-1966	27/02/1966	00:00	1.74	257.791	In Range	CEH POT	1a	
13	1966-1967	17/12/1966	00:00	2.55	446.953	In Range	CEH POT	1a	
41	1967-1968	15/01/1968	00:00	1.85	281.83	In Range	CEH POT	1a	
51	1968-1969	11/10/1968	00:00	1.69	247.054	In Range	CEH POT	1a	
38	1969-1970	02/11/1969	00:00	1.87	286.261	In Range	CEH POT	1a	
38	1970-1971	09/01/1971	00:00	1.87	286.261	In Range	Chart	1a	
41	1971-1972	21/10/1971	21:00	1.85	281.83	In Range	Chart	1a	
53	1972-1973	13/12/1972	09:00	1.57	221.785	In Range	Chart	1a	
7	1973-1974	18/01/1974	00:00	2.75	497.607	In Range	Chart	1a	
22	1974-1975	20/12/1974	07:00	2.295	384.513	In Range	Chart	1a	
44	1975-1976	09/02/1976	23:00	2.33	273.599	In Range	Chart	2a	
50	1976-1977	02/03/1977	04:00	2.22	251.093	In Range	Chart	2a	
43	1977-1978	07/11/1977	11:30	2.345	276.721	In Range	Chart	2a	
11	1978-1979	03/03/1979	09:15	3.152	462.429	In Range	Chart	2a	
45	1979-1980	04/12/1979	22:30	2.317	270.903	In Range	Chart	2a	
33	1980-1981	26/09/1981	06:00	2.568	324.611	In Range	Chart	2a	
40	1981-1982	20/11/1981	11:30	2.379	283.845	In Range	Chart	2a	
17	1982-1983	05/01/1983	00:00	3.013	428.062	In Range	Chart	2a	

Rank	Water Year	Date	Time	Stage (m)	Flow (m /s)	Rating	Source	Ref	Comments
20	1983-1984	31/12/1983	00:00	2.877	395.367	In Range	Chart	2a	
24	1984-1985	27/11/1984	00:00	2.8	377.271	In Range	Chart	2a	
34	1985-1986	21/12/1985	00:00	2.537	317.791	In Range	Chart	2a	
30	1986-1987	05/12/1986	00:00	2.673	348.093	In Range	Chart	2a	
35	1987-1988	12/01/1988	00:00	2.484	306.252	In Range	Chart	2a	
4	1988-1989	07/02/1989	00:00	3.552	566.5	Extrap.	Chart	2a	
3	1989-1990	05/02/1990	00:00	3.577	573.252	Extrap.	Chart	2a	
19	1990-1991	02/01/1991	08:45	2.884	397.027	In Range	Digital Archive	2a	
16	1991-1992	03/01/1992	04:00	3.02	429.77	In Range	Digital Archive	2a	
1	1992-1993	17/01/1993	06:45	4.143	733.604	Extrap.	Digital Archive	2a	
25	1993-1994	08/03/1994	18:45	2.758	367.528	In Range	Digital Archive	2a	
12	1994-1995	11/12/1994	10:00	3.129	456.677	In Range	Digital Archive	2a	
21	1995-1996	26/10/1995	11:00	2.846	388.045	In Range	Digital Archive	2a	
10	1996-1997	02/03/1997	07:00	3.168	466.446	In Range	Digital Archive	2a	
29	1997-1998	18/11/1997	10:00	2.692	352.405	In Range	Digital Archive	2a	
27	1998-1999	21/09/1999	00:30	2.748	365.222	In Range	Digital Archive	2a	
18	1999-2000	24/12/1999	05:00	2.965	416.417	In Range	Digital Archive	2a	
36	2000-2001	29/10/2000	10:45	2.443	297.43	In Range	Digital Archive	2a	
26	2001-2002	01/02/2002	17:45	2.754	366.605	In Range	Digital Archive	2a	
54	2002-2003	28/11/2002	01:15	1.985	205.38	In Range	Digital Archive	2a	
14	2003-2004	11/08/2004	14:00	3.083	445.251	In Range	Digital Archive	2a	Series used : 15007SG,15007SG,
2	2004-2005	10/01/2005	06:00	3.925	670.174	Extrap.	Digital Archive	2a	Series used : 15007SG,15007SG,
37	2005-2006	11/11/2005	13:15	2.406	289.549	In Range	Digital Archive	2a	Series used : 15007SG,15007SG,

Appendix E

- **Catchment Plan**
- **Catchment Descriptors**
- **Flood Frequency Curve**


Stob Dearg
Stob na Cruaiche
Bridge of Ericht
Killichonan
LOCH RANNOCH
Dunalastair Water
Loch Tummel
PITLOCHRY
Beinn a' Chulaiste
Finnart
Gleann Dubhe
Carie
Dunalastair
Weem Hill
Tressait
Cammoch Hill
Croftinloan
Loch Broom
A' Chruach
Loch Eigheach
Bridge of Gaur
Camghouran
SCHIEHALLION
Foss
Farragen Hill
Queen's View
Ballechin
Stob Coire nan Lochan
Aonach Mor
Dalness
Croise
Meall a' Bhuiridh
Loch Laidon
CRAMPIAN MOUNTAINS
Meall Baidhe
Meall Garbh
An Sgorr
Meall Liath
TAY FOREST PARK
Loch Freskaig
Dull
Millton of Edradour
Tullichetl
Balmacneil
Bishopric
Deuchary Hill
Stob a' Ghearrain
Gam Chreag
Innerwick
Carie Corn
Meall nan Aigheas
Appin of Dull
Weem
Aberfeldy
Meall nan Eun
Loch Tulla
Gleann Da Eig
Camusvrachar
Inverye
Easnerney
Inver
Clas Bhoian Mhor
Stob a' Choire Odhair
Meall Buidhe
Stron Chona Choirein
Meall a' Choire Leith
Meall Garbh
Kaltybeharn
Craig Hill
Scotston
Grandtully Hill
STRATHTAY
Beinn nan Aighenan
Bridge of Orchy
Loch Lyon
Stuchd an Lochain
Pubil
BEN LAWERS
An Stuc
Creffearrow
Fortingall
Ardtalnaig
Garrow
Meall Dearg
Meall Ghaordaidh
South east Top
Beinn Dorain
Beinn Heasgarnich
DREADAUNE
Kiltyrie
Meall Odhar
Amulree
Milton
Meikle Obney
Obney Hills
Glen Kinglass
Meall Garbh
Stob nan Clach
Creag Mhor
Auchmore
Morenish
Beinn Bheoil
Meall nam Fuaran
Glen Shee
Burnam Hill
Lochan na Bi
Beinn Fhanaich
Meall Glas
Splath Chuil
Ardchenig
Carie
Fawnie
Auchnafree
River Almond
Meall nan Gaorach
Creag Liath
Glen Strae
Archaslich
South Top
Meall Garbh
Newton
Sma' Glen
Loqiealmoid
Beinn na Seamraig
Beinn nan Imirean
Beinn Mhanach
Auchnafree Hill
Loch Lednock Reservoir
Chapelhill
Inverlochy
Arnwan
Stob Binnein
Ardchyle
Glen Lednock
Carn Choire
Glen Turret
Fowlis Wester
Glenalmond
Busby
Braegrum
Monzie
Beinn Bhalgairean
Clifton
Achaafalnich
Beinn a' Chleibh
Meall na Dige
Ardvorlich
St Fillans
Dunira
Lawers
Ochtertyre
Quoig
CRIEFF
Gilmerton
Balgowan
Balmaily
Bennore
Braes of Balquhidder
Meall Reamhar
Ben Halton
BEN VORLICH
Turlum
Kinkell Bridge
Clathy
Findo Gask
Glen Artney
Torlum Wood
STRATHEARN
Broom of Dalreoch
Kirkton
Glen Fyne
Reservoir
Beinn Chabhair
Loch Voil
Fathan Chinne
Stuc a' Chroin
Culloch
Ochtermuthill
Muthil
Dalchruin
A82(T)
A85(T)
A84(T)
A827
A826
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A9(T)
A819
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DPSBAR	235.9								
FARL	0.828								
FPEXT	0.037								
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FPLOC	0.905								
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PROPWET	0.7								
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RMED-1D	50.4								
RMED-2D	71.6								
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SAAR4170	1953								
SPRHOST	45.12								
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D2	0.45052								
D3	0.39735								
E	0.24199								
F	2.46941								
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D1(1 km)	0.504								
D2(1 km)	0.472								
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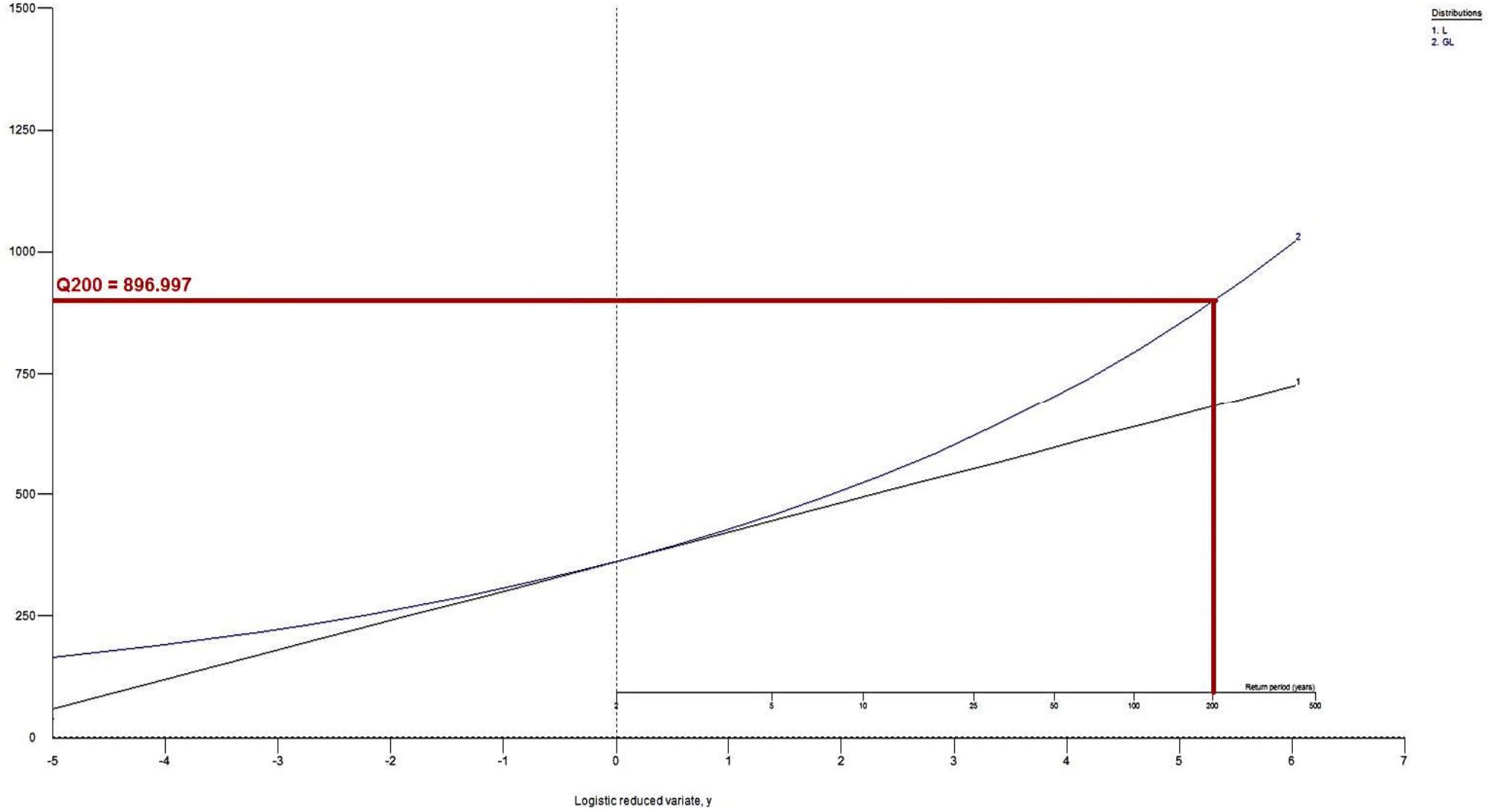
Pooling-group - E17-015 Home Road, Aberfeldy

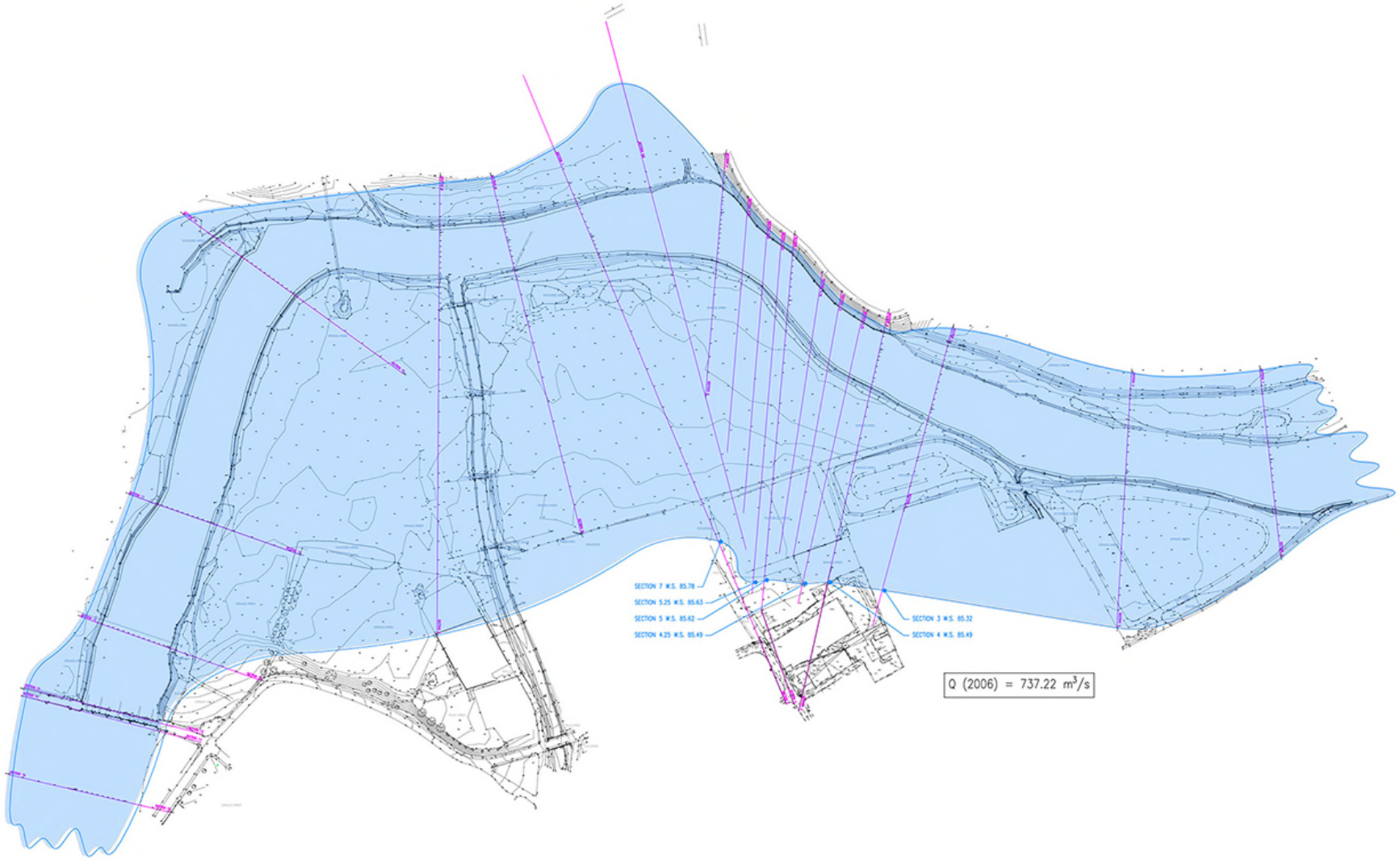


Appendix F

HEC-RAS Model
Q = 797.22m³/sec (2006 flood)

- **Overall Flooding Plan**
- **Tabulated Model Results**
- **Cross-section**
- **Long Section**

REV.	DATE	BY	DESCRIPTION	APD.



HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.

1:5 / 1:50 0 100mm 200 300 400 500 / 0 1m 2 3 4 5
1:1 / 1:100 0 10mm 20 30 40 50 60 70 80 90 100 / 0 1m 2 3 4 5 6 7 8 9 10
1:20 / 1:200 0 200mm 400 600 800 1000 1200 1400 1600 1800 2000 / 0 2m 4 6 8 10 12 14 16 18 20

McGREGOR McMAHON
CONSULTING ENGINEERS
2 Castle Court • Carnegie Campus • Dunfermline • Fife • KY11 8PB
01383 734905 • mcgregor-mcmahon.com • admin@mmaeng.com

PROJECT
HOME STREET
ABERFELDY

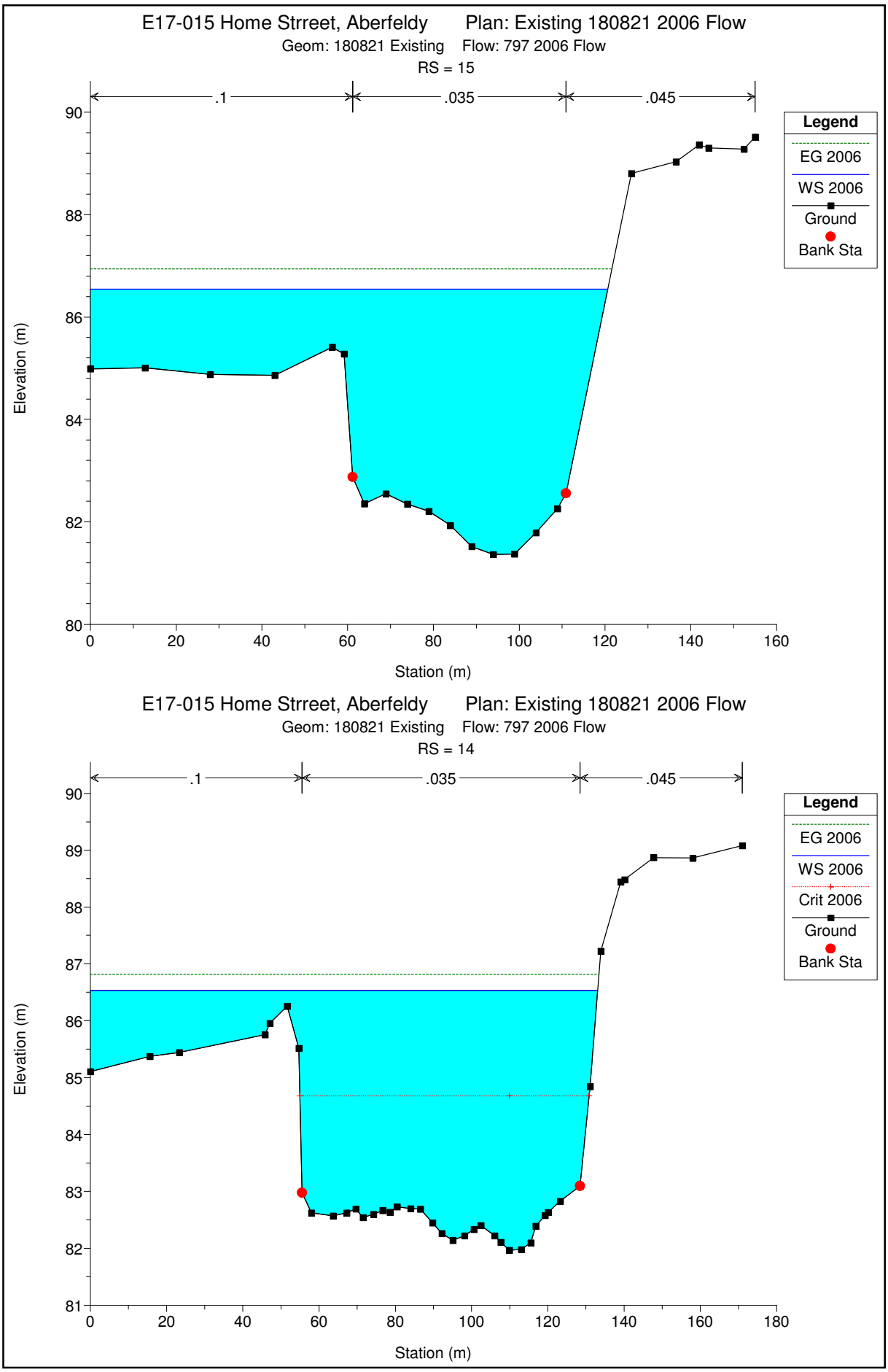
TITLE
HEC-RAS CROSS SECTIONS
SITE AS EXISTING
SHOWING 2006 WATER OUTLINE

SCALE	DATE	DRAWN	APPROVED	
1:5000	27/08/2018	ST	KDS	A1

DRAWING No. E17-015-HEC3 REV. –

HEC-RAS Plan: Ex 180821 2006 River: River Tay Reach: 1 Profile: 2006

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	15	2006	737.22	81.37	86.54		86.94	0.001405	2.94	342.30	120.64	0.44
1	14	2006	737.22	81.97	86.53	84.68	86.82	0.001118	2.42	358.78	133.06	0.38
1	13.5		Culvert									
1	13	2006	737.22	81.72	86.30		86.59	0.001117	2.40	342.97	133.23	0.38
1	12	2006	737.22	81.76	86.17		86.50	0.001299	2.60	339.27	141.37	0.41
1	11	2006	737.22	81.41	86.06		86.33	0.001184	2.55	402.29	168.72	0.40
1	10	2006	737.22	81.24	85.94		86.09	0.000700	2.00	604.92	252.25	0.31
1	9	2006	737.22	80.68	85.83		85.97	0.000715	2.06	694.89	418.32	0.31
1	8	2006	737.22	79.84	85.80		85.92	0.000672	1.97	683.28	341.98	0.30
1	7	2006	737.22	79.57	85.78		85.87	0.000384	1.66	834.23	404.96	0.23
1	6.5000*	2006	737.22	79.39	85.76		85.85	0.000371	1.59	874.31	445.03	0.23
1	6	2006	737.22	79.22	85.71		85.82	0.000445	1.68	597.01	204.33	0.25
1	5.75	2006	737.22	79.36	85.69		85.80	0.000503	1.73	606.36	227.66	0.26
1	5.5	2006	737.22	79.50	85.66		85.79	0.000566	1.90	607.81	264.18	0.28
1	5.25	2006	737.22	79.63	85.63		85.77	0.000567	1.93	614.16	316.07	0.28
1	5	2006	737.22	79.77	85.62		85.75	0.000487	1.88	628.37	306.87	0.26
1	4.75	2006	737.22	80.16	85.58		85.74	0.000611	2.00	552.30	255.31	0.29
1	4.5	2006	737.22	80.19	85.55		85.72	0.000672	2.08	525.18	240.35	0.30
1	4.25	2006	737.22	80.02	85.49		85.70	0.000886	2.29	485.72	254.36	0.34
1	4	2006	737.22	79.86	85.49		85.68	0.000794	2.24	499.50	240.84	0.33
1	3	2006	737.22	80.17	85.32		85.58	0.000993	2.51	472.29	251.14	0.37
1	2	2006	737.22	79.36	85.17		85.39	0.000897	2.42	512.10	236.52	0.35
1	1	2006	737.22	80.11	85.06	82.99	85.27	0.000800	2.22	480.13	172.33	0.33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Geom: 180821 Existing Flow: 797 2006 Flow
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Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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Geom: 180821 Existing Flow: 797 2006 Flow
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Legend
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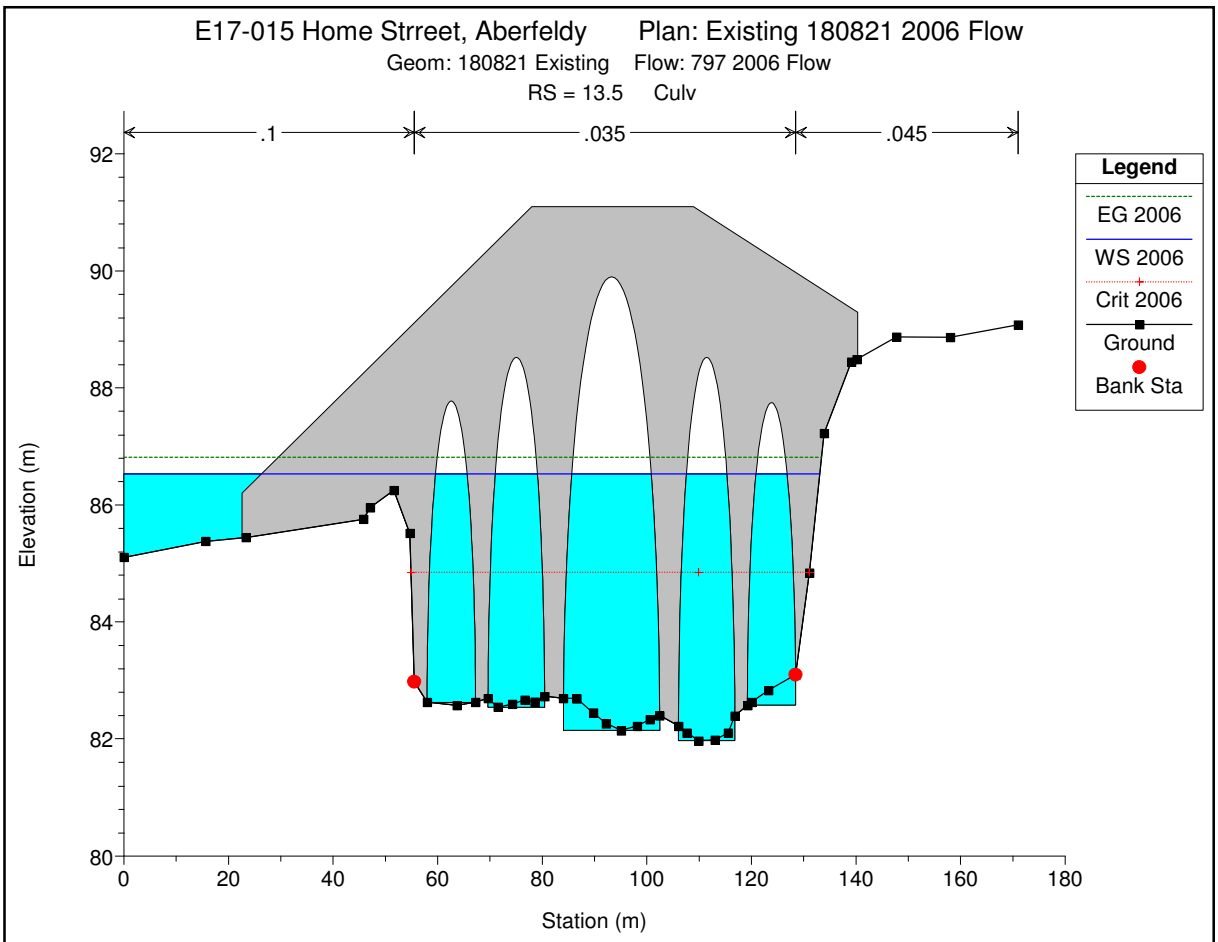
WS 2006
Crit 2006
Ground
Bank Sta
Elevation (m)
Station (m)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Plan: Existing 180821 2006 Flow
Geom: 180821 Existing
Flow: 797 2006 Flow
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Culv
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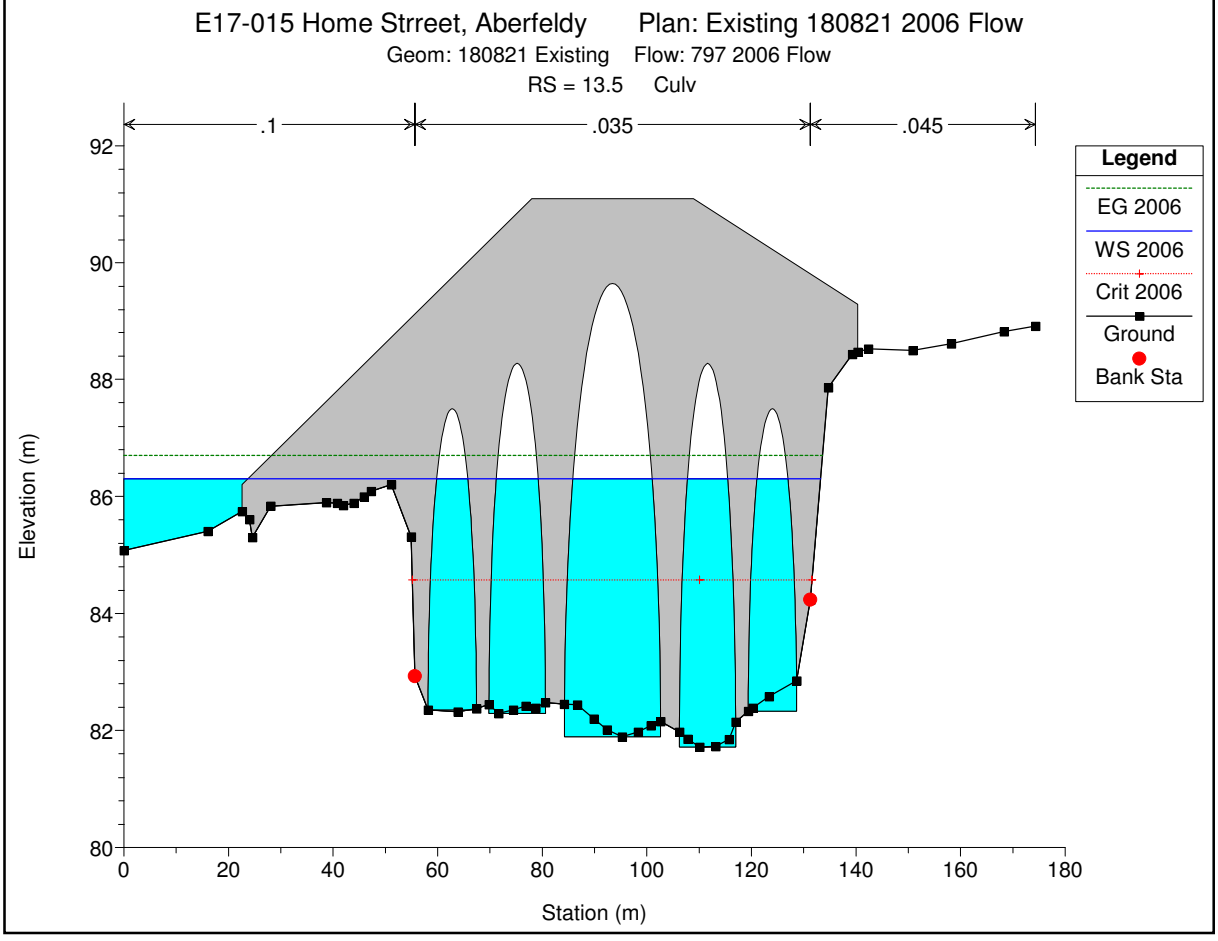
Legend
EG 2006
WS 2006
Crit 2006
Ground
Bank Sta
Elevation (m)
Station (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
120
140
160
180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Plan: Existing 180821 2006 Flow
Geom: 180821 Existing
Flow: 797 2006 Flow
RS = 13.5
Culv
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.035
.045
Legend
EG 2006
WS 2006
Crit 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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90
88
86
84
82
80
0
20
40
60
80
100
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140
160
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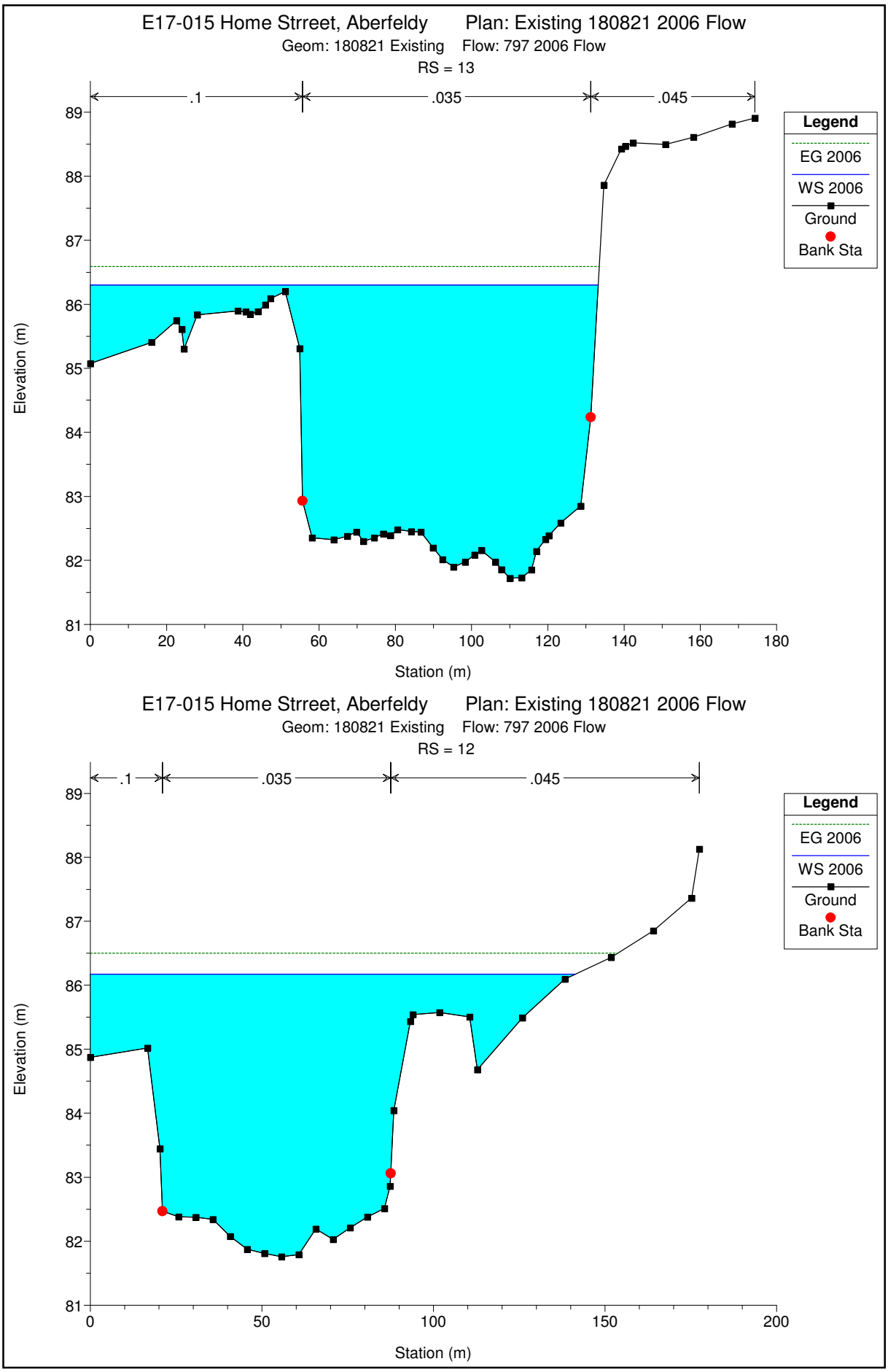
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Geom: 180821 Existing Flow: 797 2006 Flow
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Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 2006 Flow
Geom: 180821 Existing Flow: 797 2006 Flow
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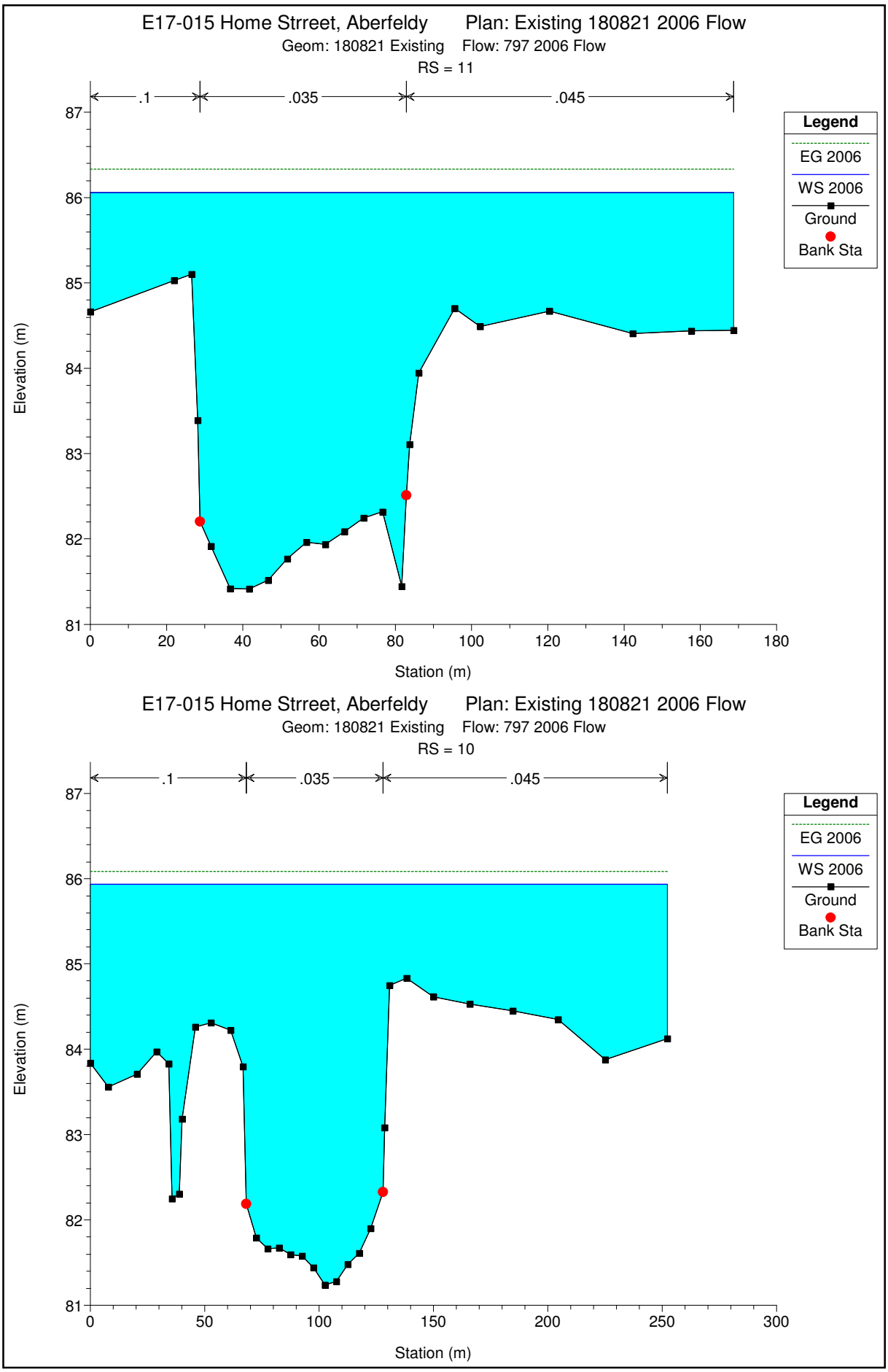
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)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Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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Geom: 180821 Existing Flow: 797 2006 Flow
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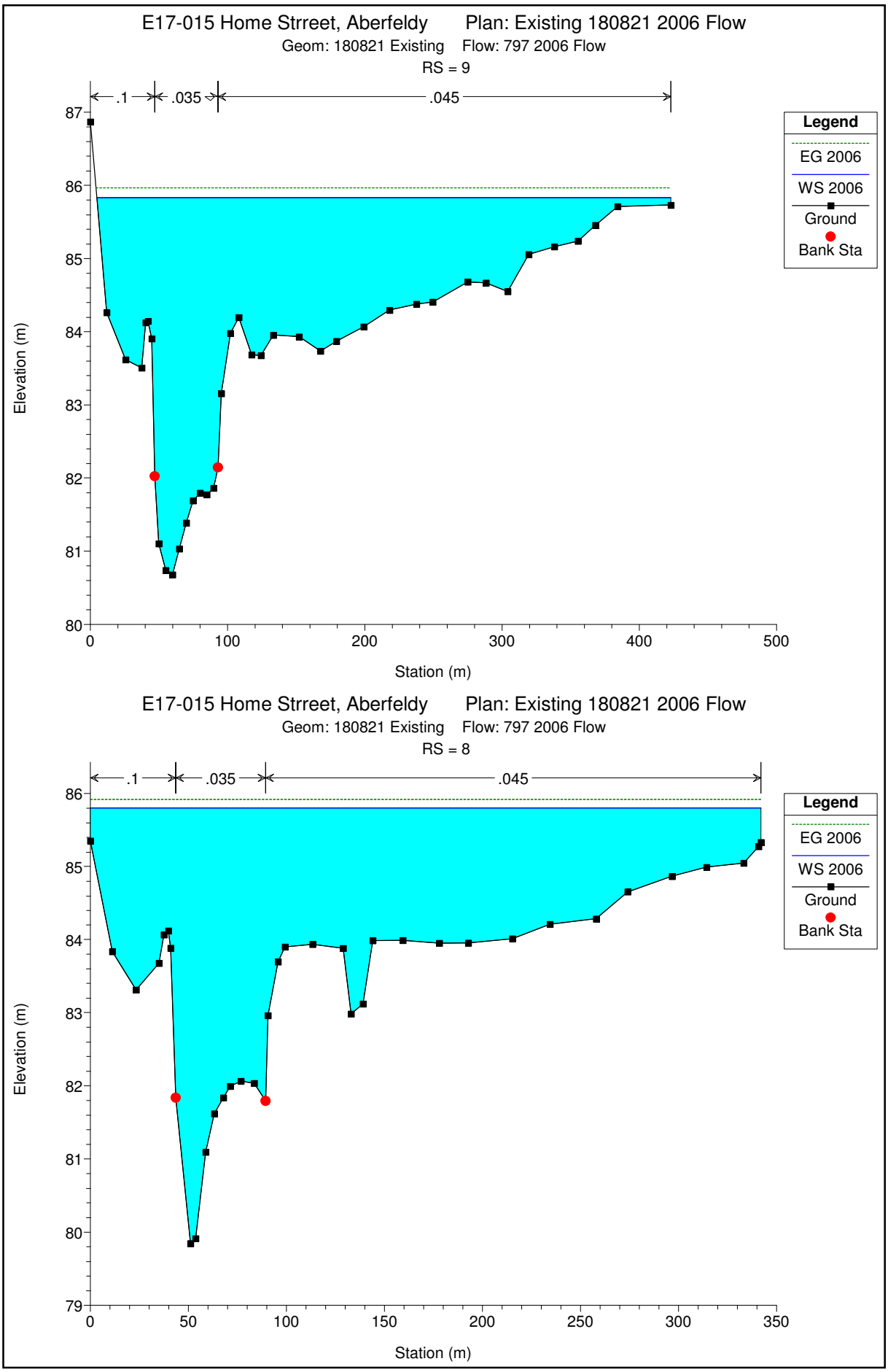
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)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Geom: 180821 Existing
Flow: 797 2006 Flow
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Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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Plan: Existing 180821 2006 Flow
Geom: 180821 Existing
Flow: 797 2006 Flow
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Legend
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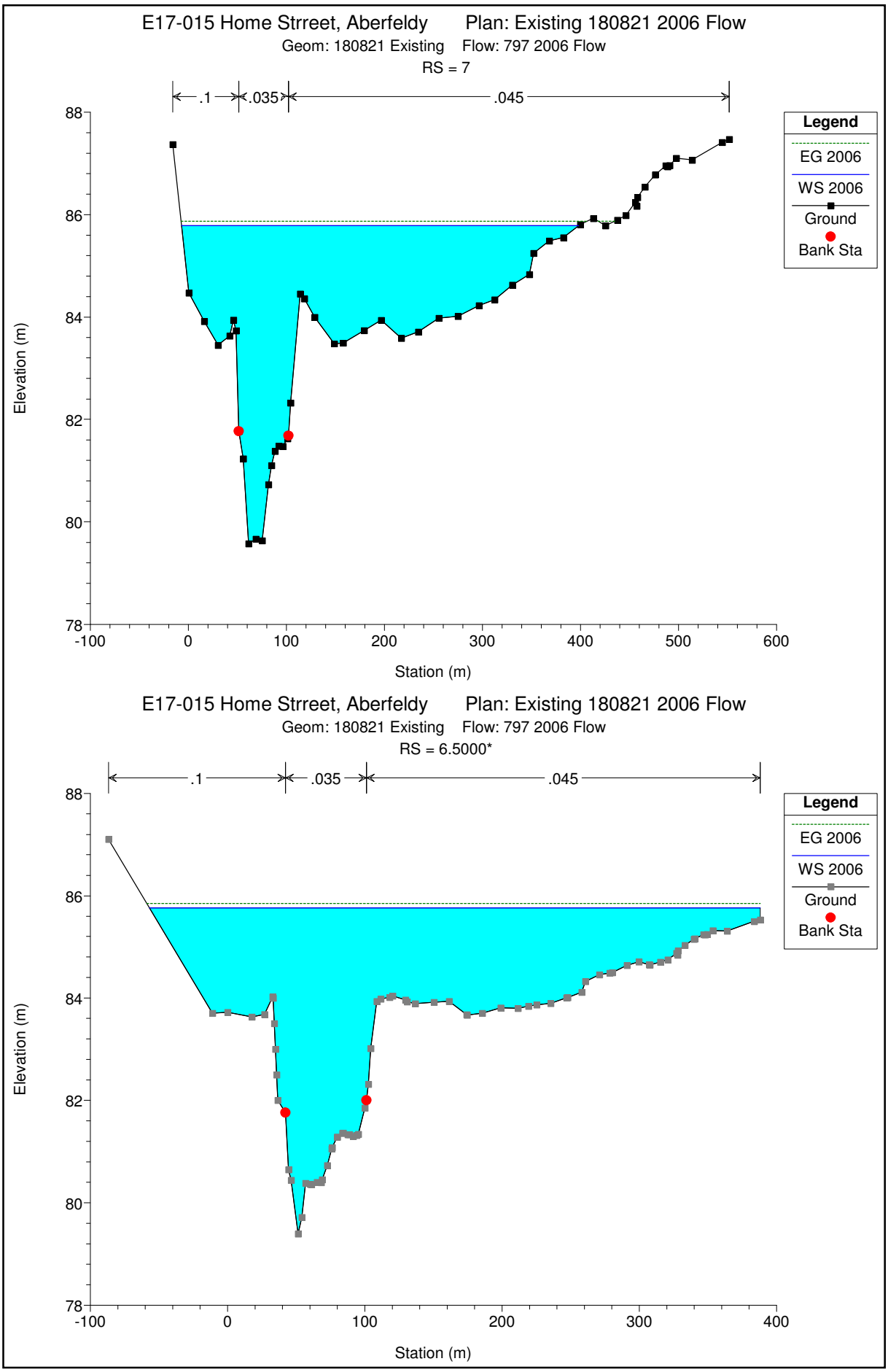
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)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Legend
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WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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Geom: 180821 Existing
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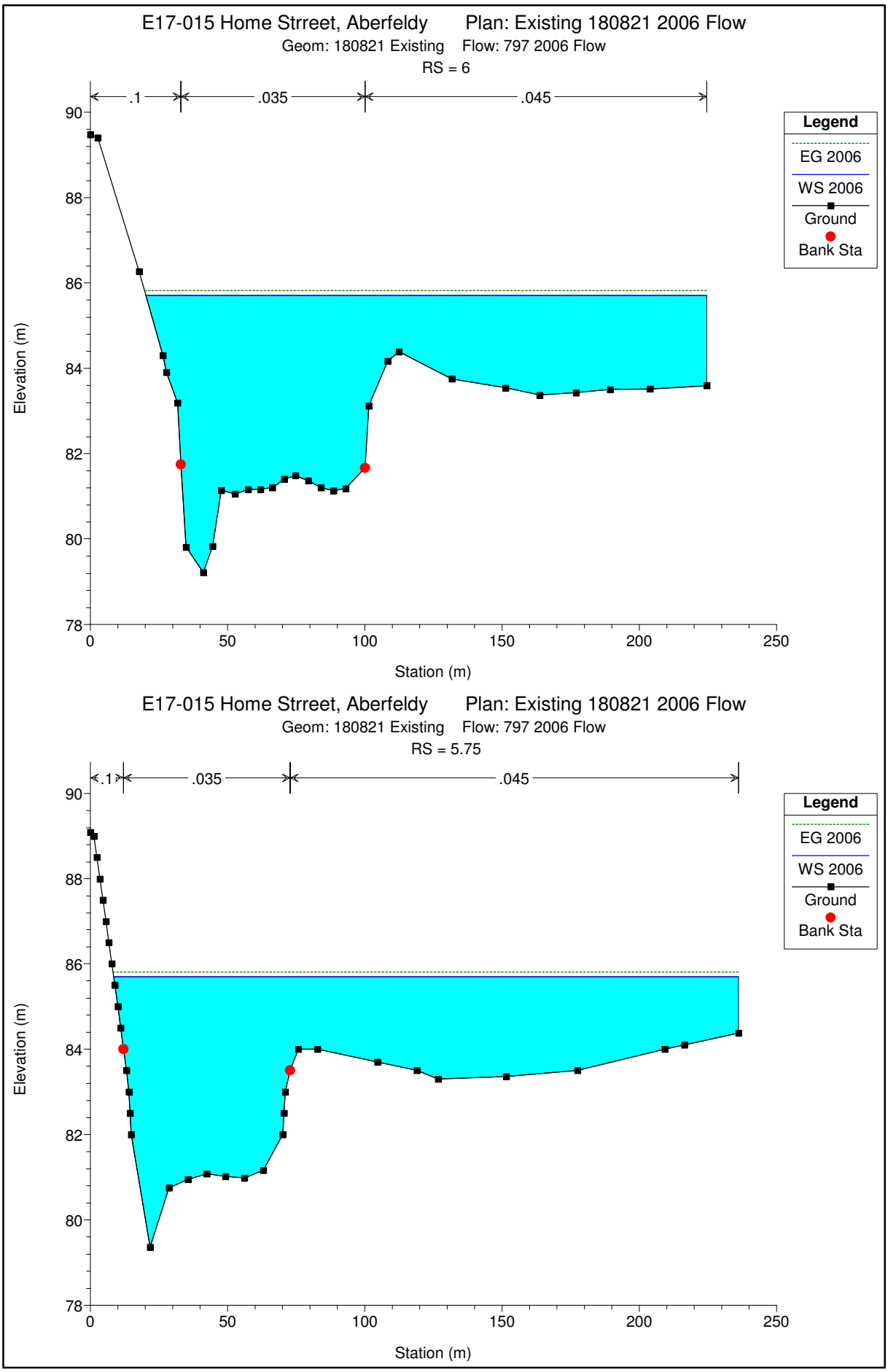
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)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Geom: 180821 Existing
Flow: 797 2006 Flow
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.1
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Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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Plan: Existing 180821 2006 Flow
Geom: 180821 Existing
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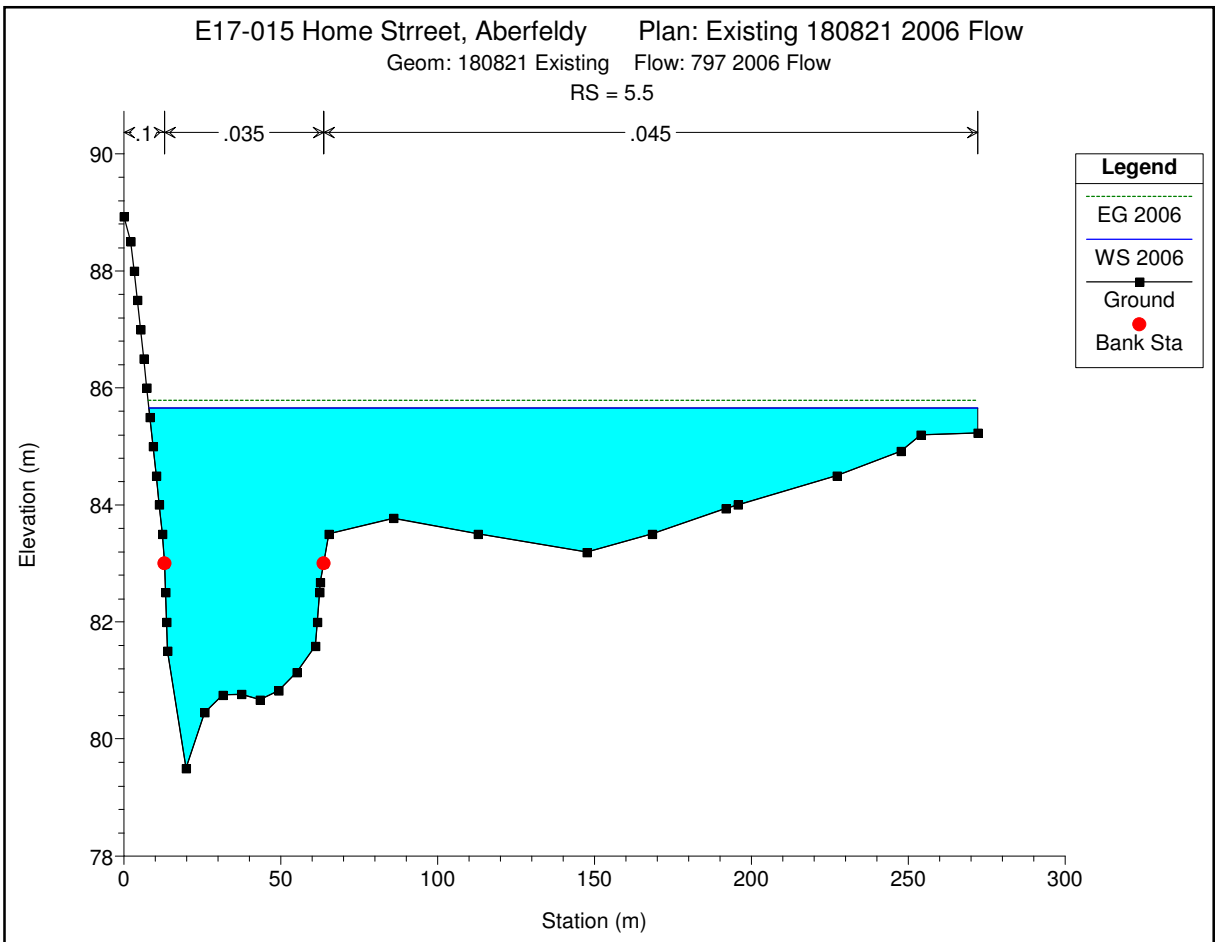
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)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Geom: 180821 Existing Flow: 797 2006 Flow
RS = 5.5
.1
.035
.045
Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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86
84
82
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78
0
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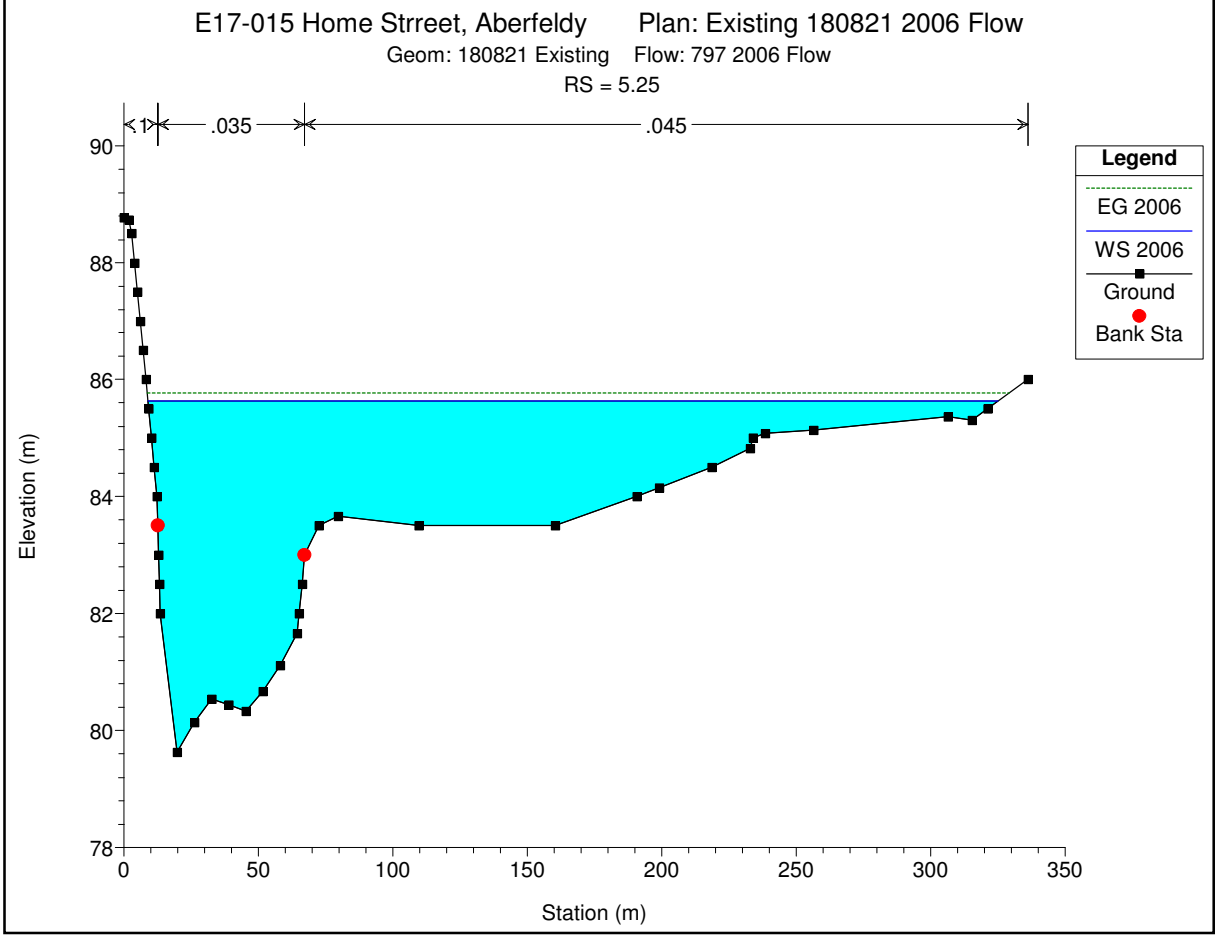
100
150
200
250
300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.1
.035
.045
Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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86
84
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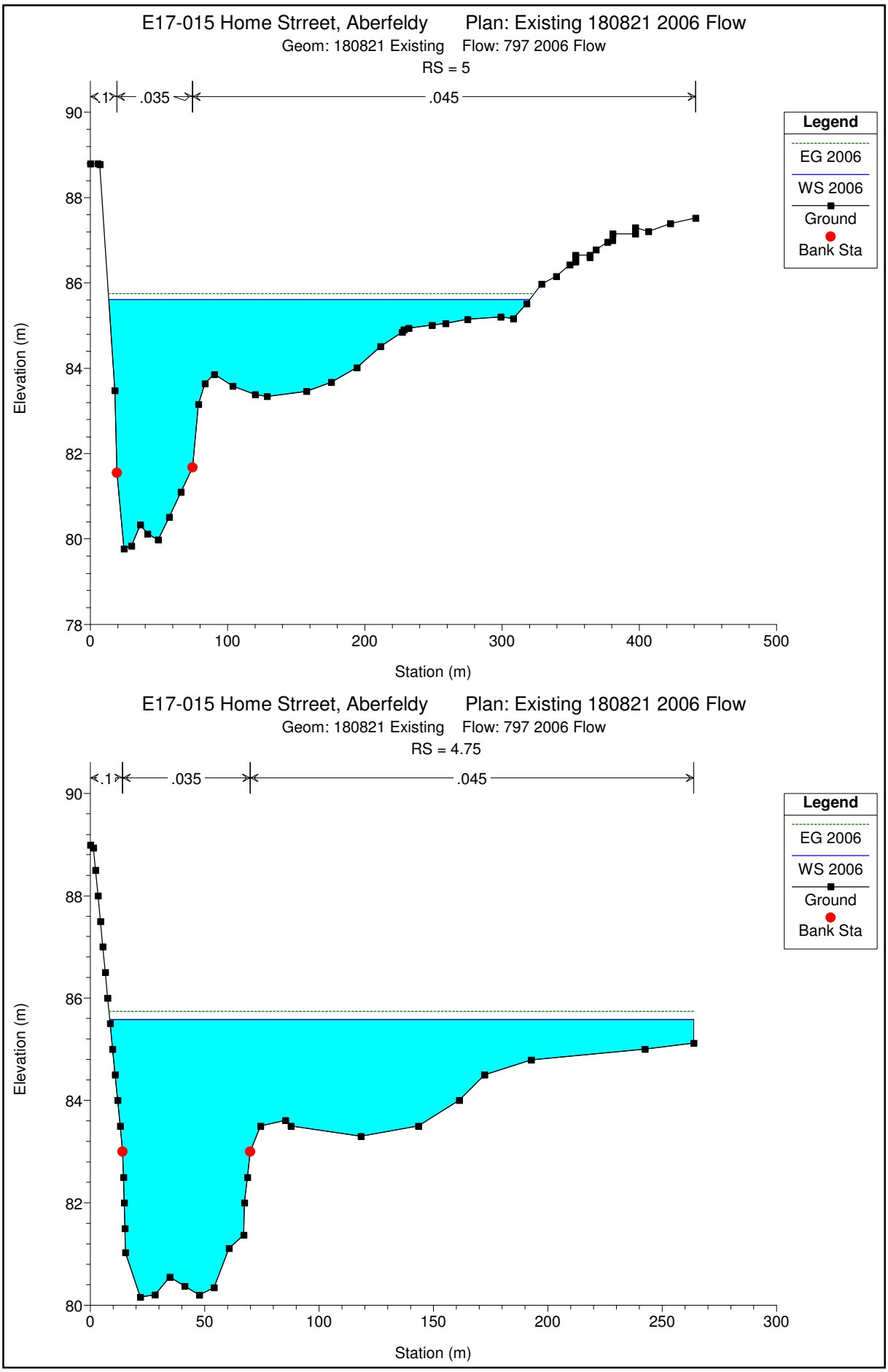
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Geom: 180821 Existing Flow: 797 2006 Flow
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.035
.045
Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 2006 Flow
Geom: 180821 Existing Flow: 797 2006 Flow
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Legend
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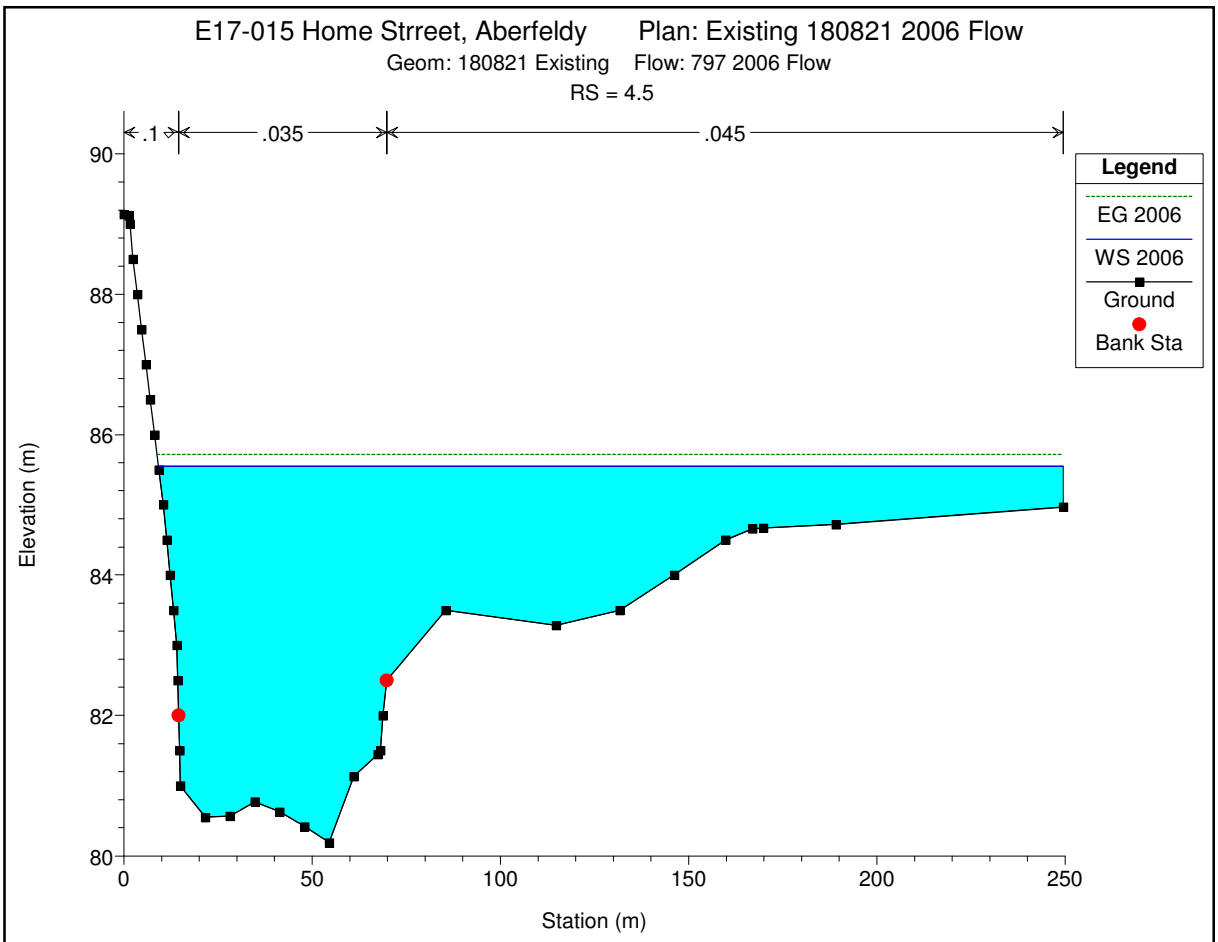
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)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Geom: 180821 Existing Flow: 797 2006 Flow
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.045
Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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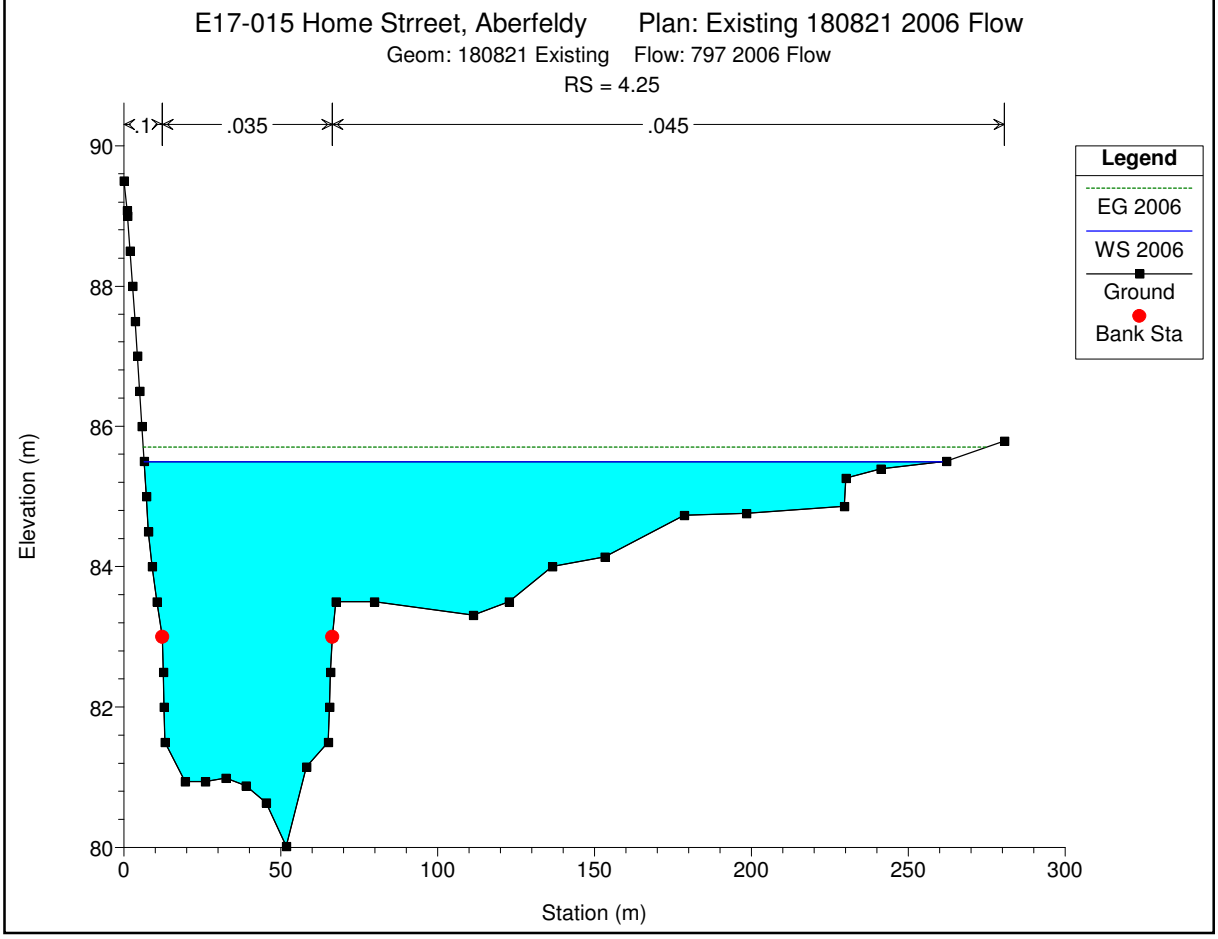
88
86
84
82
80
0
50
100
150
200
250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Geom: 180821 Existing Flow: 797 2006 Flow
RS = 4.25
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Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
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88
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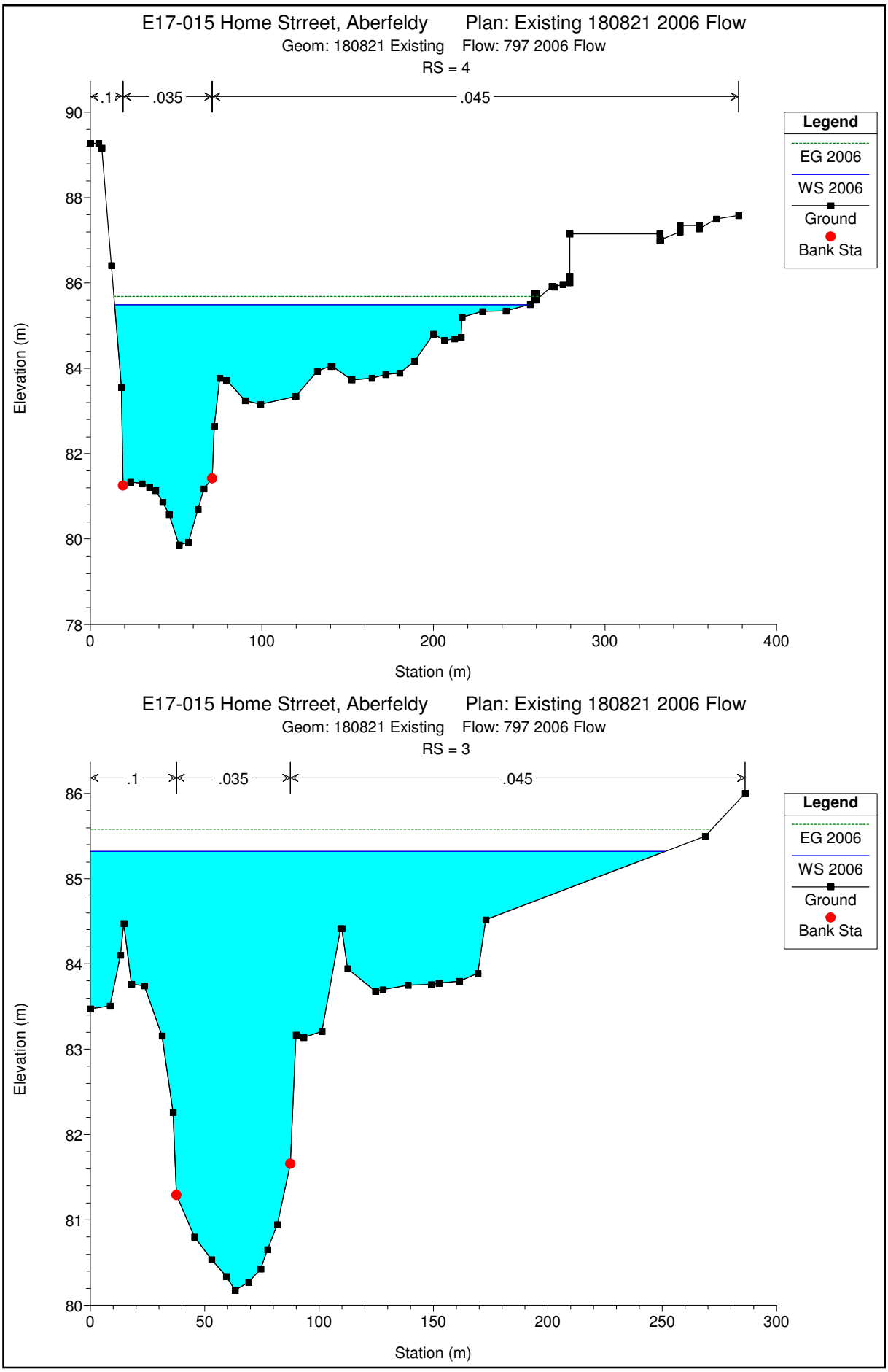
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Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 2006 Flow
Geom: 180821 Existing Flow: 797 2006 Flow
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Legend
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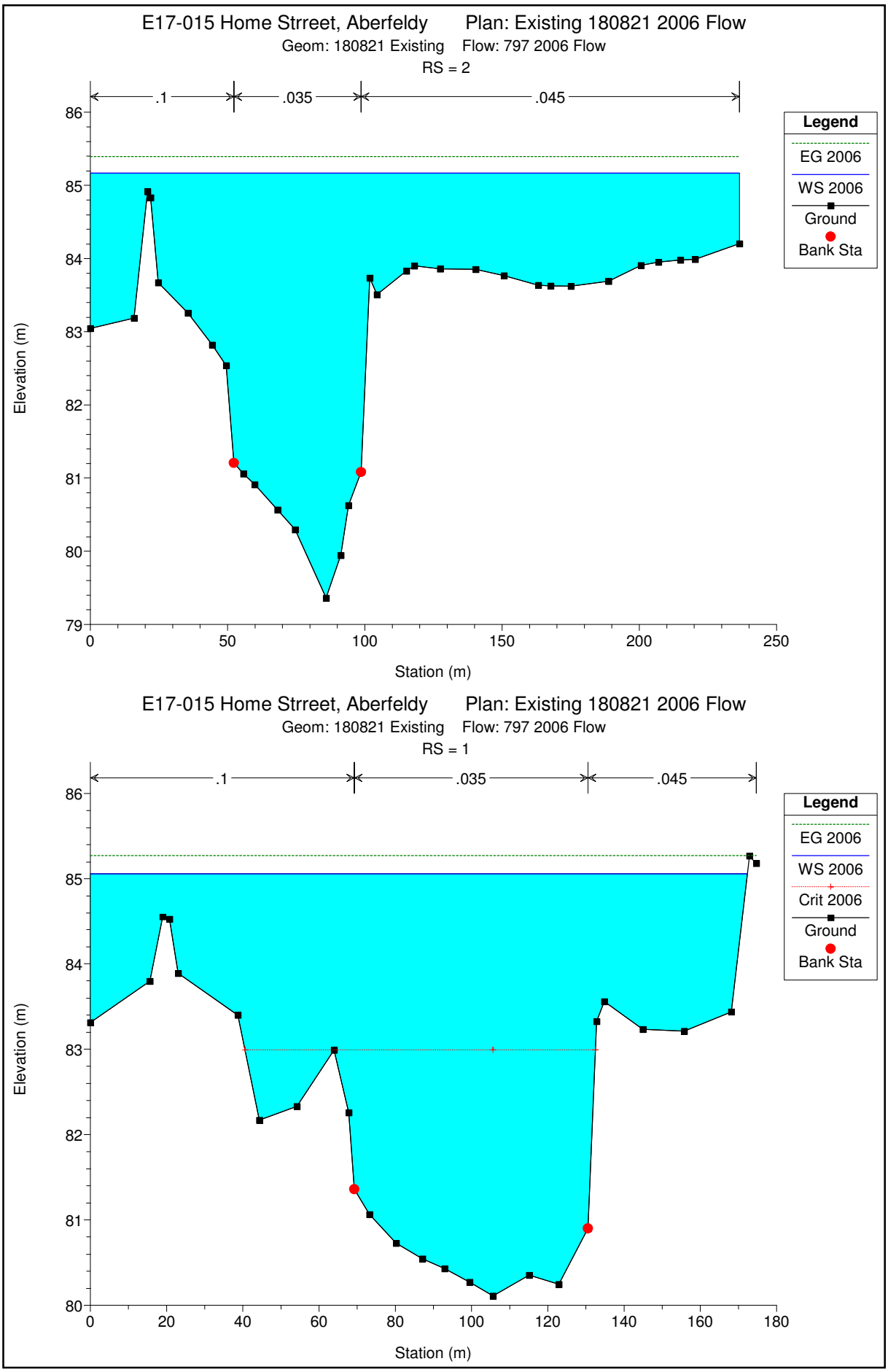
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)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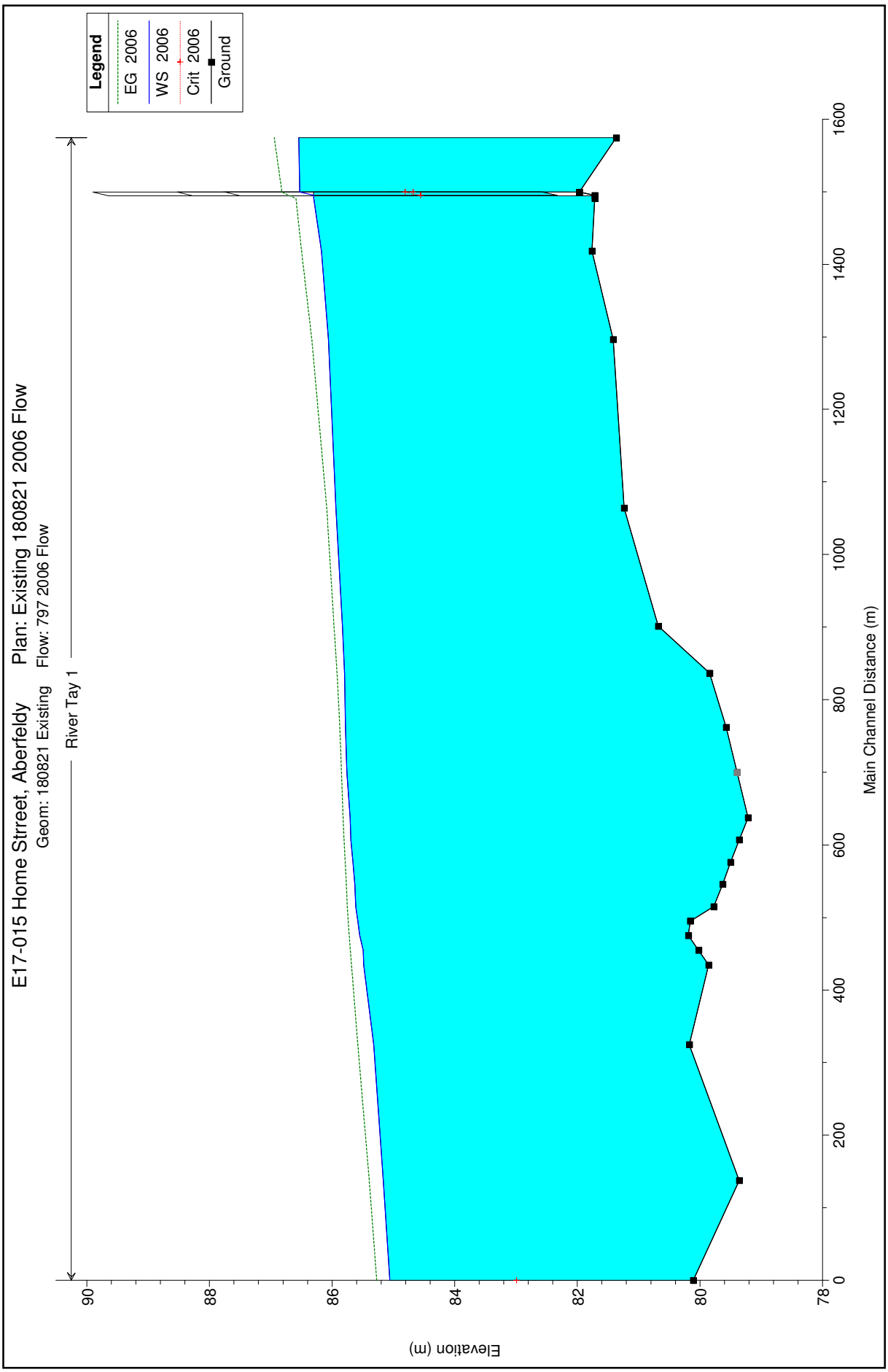
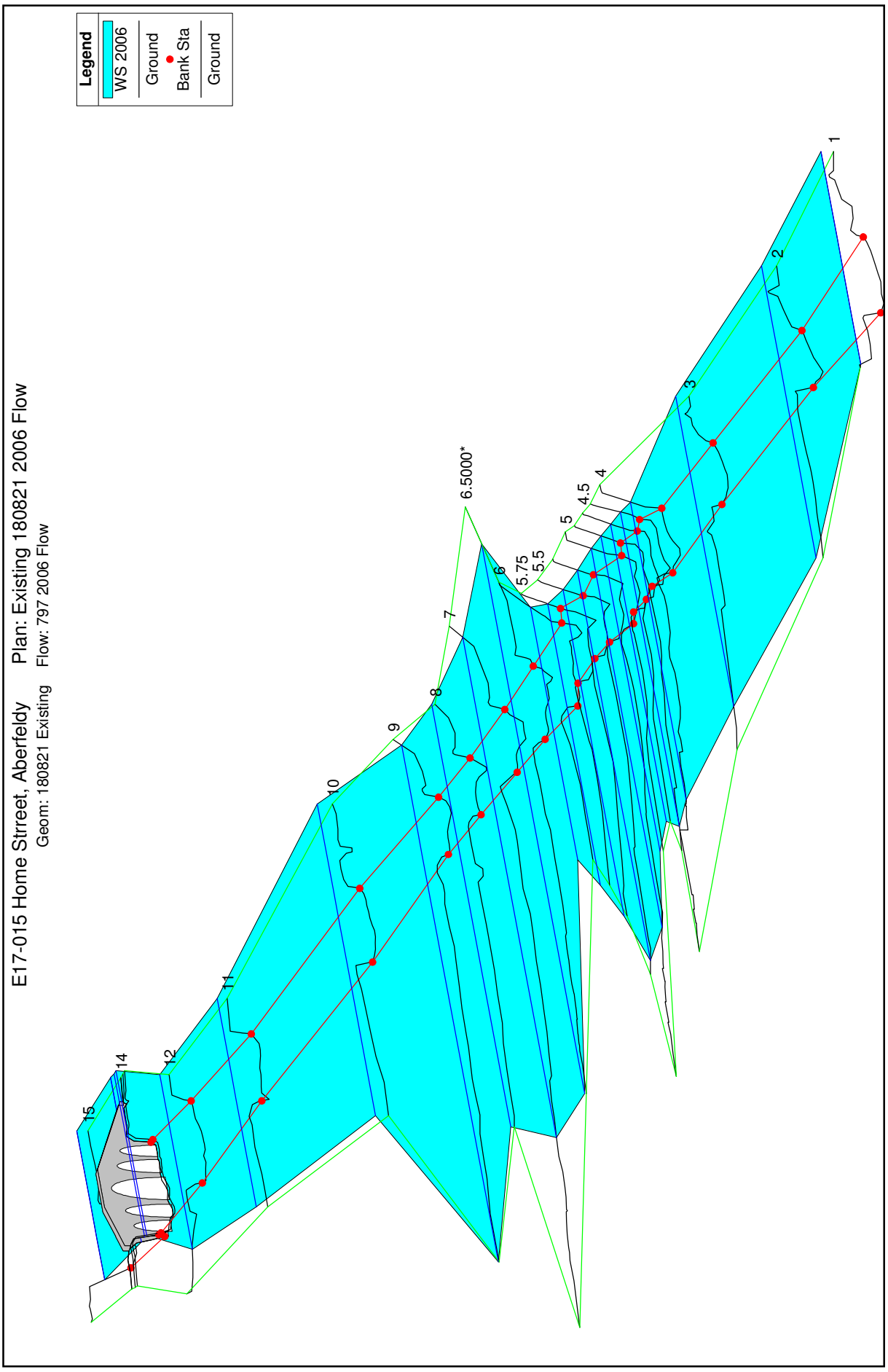
Legend
EG 2006
WS 2006
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 2006 Flow
Geom: 180821 Existing Flow: 797 2006 Flow
RS = 1
.1
.035
.045
Legend
EG 2006
WS 2006
Crit 2006
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Street, Aberfeldy
Plan: Existing 180821 2006 Flow
Geom: 180821 Existing
Flow: 797 2006 Flow
River Tay 1
Legend
EG 2006
WS 2006
Crit 2006
Ground
Elevation (m)
Main Channel Distance (m)
90
88
86
84
82
80
78
0
200
400
600
800
1000
1200
1400
1600

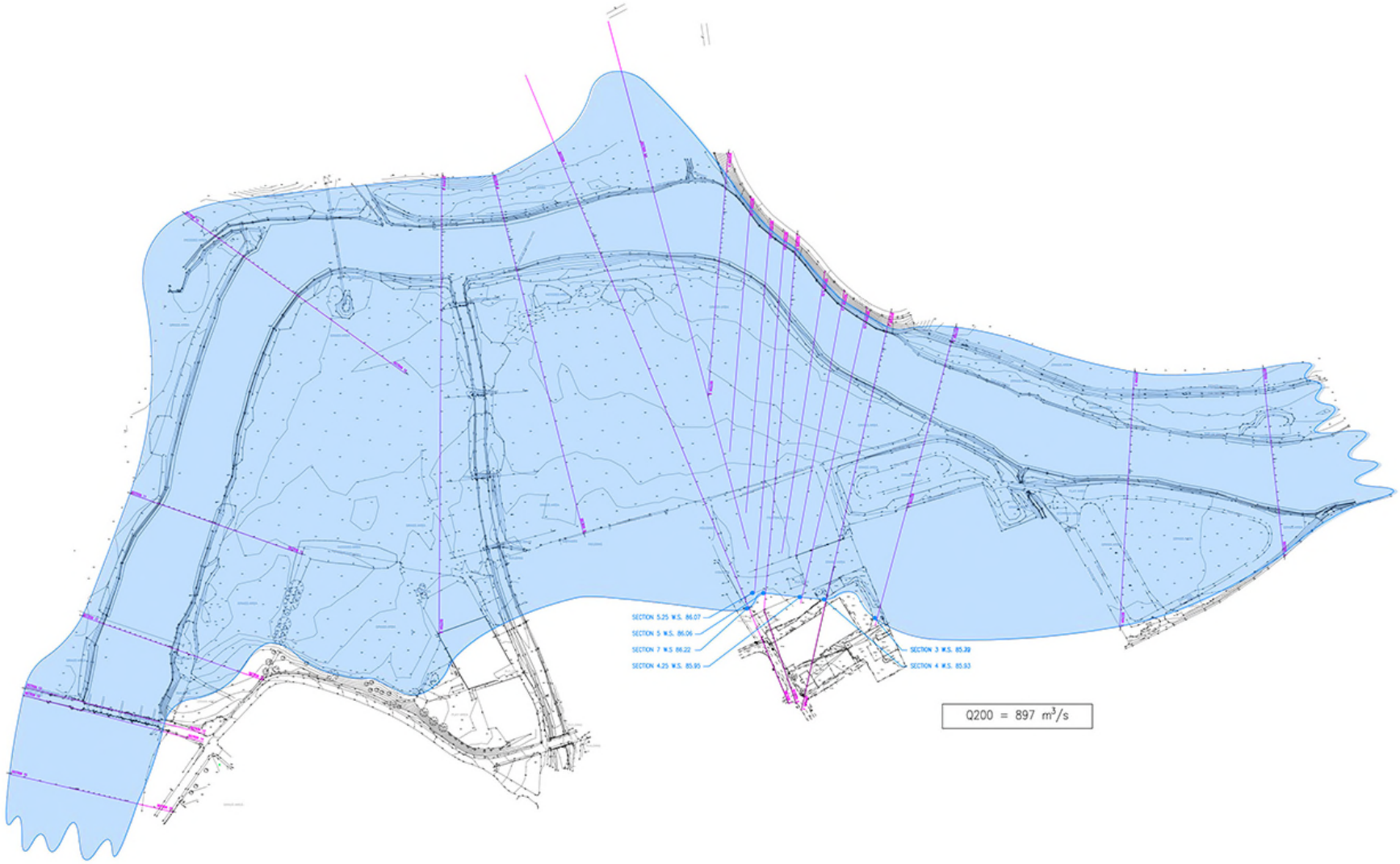

E17-015 Home Strreet, Aberfeldy
Plan: Existing 180821 2006 Flow
Geom: 180821 Existing
Flow: 797 2006 Flow
Legend
WS 2006
Ground
Bank Sta
Ground
15
14
12
11
10
9
8
7
6
5.75
5.5
5
4.5
4
6.5000*
3
2
1

Appendix G

HEC-RAS Model
Q=897m³/sec (1 in 200 year event)

- **Overall Flood Plan**
- **Tabulated Model Results**
- **Cross-section**
- **Long section**

REV.	DATE	BY	DESCRIPTION	APD.



HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.

1:5 1:50 1:1 1:100 1:20 1:200

McGREGOR McMAHON
CONSULTING ENGINEERS
2 Castle Court • Carnegie Campus • Dunfermline • Fife • KY11 8PB
01383 734905 • mcgregor-mcmahon.com • admin@mmaeng.com

PROJECT
HOME STREET
ABERFELDY

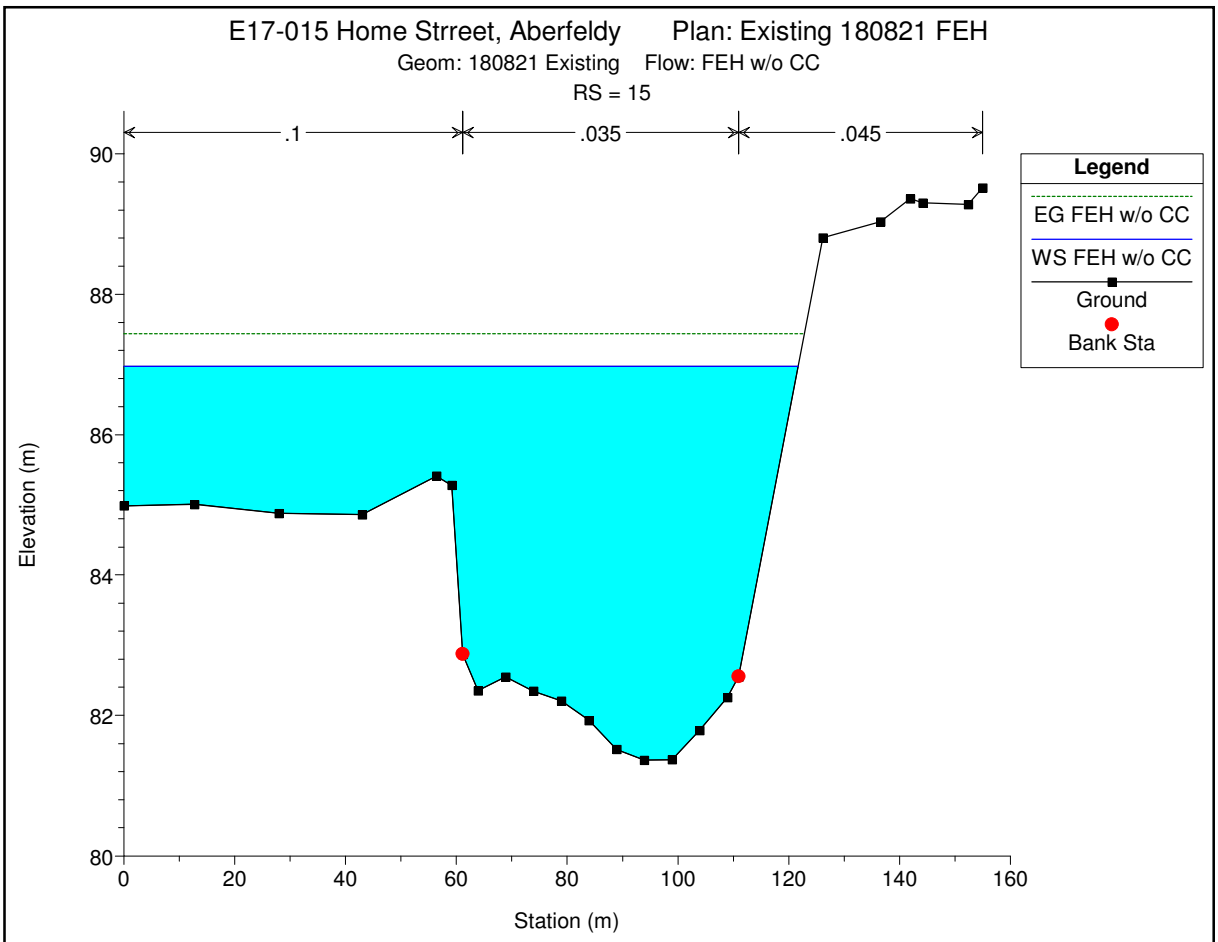
TITLE
HEC-RAS CROSS SECTIONS
SITE AS EXISTING, WITH Q200
WATER OUTLINE, WITHOUT CLIMATE CHANGE

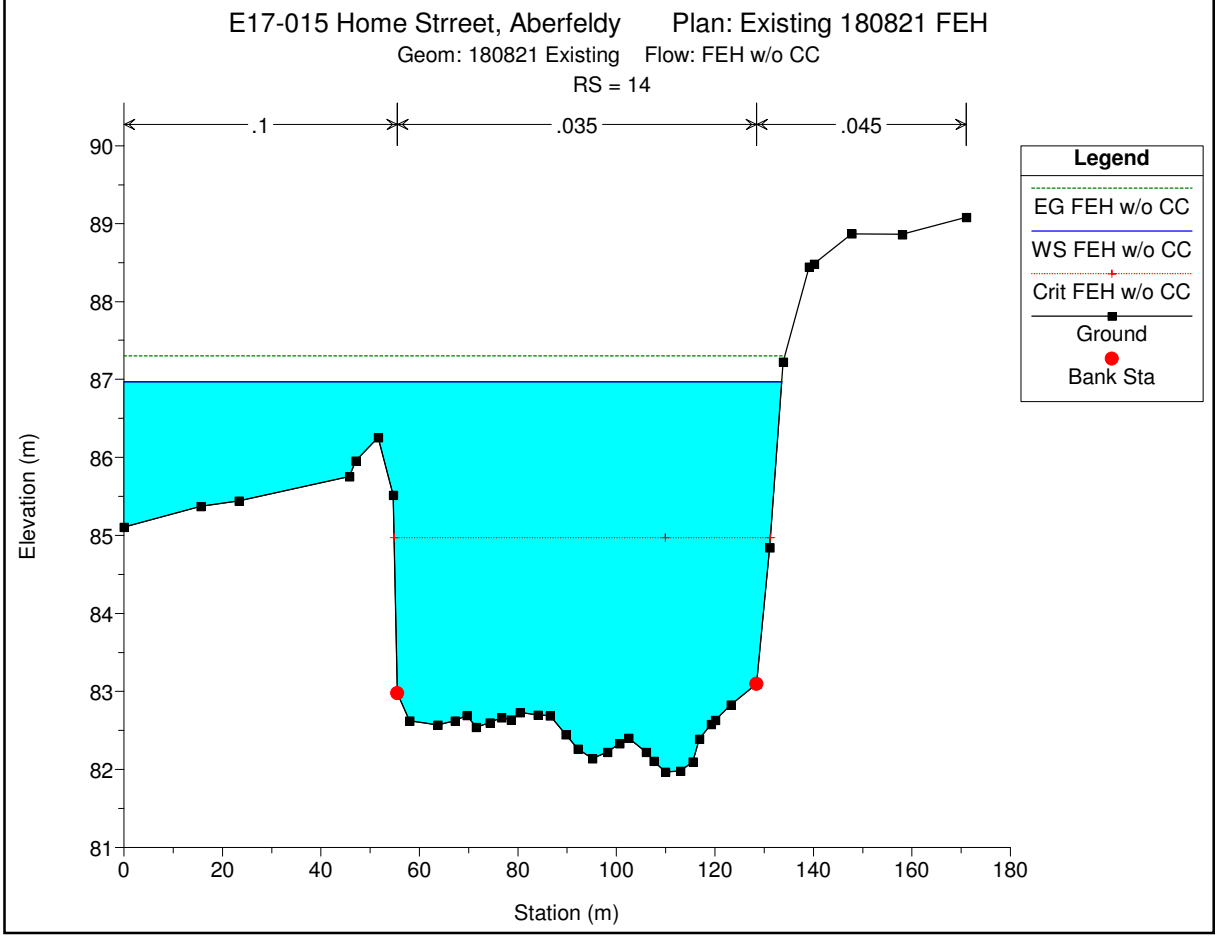
SCALE	DATE	DRAWN	APPROVED	
1:5000	27/08/2018	ST	KDS	A1

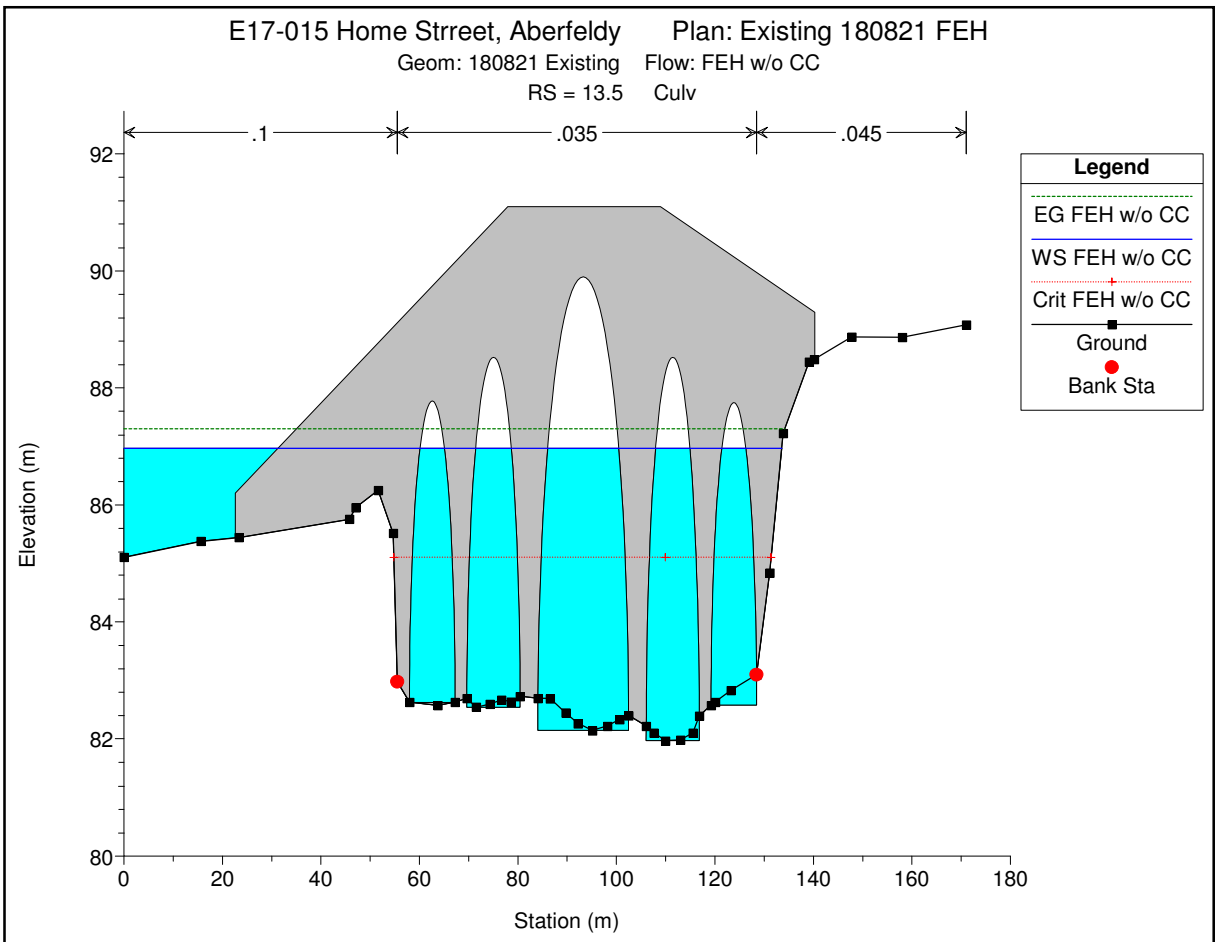
DRAWING No. E17-015-HEC4 REV. –

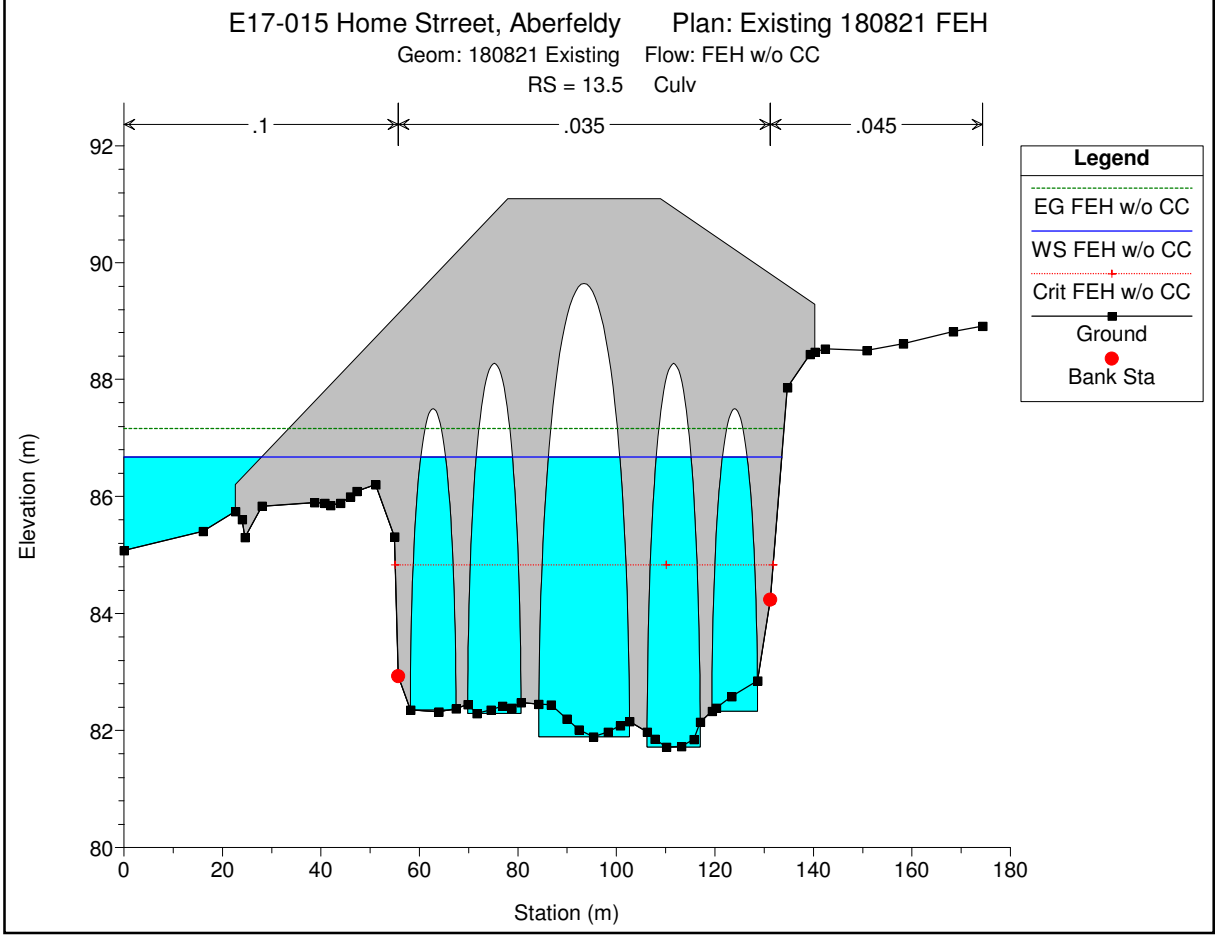
HEC-RAS Plan: Ex 180821 FEH River: River Tay Reach: 1 Profile: FEH w/o CC

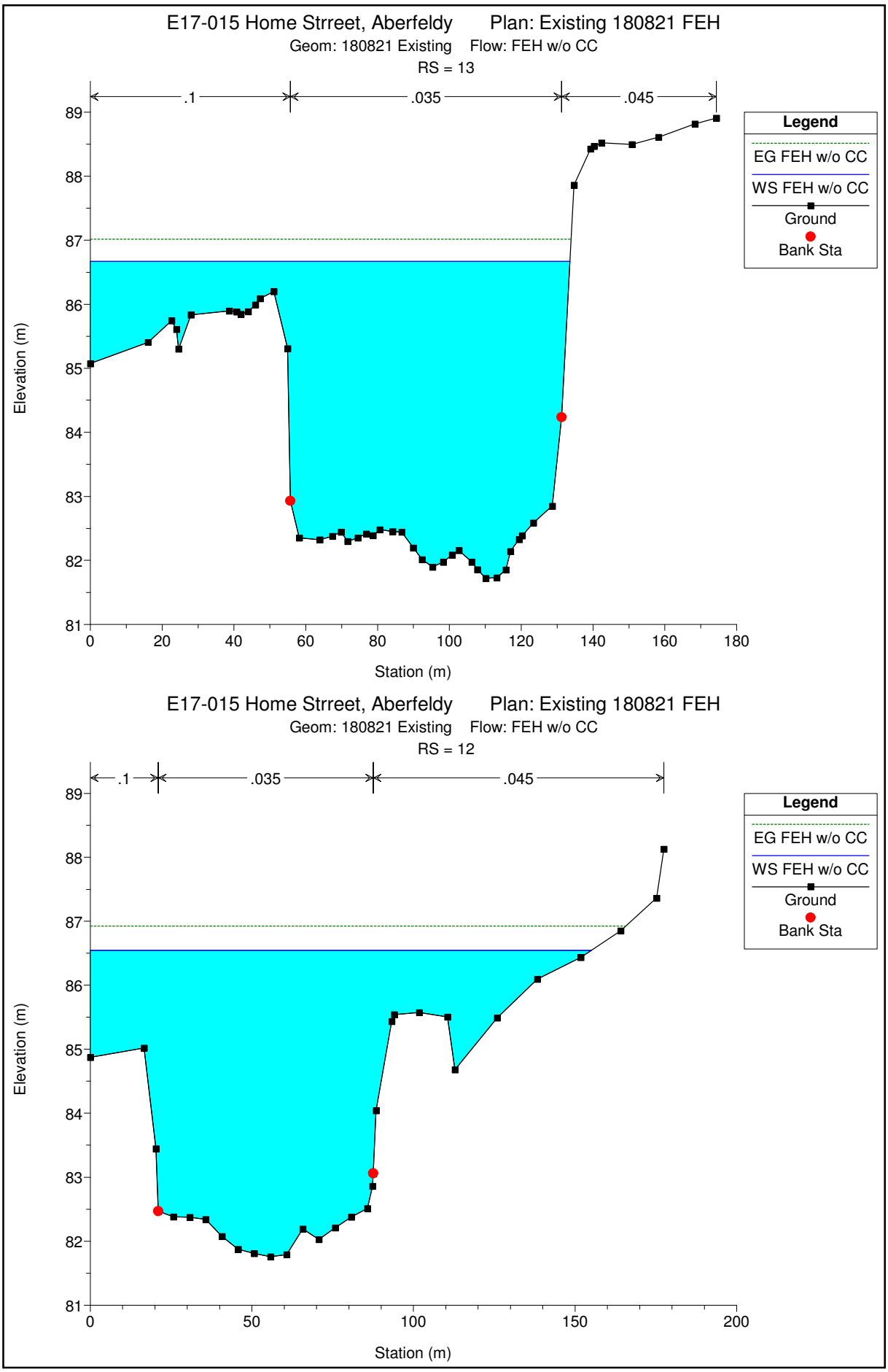
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	15	FEH w/o CC	897.00	81.37	86.97		87.44	0.001472	3.19	394.50	121.69	0.46
1	14	FEH w/o CC	897.00	81.97	86.97	84.97	87.30	0.001137	2.61	417.65	133.58	0.39
1	13.5		Culvert									
1	13	FEH w/o CC	897.00	81.72	86.67		87.02	0.001207	2.64	392.19	133.59	0.40
1	12	FEH w/o CC	897.00	81.76	86.54		86.92	0.001364	2.83	394.53	155.06	0.43
1	11	FEH w/o CC	897.00	81.41	86.45		86.74	0.001182	2.70	467.66	168.72	0.40
1	10	FEH w/o CC	897.00	81.24	86.34		86.50	0.000678	2.09	706.53	252.25	0.31
1	9	FEH w/o CC	897.00	80.68	86.27		86.38	0.000569	1.96	878.91	420.31	0.28
1	8	FEH w/o CC	897.00	79.84	86.24		86.34	0.000570	1.93	832.94	341.98	0.28
1	7	FEH w/o CC	897.00	79.57	86.22		86.30	0.000363	1.70	1028.75	465.74	0.23
1	6.5000*	FEH w/o CC	897.00	79.39	86.20		86.28	0.000329	1.59	1072.55	454.84	0.22
1	6	FEH w/o CC	897.00	79.22	86.13		86.25	0.000452	1.80	683.42	206.19	0.25
1	5.75	FEH w/o CC	897.00	79.36	86.12		86.24	0.000488	1.81	703.29	228.58	0.26
1	5.5	FEH w/o CC	897.00	79.50	86.09		86.22	0.000523	1.94	723.02	265.05	0.27
1	5.25	FEH w/o CC	897.00	79.63	86.07		86.20	0.000508	1.93	758.05	328.14	0.27
1	5	FEH w/o CC	897.00	79.77	86.06		86.19	0.000454	1.91	766.91	321.23	0.26
1	4.75	FEH w/o CC	897.00	80.16	86.02		86.18	0.000567	2.04	665.54	256.24	0.28
1	4.5	FEH w/o CC	897.00	80.19	85.99		86.16	0.000624	2.13	631.87	241.37	0.30
1	4.25	FEH w/o CC	897.00	80.02	85.95		86.15	0.000793	2.30	607.51	274.83	0.33
1	4	FEH w/o CC	897.00	79.86	85.93		86.13	0.000736	2.30	611.30	259.34	0.32
1	3	FEH w/o CC	897.00	80.17	85.79		86.04	0.000891	2.54	598.56	278.89	0.36
1	2	FEH w/o CC	897.00	79.36	85.66		85.87	0.000794	2.43	627.73	236.52	0.34
1	1	FEH w/o CC	897.00	80.11	85.52	83.36	85.76	0.000800	2.37	560.19	174.69	0.34

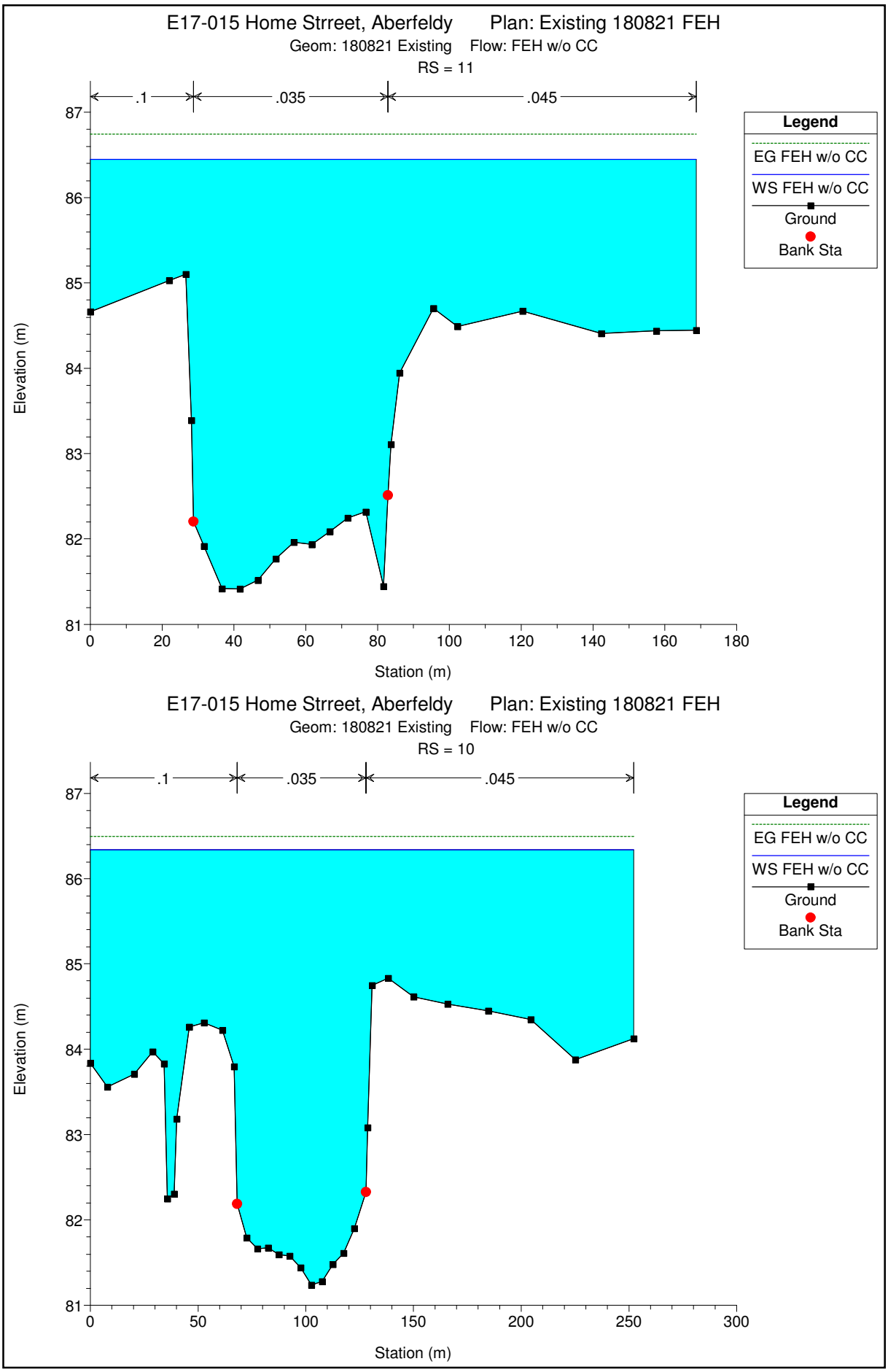

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 15
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

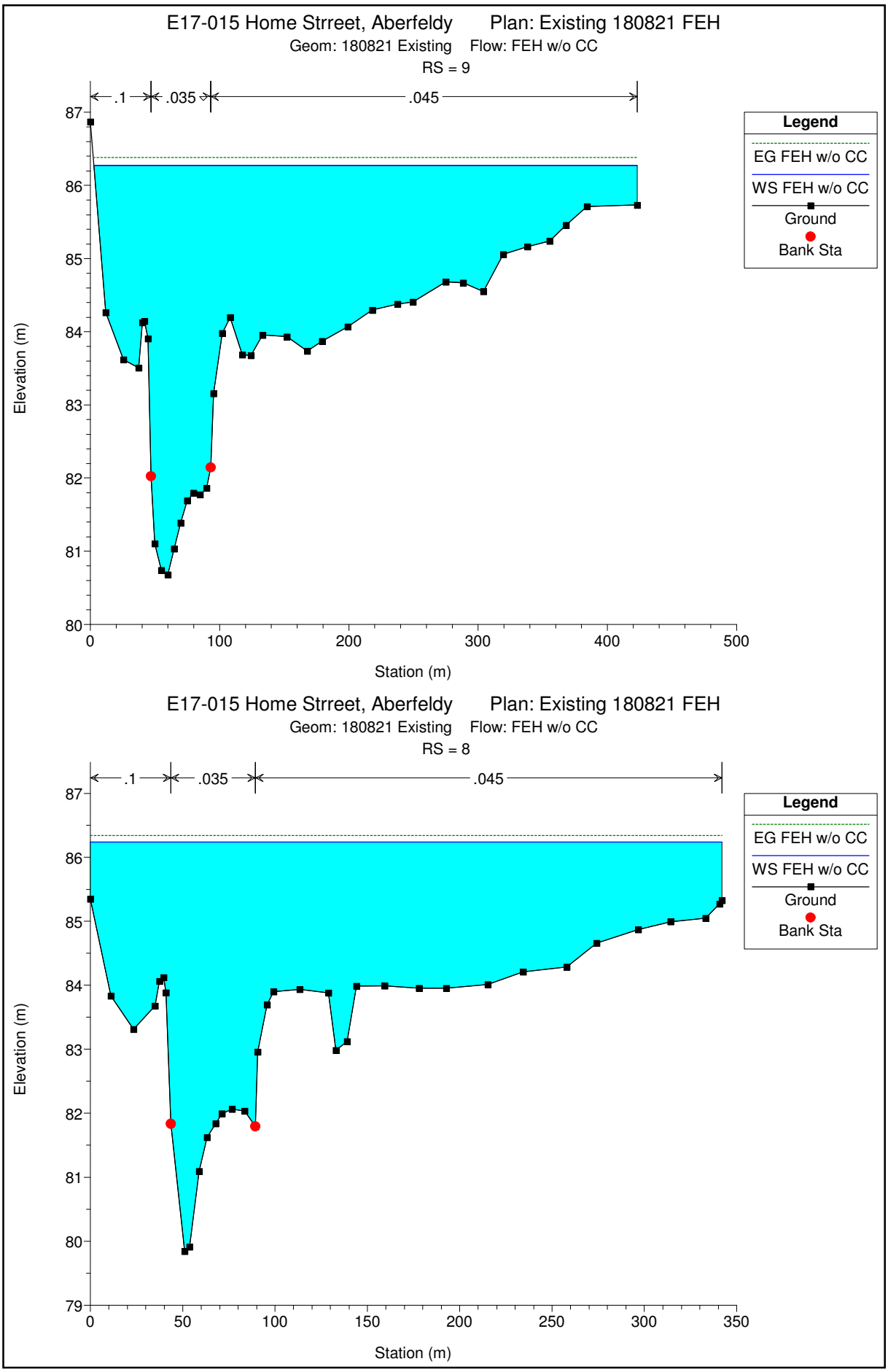

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 14
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Crit FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

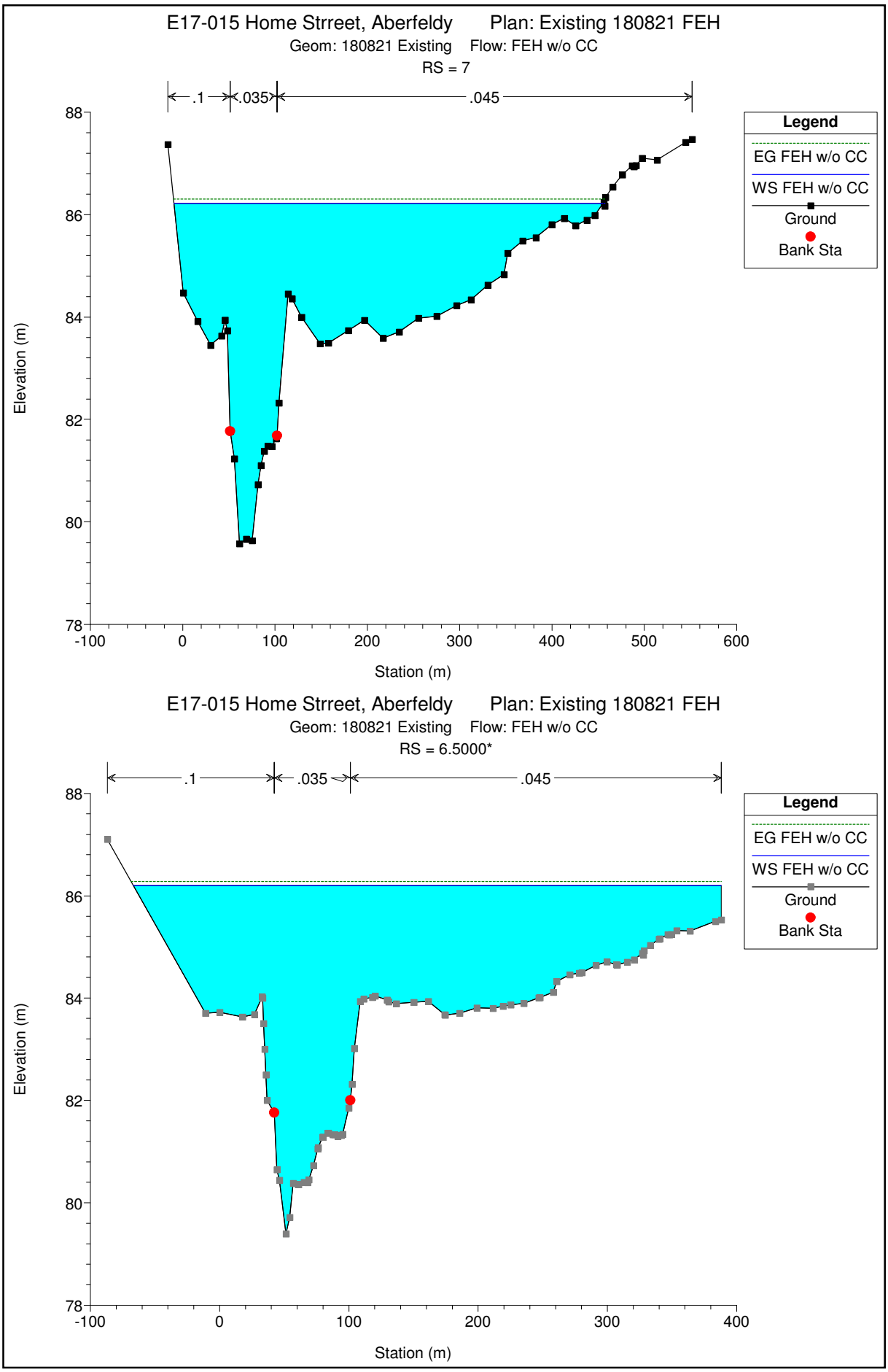

E17-015 Home Strreet, Aberfeldy
Plan: Existing 180821 FEH
Geom: 180821 Existing
Flow: FEH w/o CC
RS = 13.5
Culv
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Crit FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
120
140
160
180

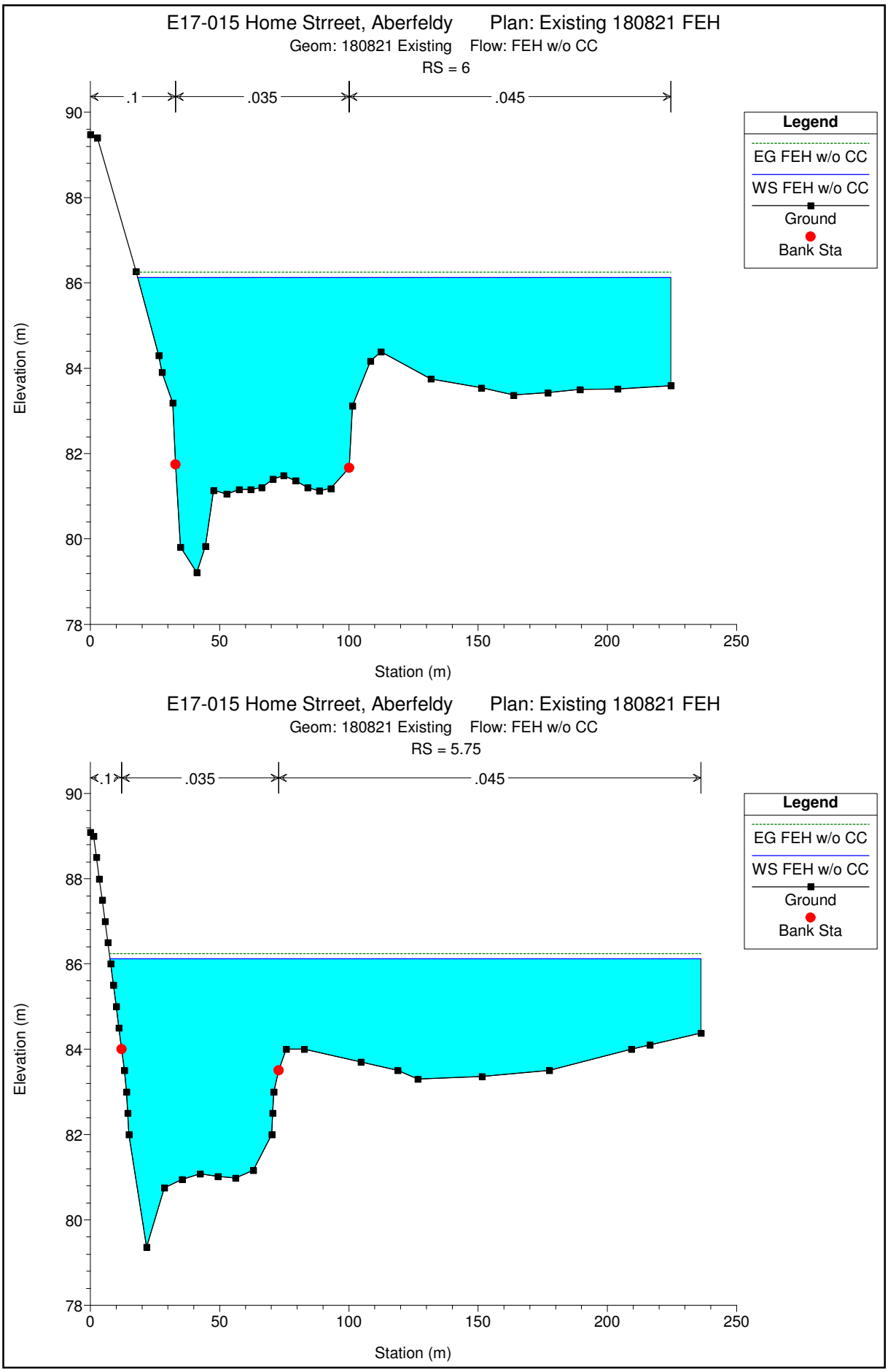

E17-015 Home Strreet, Aberfeldy
Plan: Existing 180821 FEH
Geom: 180821 Existing
Flow: FEH w/o CC
RS = 13.5
Culv
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Crit FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
120
140
160
180

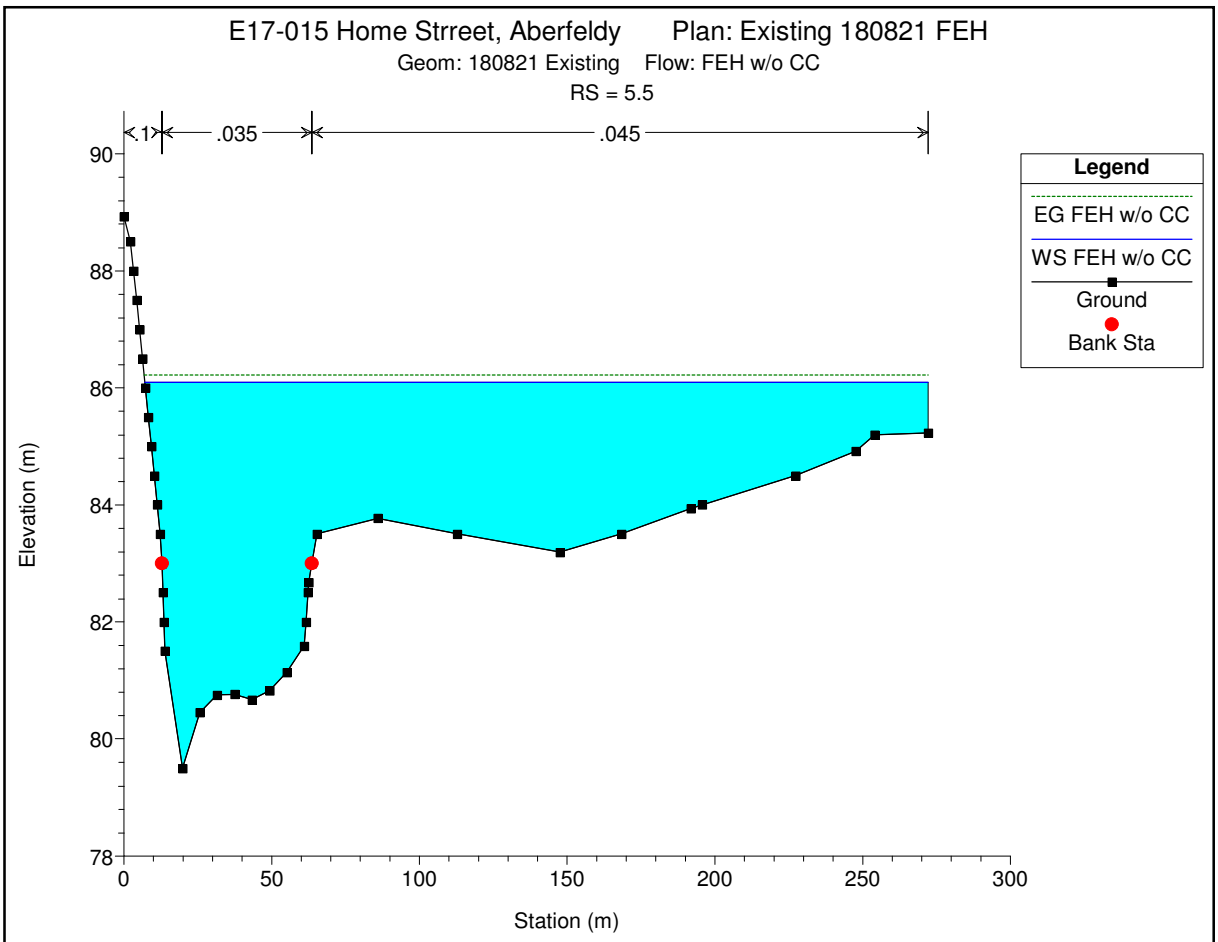

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 13
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 12
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

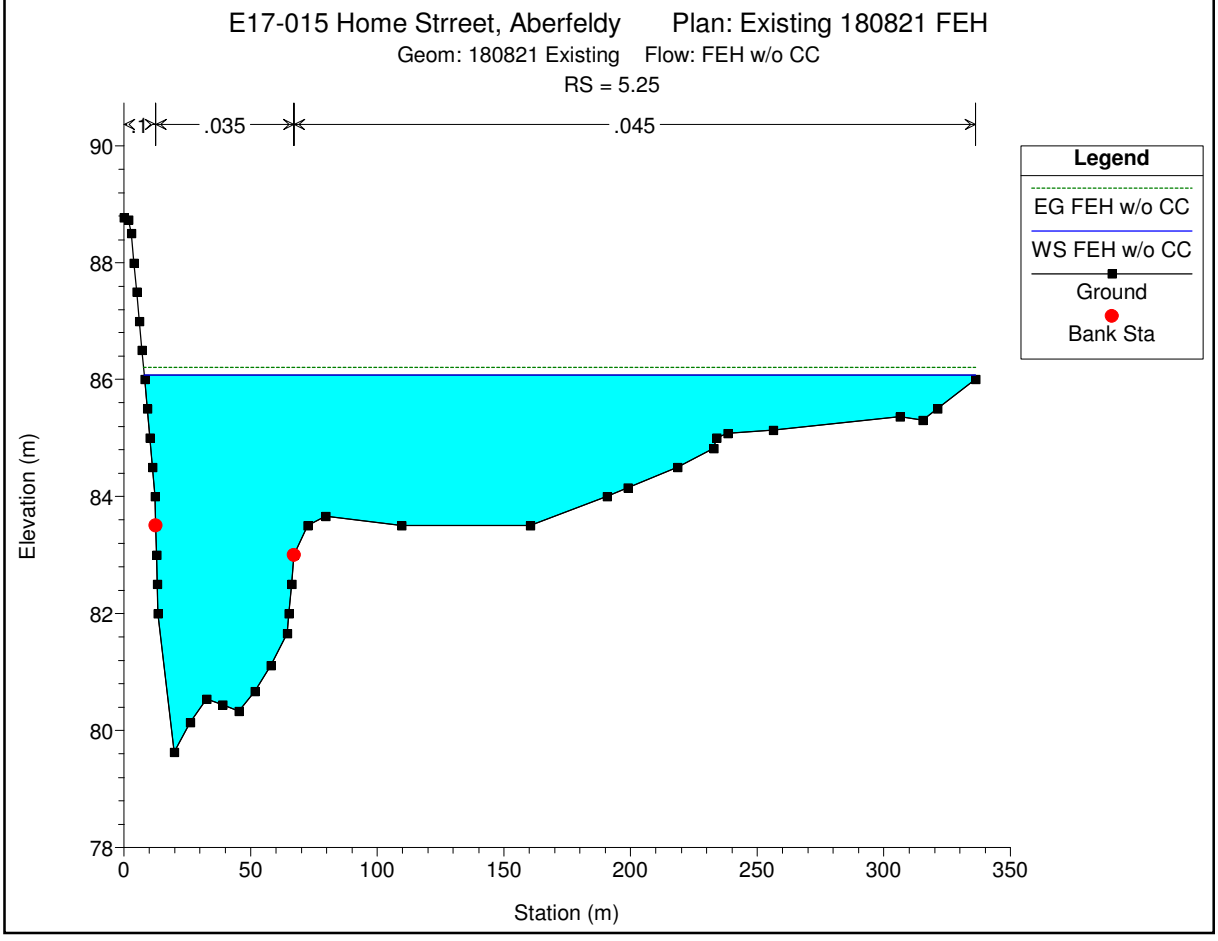

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 11
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 10
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

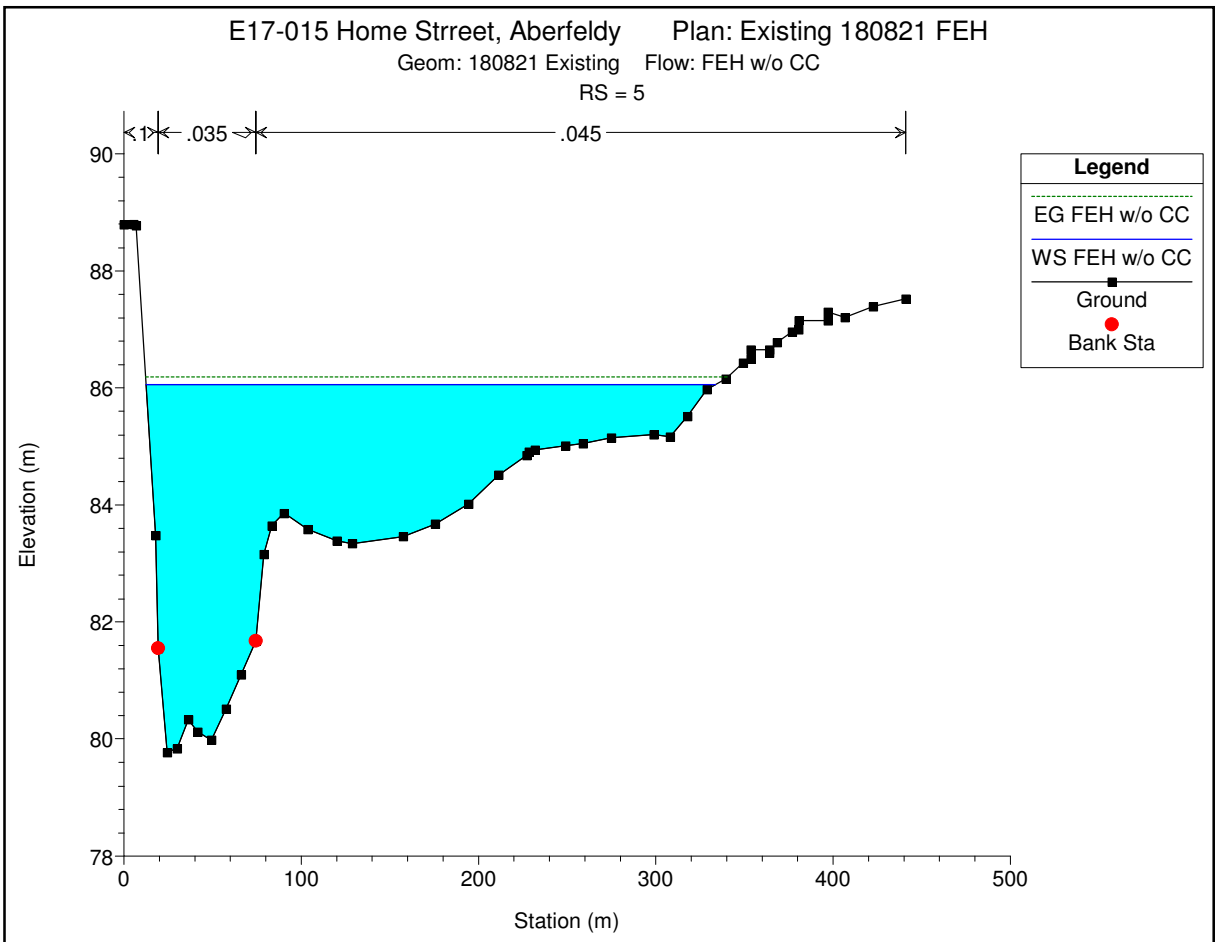

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 9
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 8
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

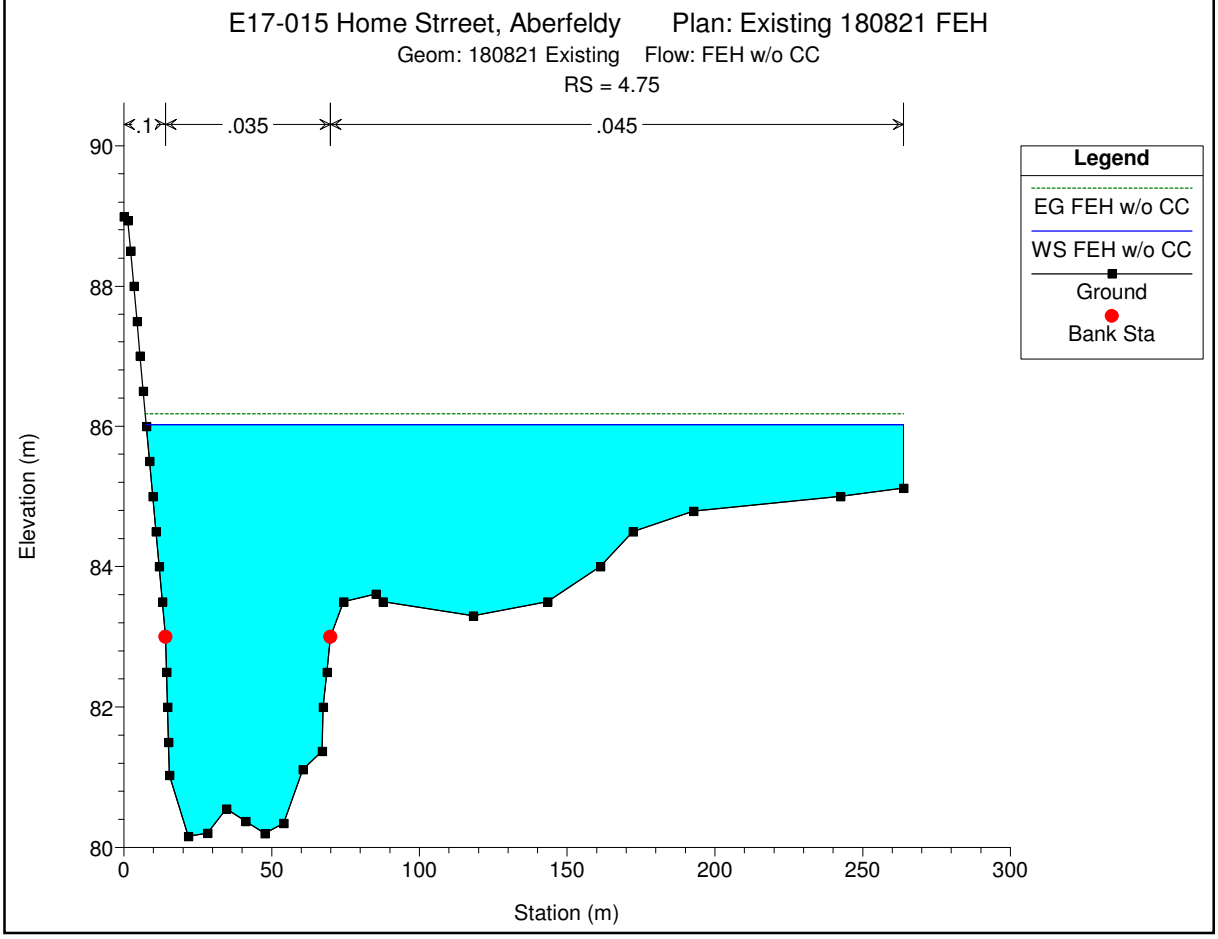

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 7
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 6.5000*
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

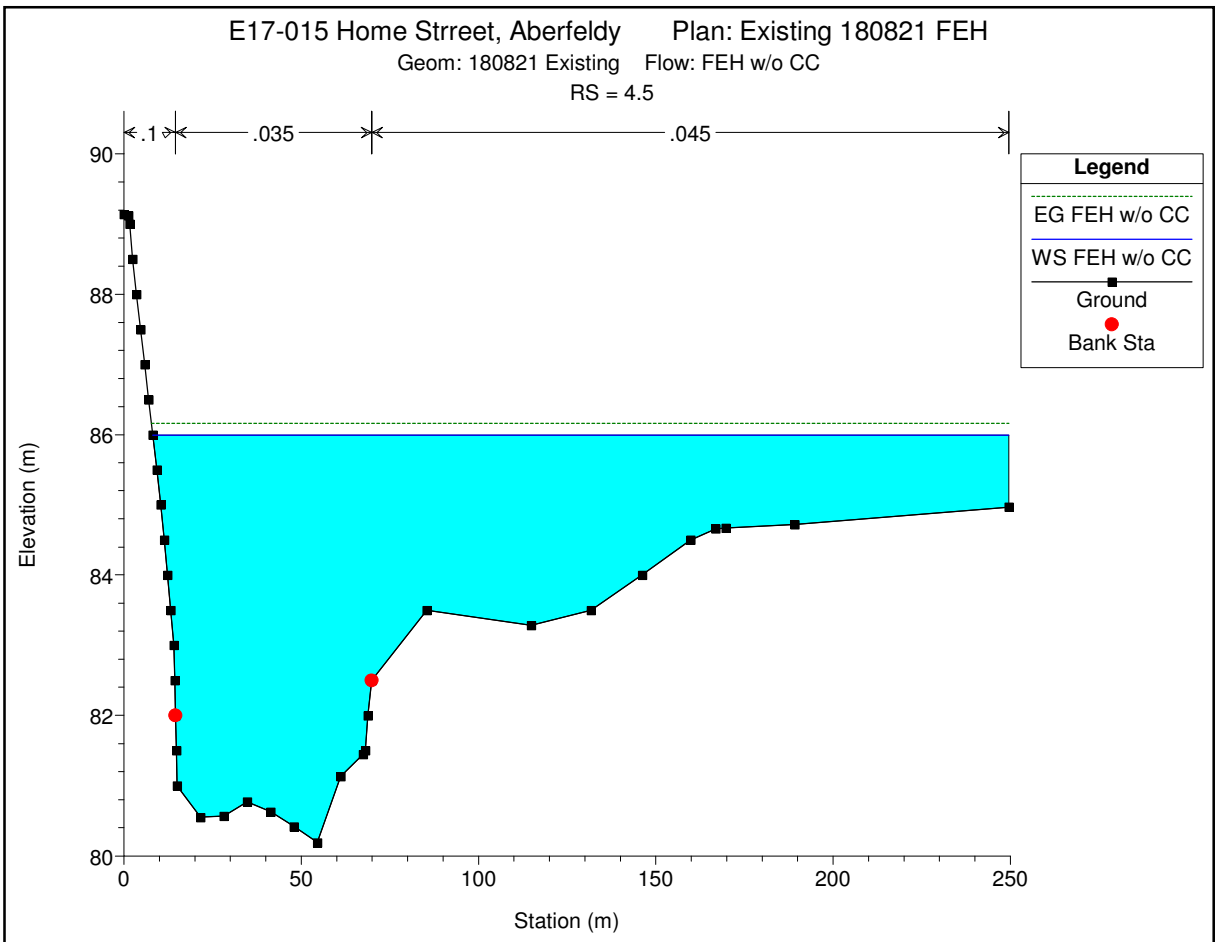

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 6
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 5.75
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

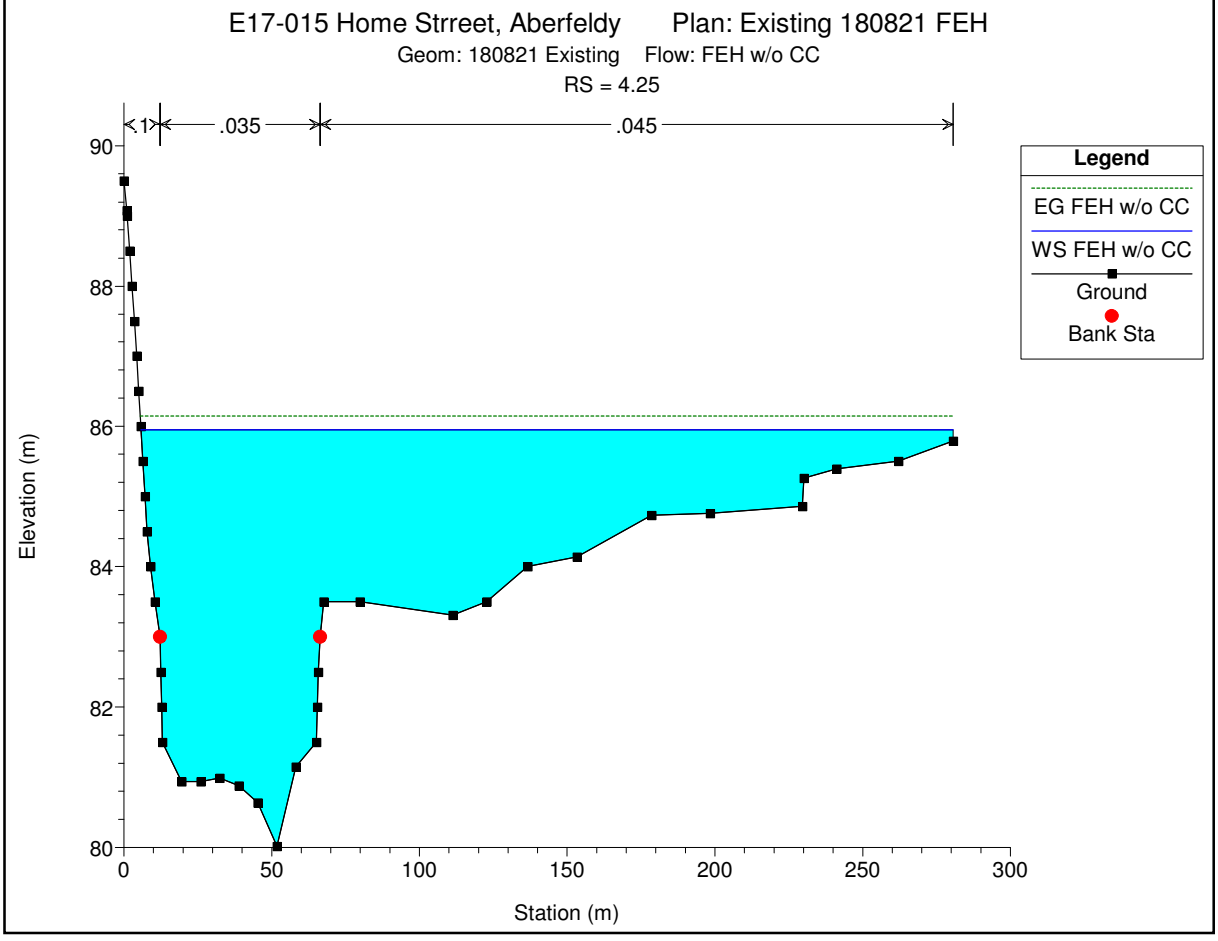

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 5.5
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
50
100
150
200
250
300

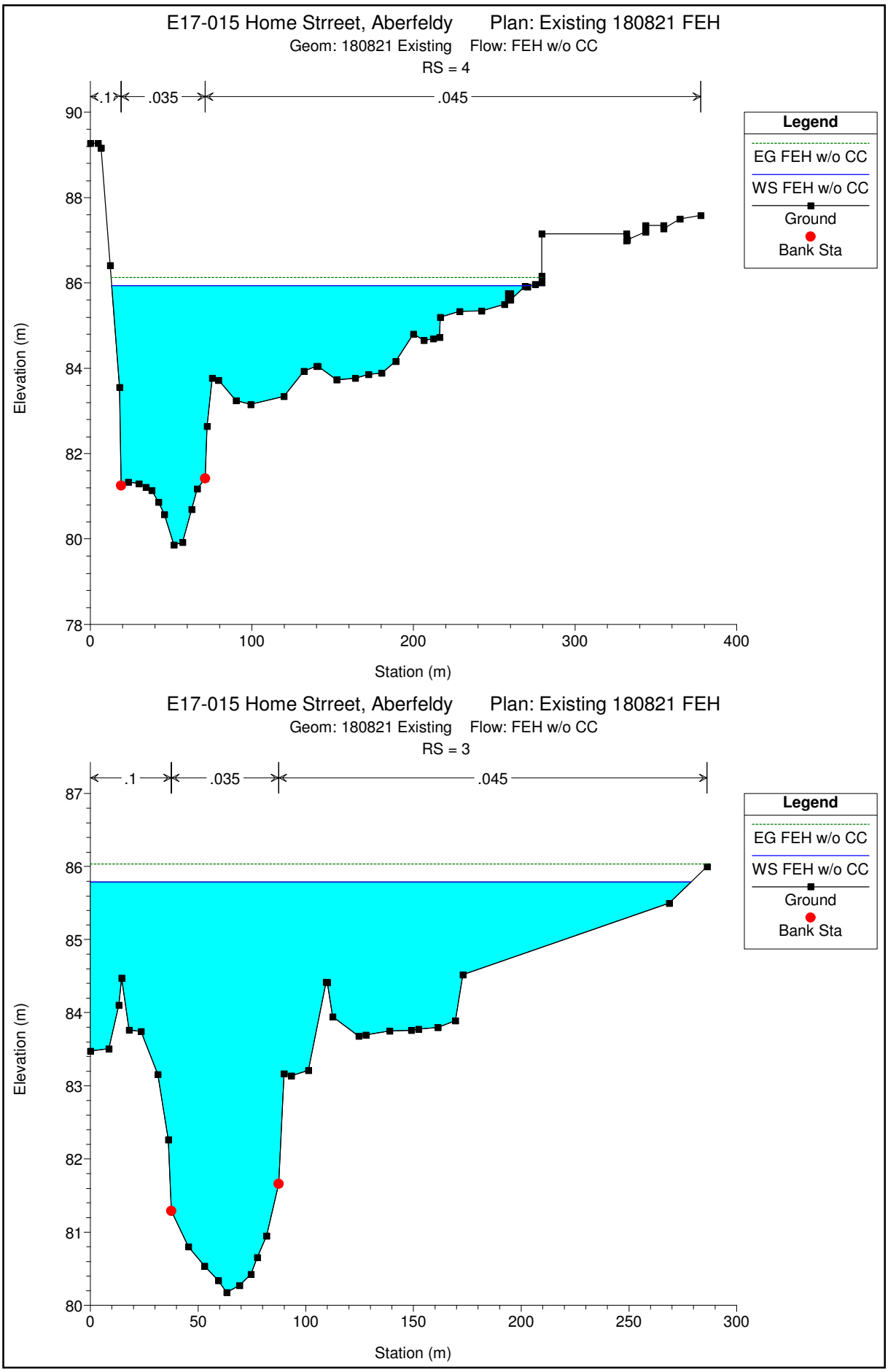

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 5.25
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
50
100
150
200
250
300
350

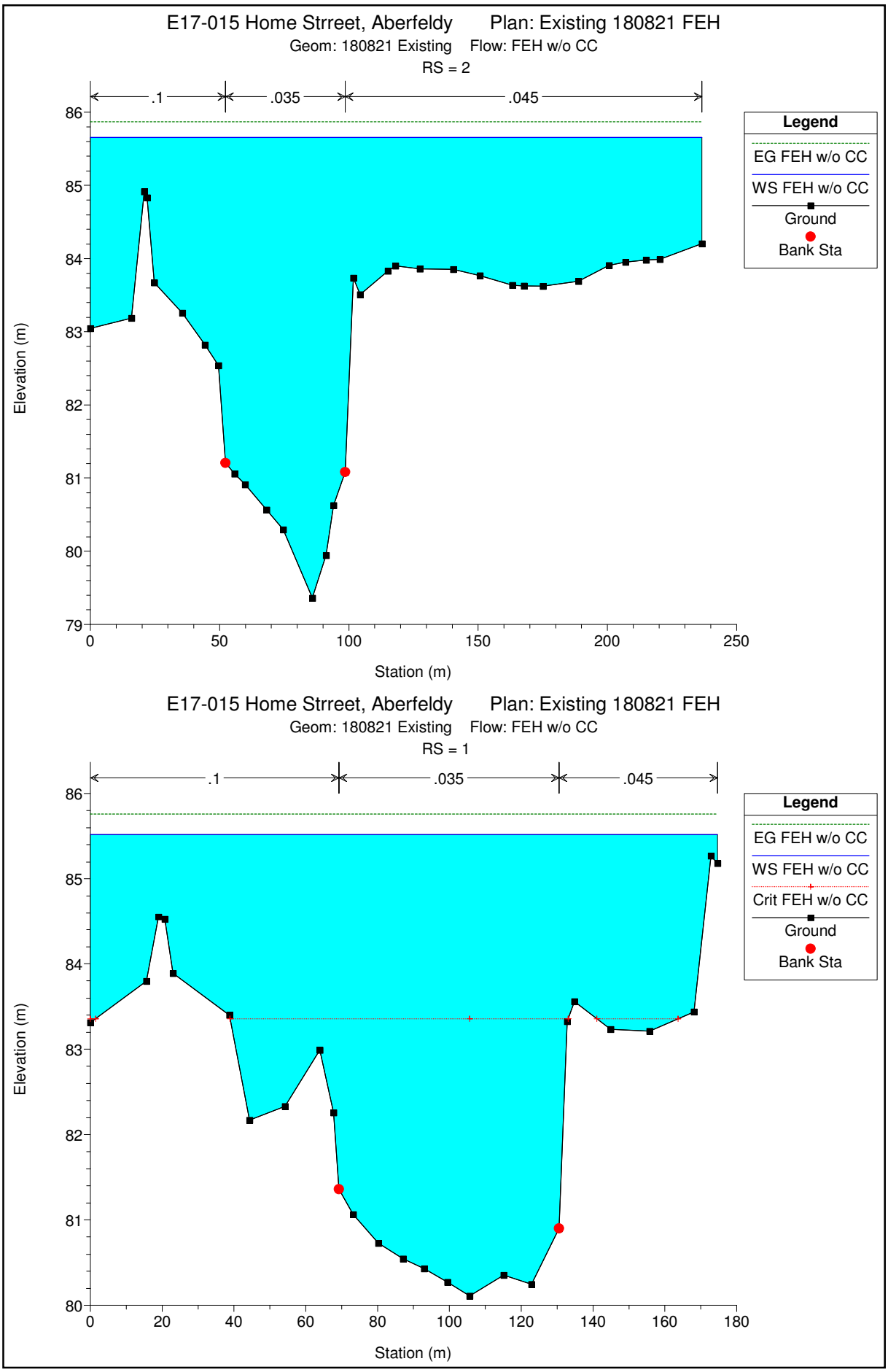

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 5
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
100
200
300
400
500

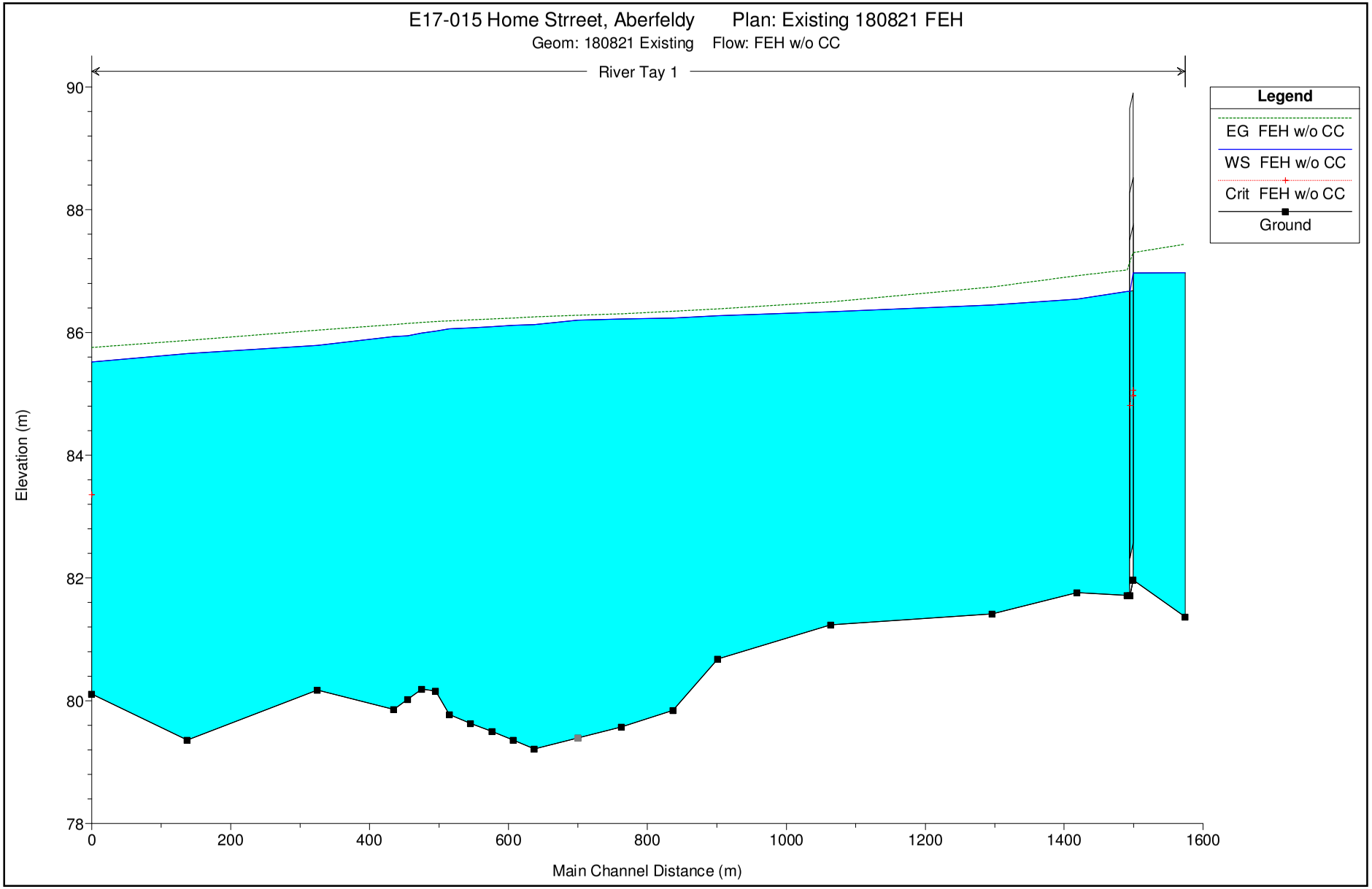

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 4.75
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
0
50
100
150
200
250
300

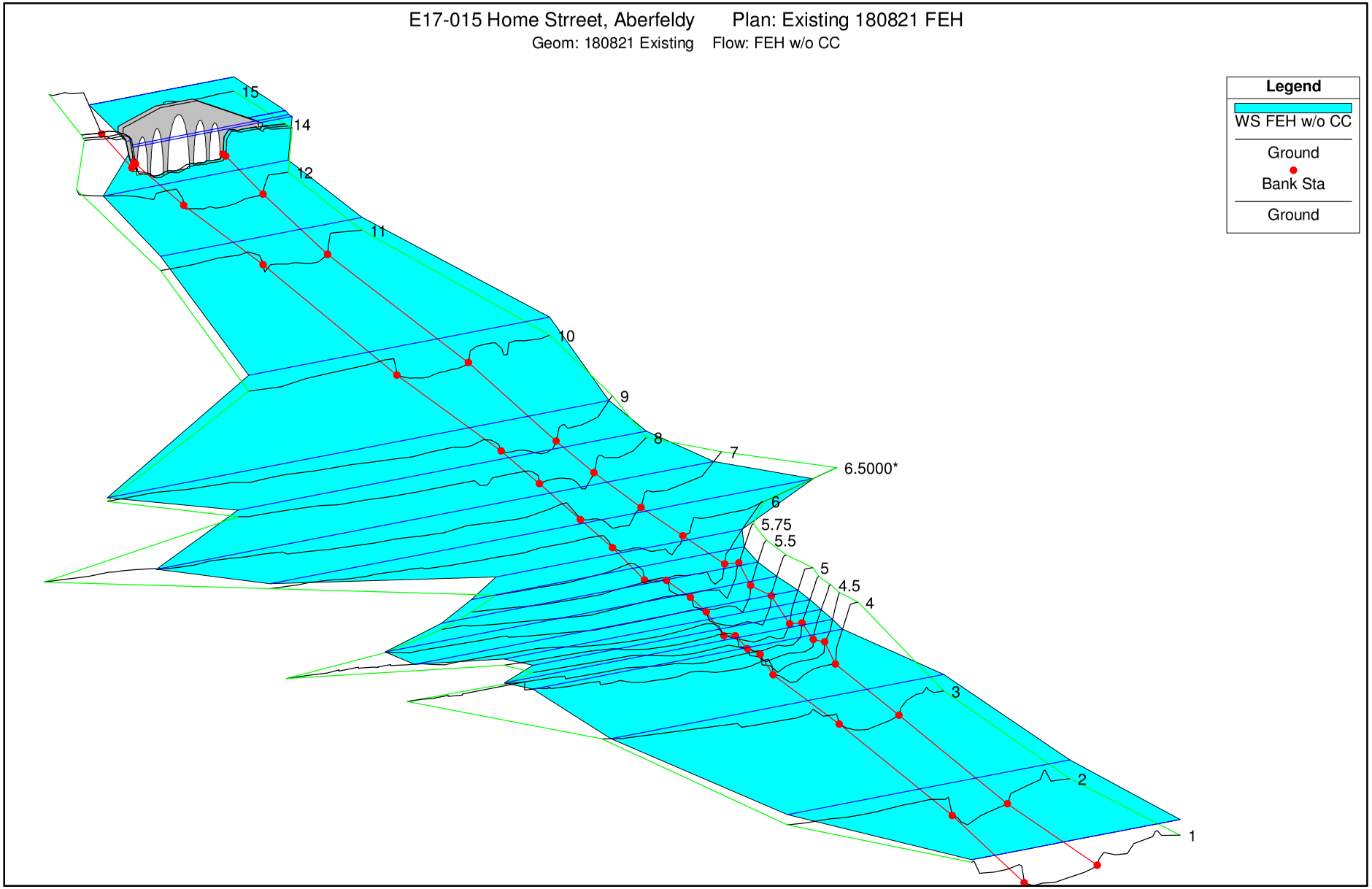

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 4.5
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
0
50
100
150
200
250


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 4.25
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
0
50
100
150
200
250
300


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 4
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 3
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 2
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
RS = 1
.1
.035
.045
Legend
EG FEH w/o CC
WS FEH w/o CC
Crit FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

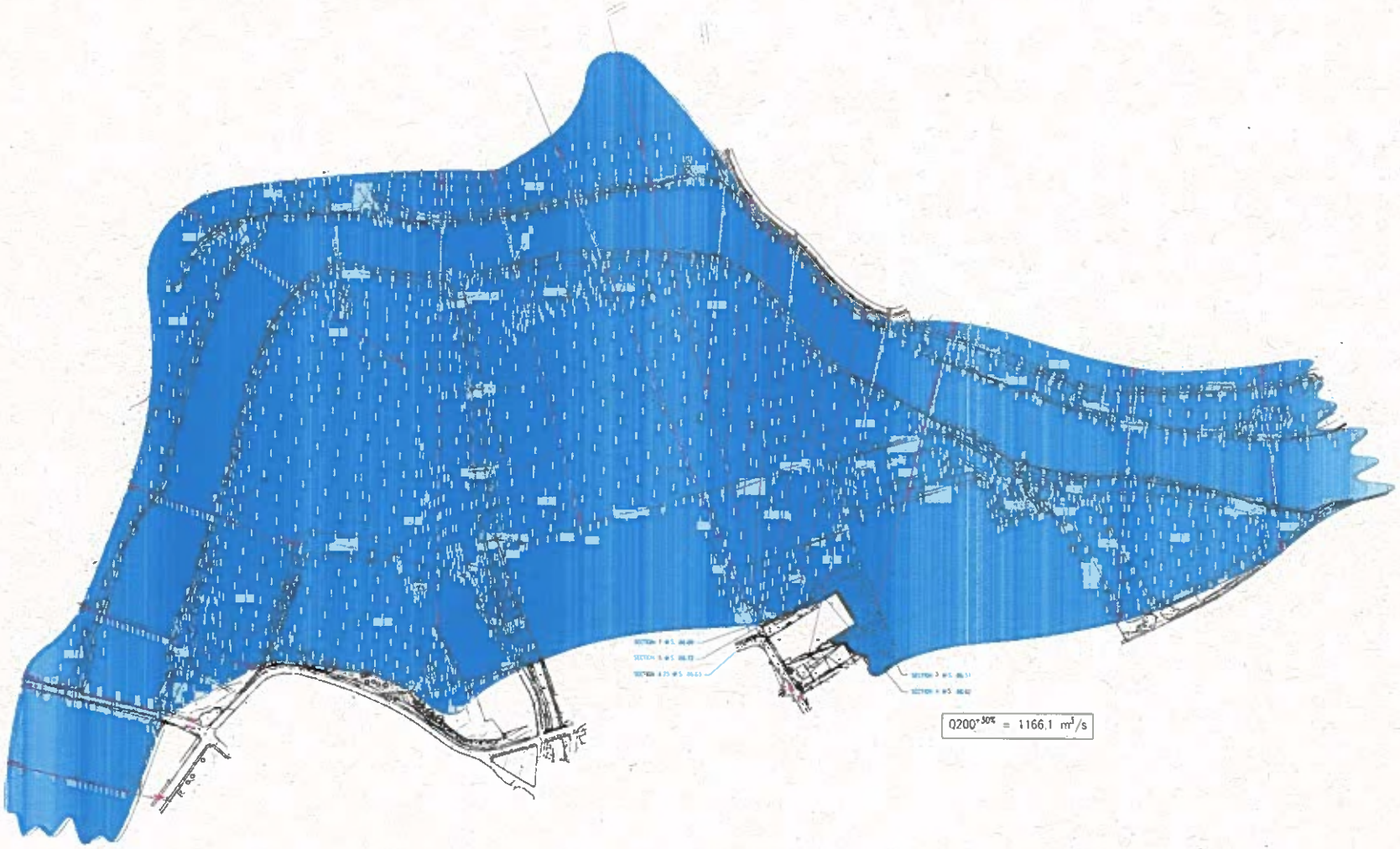

E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
River Tay 1
Legend
EG FEH w/o CC
WS FEH w/o CC
Crit FEH w/o CC
Ground
Elevation (m)
Main Channel Distance (m)
90
88
86
84
82
80
78
0
200
400
600
800
1000
1200
1400
1600


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH
Geom: 180821 Existing Flow: FEH w/o CC
Legend
WS FEH w/o CC
Ground
Bank Sta
Ground
15
14
12
11
10
9
8
7
6.5000*
6
5.75
5.5
5
4.5
4
3
2
1

Appendix H

Q=1166m³/sec (1in 200 yr + C/C)

- **Overall Flood Plan**
- **Tabulated Results**
- **Cross-section**
- **Long Section**



REV	DATE	BY	DESCRIPTION	APD

HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR

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PROJECT
HOME STREET
ABERFELDY

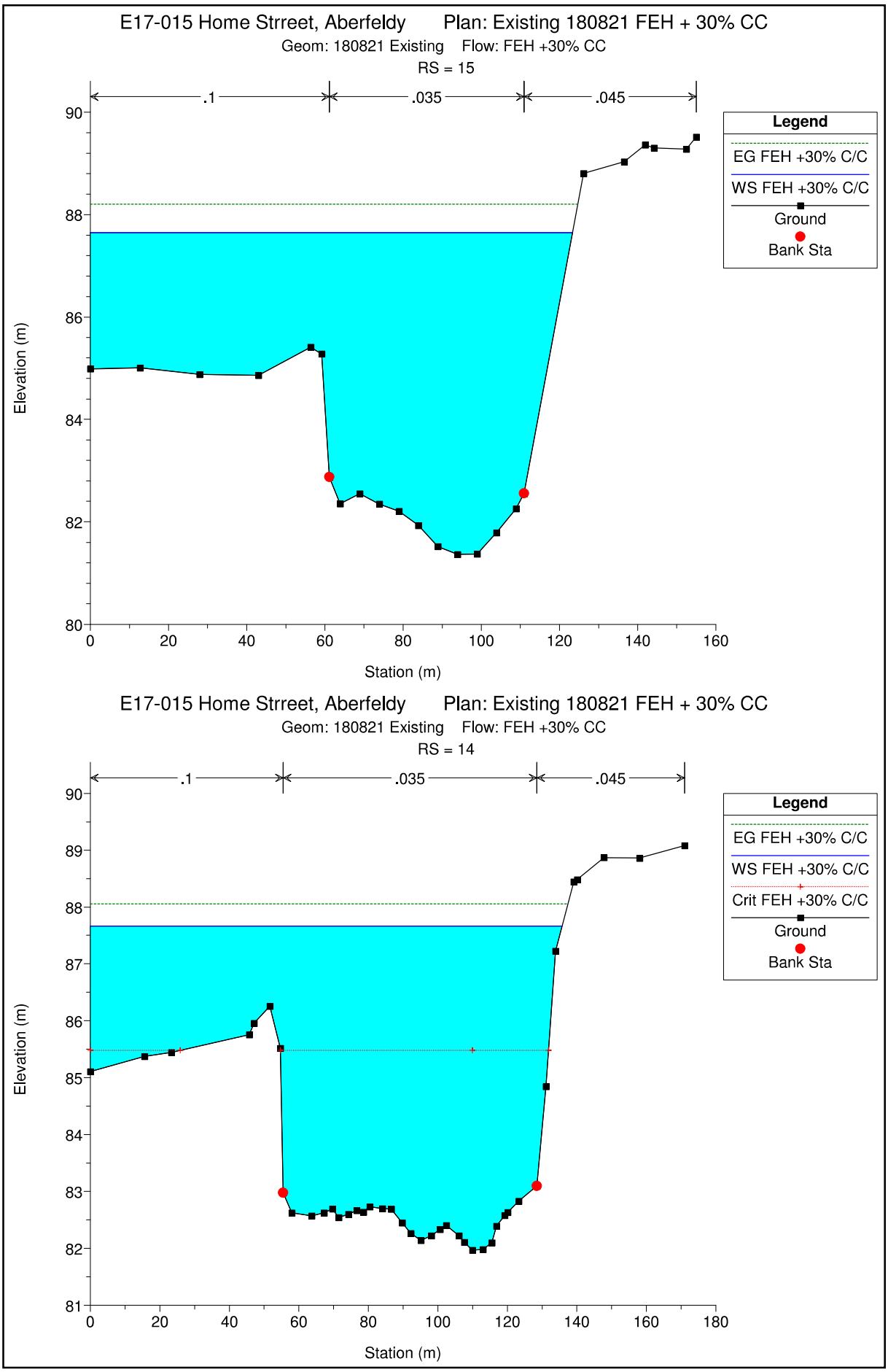
TITLE
HEC-RAS CROSS SECTIONS
SITE AS EXISTING, WITH Q200
WATER OUTLINE, WITH CLIMATE CHANGE

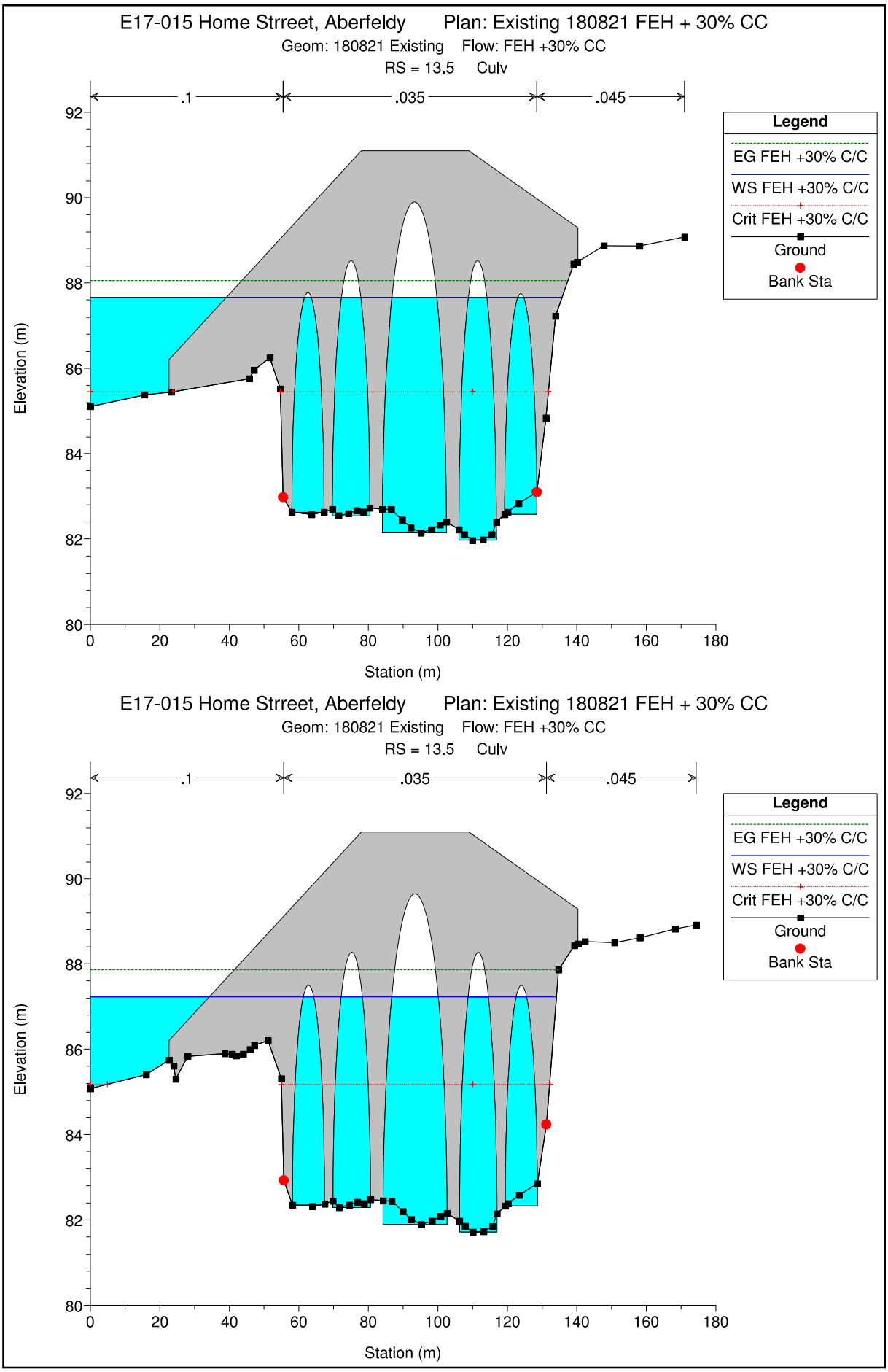
SCALE	DATE	DRAWN	APPROVED	
1:5000	27/08/2018	SI	KDS	A1

DRAWING No. E17-015-HEC5 REV -

HEC-RAS Plan: Ex 180821 FEH +CC River: River Tay Reach: 1 Profile: FEH +30% C/C

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	15	FEH +30% C/C	1166.10	81.37	87.65		88.21	0.001533	3.55	477.17	123.33	0.48
1	14	FEH +30% C/C	1166.10	81.97	87.66	85.48	88.06	0.001144	2.88	510.65	135.75	0.41
1	13.5		Culvert									
1	13	FEH +30% C/C	1166.10	81.72	87.23		87.67	0.001328	3.00	466.64	134.12	0.43
1	12	FEH +30% C/C	1166.10	81.76	87.13		87.57	0.001388	3.10	490.44	170.19	0.44
1	11	FEH +30% C/C	1166.10	81.41	87.05		87.38	0.001162	2.90	569.76	168.72	0.41
1	10	FEH +30% C/C	1166.10	81.24	86.97		87.14	0.000642	2.21	865.17	252.25	0.31
1	9	FEH +30% C/C	1166.10	80.68	86.94		87.03	0.000438	1.87	1159.18	423.02	0.25
1	8	FEH +30% C/C	1166.10	79.84	86.90		87.00	0.000475	1.92	1058.68	341.98	0.26
1	7	FEH +30% C/C	1166.10	79.57	86.89		86.96	0.000308	1.69	1348.06	495.85	0.22
1	6.5000*	FEH +30% C/C	1166.10	79.39	86.87		86.94	0.000284	1.59	1381.29	469.72	0.21
1	6	FEH +30% C/C	1166.10	79.22	86.77		86.91	0.000459	1.96	816.83	209.21	0.26
1	5.75	FEH +30% C/C	1166.10	79.36	86.77		86.90	0.000470	1.92	851.86	230.01	0.26
1	5.5	FEH +30% C/C	1166.10	79.50	86.75		86.88	0.000476	2.00	898.07	266.36	0.26
1	5.25	FEH +30% C/C	1166.10	79.63	86.74		86.86	0.000433	1.93	978.68	329.55	0.25
1	5	FEH +30% C/C	1166.10	79.77	86.72		86.85	0.000422	1.99	989.69	355.83	0.25
1	4.75	FEH +30% C/C	1166.10	80.16	86.68		86.84	0.000521	2.12	835.34	257.65	0.28
1	4.5	FEH +30% C/C	1166.10	80.19	86.65		86.83	0.000574	2.21	791.75	242.88	0.29
1	4.25	FEH +30% C/C	1166.10	80.02	86.63		86.81	0.000660	2.29	796.12	275.78	0.31
1	4	FEH +30% C/C	1166.10	79.86	86.62		86.80	0.000637	2.32	792.63	267.62	0.31
1	3	FEH +30% C/C	1166.10	80.17	86.51		86.72	0.000729	2.50	802.65	286.23	0.33
1	2	FEH +30% C/C	1166.10	79.36	86.38		86.59	0.000696	2.48	798.73	236.52	0.32
1	1	FEH +30% C/C	1166.10	80.11	86.20	84.04	86.48	0.000802	2.58	679.82	174.69	0.35


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 15
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 14
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Crit FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)



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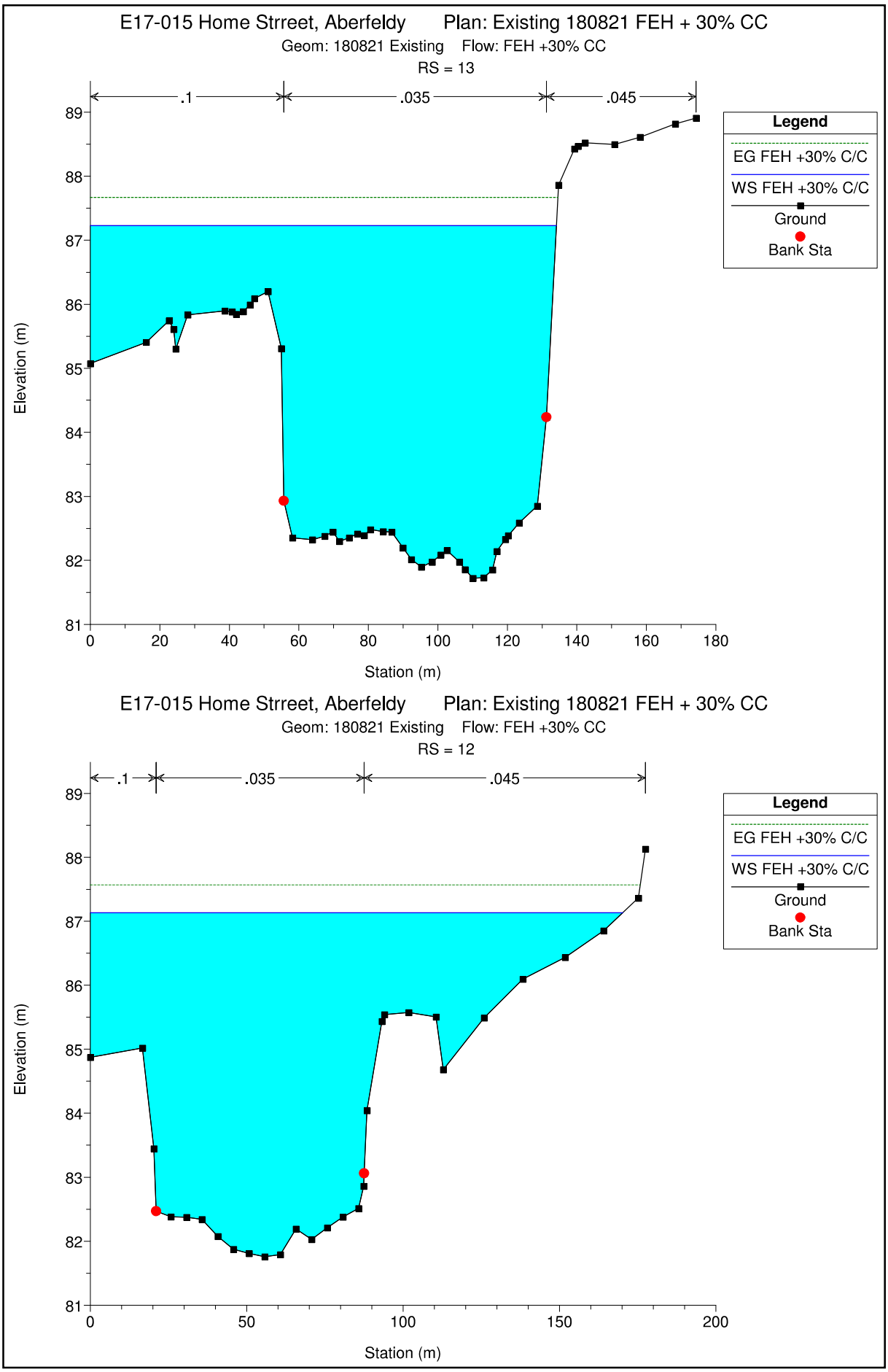
Geom: 180821 Existing Flow: FEH +30% CC
RS = 13.5 Culv
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Crit FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
120
140
160
180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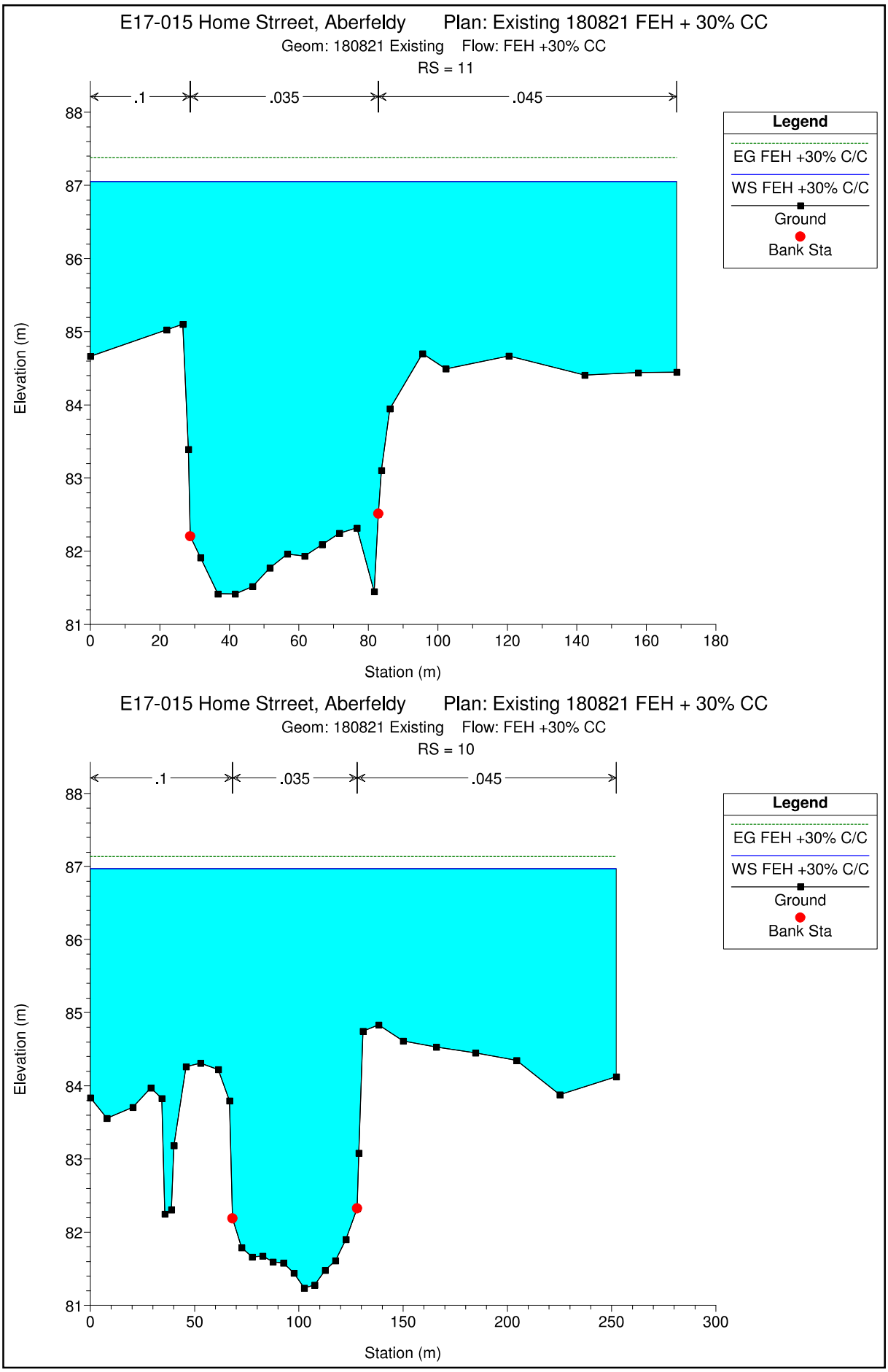
Geom: 180821 Existing Flow: FEH +30% CC
RS = 13
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 12
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)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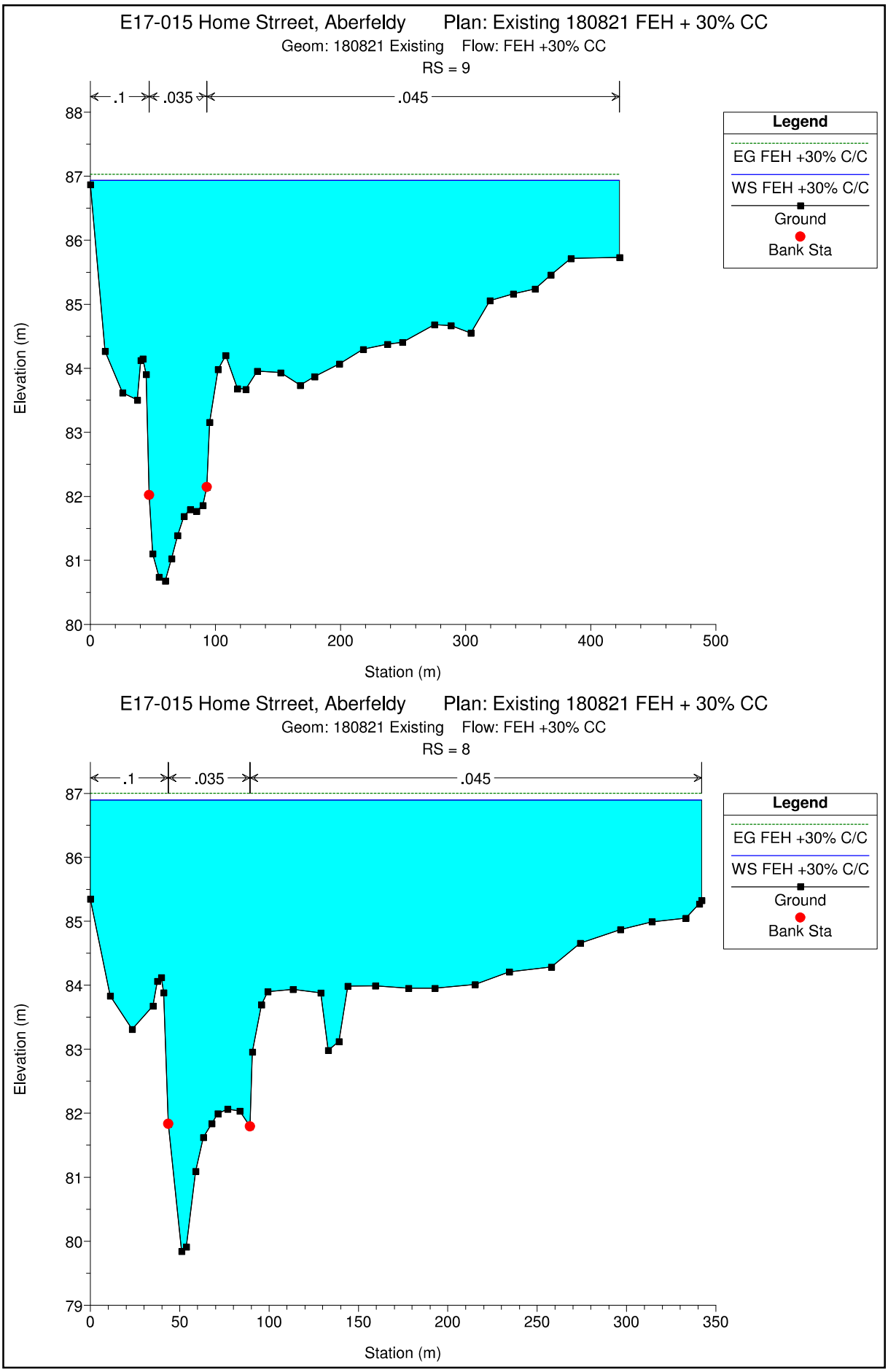
Geom: 180821 Existing Flow: FEH +30% CC
RS = 11
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 10
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)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Geom: 180821 Existing Flow: FEH +30% CC
RS = 9
.1
.035
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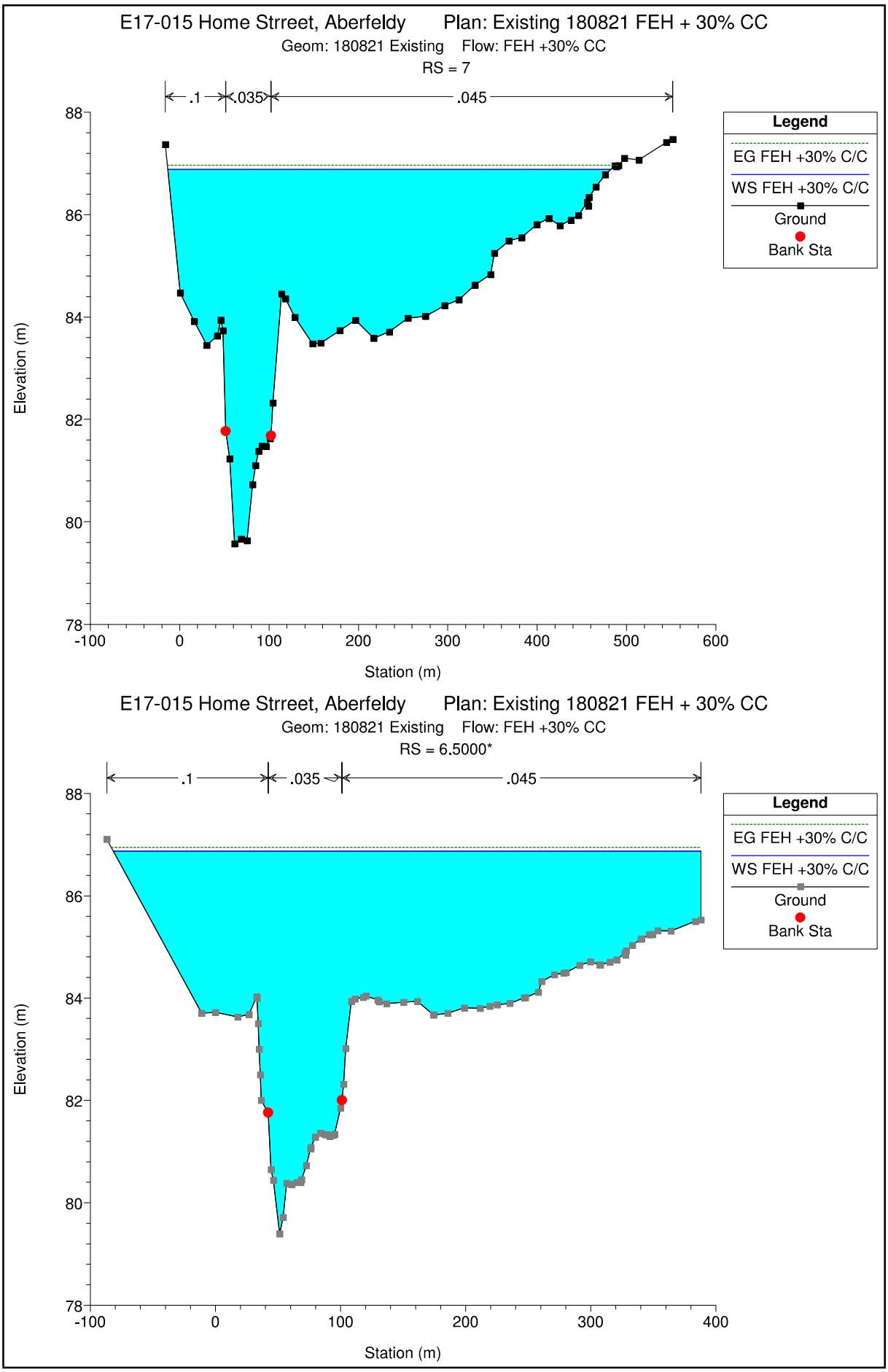
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 8
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)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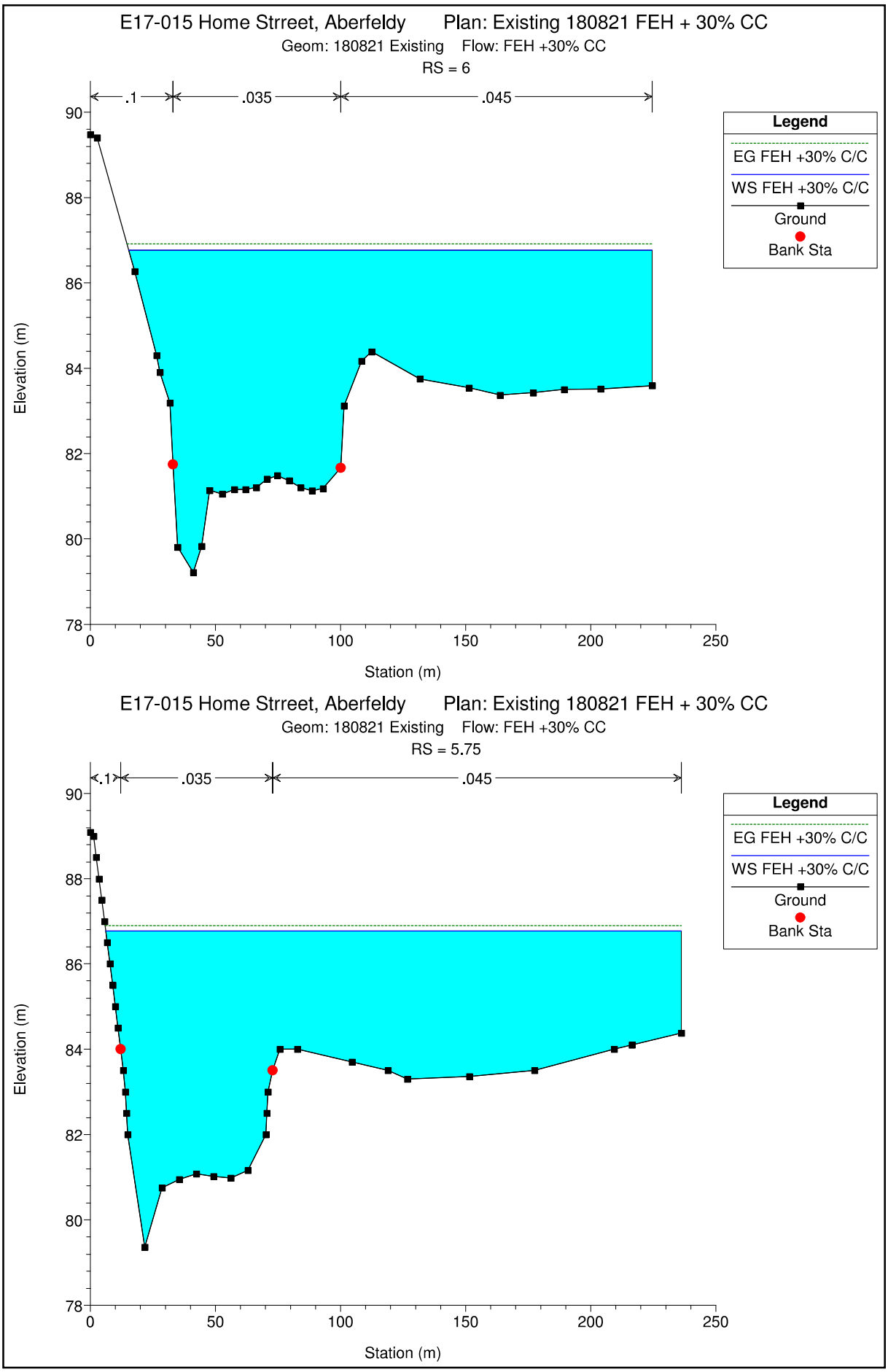
Geom: 180821 Existing Flow: FEH +30% CC
RS = 7
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
88
86
84
82
80
78
-100
0
100
200
300
400
500
600
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 6.5000*
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
88
86
84
82
80
78
-100
0
100
200
300
400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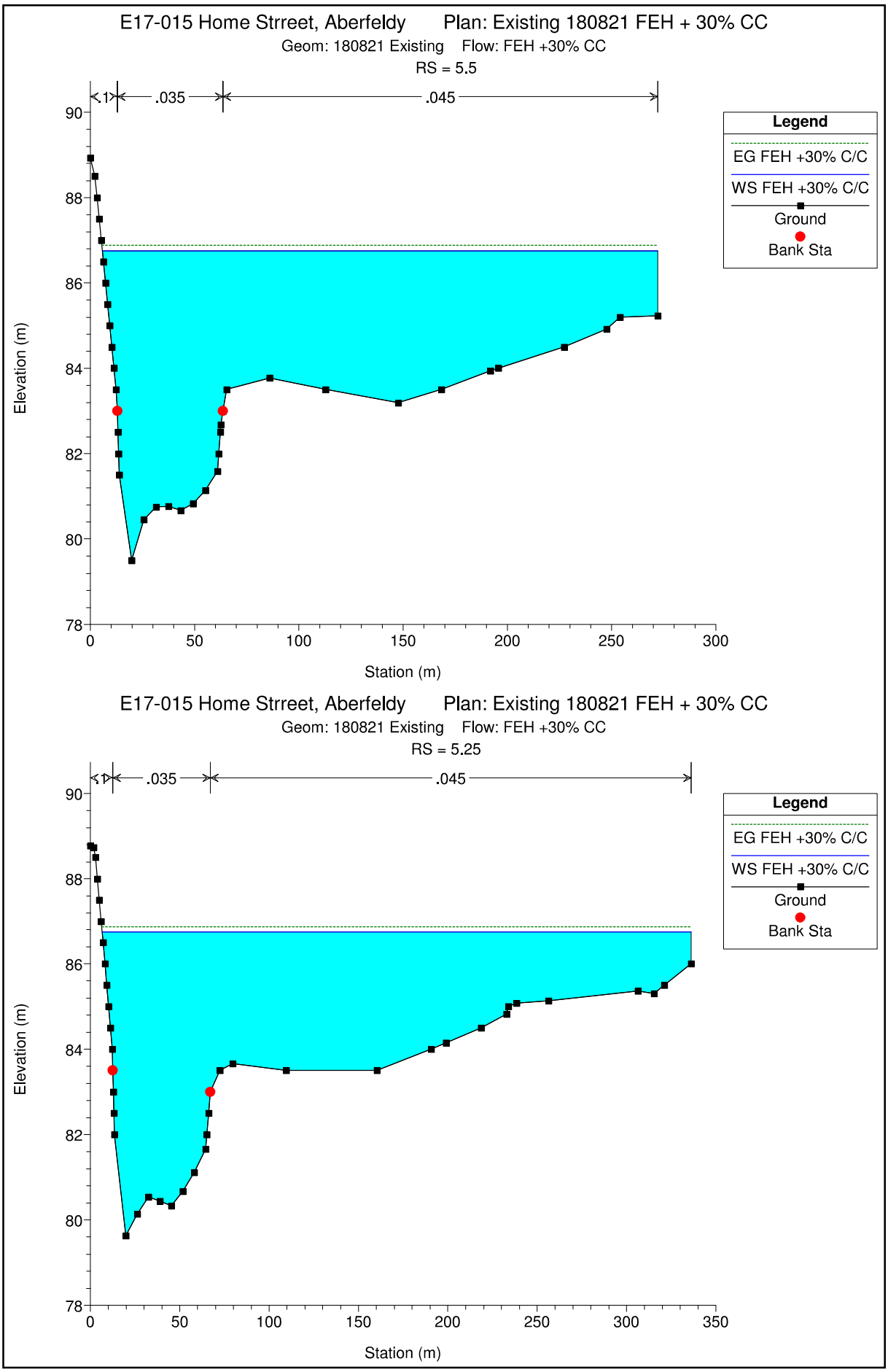
Geom: 180821 Existing Flow: FEH +30% CC
RS = 6
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
50
100
150
200
250
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 5.75
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)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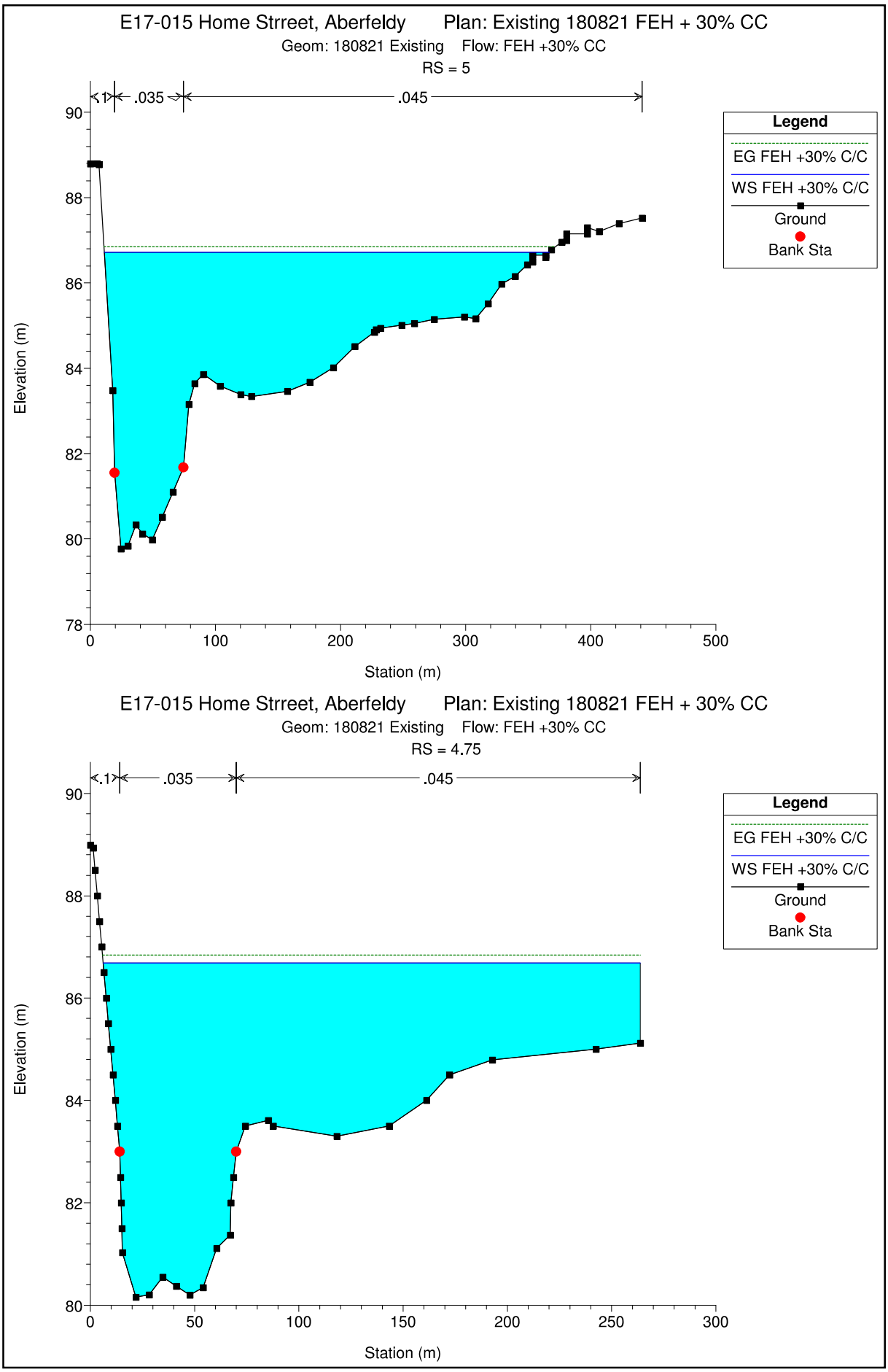
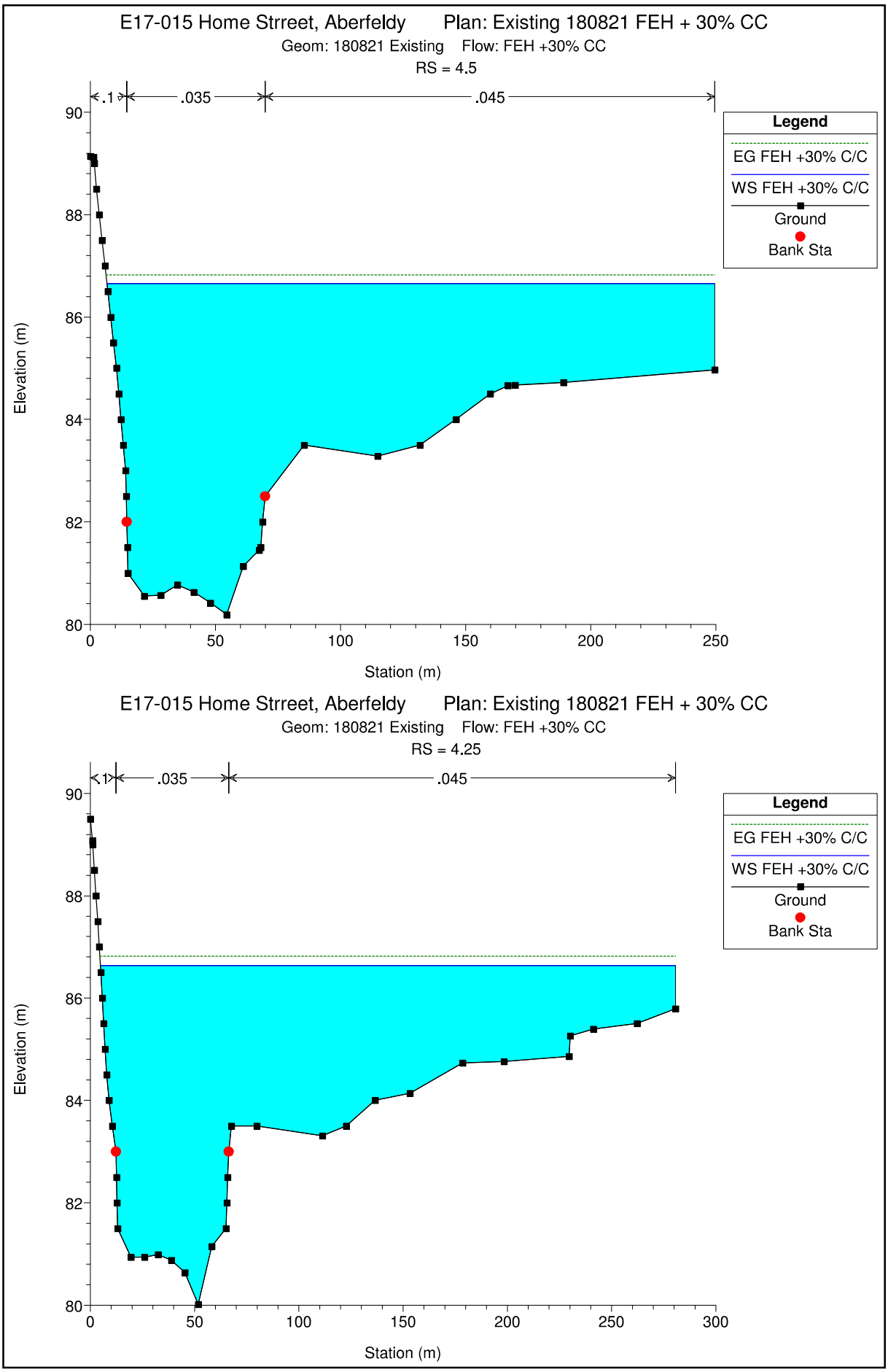
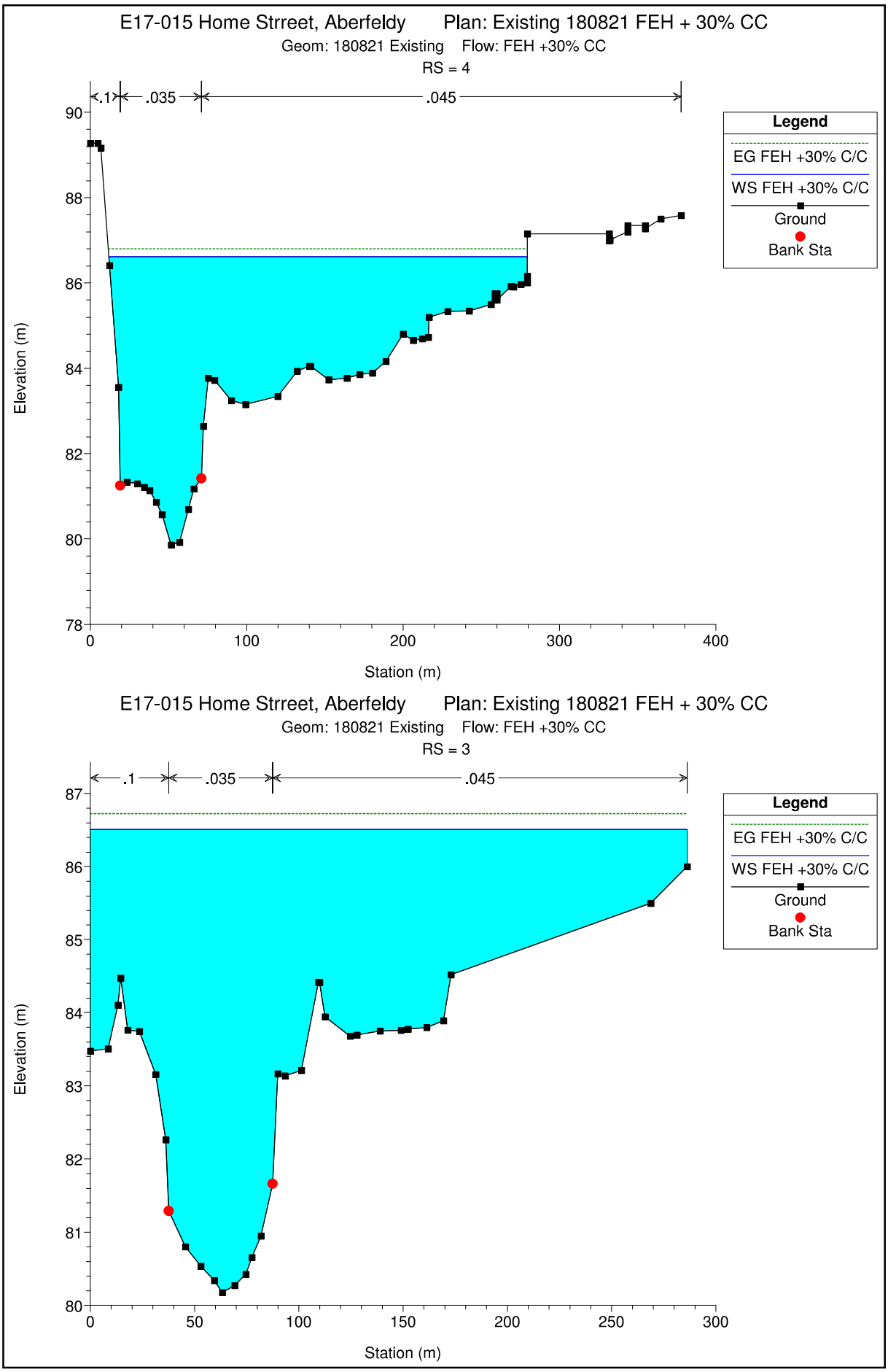
Geom: 180821 Existing Flow: FEH +30% CC
RS = 5.5
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 5.25
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 5
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
100
200
300
400
500
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 4.75
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
0
50
100
150
200
250
300


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 4.5
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
0
50
100
150
200
250
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 4.25
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
0
50
100
150
200
250
300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Geom: 180821 Existing Flow: FEH +30% CC
RS = 4
.1
.035
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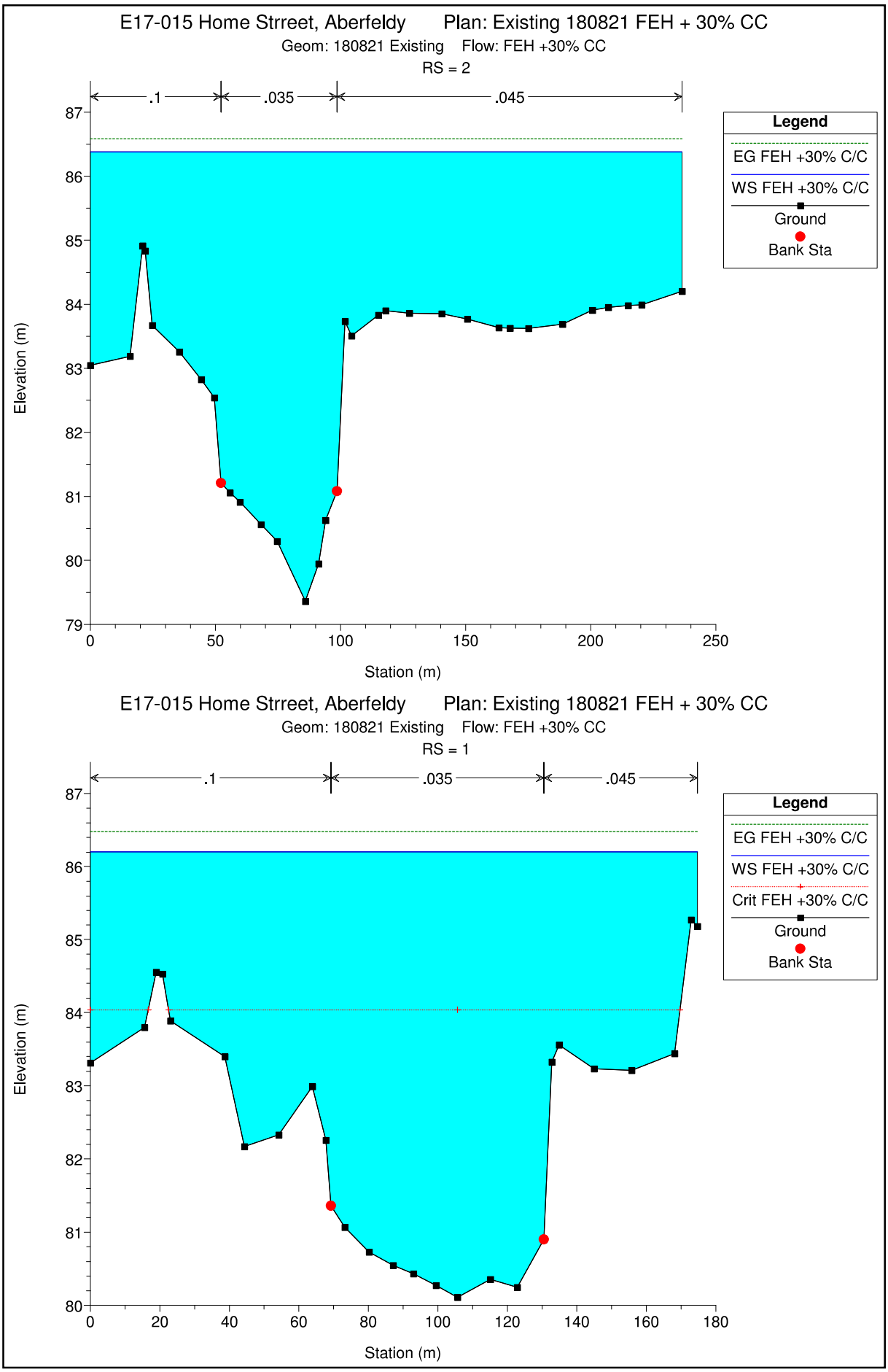
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 3
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)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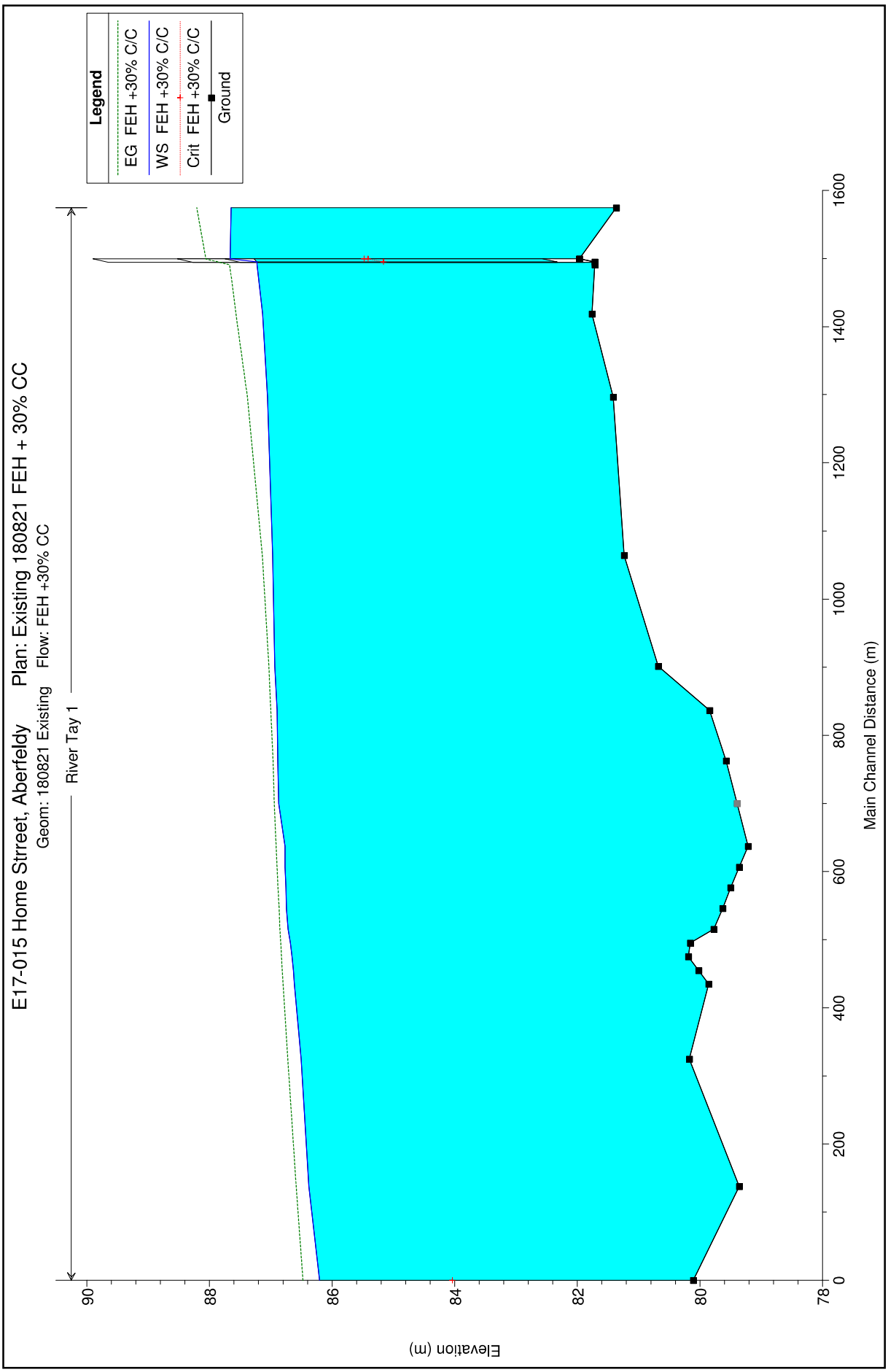
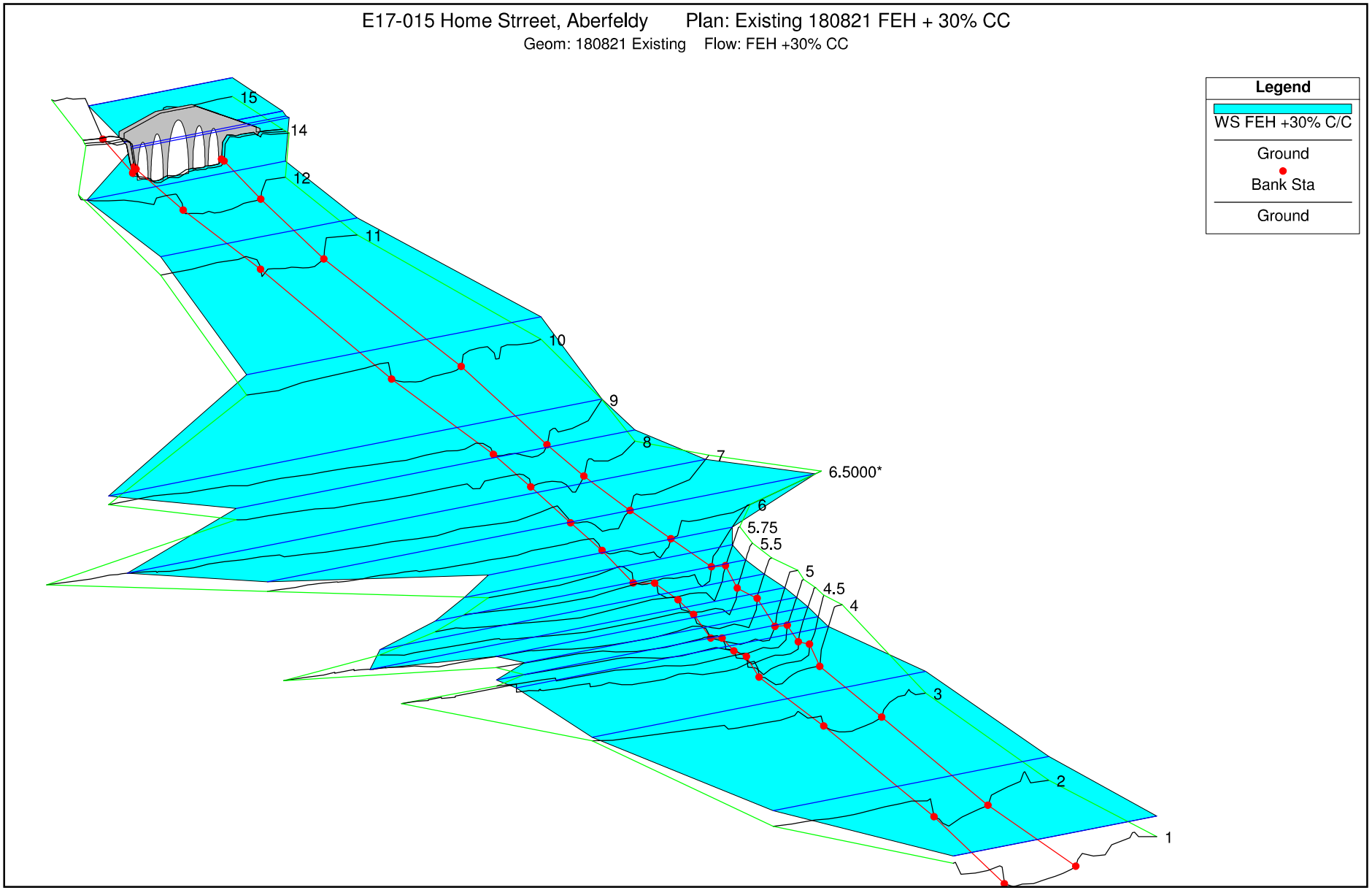
Geom: 180821 Existing Flow: FEH +30% CC
RS = 2
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
RS = 1
.1
.035
.045
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Crit FEH +30% C/C
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Strreet, Aberfeldy
Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing
Flow: FEH +30% CC
River Tay 1
Legend
EG FEH +30% C/C
WS FEH +30% C/C
Crit FEH +30% C/C
Ground
Elevation (m)
Main Channel Distance (m)
90
88
86
84
82
80
78
0
200
400
600
800
1000
1200
1400
1600


E17-015 Home Strreet, Aberfeldy Plan: Existing 180821 FEH + 30% CC
Geom: 180821 Existing Flow: FEH +30% CC
Legend
WS FEH +30% C/C
Ground
Bank Sta
Ground
15
14
12
11
10
9
8
7
6.5000*
6
5.75
5.5
5
4.5
4
3
2
1

Appendix I

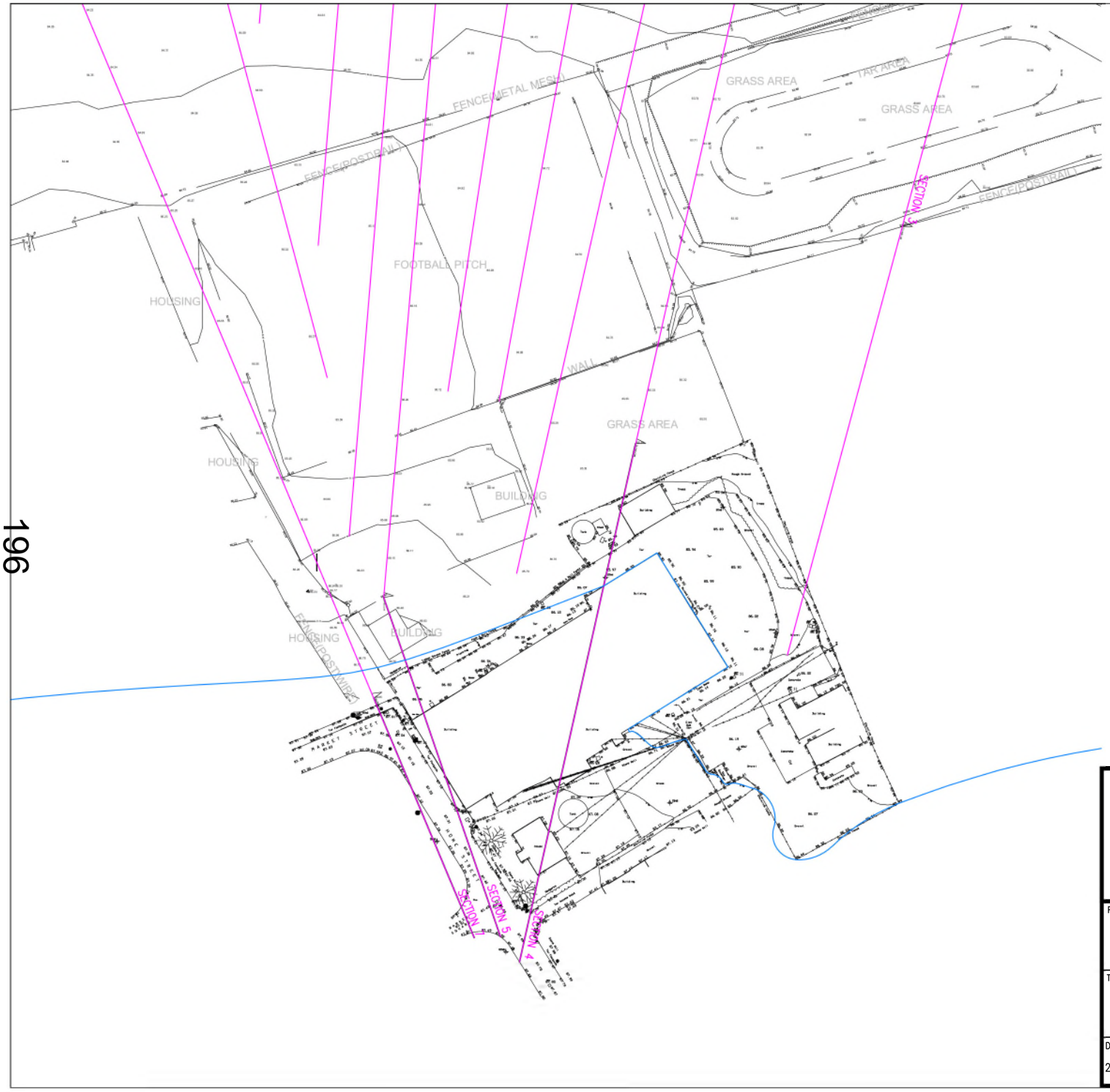
- **Proposed Development Plan**

	PLOT(m²)	HOUSE(m²)	GARDEN(m²)	PRIVATE(m²)	BUILD TO PLOT
1	322.5	98	224.5	145.5	30%
2	307.8	98	209.8	131.7	32%
3	300	98	202	131.5	33%
4	316	98	218	135.8	31%
5	301	83.6	217.4	168	27.7%
6	270	75	195	129	27.7%
7	273.7	75	198.7	126.7	27.4%
8-11	407.8	153.5	254.3	106	
12-15	418	153.7	264.3	106	

	COMMERCIAL(m²)
A	100 (exist)
B	108
C	135.7 (exist)
D	90 (exist)
E	108

Appendix J

- **Existing Site Plan Showing Q200 +c/c water outline**
- **Proposed Site Plan showing Q200 + c/c water outline**



196

REV.	DATE	BY	DESCRIPTION	APD.

GENERAL NOTES

1. THE CONTRACTOR'S ATTENTION IS DRAWN TO THE USE OF BES 6001 – FRAMEWORK STANDARD FOR THE RESPONSIBLE SOURCING OF CONSTRUCTION PRODUCTS, BY BRE, WHEN PROCURING MATERIALS AND PRODUCTS FOR THE CONSTRUCTION OF THE DEVELOPMENT, SUBJECT TO THE AGREEMENT OF THE CLIENT.

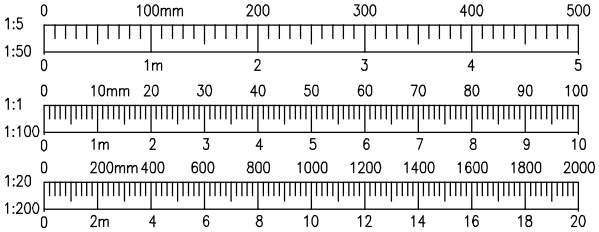
2. THESE NOTES SHOULD BE READ IN CONJUNCTION WITH THE ENGINEERING DRAWINGS, AND ARCHITECTURAL DRAWINGS AND SPECIFICATION. ANY DISCREPANCY OR CONFLICT BETWEEN THE DRAWINGS / SPECIFICATION SHOULD BE REFERRED TO EITHER PARTY BEFORE PROCEEDING WITH THE WORKS.

3. ALL WORKS SHOULD BE IN ACCORDANCE WITH THE RELEVANT EUROCODES AND UK NATIONAL ANNEX CODES OF PRACTICE, WHERE NOT SUPERSEDED BRITISH STANDARD CODES OF PRACTICE AND SCOTTISH BUILDING STANDARDS.

4. DO NOT SCALE FROM THESE DRAWINGS. ALL DIMENSIONS ARE TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORK ON SITE OR ANY FABRICATION OR MATERIALS ORDERING.

HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.



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01383 734905 • mcgregor-mcmahon.com • admin@mmaeng.com

PROJECT
HOME ROAD
ABERFELDY

TITLE
EXISTING SITE SHOWING WATER OUTLINE

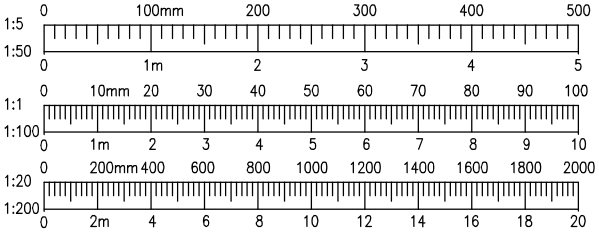
DATE	DRAWN	APPROVED	SCALE		DRAWING No.	REV
28/08/2018	ST	KDS	1:1000	A3	E17–015–HEC9	–

REV.	DATE	BY	DESCRIPTION	APD.
A	06/09/18	ST	SITE LAYOUT UPDATED TO REFLECT LATEST LAYOUT RECEIVED 06/09/18	KDS

197

HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.



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01383 734905 • mcgregor-mcmahon.com • admin@mmaeng.com

PROJECT
HOME ROAD
ABERFELDY

TITLE
PROPOSED SITE SHOWING WATER OUTLINE

DATE	DRAWN	APPROVED	SCALE		DRAWING No.	REV
28/08/2018	ST	KDS	1:1000	A3	E17–015–HEC10	A

Appendix K

Sensitivity Analysis

Sensitivity Analysis

To ensure that the model analysis is not overly sensitive to changes in the parameters, a sensitivity analysis has been carried out.

Both the Mannings N and Peak Flow with Climate Change were adjusted by + 10% and – 10%

The following table shows the changes in water level at the site location:

Section	Q200+CC +10%	N +10%	Actual	N -10%	Q200+CC -10%	Maximum difference
3	86.79	86.78	86.51	86.22	86.21	-0.30
4	86.89	86.88	86.62	86.35	86.33	-0.29
5	86.99	86.97	86.72	86.48	86.44	-0.28

On this basis the model is not overly sensitive to changes, with the maximum change in water level being 300mm

Addendum to
Flood Risk Assessment
For
Mixed Use Development
Home Street, Aberfeldy

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Quality Management

Issue/revision	Original Issue	Revision A	Revision B	Revision C
Remarks	For Comment			
Date	21 Dec 2018			
Prepared by	Kenneth D Simpson			
Checked by	Kenneth D Simpson			
Project number	20948			
File reference				

Document Reference 20948 – XXX
Revision "-"

1. Introduction

McGregor McMahon (Scotland) Ltd submitted a Flood Risk Assessment in support of a planning application for a mixed use, residential and housing, for a site at Home Street, Aberfeldy.

The planning application reference was 18/01662/FLL

This flood study was responded to by Perth and Kinross Council flood team on 19 October 2018 and a copy of this consultee response is enclosed in Appendix A.

The issued raised by them are as follows:

- Design flows in the FRA are lower than those used for the Tay in our flood study.
- The flood study has various hydrologic assessment points to check flows and the most suitable one to use for flows at this site is located at approx. NN8569049744. Flows are below:
  Qmed – 382.432 m3/s
  1:200 – 1015.36 m3/s

- The consultant should use the above flows and re-run their model, including a run for 1:200 plus climate change flow.
- New buildings are being located within the functional floodplain (albeit not residential) – this is not acceptable.
- It was unclear whether there will be land-raising associated with the development – no land-raising permitted within the 1:200 year floodplain, which should be identified using the revised flows above.

On this basis, the model was re-run for the increased flow of Q200 = 1015.36 m3/sec which gives Q200 plus climate change of 1319.97 m3/sec.

A response to the issue raised regarding new industrial buildings in the functional flood plan and land-raising is also enclosed in section 2-Review.

2. Review

The response form the Flooding consultee considered that the Q200 peak flow based on the original flood study were underestimated.

The original Q200 was 897 m3/Sec and the updated Q200 provided by the flood response was 1015.36 m3/Sec.

On this basis the FRA was re-run for this increased flow and for this flow with the addition of climate change of 1319.97 m3/Sec.

A part of the response the question was raised regarding land-raising.and the existing factory has a level floor with an elevation of 87.3m.and is shown on drawing No E17-015-HEC13 in Appendix D

It is proposed that the original building will be completely demolished and the floors will be completely removed. The ground level in this area will remain at this general level but at the Eastern end of the site the ground level; will be dropped to generally 86.5m to allow construction of the car parking to the flatted dwellings.

On this basis there is no land-raising we are only retaining the existing levels and reducing the Eastern end.

The flood study has been re-run for the increased flows and the results are enclosed in Appendix

In general terms the water level rises by 200mm but due to the elevated floor level of the original factory the extent of the functional flood plaln is only marginally bigger.

The Q200 +% was re-run and it does not encroasch into the housing development area but has resulted in an increase in the proposed floor levels and this is reflected on drawing No E17-015-HEC13

The flooded area of the retained and proposed industrial area remains similar but the flood depths have increased by 200mm.

The issue of construction of the new industrial units in the retained industrial area, which is known to flood was raised.

The Scottish Planning Policy (SPP) promotes a precautionary approach to flood risk and advises that the planning system should prevent development which would have a significant probability of being affected by flooding or would increase the probability of flooding elsewhere.

SPP sets out a flood risk framework to guide development.

This framework establishes three categories of costal and watercourse flood risk (little or no risk; low to medium risk; and medium to high risk) and the appropriate planning

approach within each category. It sets out the types of development that may or may not be acceptable depending on the level of flood risk.

SPP further advises that the flood risk framework should be read in conjunction with SEPA's Land use vulnerability guidance to aid decision making and nots that this guidance is particularly relevant where changes of use are being proposed.

With reference to this guidance, the industrial proposal does not represent a scenario where a more vulnerable use of this section of site has been introduced.

On this basis it is our opinion that the guidance is permissive of development of industrial commercial, irrespective of whether the site floods or not.

The proposed new construction would be flood resistant materials with all services dropping from the roof terminating 1200mm above the floor level.

3. Conclusion

The response to the original FRA raised a number of issues that have been addressed as follows:

- Flood study has been re-run for increased flows of Q200 = 1015.36 m3/Sec and Q200 +c/c = 1315.97m3/sec
- The industrial Units are compliant with policy although in an area that floods. The proposal would be for the construction to be flood resistant materials.
- No land-raising is taking place and infact the site is being lowered over the Eastern section of the factory.

On this basis the proposal is compliant with policy and the flood risk is acceptable.

K D Simpson
BSc CEng MICE

Appendix A

Consultee Response
Dated 19/10/18

Comments to the Development Quality Manager on a Planning Application

Planning Application ref.	18/01662/FLL	**Comments provided by**	Gavin Bissett
Service/Section	HE/Flooding	**Contact Details**	gabissett@pkc.gov.uk
Description of Proposal	Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works		
Address of site	Land 60 Metres North Of Burnside Joiners Home Street Aberfeldy		

Comments on the proposal	As previous indicated in my response to a previous application for the site (17/01864/FLL), the Council is undertaking a flood protection study for Aberfeldy. This is ongoing and not yet complete/publicly available – anticipated early 2019
	
	I have reviewed the FRA submitted with this application (McGregor McMahon – Rev B, Oct 2018) and the 1:200 year flood outline varies from the outputs of our ongoing flood study.
	
	My concerns are:
	
	• Design flows in the FRA are lower than those used for the Tay in our flood study.
	• The flood study has various hydrologic assessment points to check flows and the most suitable one to use for flows at this site is located at approx NN8569049744. Flows are below:
	  ○ Qmed – 382.432 m3/s
	  ○ 1:200 – 1015.36 m3/s
	• The consultant should use the above flows and re-run their model, including a run for 1:200 plus climate change flow.
	• New buildings are being located within the functional floodplain (albeit not residential) – this is not acceptable.
	• It was unclear whether there will be landraising associated with the development – no landraising permitted within the 1:200 year floodplain, which should be identified using the revised flows above.
	
	Therefore we would maintain our objection on grounds of flood risk.		

Recommended planning condition(s)			
Recommended informative(s) for applicant	PKC Flooding and Flood Risk Guidance Document (June 2014)		
Date comments returned	19/10/18		

Appendix B

HEC-RAS Results

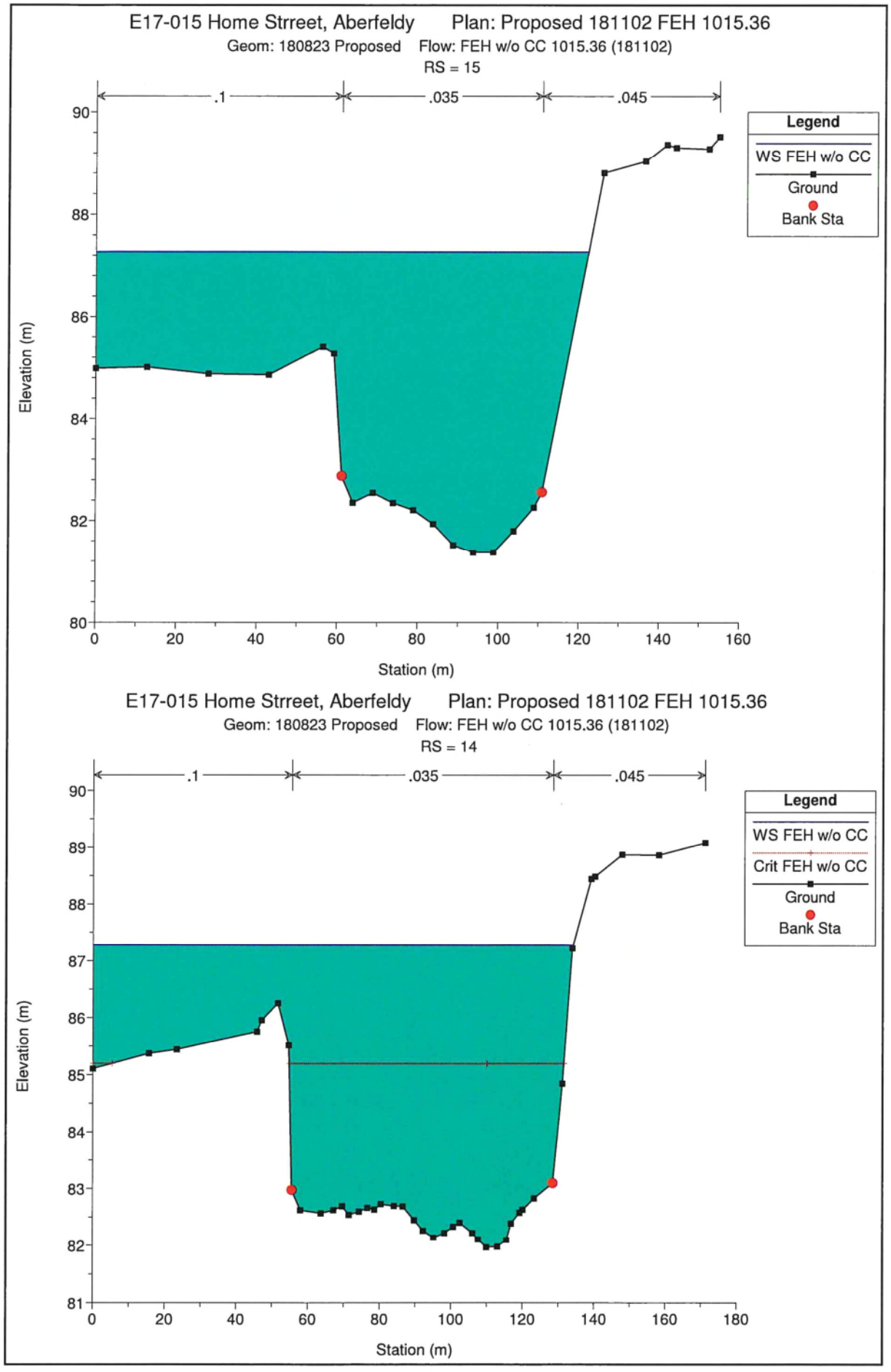
Q200 = 1015.36 m3/Sec
Model Results
Cross-Section
Long Section
XYZ Perspective

Q200+c/c = 1317.97 m3/Sec

Model Results
Cross-Section
Long
Section
XYZ Perspective

HEC-RAS Plan: Pro FEH 1015.36 River: River Tay Reach: 1 Profile: FEH w/o CC

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	15	FEH w/o CC	1015.36	81.37	87.27		87.78	0.001508	3.36	431.23	122.42	0.47
1	14	FEH w/o CC	1015.36	81.97	87.28	85.20	87.64	0.001144	2.74	458.96	134.11	0.40
1	13.5		Culvert									
1	13	FEH w/o CC	1015.36	81.72	86.92		87.31	0.001267	2.81	425.73	133.82	0.42
1	12	FEH w/o CC	1015.36	81.76	86.81		87.21	0.001388	2.96	436.02	162.80	0.44
1	11	FEH w/o CC	1015.36	81.41	86.72		87.03	0.001177	2.80	513.21	168.72	0.40
1	10	FEH w/o CC	1015.36	81.24	86.62		86.78	0.000663	2.15	777.27	252.25	0.31
1	9	FEH w/o CC	1015.36	80.68	86.57		86.67	0.000502	1.91	1004.48	421.67	0.27
1	8	FEH w/o CC	1015.36	79.84	86.53		86.64	0.000523	1.93	934.21	341.98	0.27
1	7	FEH w/o CC	1015.36	79.57	86.52		86.60	0.000335	1.69	1169.70	475.99	0.22
1	6.5000*	FEH w/o CC	1015.36	79.39	86.50		86.58	0.000308	1.59	1209.90	461.52	0.21
1	6	FEH w/o CC	1015.36	79.22	86.41		86.55	0.000457	1.87	742.90	207.51	0.26
1	5.75	FEH w/o CC	1015.36	79.36	86.41		86.53	0.000481	1.86	769.68	229.22	0.26
1	5.5	FEH w/o CC	1015.36	79.50	86.39		86.52	0.000502	1.97	801.44	265.63	0.27
1	5.25	FEH w/o CC	1015.36	79.63	86.38		86.50	0.000471	1.93	857.36	328.77	0.26
1	5	FEH w/o CC	1015.36	79.77	86.36		86.49	0.000439	1.95	864.90	334.84	0.26
1	4.75	FEH w/o CC	1015.36	80.16	86.32		86.47	0.000546	2.08	741.83	256.87	0.28
1	4.5	FEH w/o CC	1015.36	80.19	86.29		86.46	0.000601	2.17	703.69	242.05	0.29
1	4.25	FEH w/o CC	1015.36	80.02	86.26		86.45	0.000726	2.30	692.76	275.26	0.32
1	4	FEH w/o CC	1015.36	79.86	86.24		86.43	0.000700	2.33	692.85	270.85	0.32
1	3	FEH w/o CC	1015.36	80.17	86.12		86.34	0.000805	2.51	687.17	278.93	0.34
1	2	FEH w/o CC	1015.36	79.36	85.99		86.19	0.000743	2.45	705.84	236.52	0.33
1	1	FEH w/o CC	1015.36	80.11	85.83	83.71	86.08	0.000800	2.46	614.70	174.69	0.34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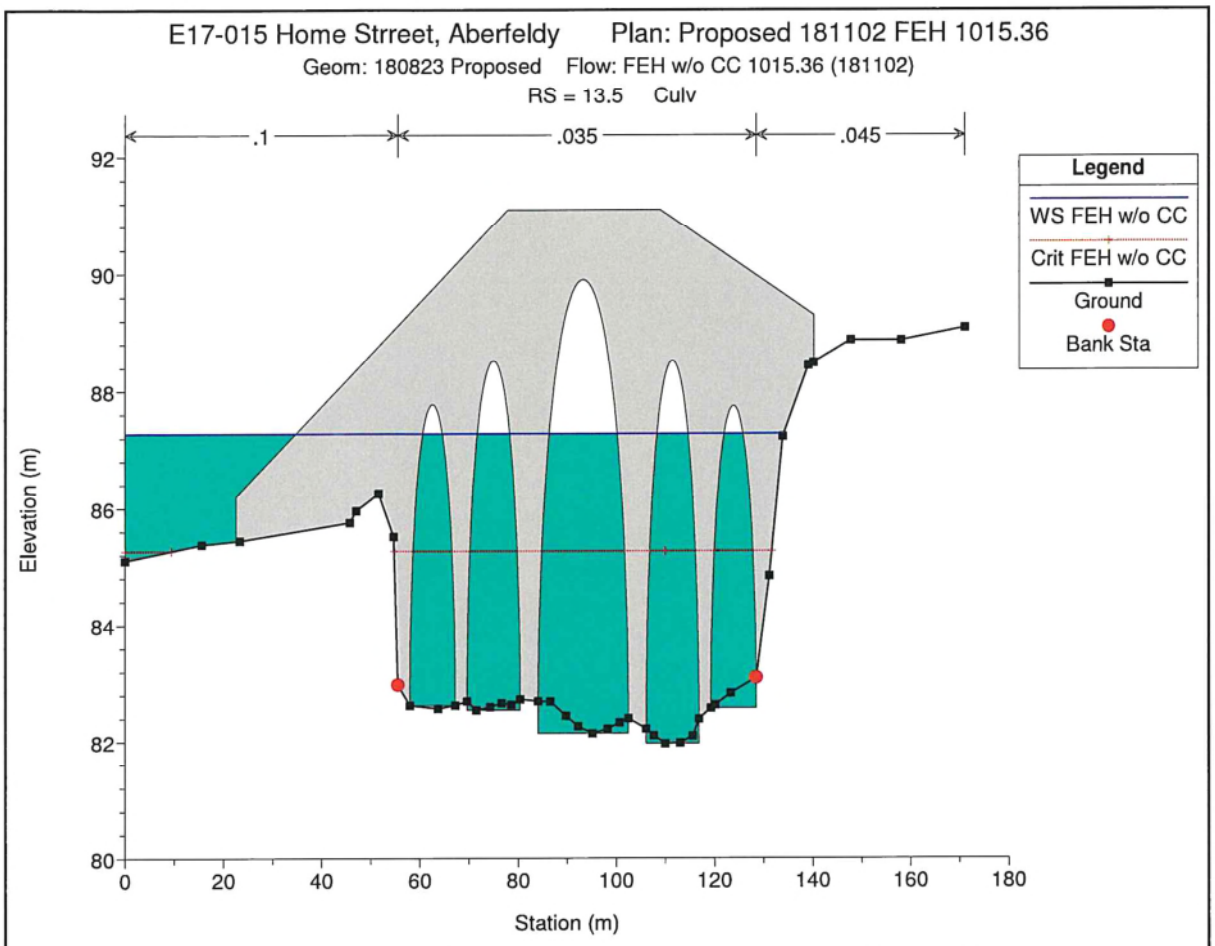
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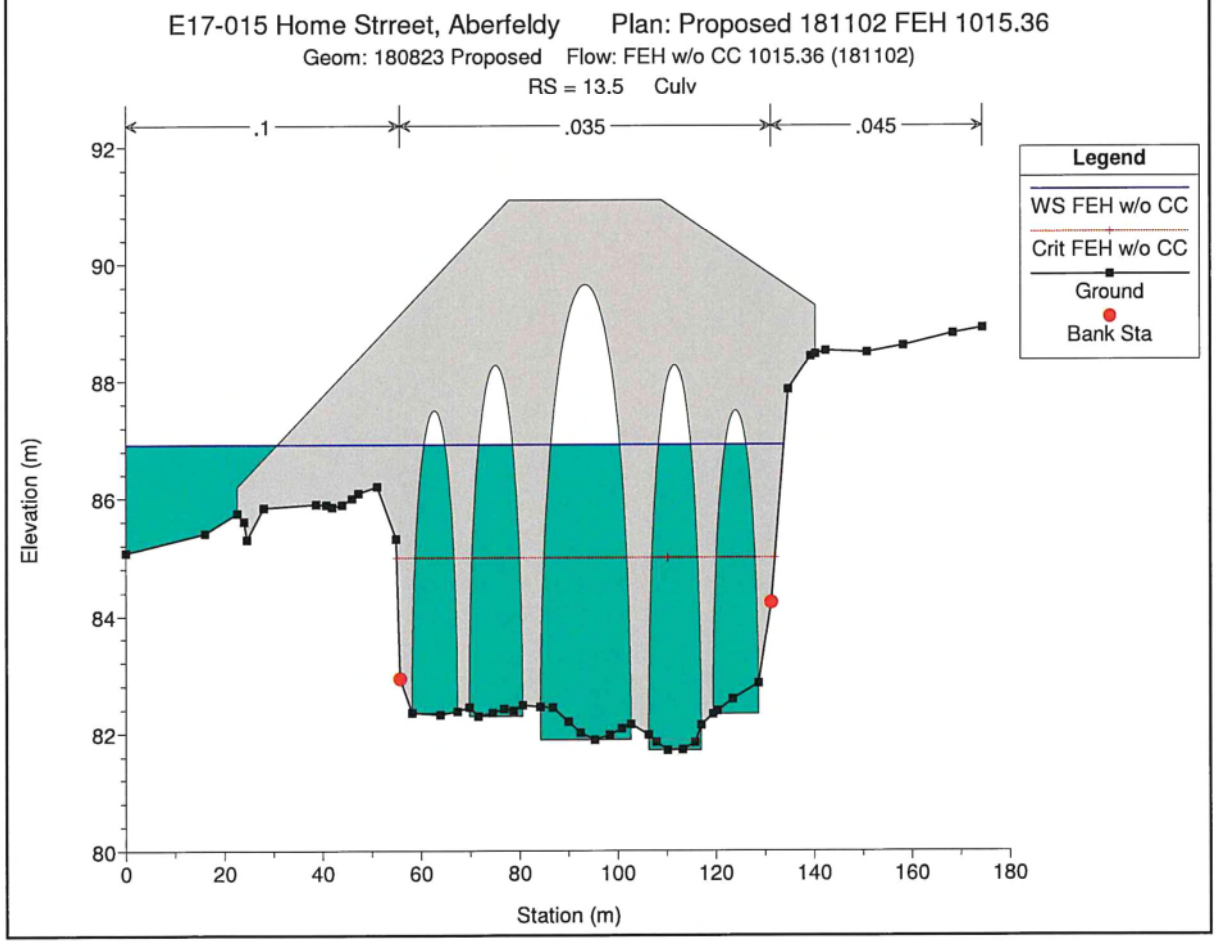
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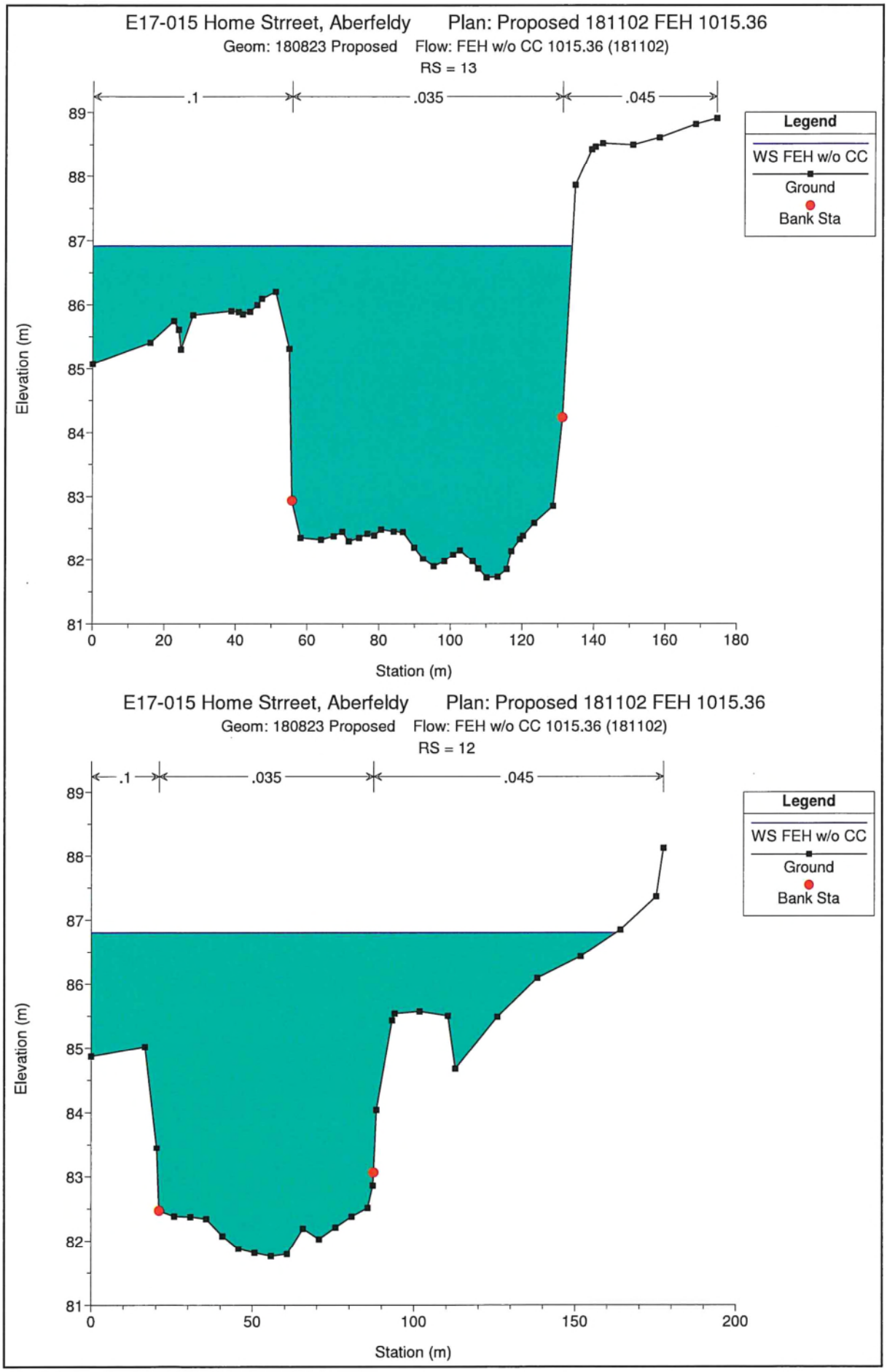
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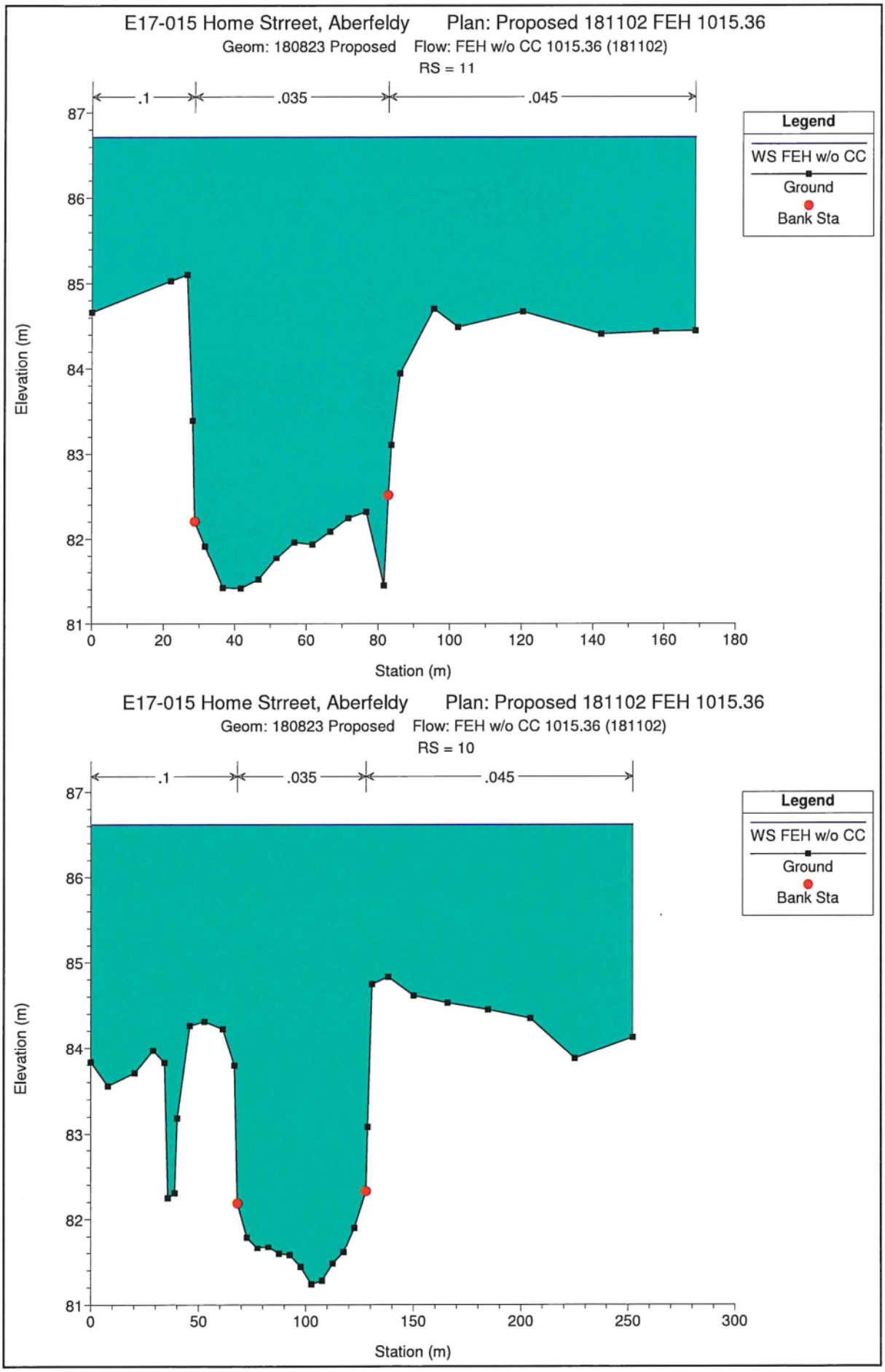
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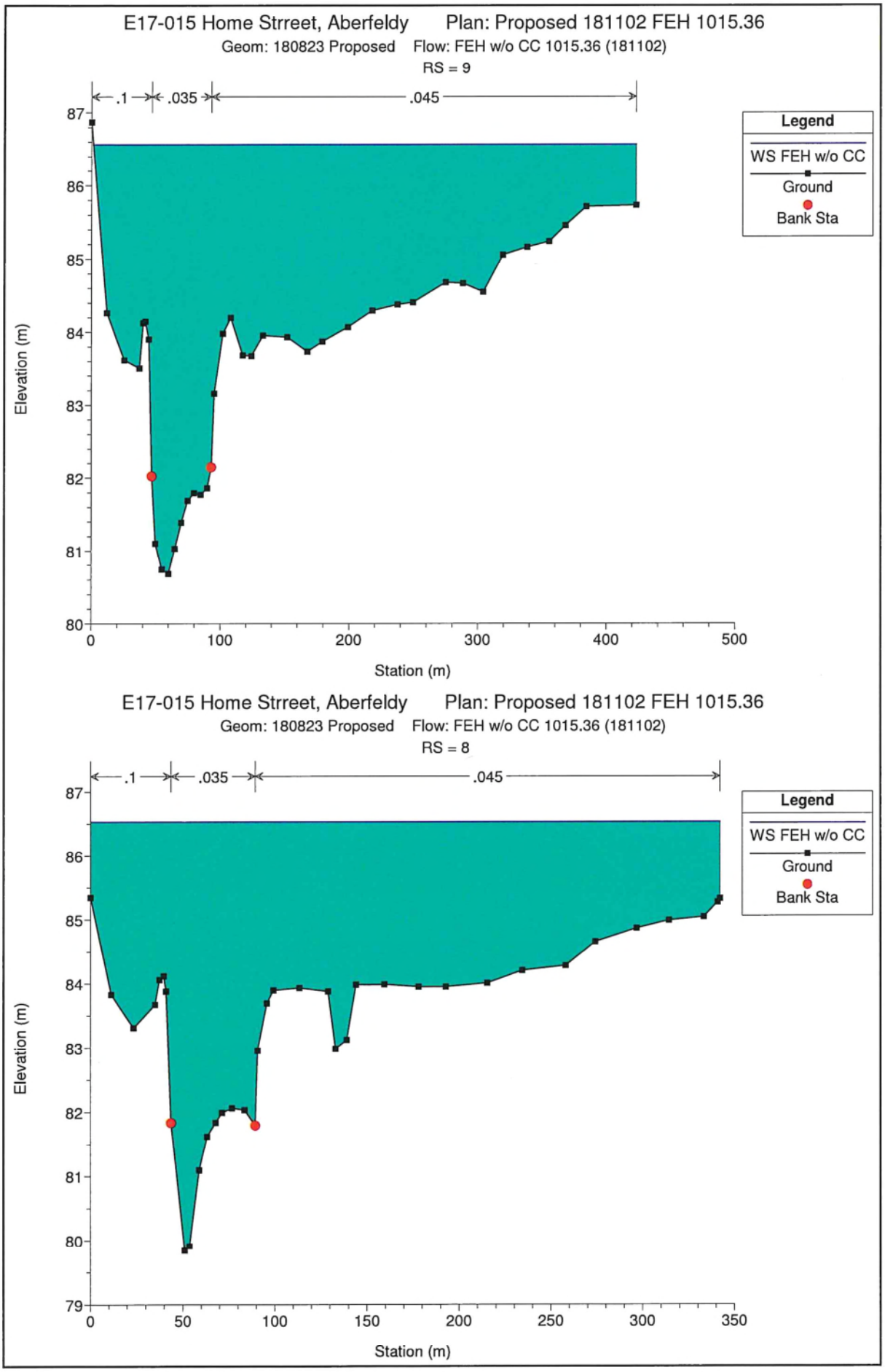
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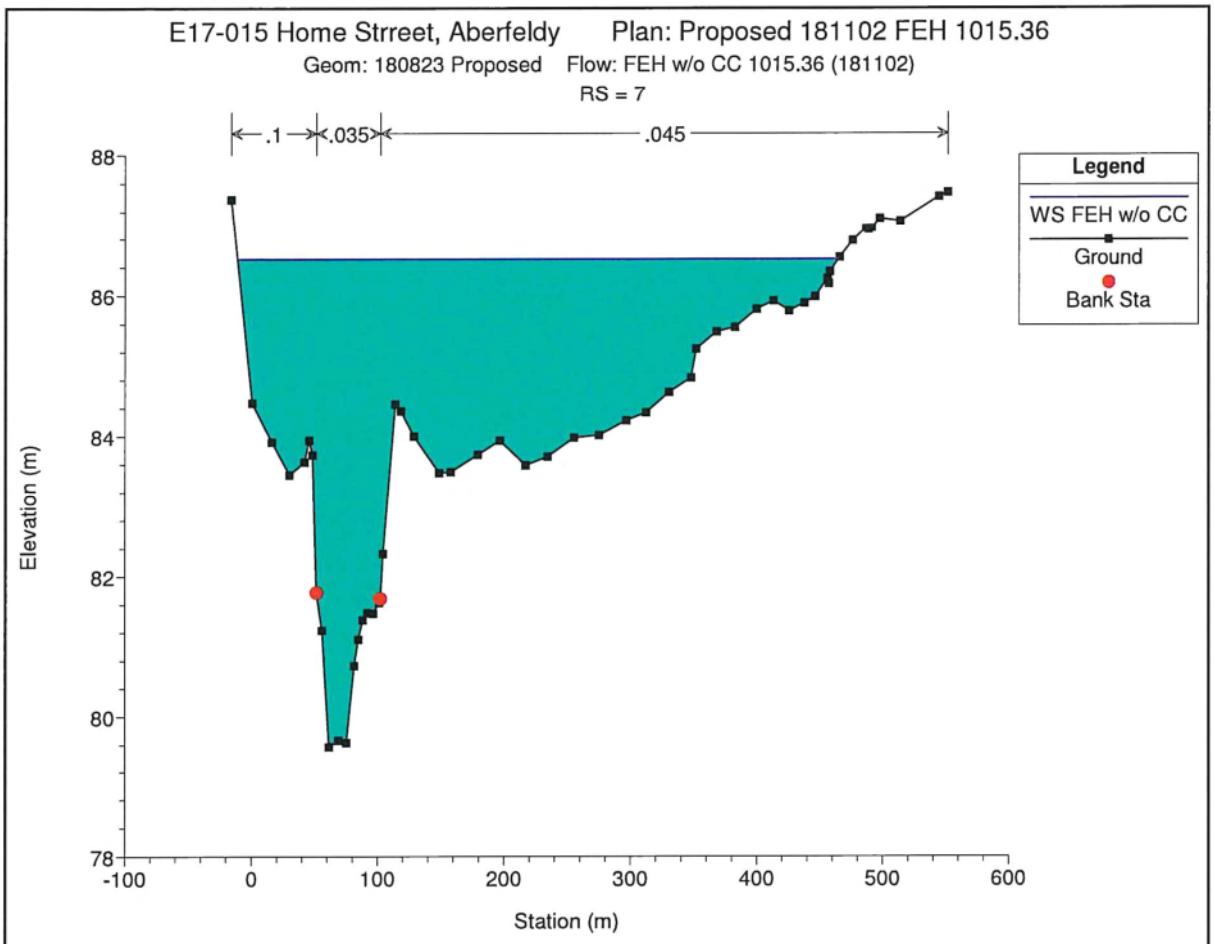
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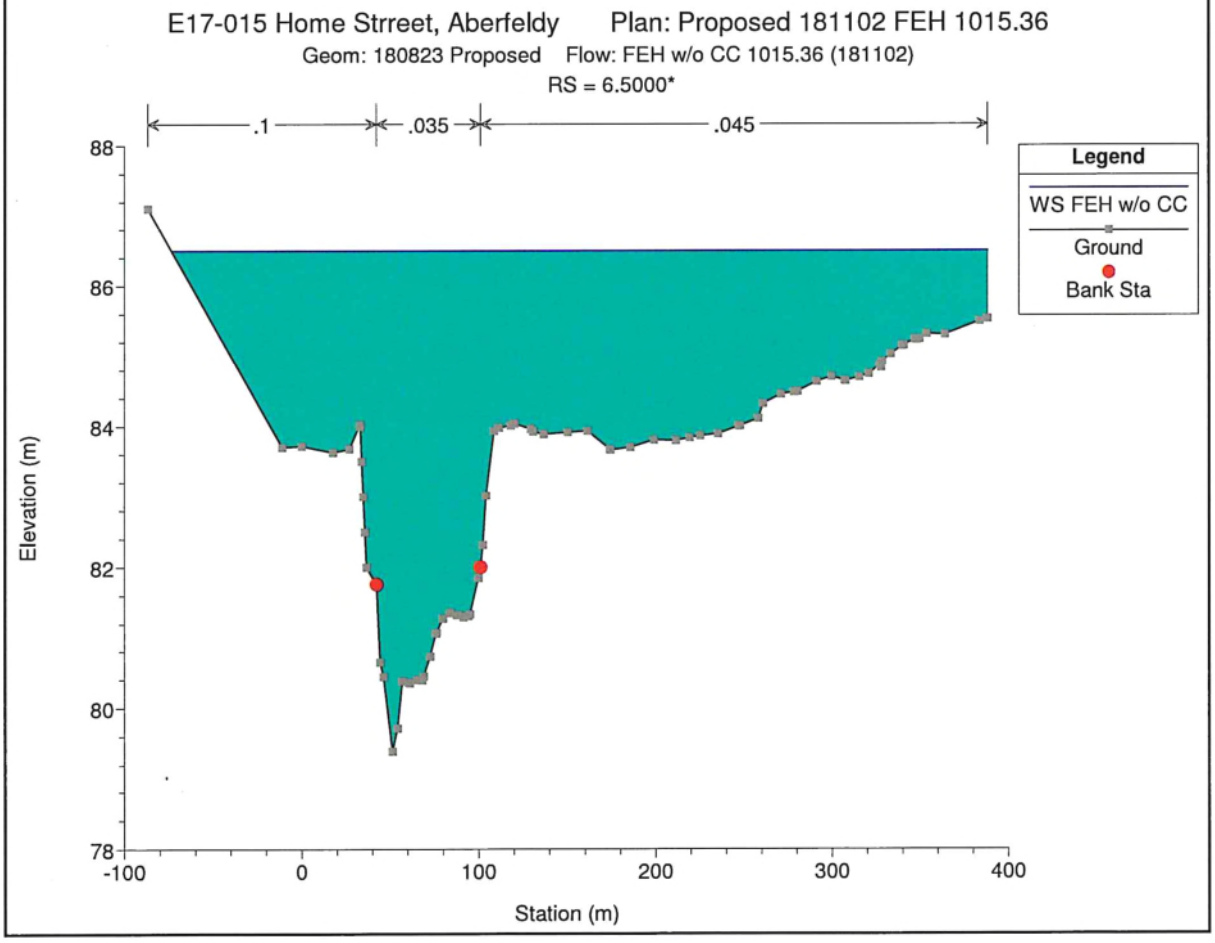
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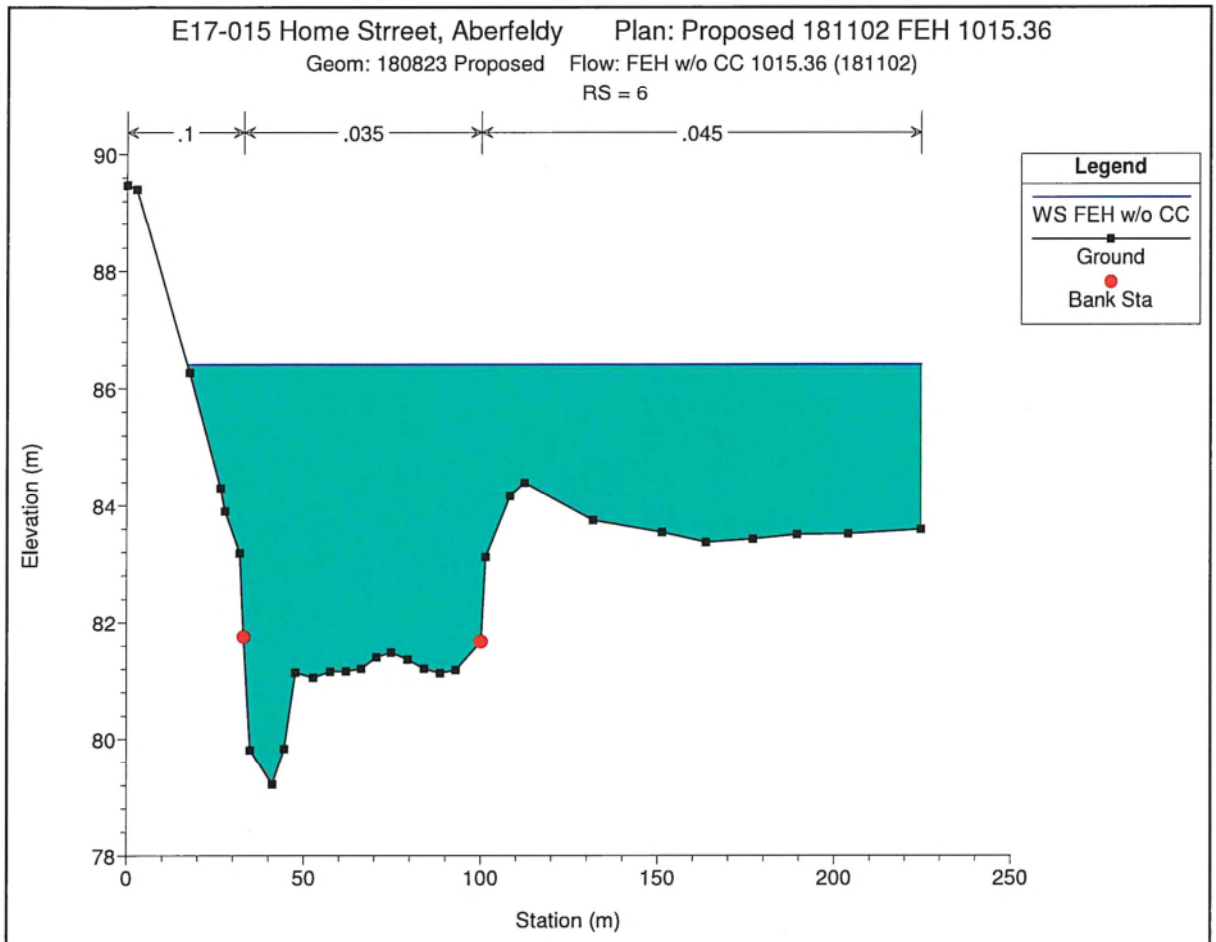
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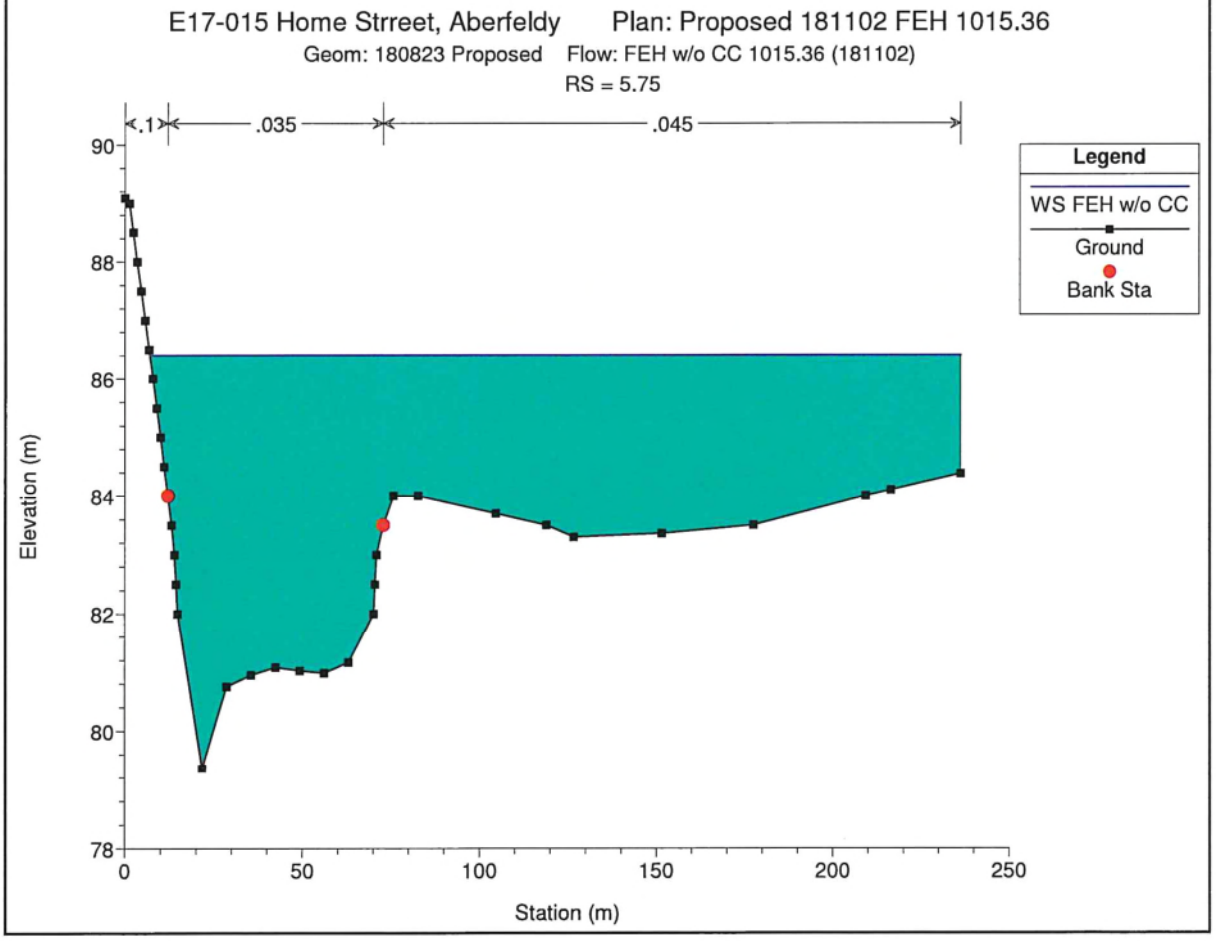
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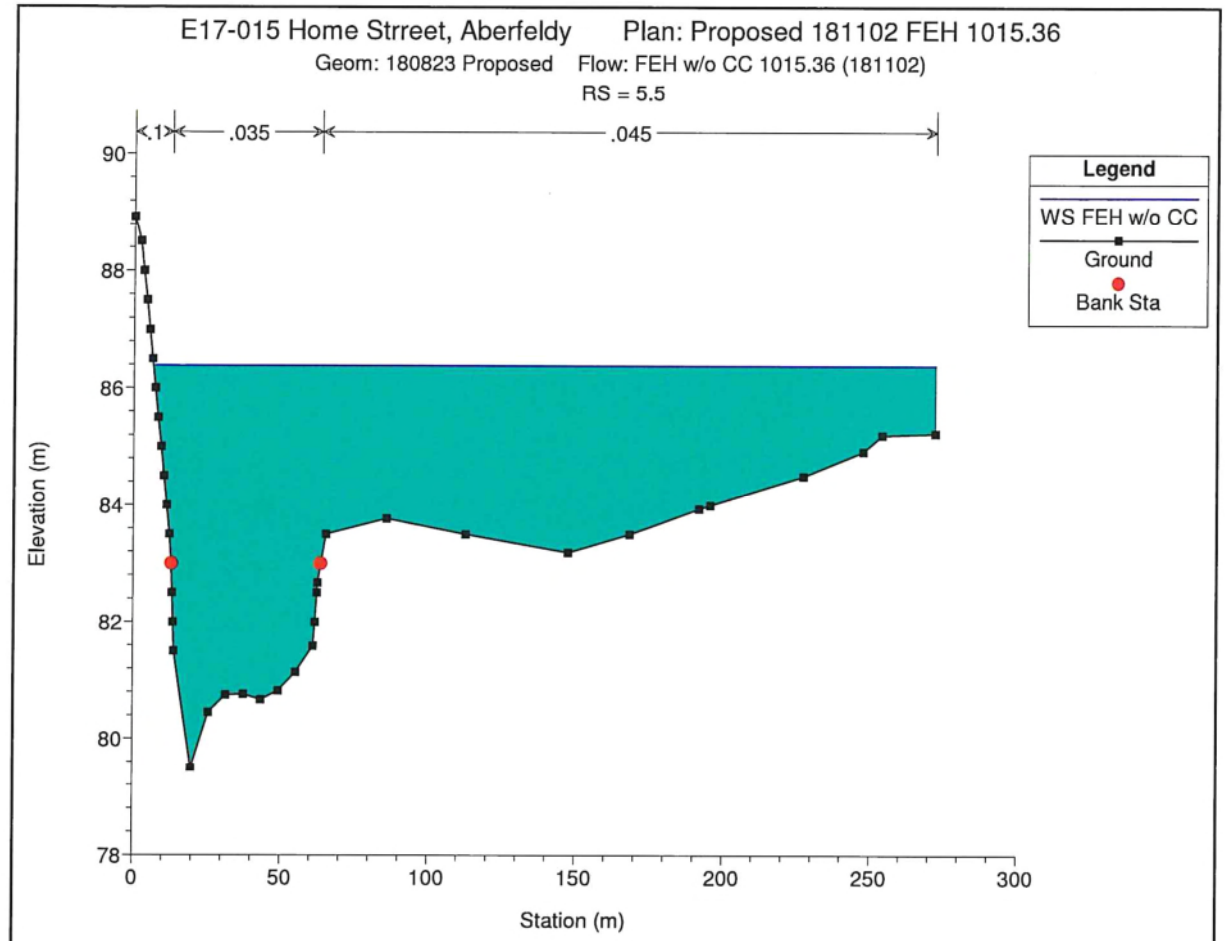
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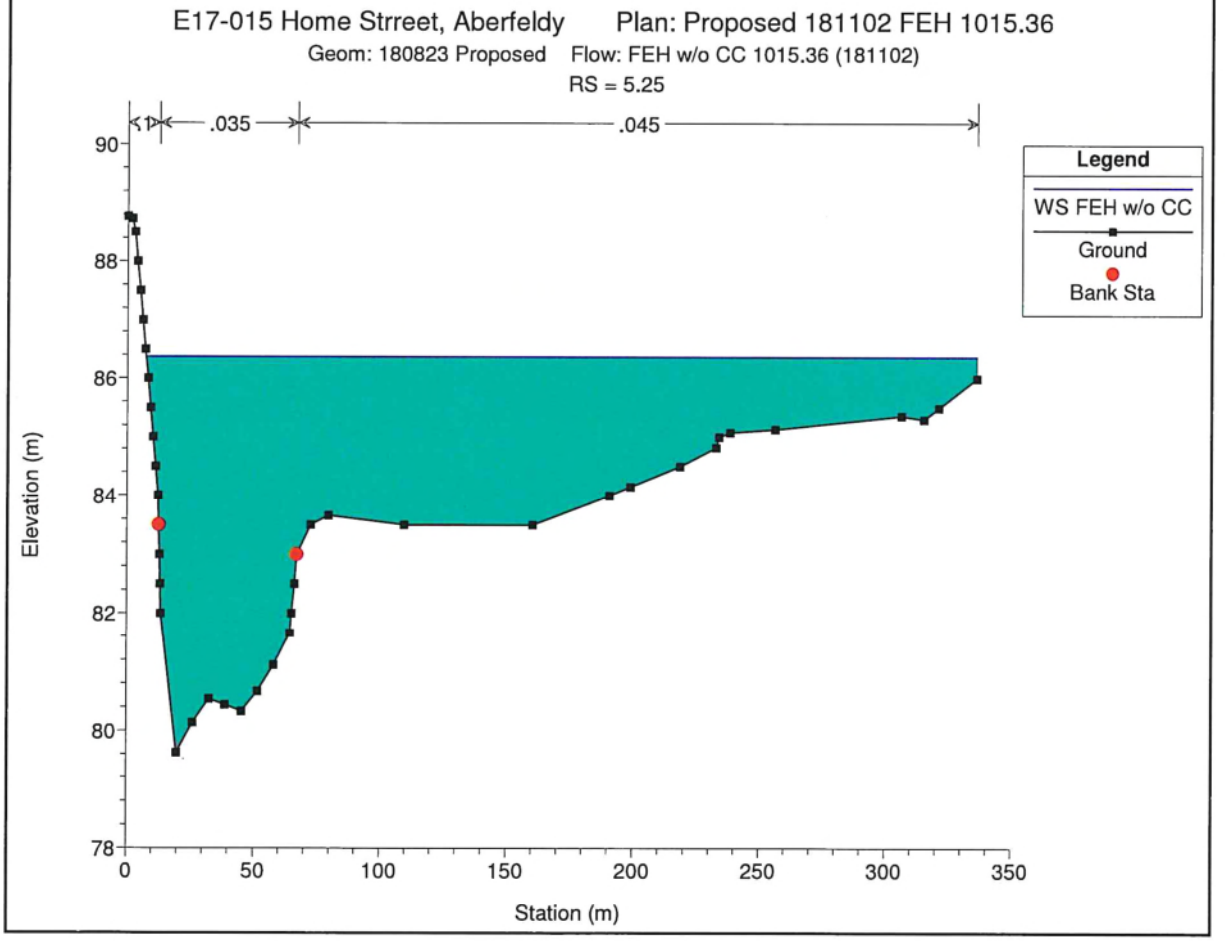
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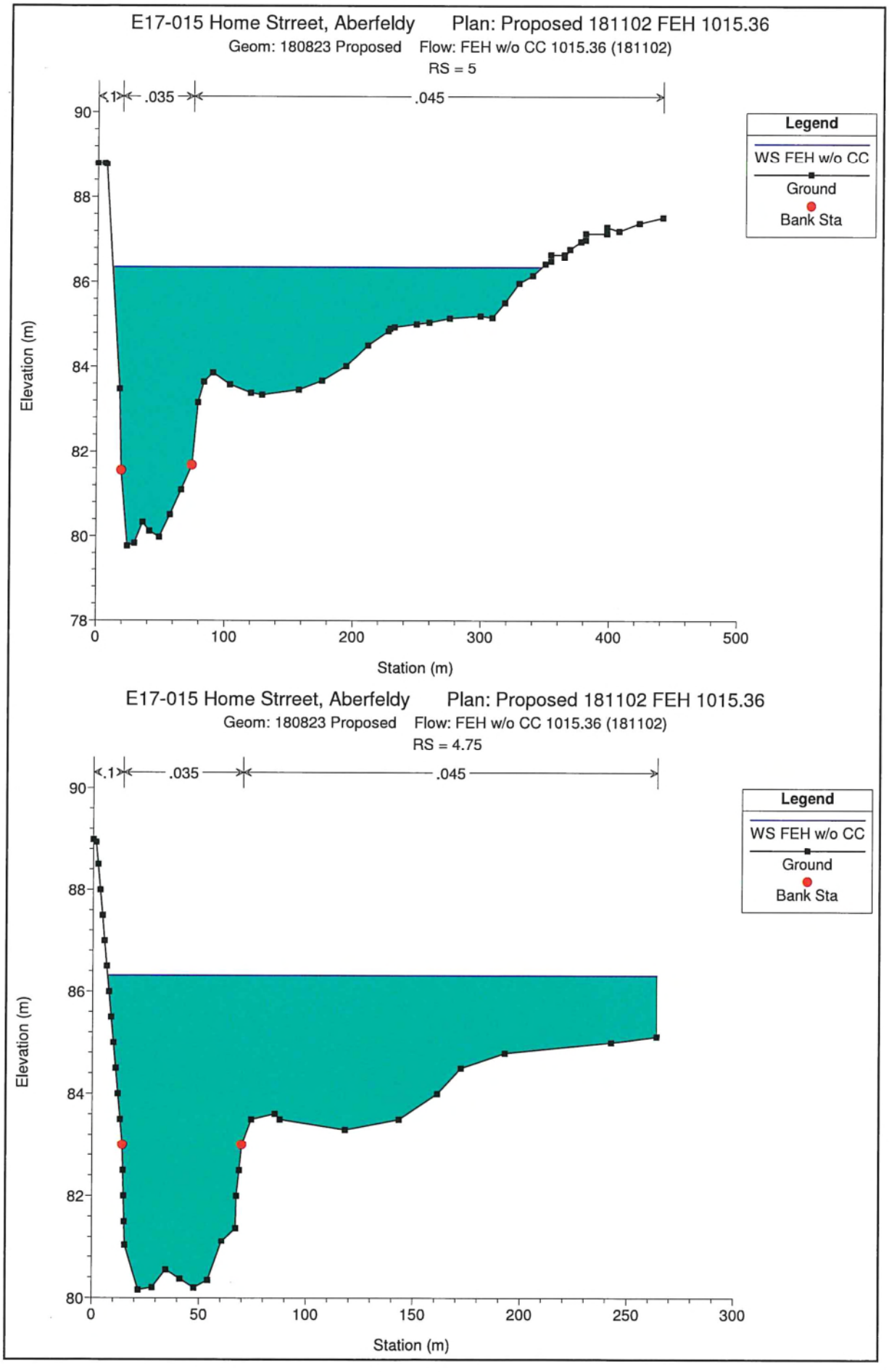
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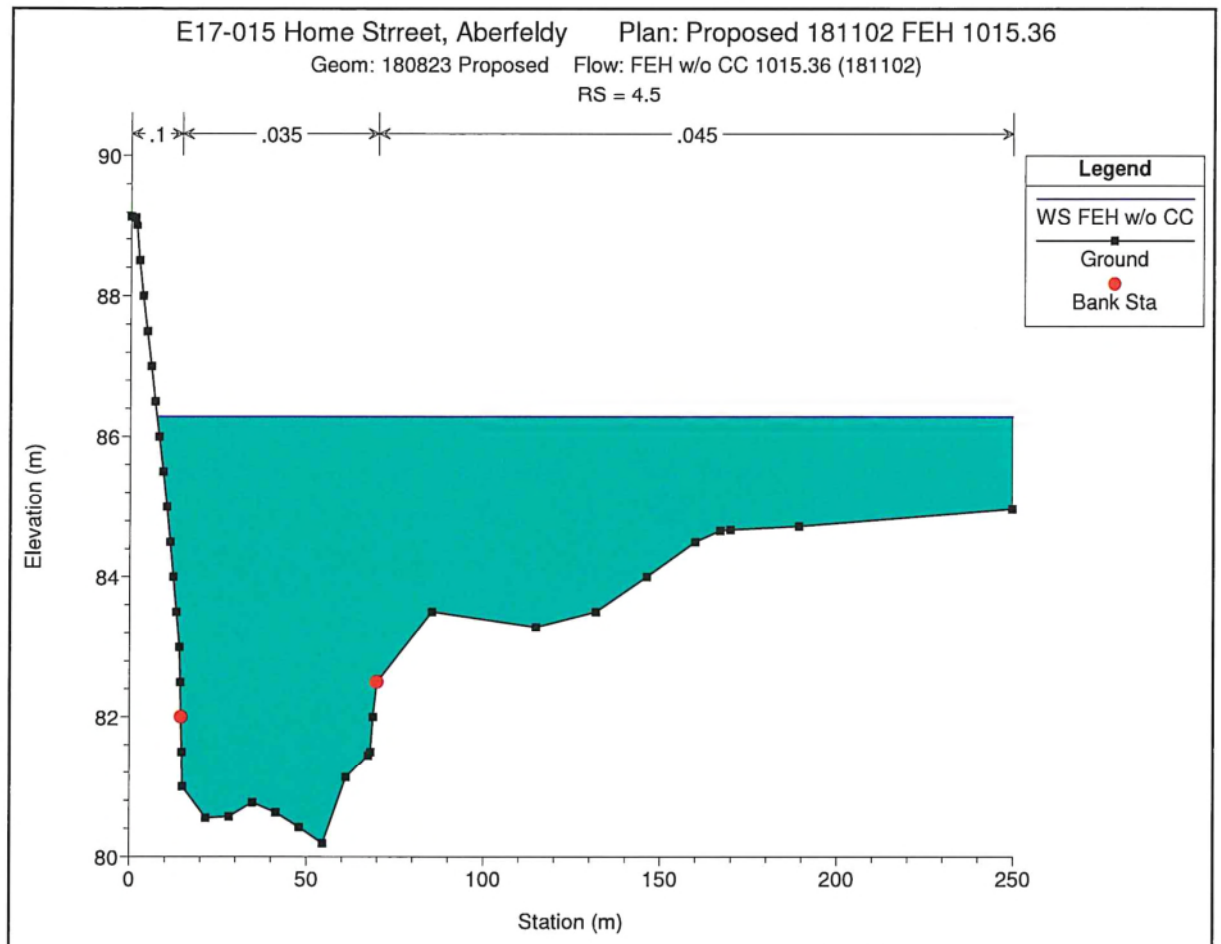
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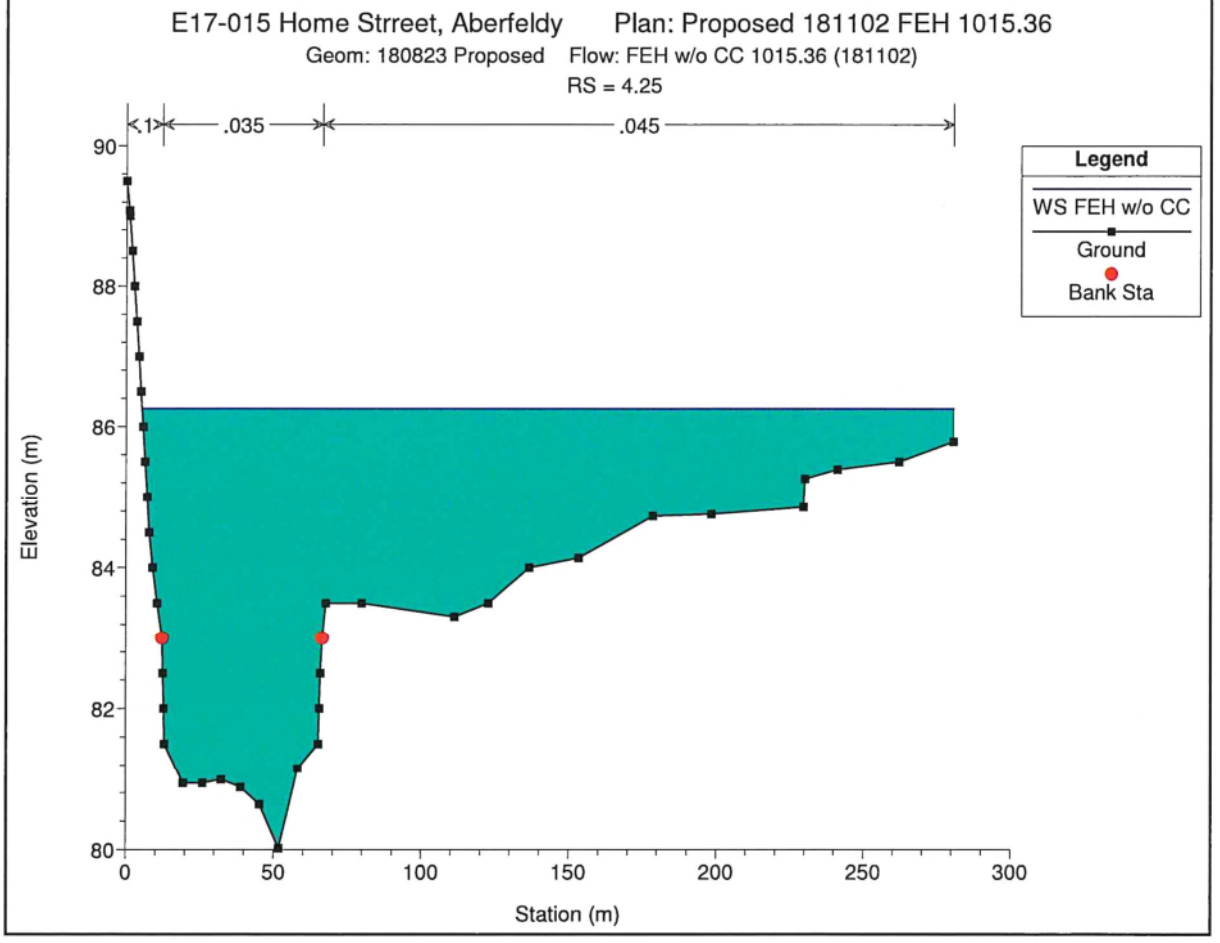
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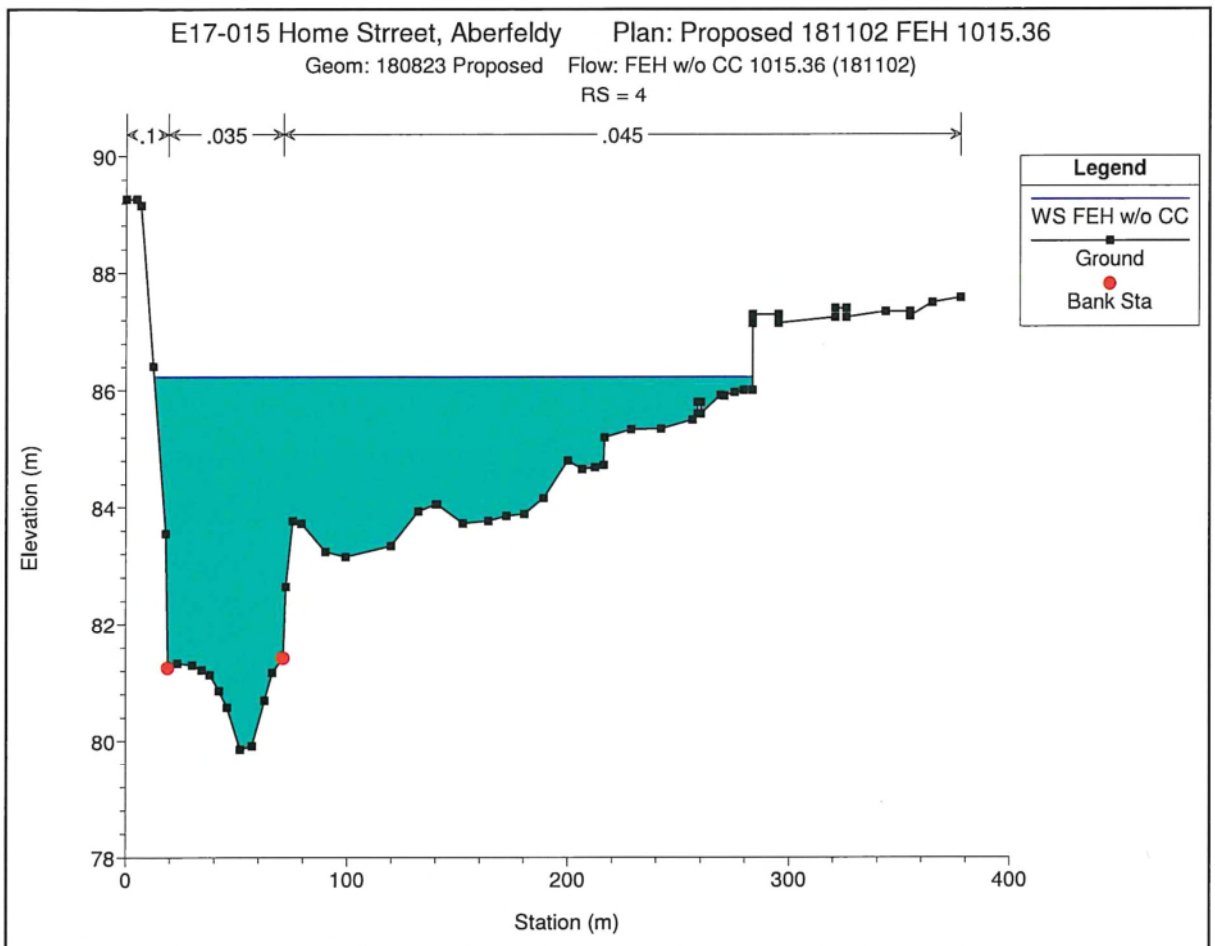
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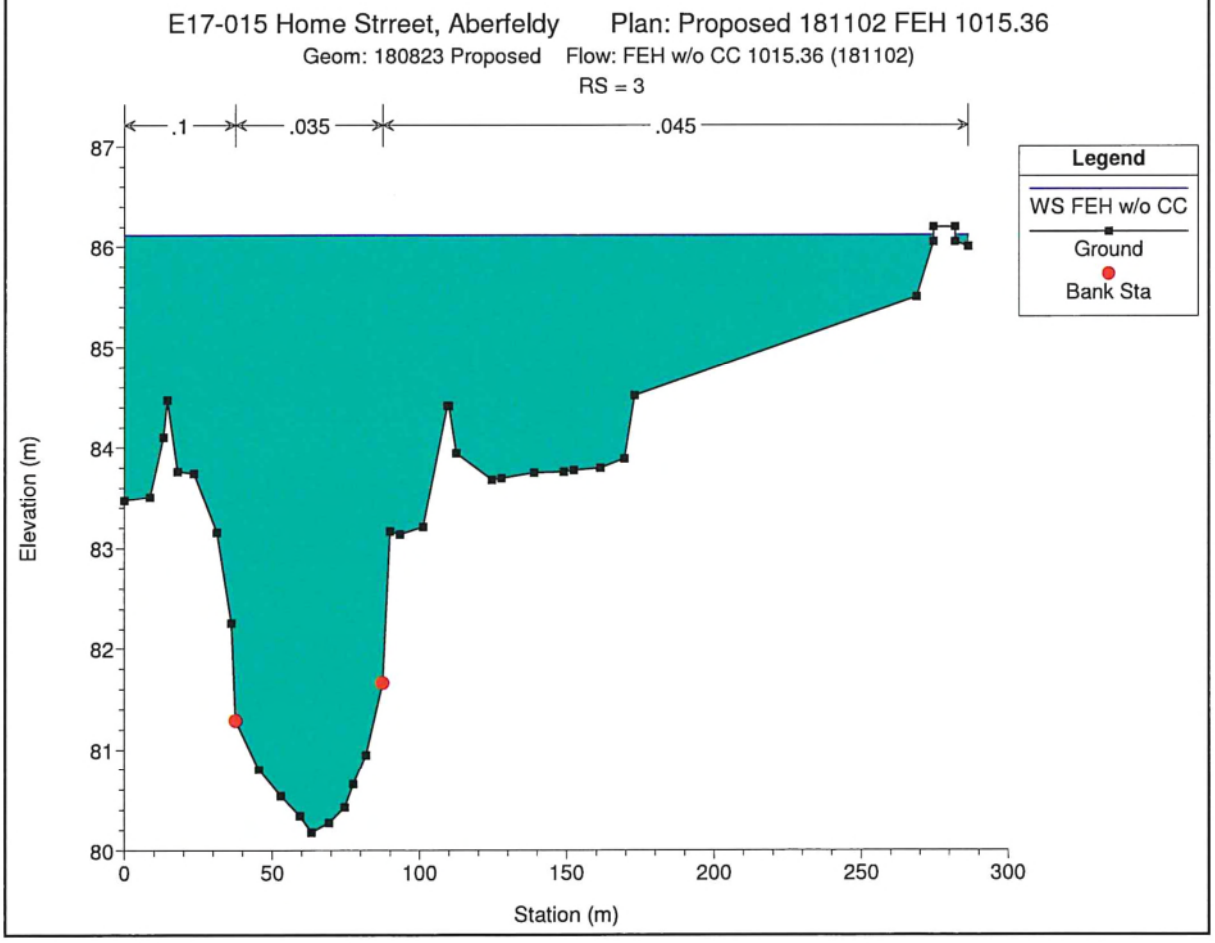
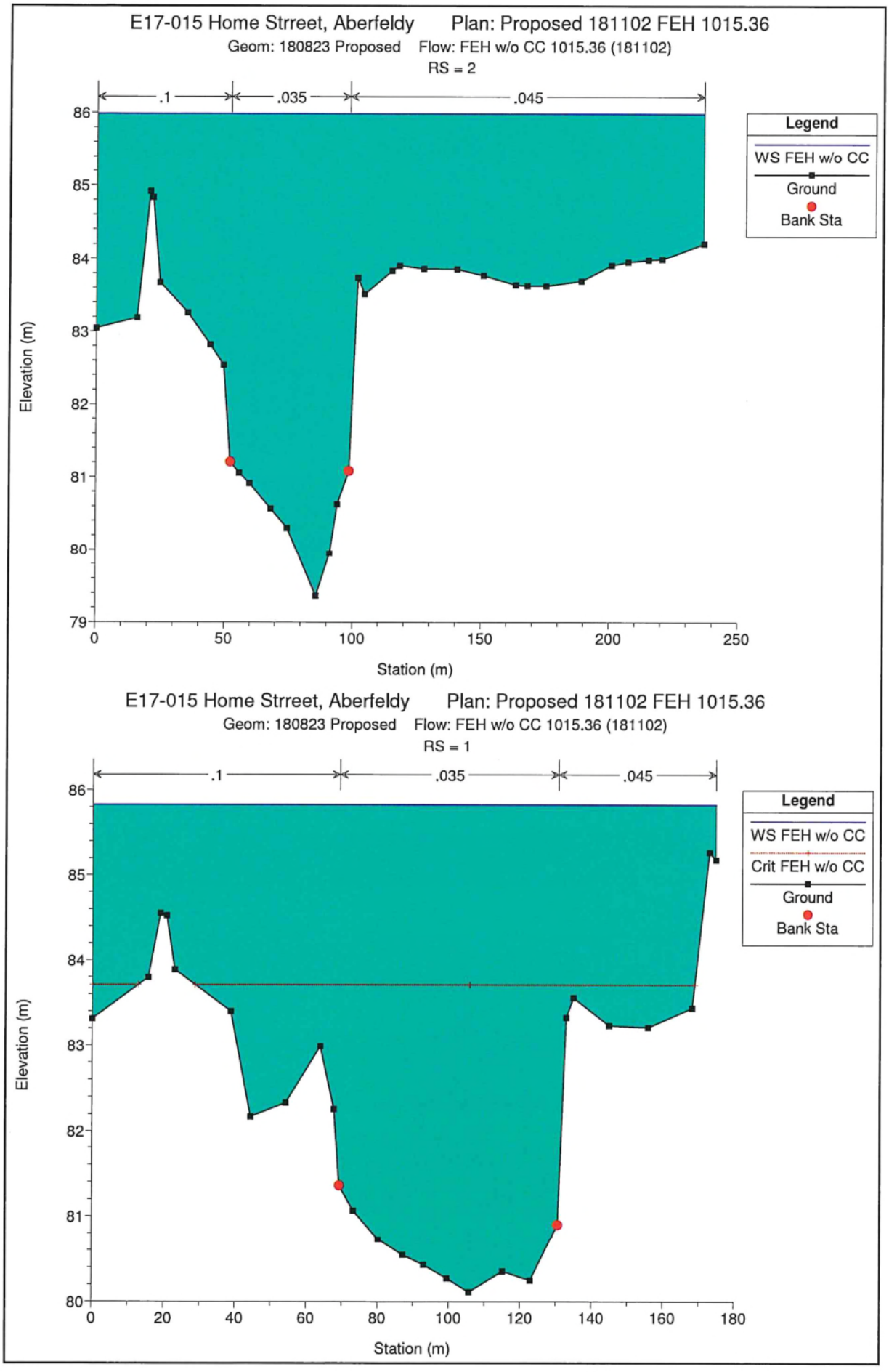
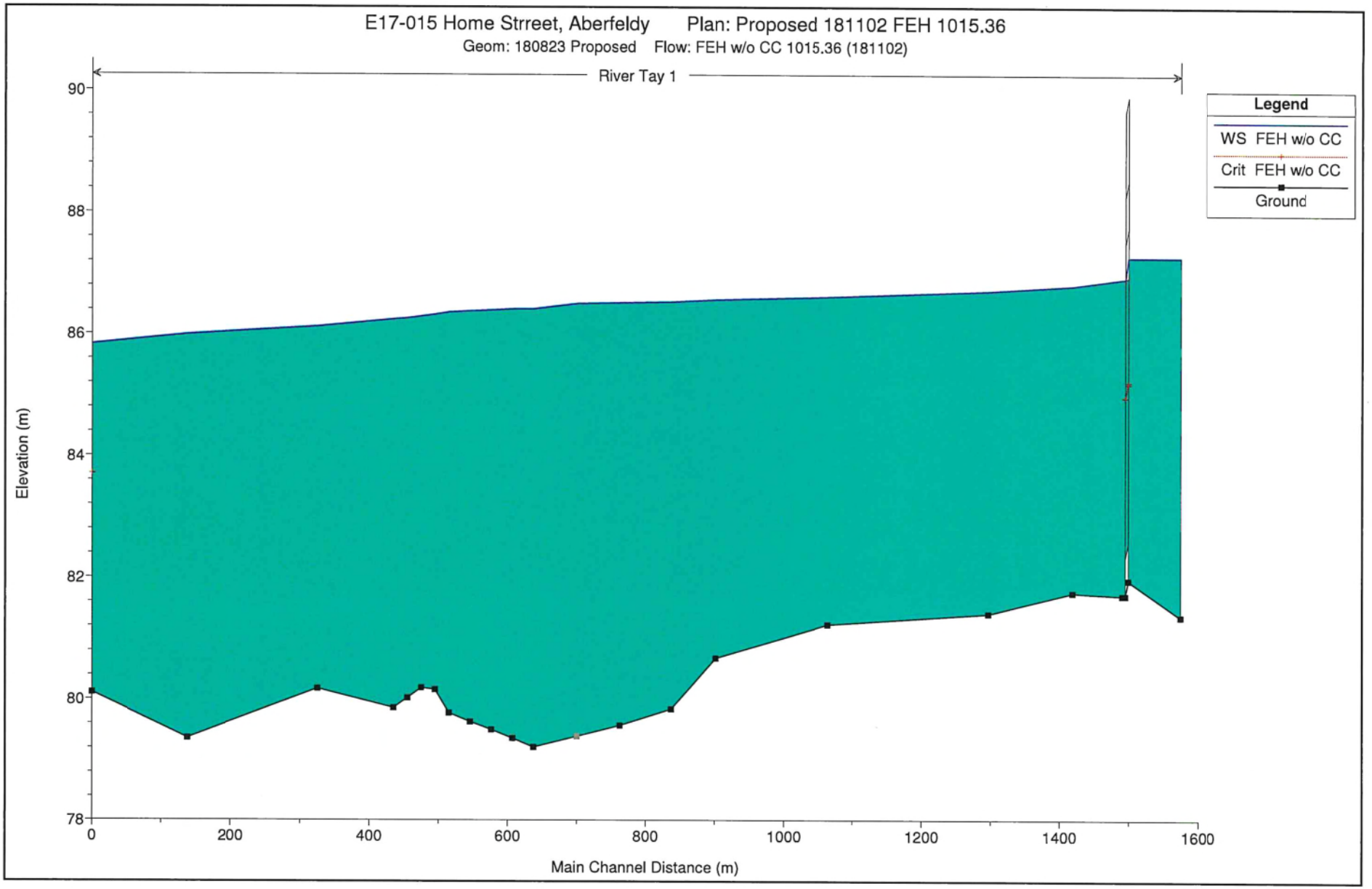
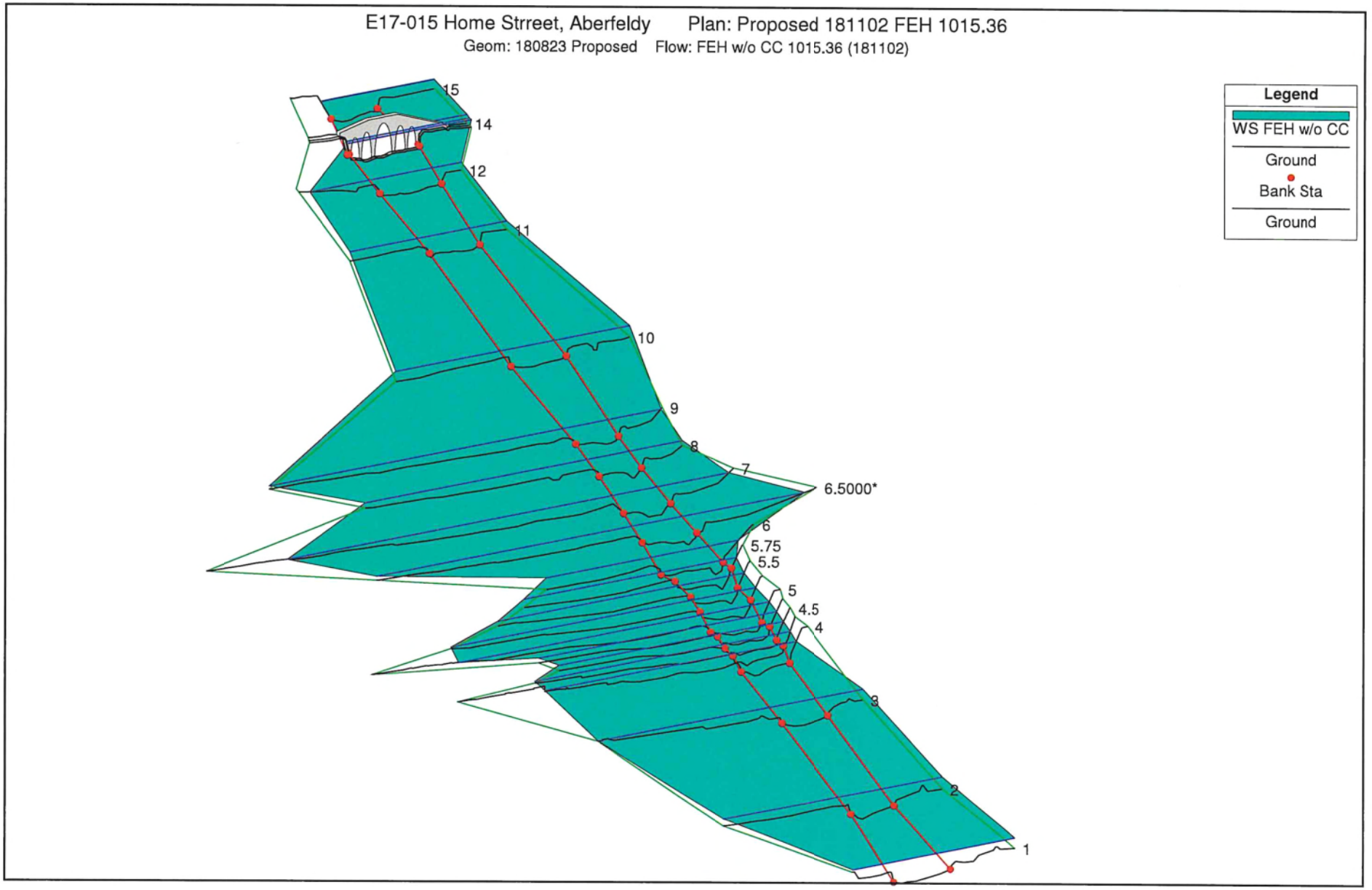
.045
Legend
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
100
200
300
400


E17-015 Home Strreet, Aberfeldy Plan: Proposed 181102 FEH 1015.36
Geom: 180823 Proposed Flow: FEH w/o CC 1015.36 (181102)
RS = 3
.1
.035
.045
Legend
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
87
86
85
84
83
82
81
80
0
50
100
150
200
250
300

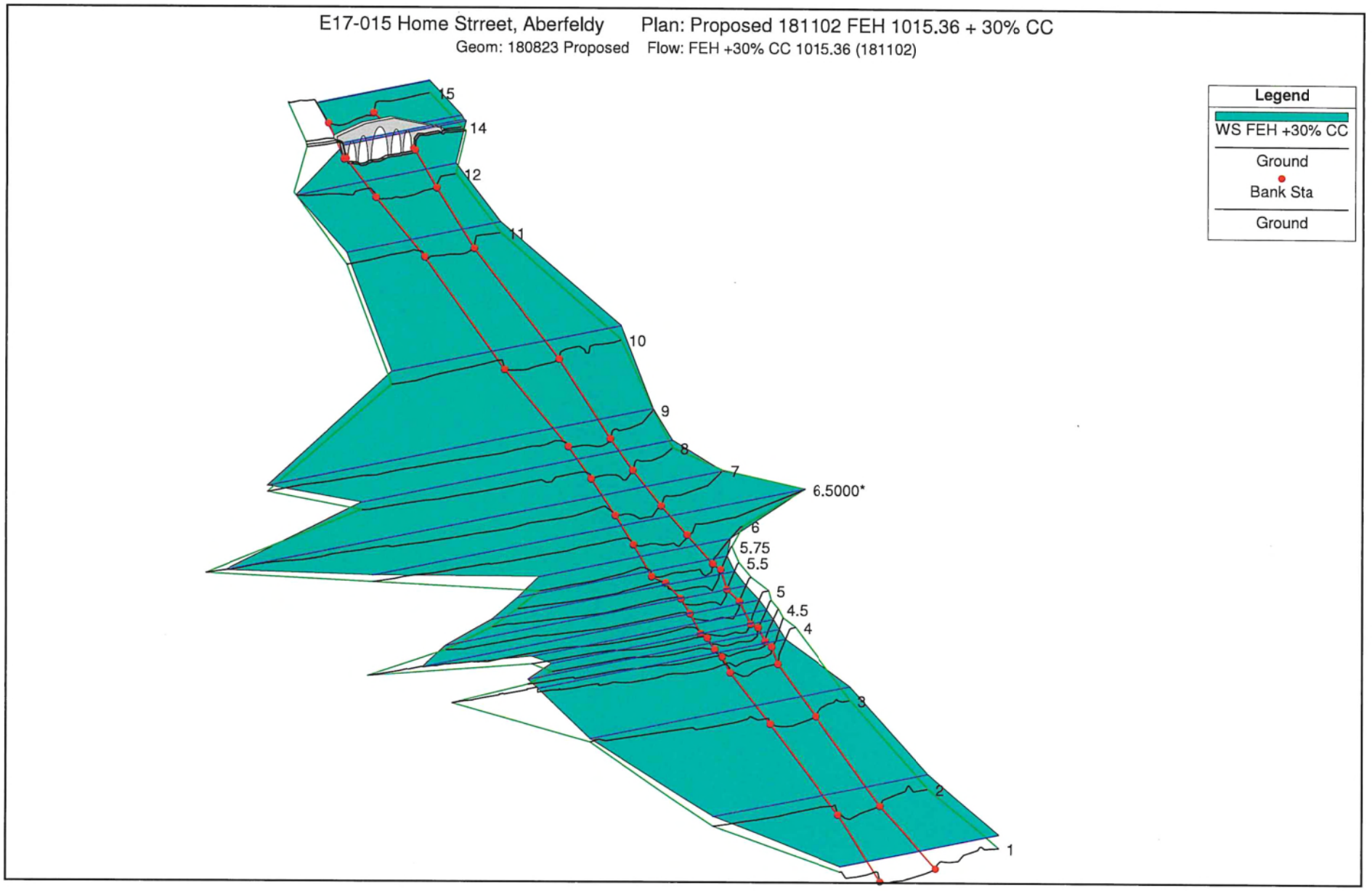

E17-015 Home Strreet, Aberfeldy Plan: Proposed 181102 FEH 1015.36
Geom: 180823 Proposed Flow: FEH w/o CC 1015.36 (181102)
RS = 2
.1
.035
.045
Legend
WS FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy Plan: Proposed 181102 FEH 1015.36
Geom: 180823 Proposed Flow: FEH w/o CC 1015.36 (181102)
RS = 1
.1
.035
.045
Legend
WS FEH w/o CC
Crit FEH w/o CC
Ground
Bank Sta
Elevation (m)
Station (m)

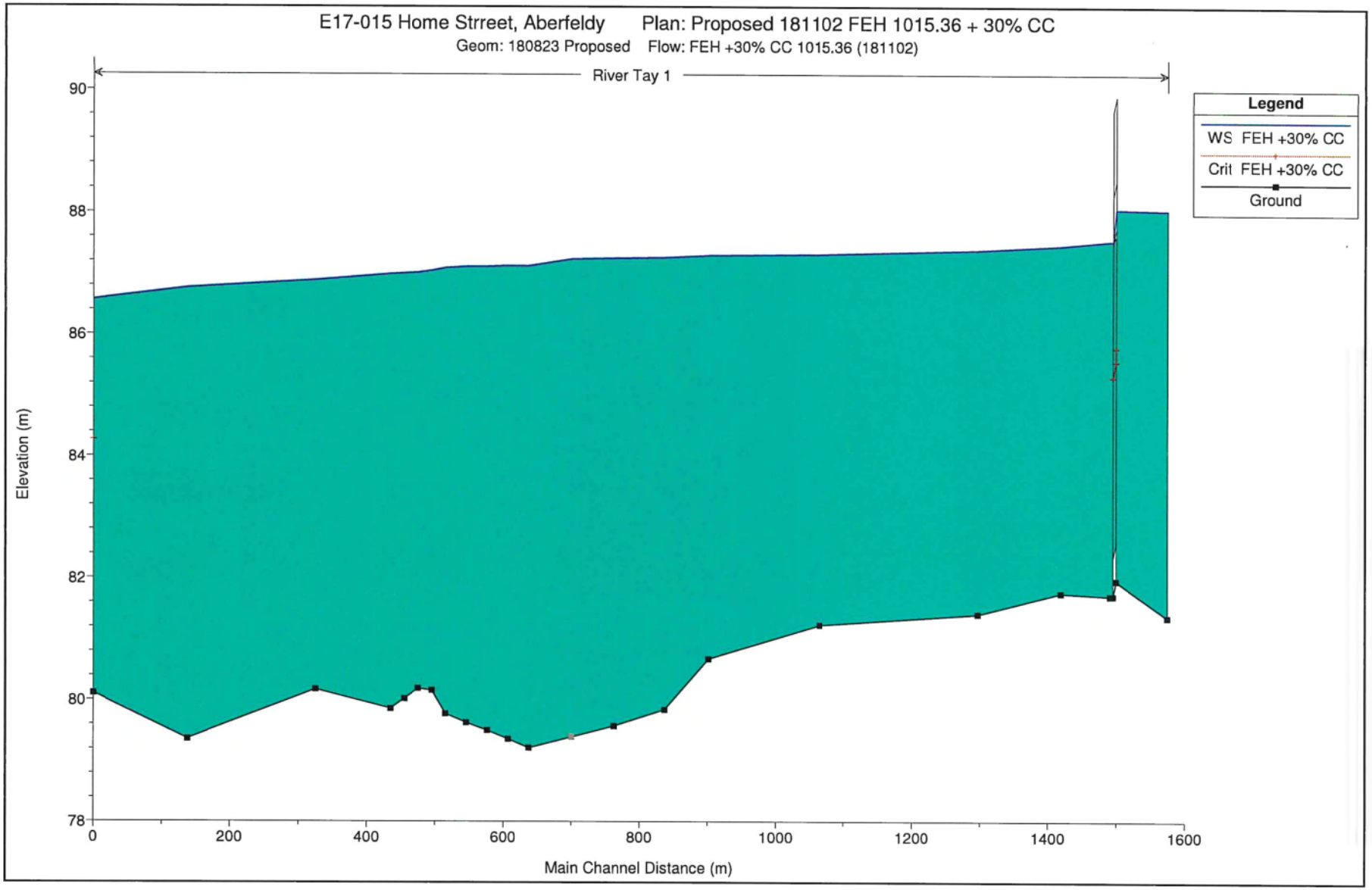

E17-015 Home Strreet, Aberfeldy Plan: Proposed 181102 FEH 1015.36
Geom: 180823 Proposed Flow: FEH w/o CC 1015.36 (181102)
River Tay 1
Legend
WS FEH w/o CC
Crit FEH w/o CC
Ground
Elevation (m)
90
88
86
84
82
80
78
0
200
400
600
800
1000
1200
1400
1600
Main Channel Distance (m)

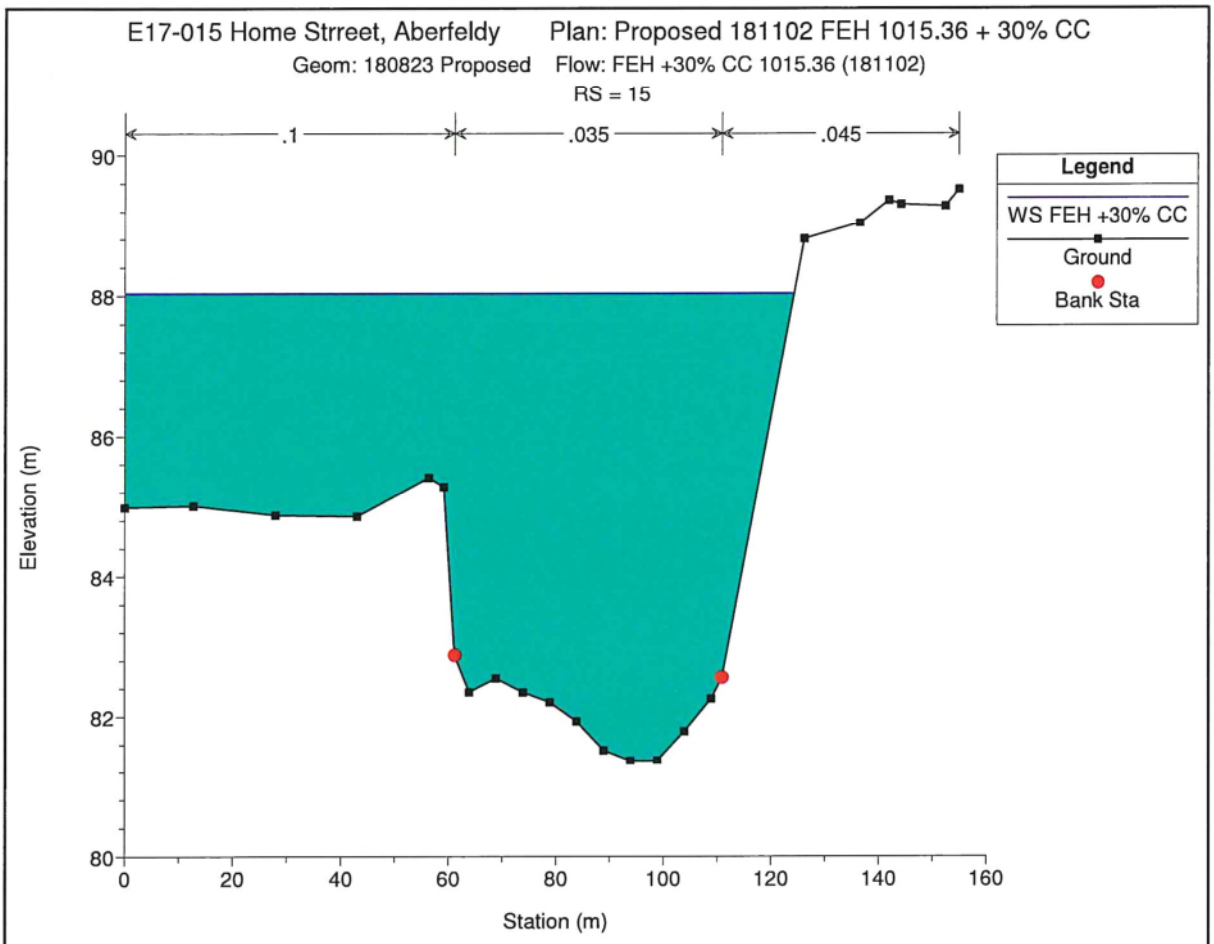

E17-015 Home Strreet, Aberfeldy Plan: Proposed 181102 FEH 1015.36
Geom: 180823 Proposed Flow: FEH w/o CC 1015.36 (181102)
Legend
WS FEH w/o CC
Ground
Bank Sta
Ground
15
14
12
11
10
9
8
7
6.5000*
6
5.75
5.5
5
4.5
4
3
2
1

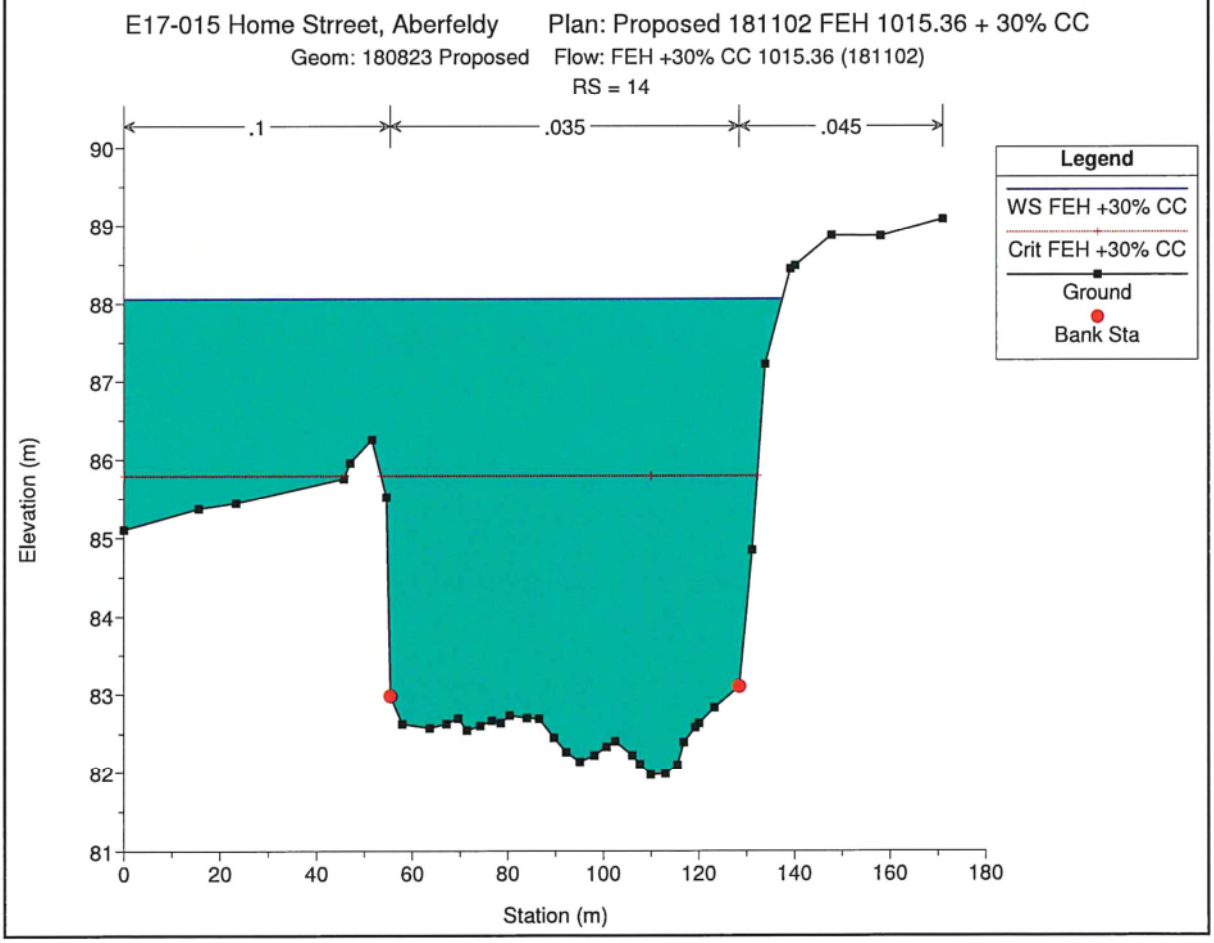
HEC-RAS Plan: Pro FEH 1015.36 +CC River: River Tay Reach: 1 Profile: FEH +30% CC

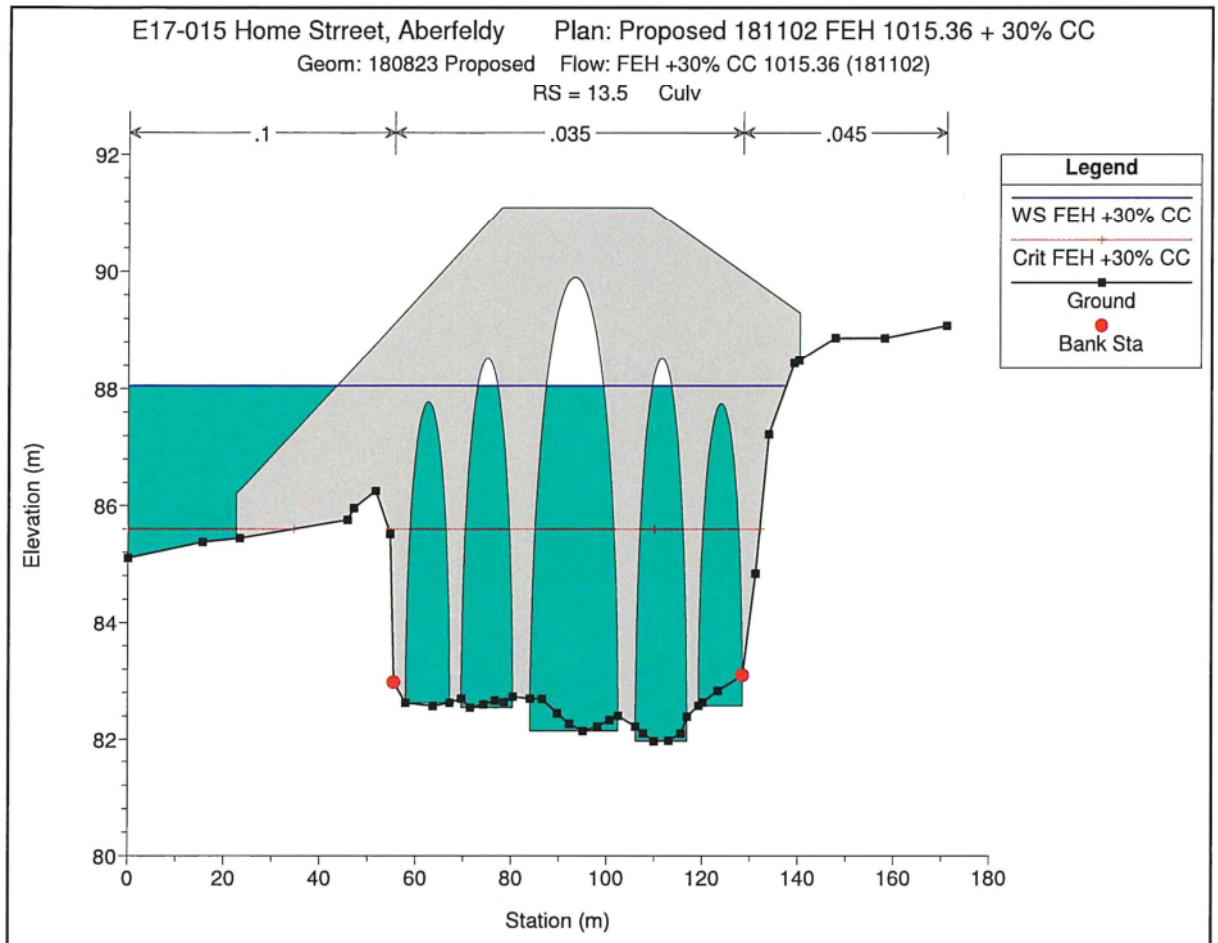
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
1	15	FEH +30% CC	1319.97	81.37	88.04		88.63	0.001527	3.70	525.09	124.27	0.48
1	14	FEH +30% CC	1319.97	81.97	88.06	85.79	88.48	0.001122	3.00	564.87	137.46	0.41
1	13.5		Culvert									
1	13	FEH +30% CC	1319.97	81.72	87.54		88.03	0.001366	3.17	508.33	134.41	0.44
1	12	FEH +30% CC	1319.97	81.76	87.46		87.92	0.001361	3.20	547.55	175.50	0.44
1	11	FEH +30% CC	1319.97	81.41	87.39		87.73	0.001138	3.00	626.21	168.72	0.41
1	10	FEH +30% CC	1319.97	81.24	87.32		87.49	0.000620	2.27	952.90	252.25	0.30
1	9	FEH +30% CC	1319.97	80.68	87.30		87.39	0.000389	1.84	1312.38	423.02	0.24
1	8	FEH +30% CC	1319.97	79.84	87.26		87.36	0.000436	1.92	1182.04	341.98	0.25
1	7	FEH +30% CC	1319.97	79.57	87.25		87.32	0.000296	1.72	1535.90	545.37	0.21
1	6.5000*	FEH +30% CC	1319.97	79.39	87.23		87.31	0.000263	1.59	1553.44	474.86	0.20
1	6	FEH +30% CC	1319.97	79.22	87.12		87.28	0.000457	2.03	890.76	210.90	0.26
1	5.75	FEH +30% CC	1319.97	79.36	87.12		87.26	0.000458	1.98	933.58	230.79	0.26
1	5.5	FEH +30% CC	1319.97	79.50	87.11		87.24	0.000454	2.03	993.58	267.07	0.26
1	5.25	FEH +30% CC	1319.97	79.63	87.11		87.22	0.000401	1.93	1098.25	330.32	0.24
1	5	FEH +30% CC	1319.97	79.77	87.08		87.21	0.000396	2.00	1121.77	370.18	0.25
1	4.75	FEH +30% CC	1319.97	80.16	87.04		87.20	0.000497	2.15	928.01	258.41	0.27
1	4.5	FEH +30% CC	1319.97	80.19	87.01		87.19	0.000548	2.25	879.08	243.70	0.29
1	4.25	FEH +30% CC	1319.97	80.02	87.00		87.17	0.000605	2.29	897.72	276.30	0.30
1	4	FEH +30% CC	1319.97	79.86	86.98		87.16	0.000590	2.33	895.03	272.35	0.30
1	3	FEH +30% CC	1319.97	80.17	86.88		87.09	0.000672	2.50	905.69	286.23	0.32
1	2	FEH +30% CC	1319.97	79.36	86.76		86.97	0.000658	2.51	888.51	236.52	0.32
1	1	FEH +30% CC	1319.97	80.11	86.56	84.27	86.86	0.000802	2.69	743.05	174.69	0.35

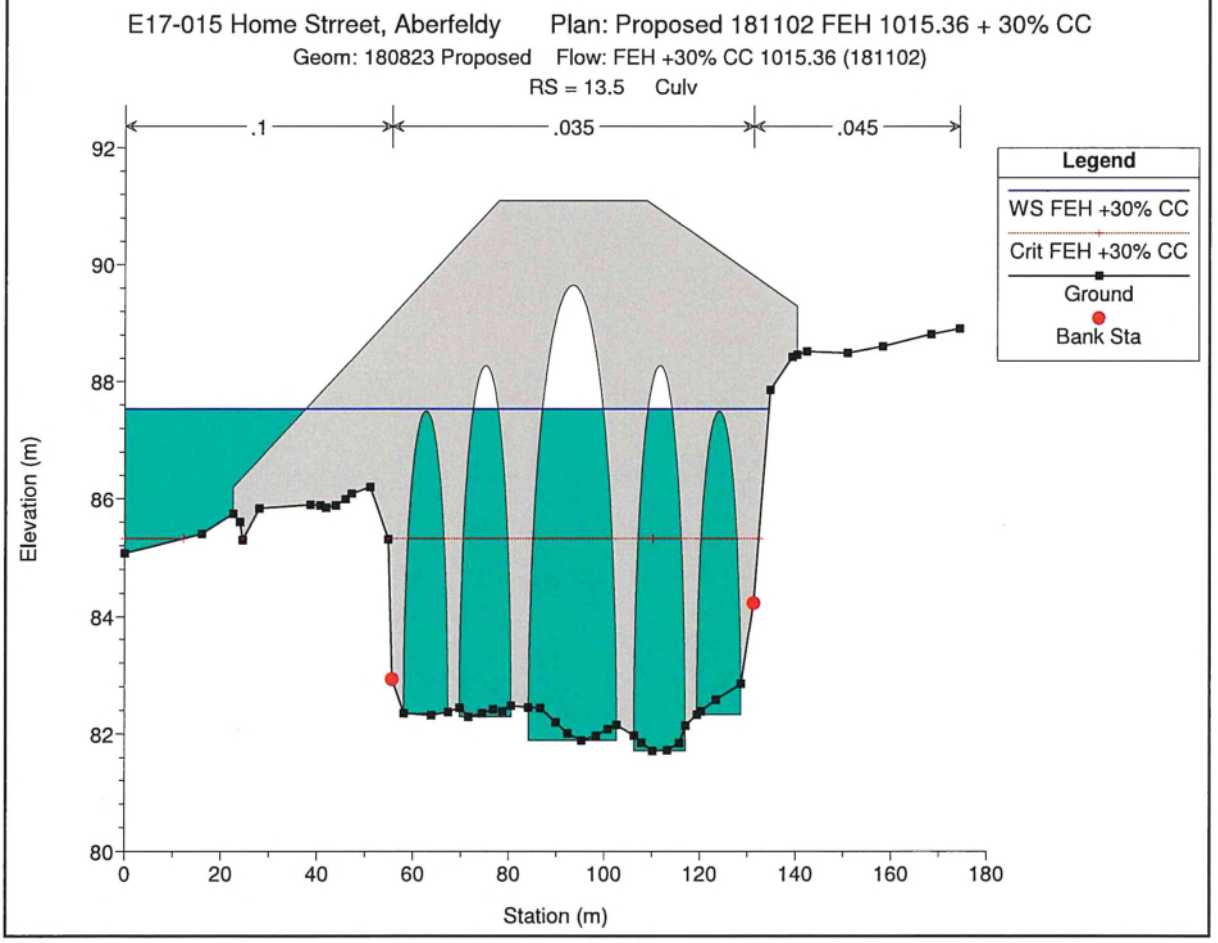

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
Legend
WS FEH +30% CC
Ground
Bank Sta
Ground
15
14
12
11
10
9
8
7
6.5000*
6
5.75
5.5
5
4.5
4
3
2
1

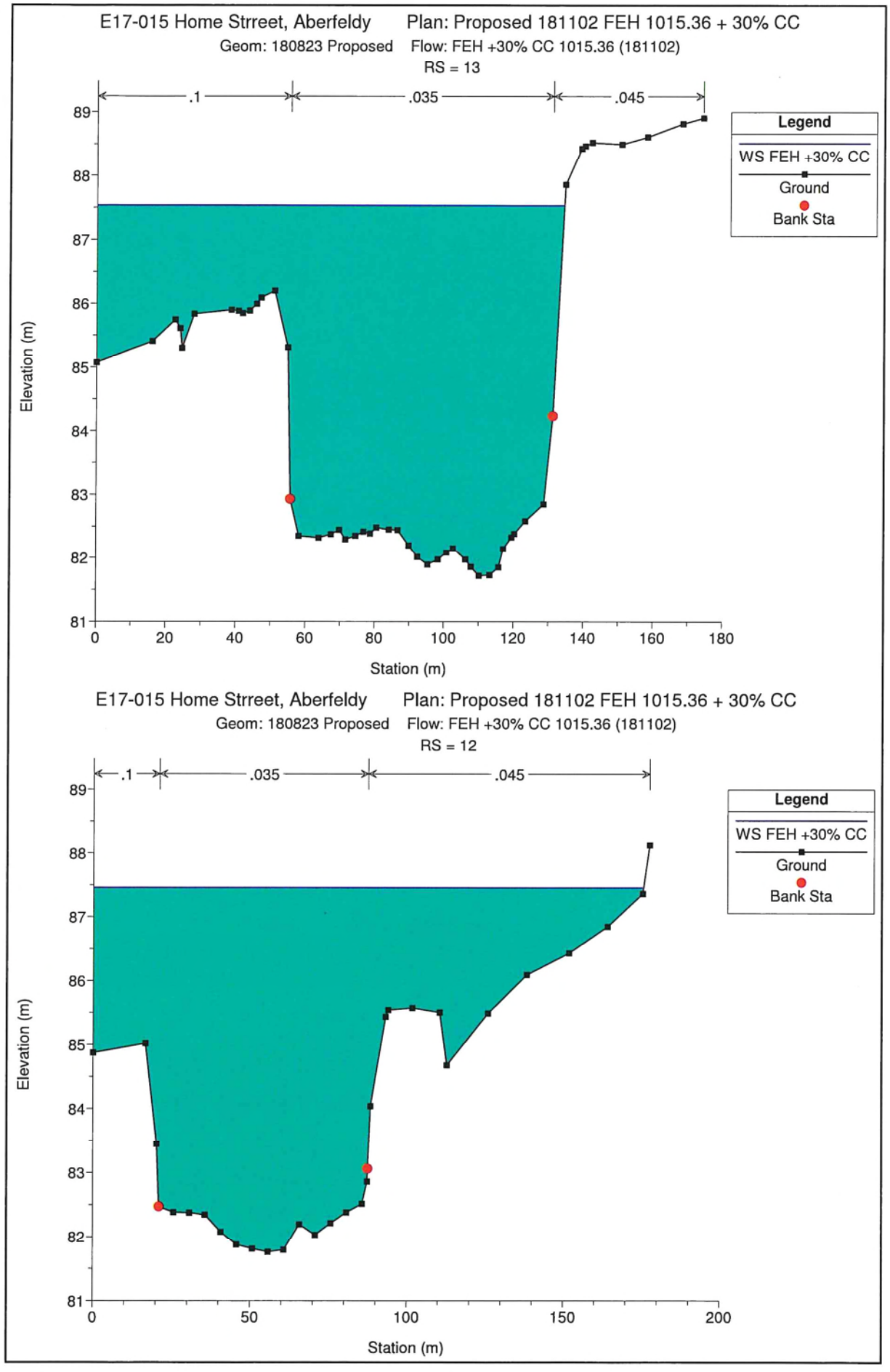

E17-015 Home Strreet, Aberfeldy Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed Flow: FEH +30% CC 1015.36 (181102)
River Tay 1
Legend
WS FEH +30% CC
Crit FEH +30% CC
Ground
Elevation (m)
90
88
86
84
82
80
78
0
200
400
600
800
1000
1200
1400
1600
Main Channel Distance (m)

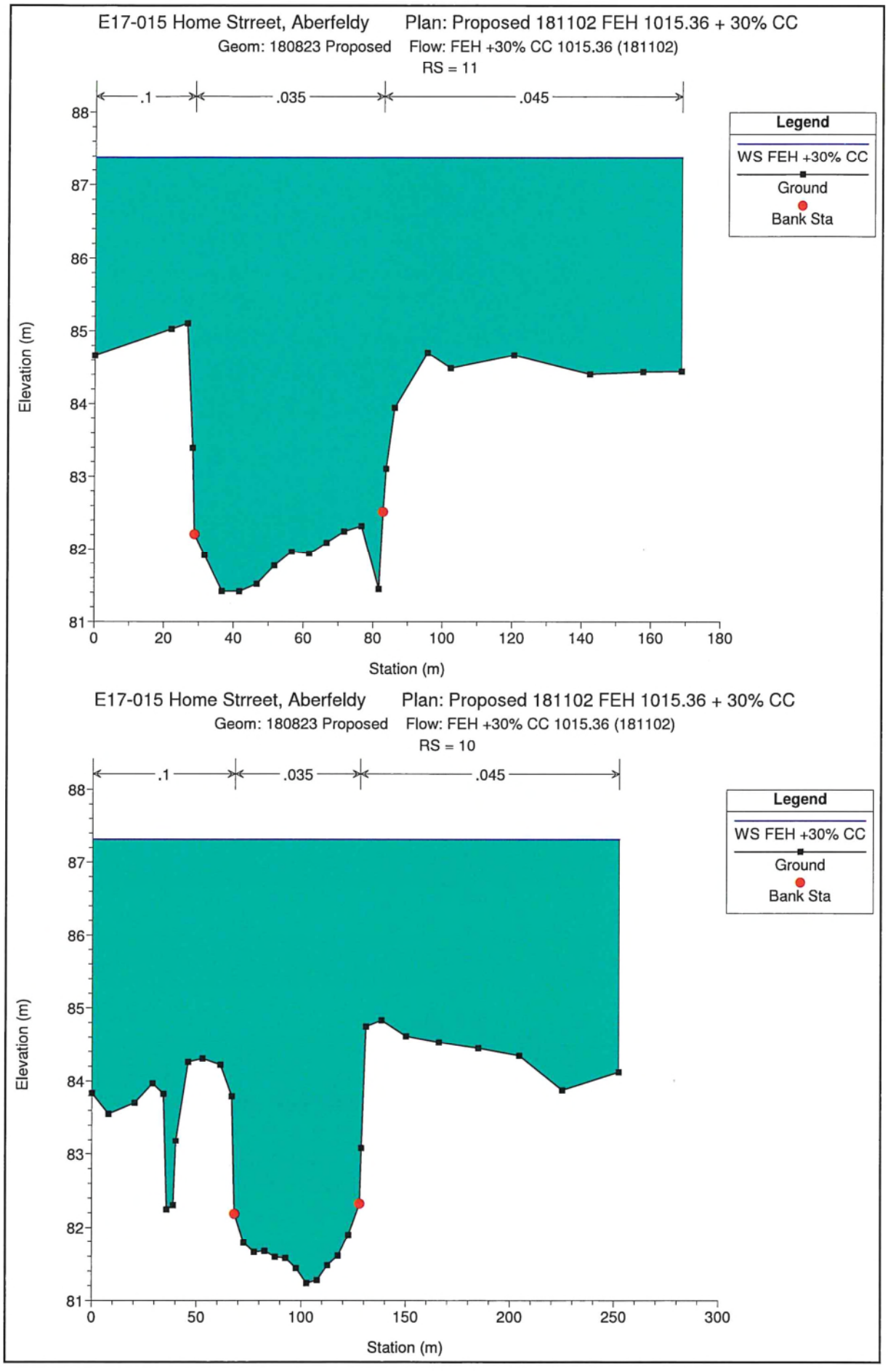

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 15
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)

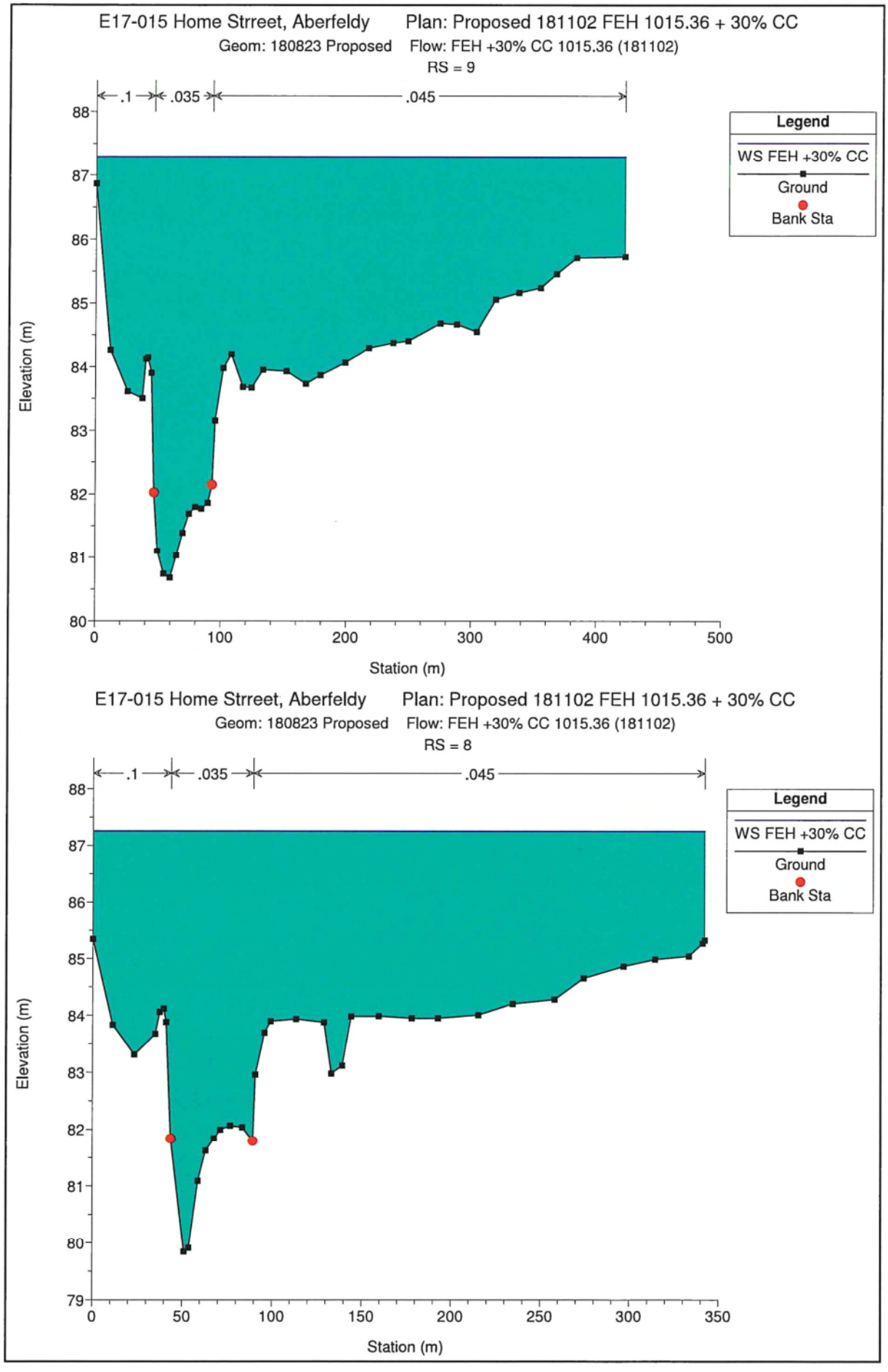

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 14
.1
.035
.045
Legend
WS FEH +30% CC
Crit FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)

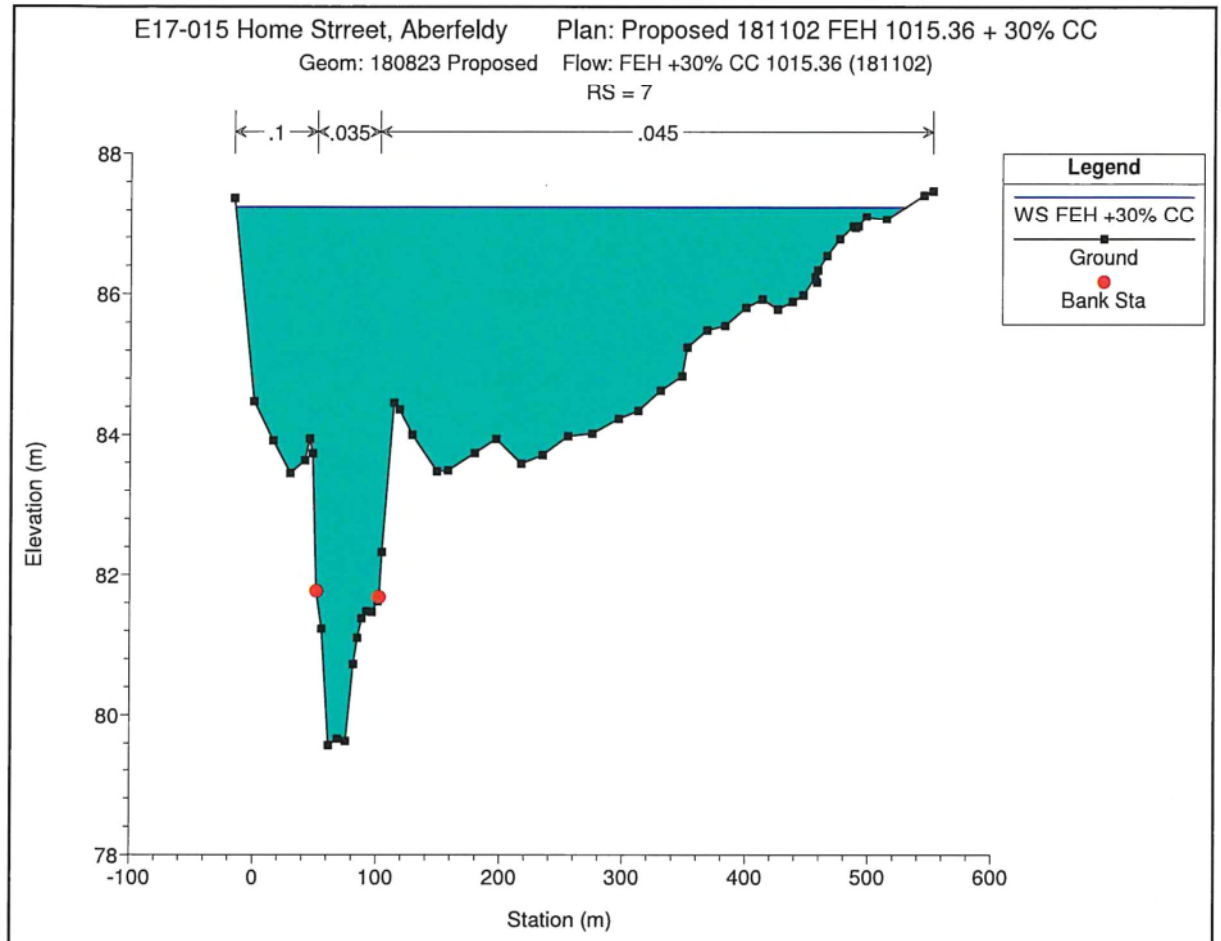

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 13.5
Culv
.1
.035
.045
Legend
WS FEH +30% CC
Crit FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
120
140
160
180

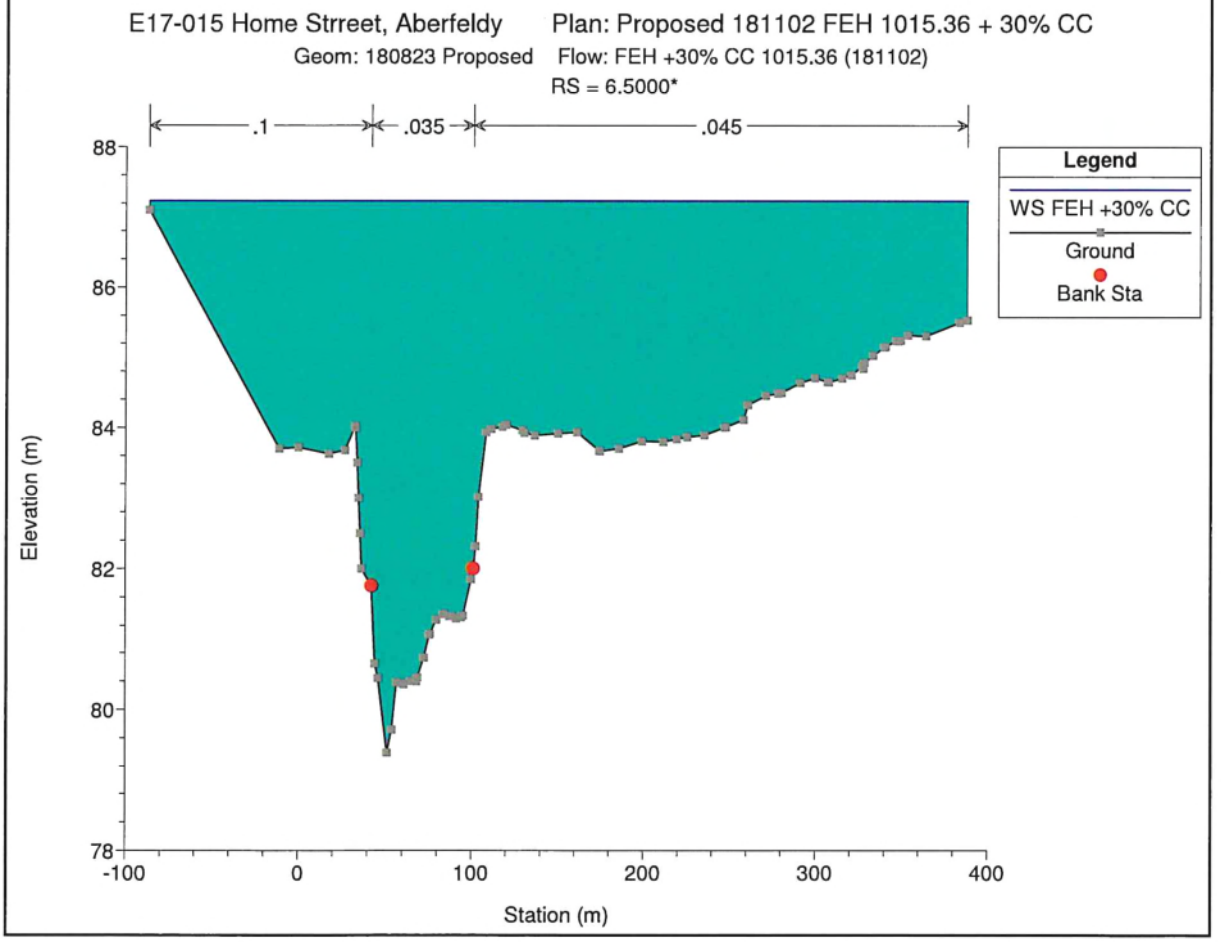

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 13.5
Culv
.1
.035
.045
Legend
WS FEH +30% CC
Crit FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
120
140
160
180

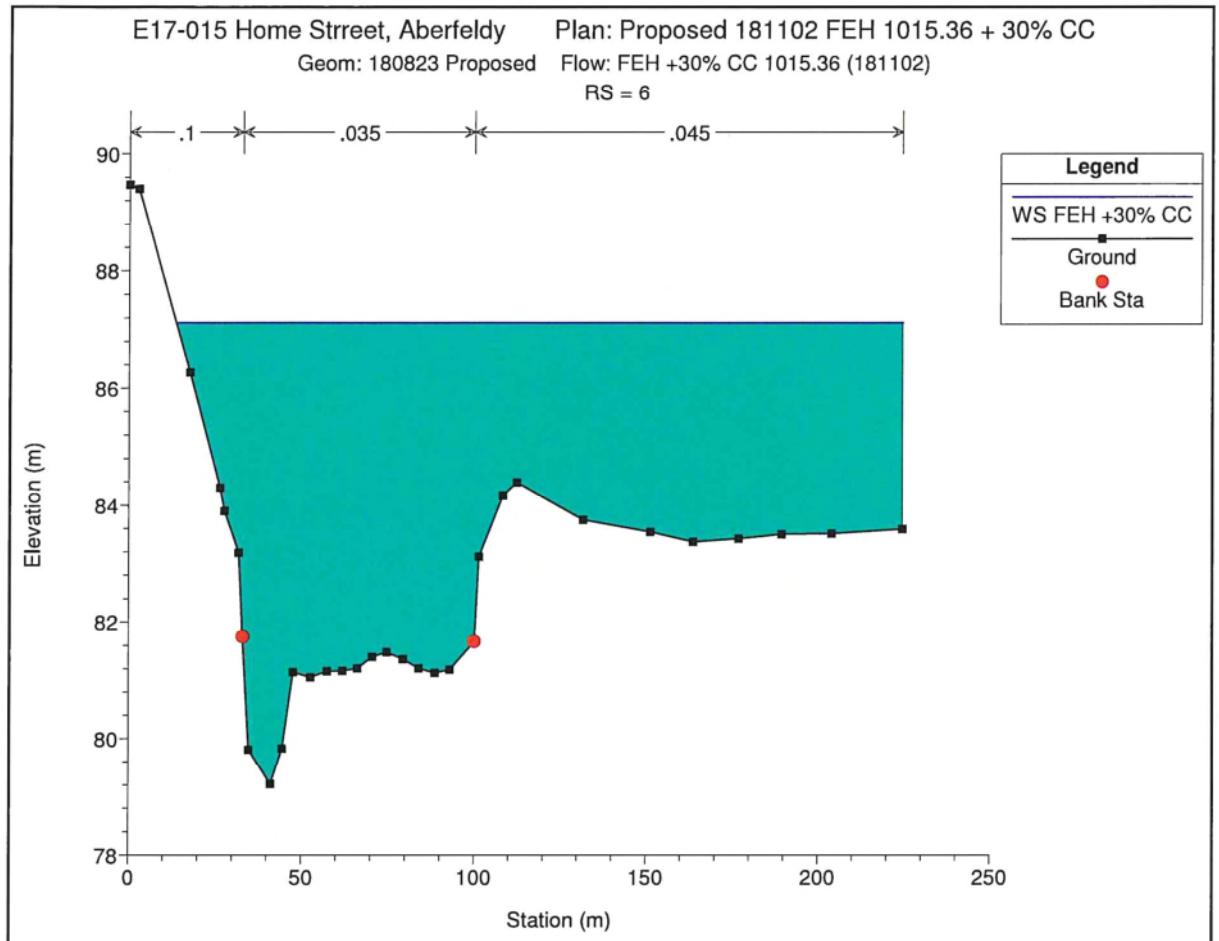

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 13
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 12
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)

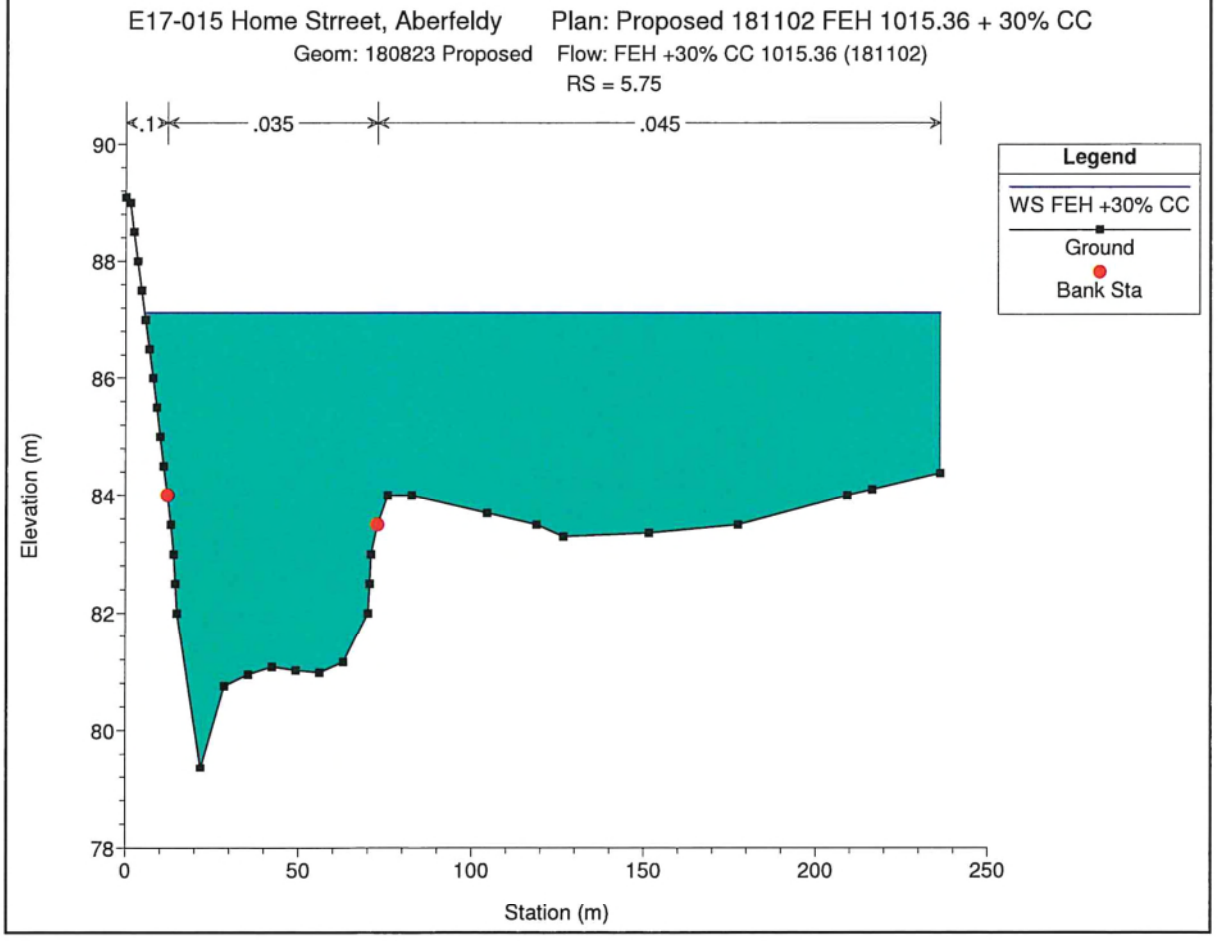

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 11
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 10
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)

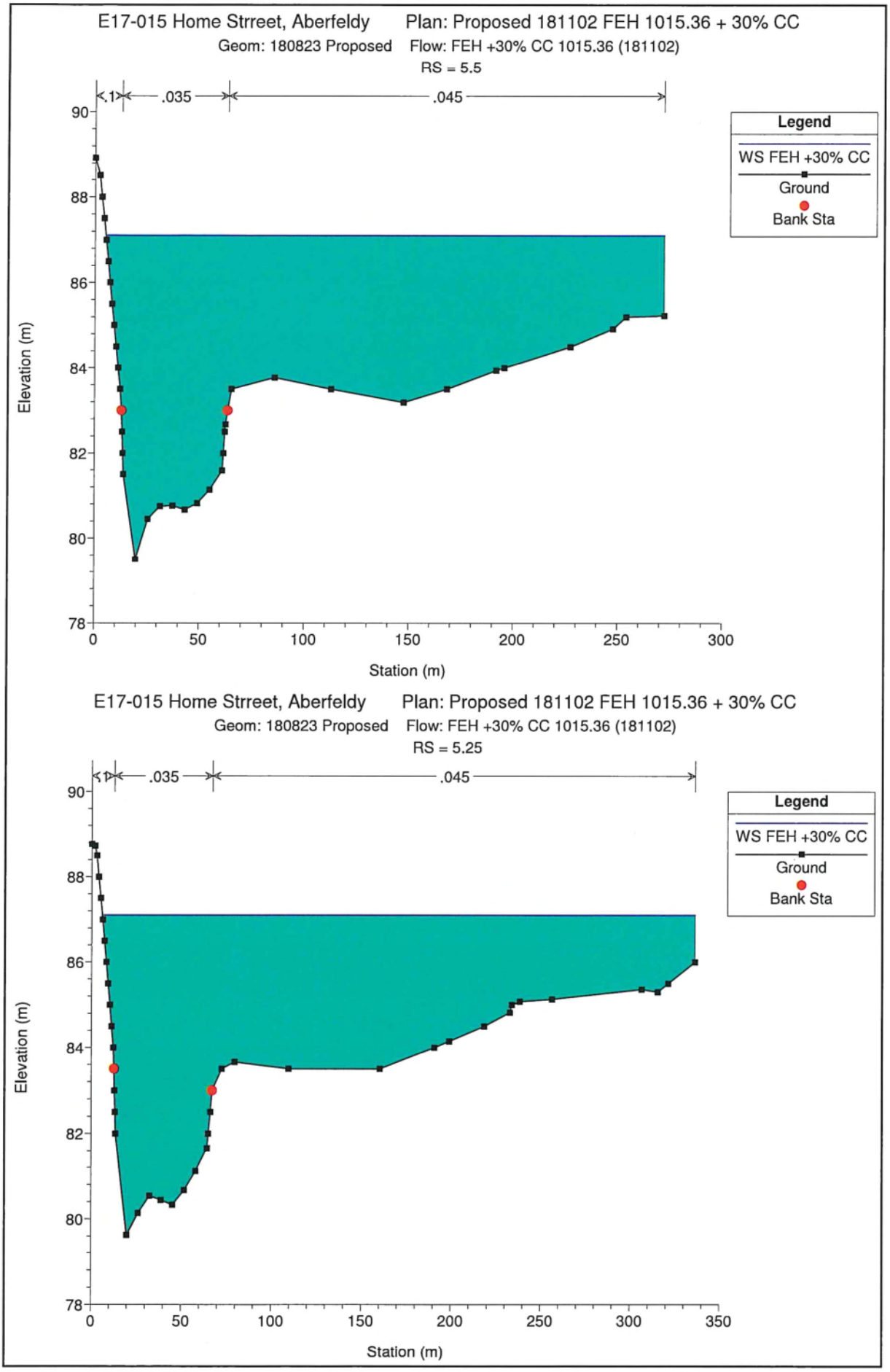

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 9
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 8
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)

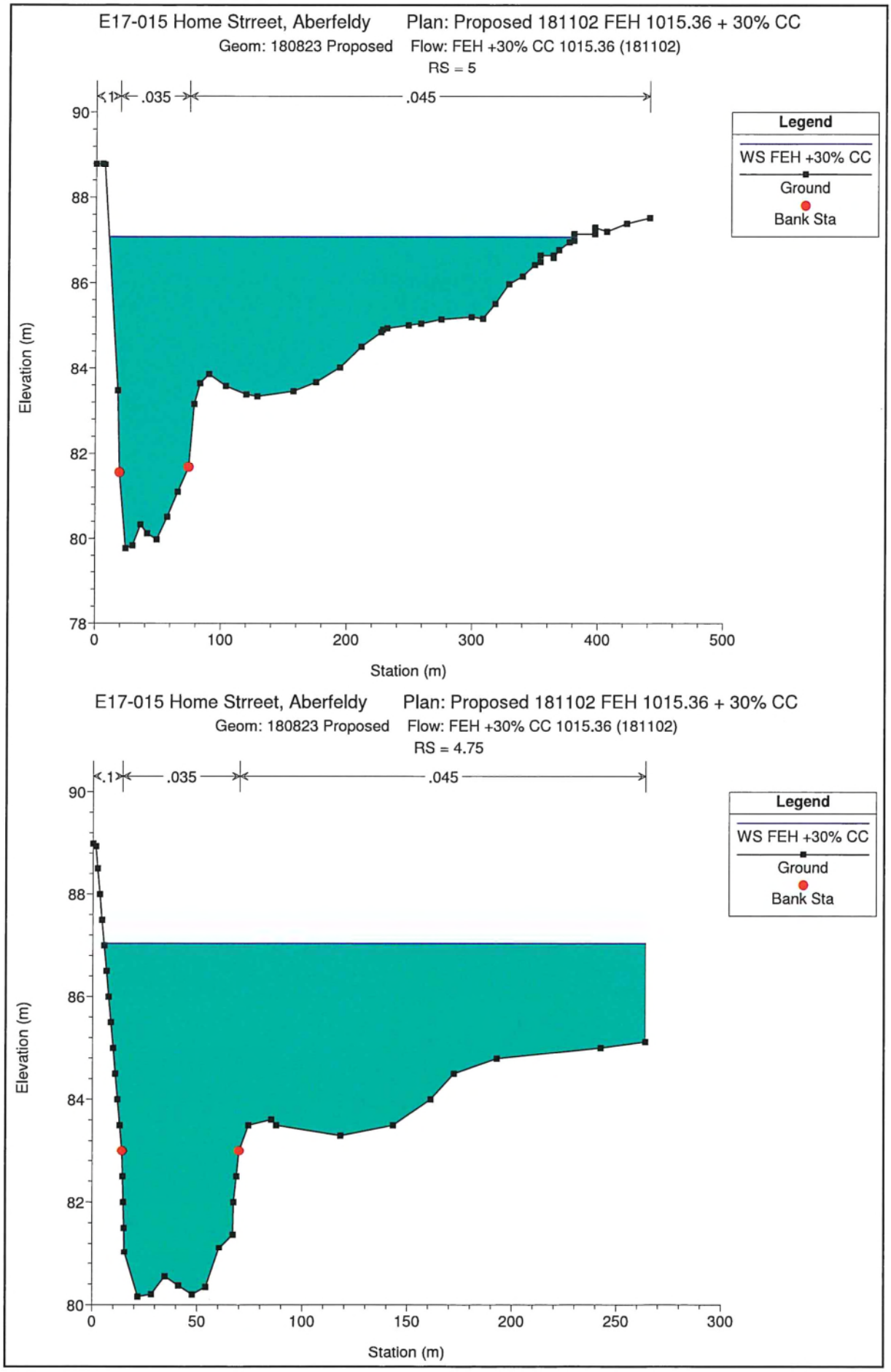

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 7
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
88
86
84
82
80
78
-100
0
100
200
300
400
500
600

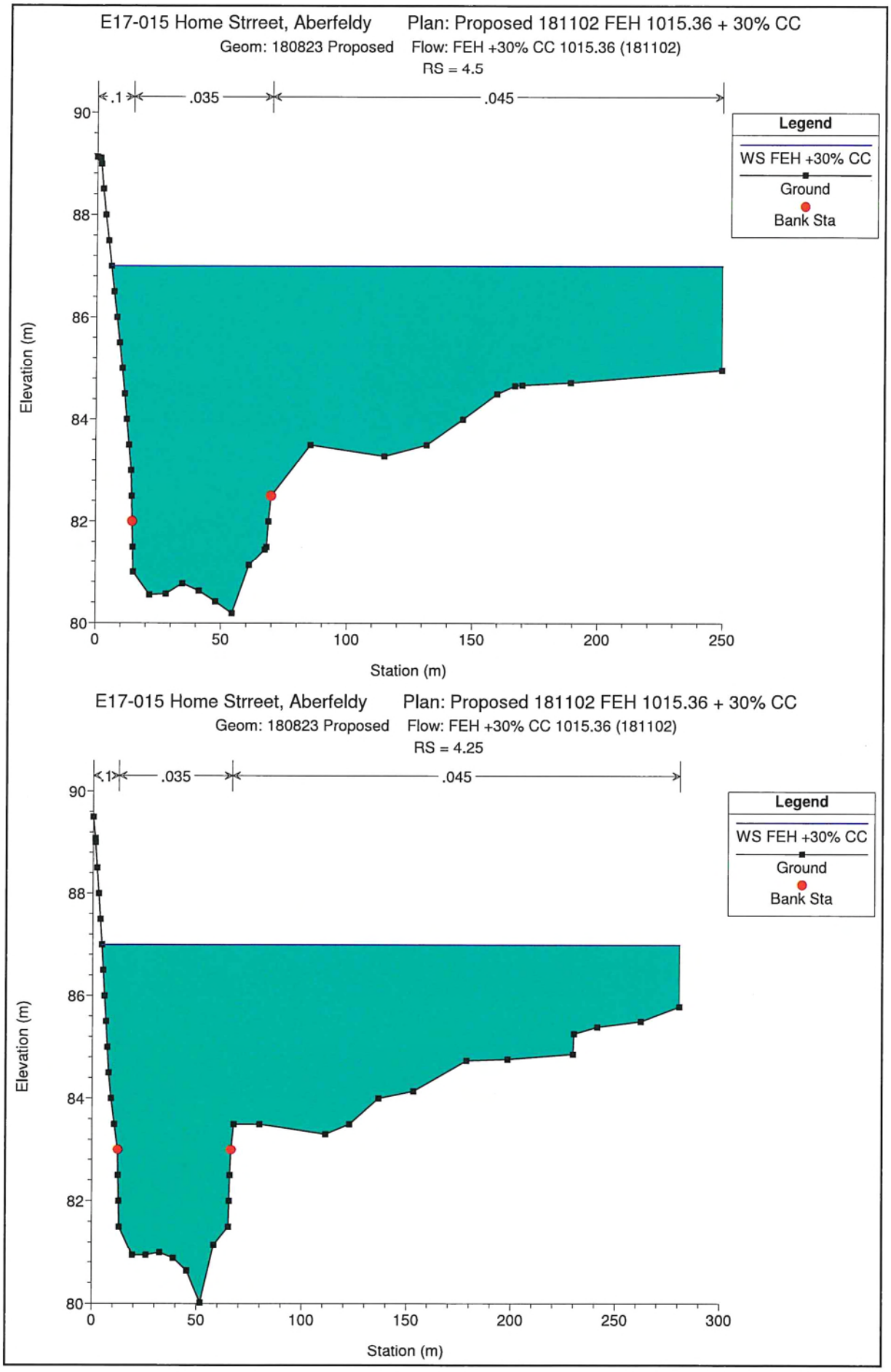

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 6.5000*
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
88
86
84
82
80
78
-100
0
100
200
300
400

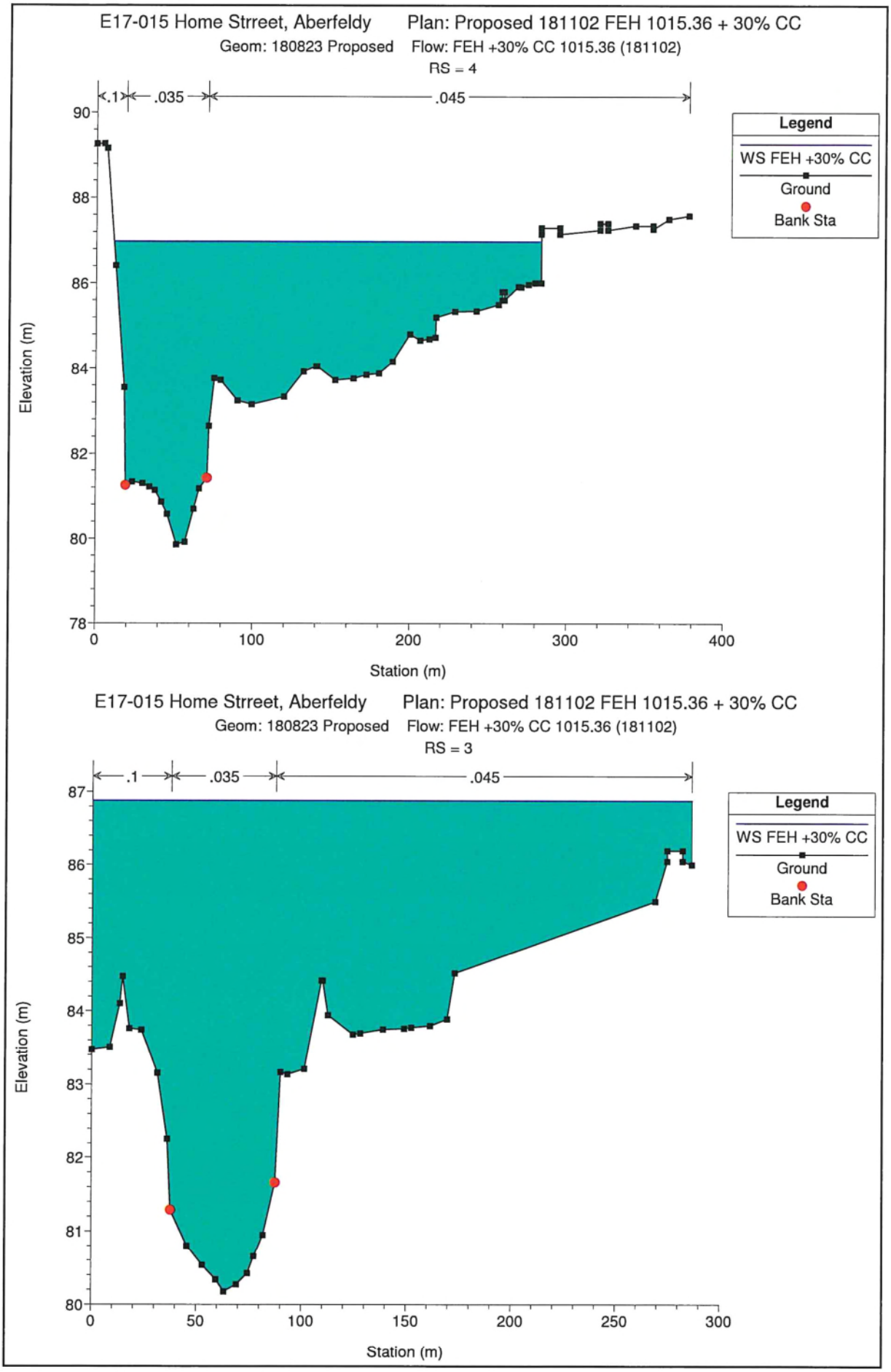

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 6
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
50
100
150
200
250

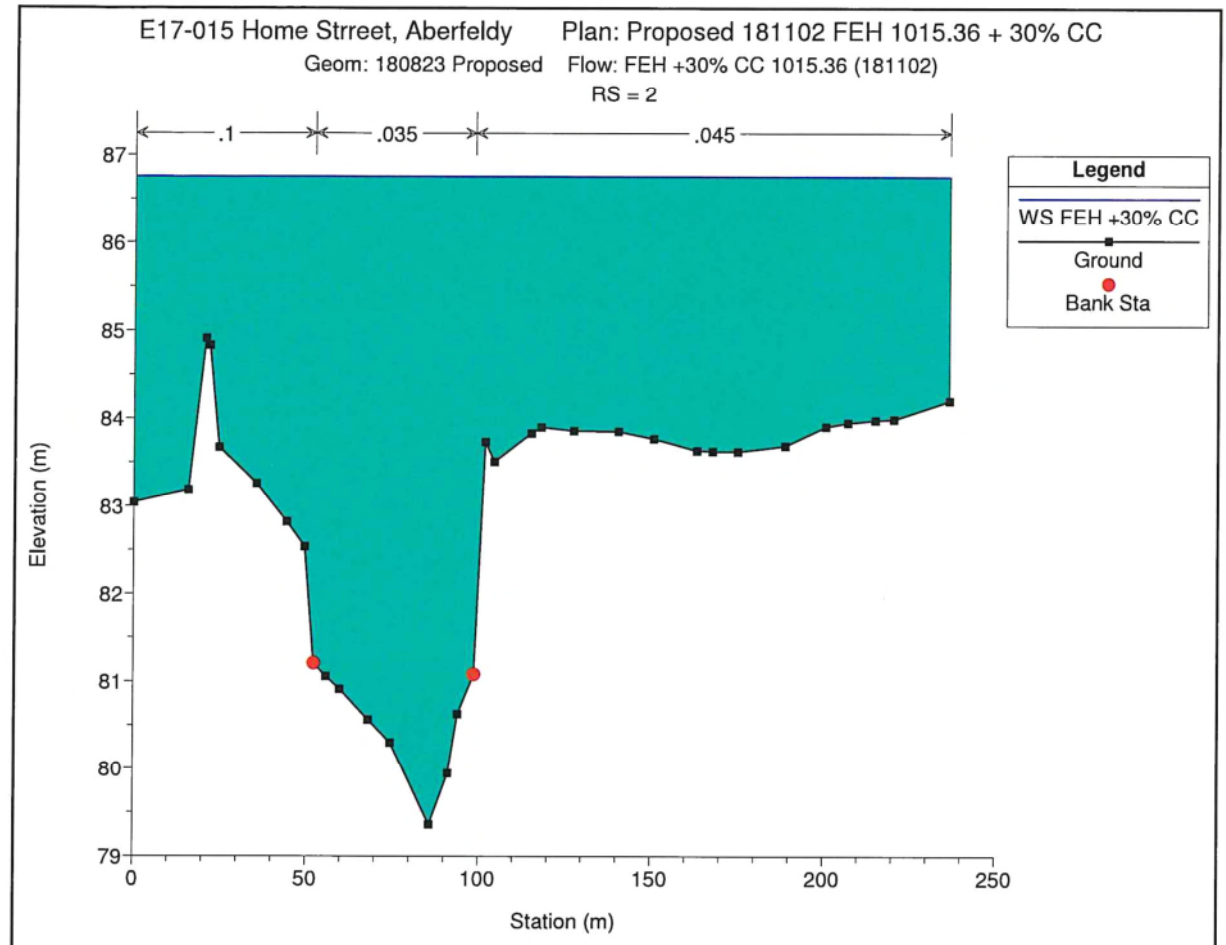

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 5.75
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
90
88
86
84
82
80
78
0
50
100
150
200
250

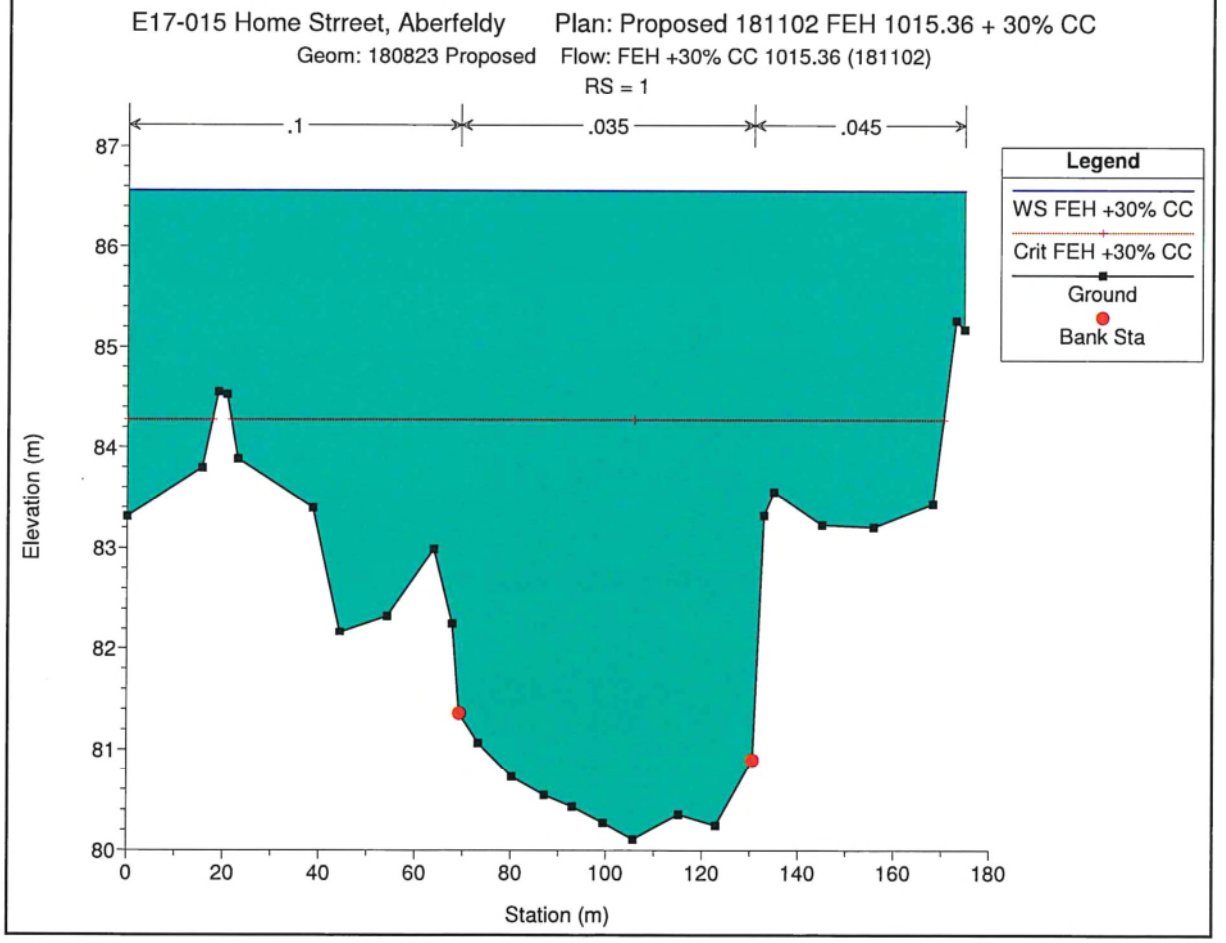

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 5.5
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 5.25
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 5
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 4.75
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 4.5
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 4.25
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 4
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)
E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 3
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)

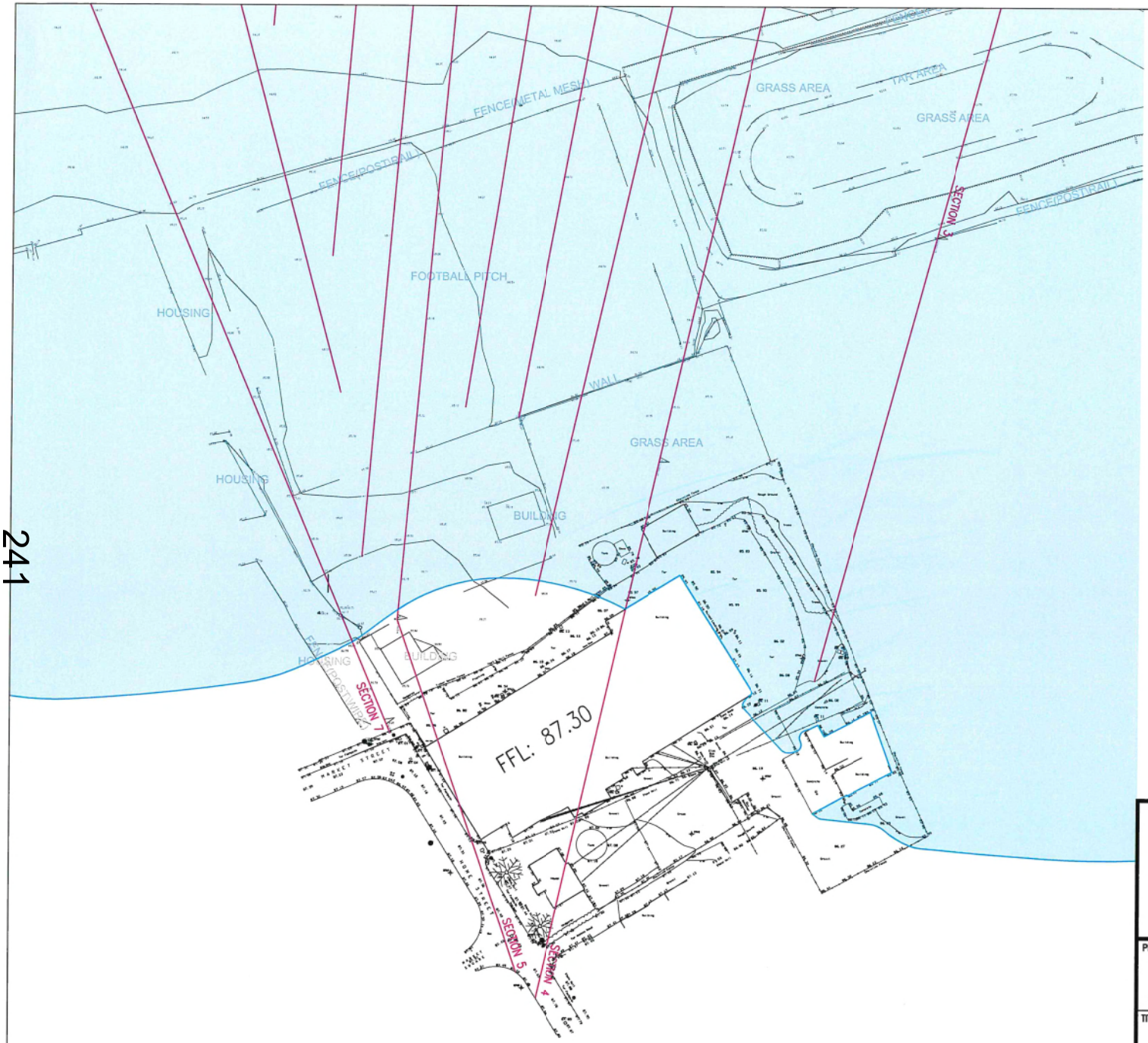

E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 2
.1
.035
.045
Legend
WS FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)


E17-015 Home Strreet, Aberfeldy
Plan: Proposed 181102 FEH 1015.36 + 30% CC
Geom: 180823 Proposed
Flow: FEH +30% CC 1015.36 (181102)
RS = 1
.1
.035
.045
Legend
WS FEH +30% CC
Crit FEH +30% CC
Ground
Bank Sta
Elevation (m)
Station (m)

Appendix C

Site Plan as Existing

Q200 = 1015.36 m3/Sec
Functional Flood Plain



241

REV.	DATE	BY	DESCRIPTION	APD.
A	14/12/18	ST	WATER LEVEL AMENDED TO SHOW INCREASED FLOW	KDS

HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.

1:5 0 100mm 200 300 400 500
1:50 0 1m 2 3 4 5
1:1 0 10mm 20 30 40 50 60 70 80 90 100
1:100 0 1m 2 3 4 5 6 7 8 9 10
1:20 0 200mm 400 600 800 1000 1200 1400 1600 1800 2000
1:200 0 2m 4 6 8 10 12 14 16 18 20

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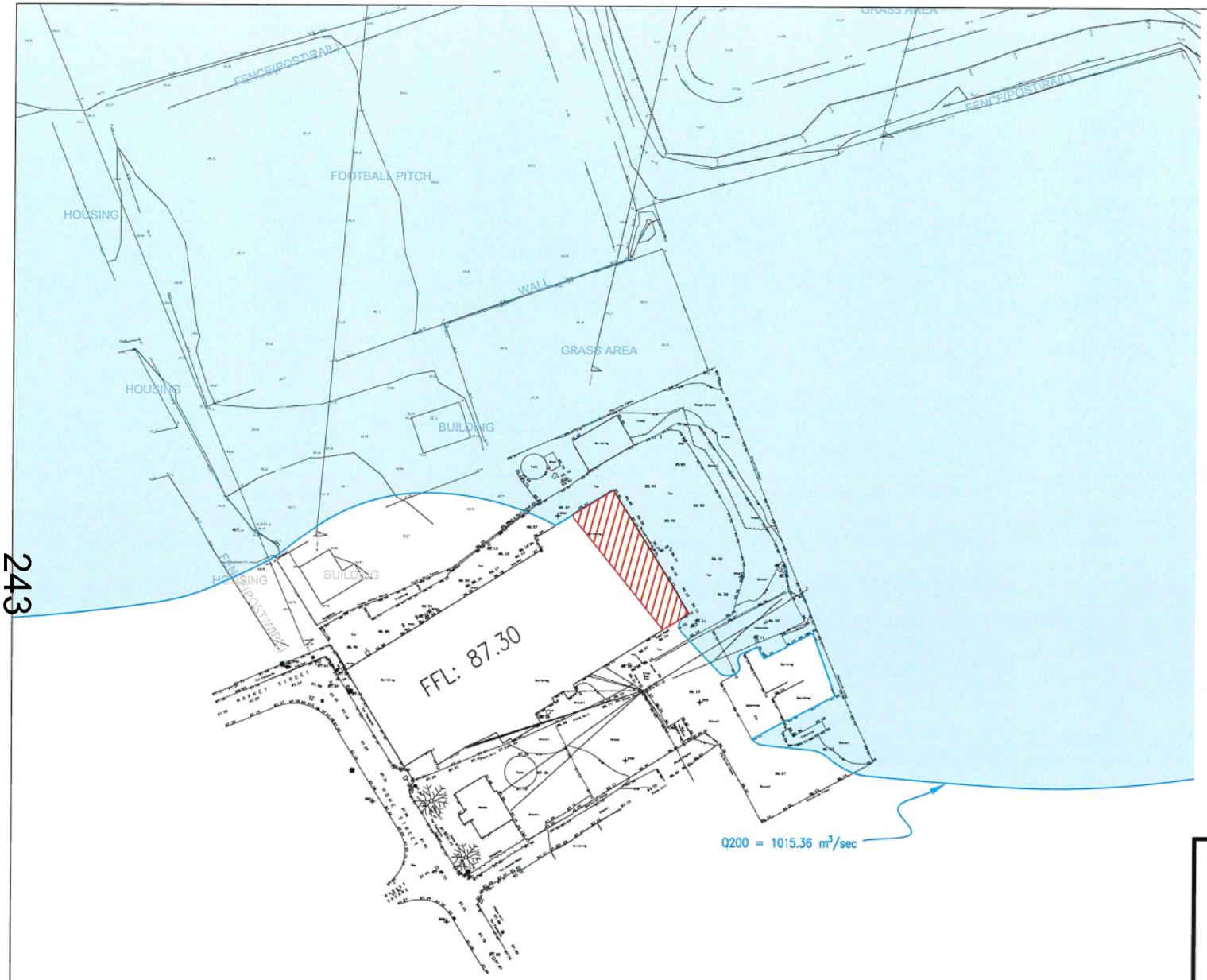
PROJECT
HOME ROAD
ABERFELDY

TITLE
EXISTING SITE SHOWING Q200 WATER OUTLINE
Q200 = 1015.36 m3/sec

DATE	DRAWN	APPROVED	SCALE		DRAWING No.	REV
28/08/2018	ST	KDS	1:1000	A3	E17–015–HEC11	A

Appendix D

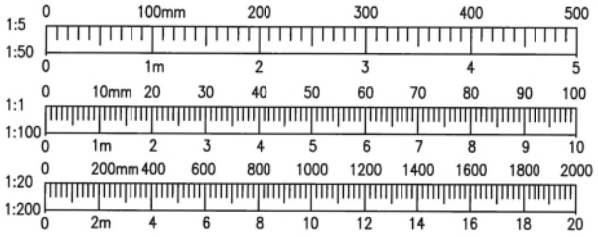
Site Plan Showing Area
of Existing Factory Floor to be Lowered
below existing level
of 87.30 m



REV.	DATE	BY	DESCRIPTION	APD.

HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.



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PROJECT
HOME ROAD
ABERFELDY

TITLE
EXISTING SITE SHOWING AREA OF EXISTING BUILDING TO BE LOWERED

DATE	DRAWN	APPROVED	SCALE		DRAWING No.	REV
20/12/2018	ST	KDS	1:1000	A3	E17-015-HEC13	–

Appendix E

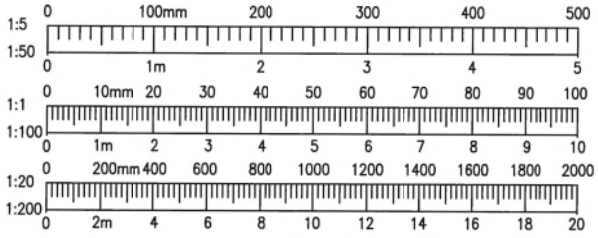
Proposed Development Plan Showing
Q200 = 1015.36 m3/Sec

Proposed Development Plan Showing
Q200 c/c = 1317.97 m3/Sec

REV.	DATE	BY	DESCRIPTION	APD.
A	14/12/18	ST	WATER LEVEL AMENDED TO SHOW INCREASED FLOW	KDS

HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.



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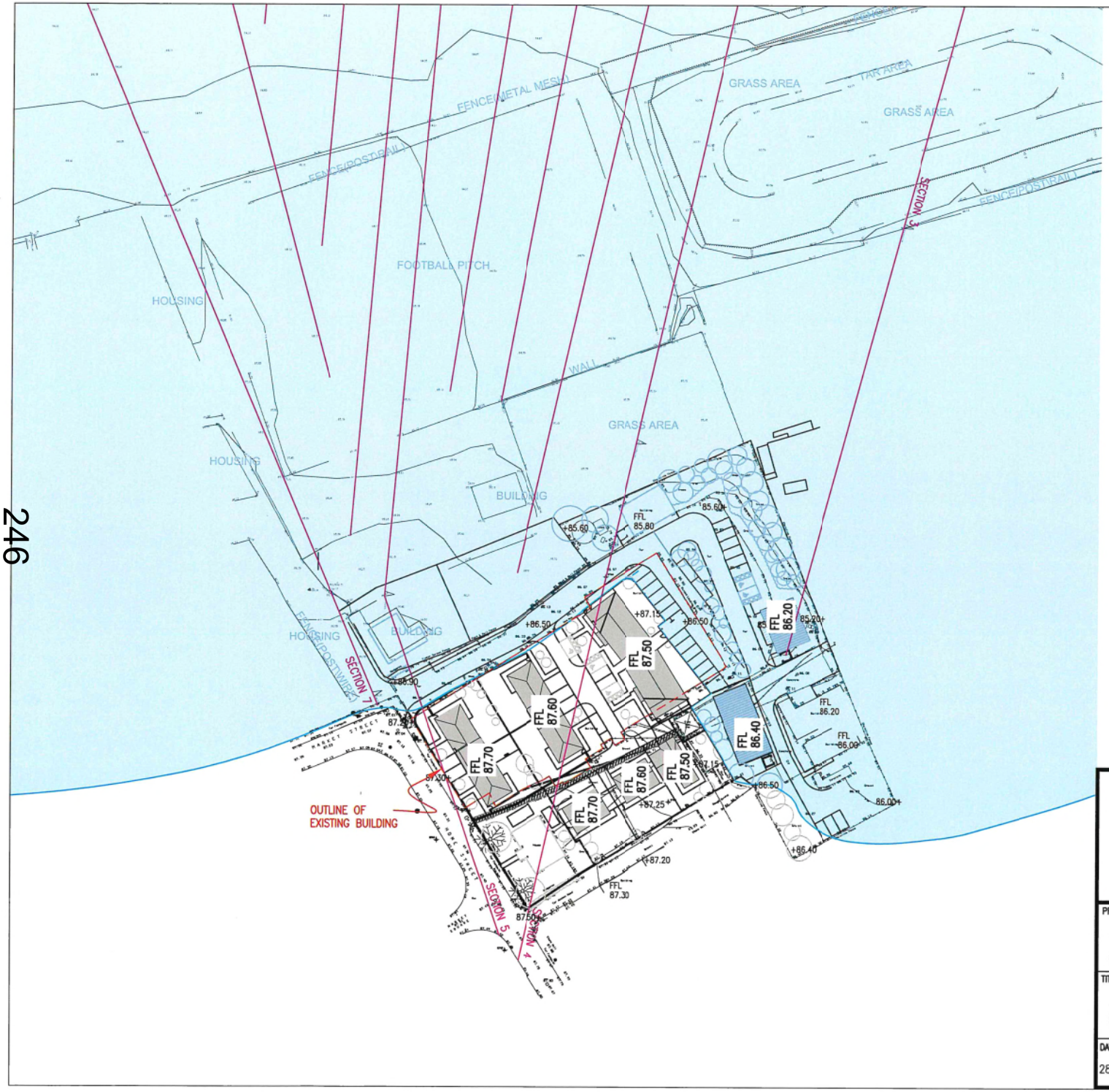
PROJECT
HOME ROAD
ABERFELDY

TITLE
PROPOSED SITE SHOWING Q200 WATER OUTLINE, Q200 = 1015.36 m3/sec

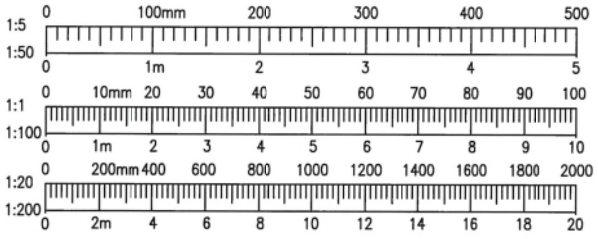
DATE	DRAWN	APPROVED	SCALE		DRAWING No.	REV
28/08/2018	ST	KDS	1:1000	A3	E17–015–HEC12	A



REV.	DATE	BY	DESCRIPTION	APD.
A	06/09/18	ST	SITE LAYOUT UPDATED TO REFLECT LATEST LAYOUT RECEIVED 06/09/18	KDS
A	14/12/18	ST	WATER LEVEL AMENDED TO SHOW INCREASED FLOW	KDS

HEALTH AND SAFETY

THE DESIGN HAS HIGHLIGHTED ONLY COMMON HAZARDS, WHICH HAZARDS ARE CONSIDERED TO BE WITHIN THE NORMAL EXPERIENCE OF A COMPETENT CONTRACTOR.



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PROJECT
HOME ROAD
ABERFELDY

TITLE
PROPOSED SITE SHOWING WATER OUTLINE
Q200 + C/C = 1319.97 m3/sec

DATE	DRAWN	APPROVED	SCALE		DRAWING No.	REV
28/08/2018	ST	KDS	1:1000	A3	E17–015–HEC10	B

Specialist Environmental Consultancy for
Air Quality, Odour & Environmental Noise

Environmental Noise Impact Assessment for Proposed Development at Home Street Aberfeldy Perthshire

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Record of changes

Version	Date	Change
1	27th March 2018	1st Draft for internal review
2	31st March 2018	Amended following design review
3	3rd April 2018	For client review
4	16th April 2018	Final

Executive Summary

The Lomond Group has made application to Perth and Kinross Council (PKC) for planning permission for a mixed use development on the site of the former Fisher's laundry at Home Street, Aberfeldy [Application Reference PK17/01864/FLL]. The scheme proposes to develop fifteen new-build residential units and five light industrial units (2 new, 3 existing) on the site. The Environmental Health Service of PKC has advised that this development would introduce housing next to industrial units and that an environmental noise impact assessment would be required to ensure that adequate noise mitigation was incorporated within the scheme to protect the health and amenity of future residents. The Airshed has been appointed by the project architect Aim on behalf of the applicant to conduct the environmental noise impact assessment to determine how noise from the existing environment and the proposed industrial units may affect the proposed dwellings within the development.

The main sources of noise include a small wastewater treatment works (WwTW), a garage workshop, mineral processing, a builder's yard and a road depot used for gritting operations at night. Noise sources include road traffic, the adjacent WwTW, and adjacent industrial and commercial activities. Noise from road traffic is not a material consideration.

A baseline sound survey has been conducted at four locations around the proposed development site to represent exposure during the daytime and at night. The results from the baseline survey indicate that the ambient sound is typically 50 - 59 dB $LA_{eq\ 1\ hour}$ during the daytime and that ambient sound levels reduce slightly at night. There is no dominant sound across the proposed development site. The daytime background sound ranges from 40 - 51 $LA_{90\ daytime}$ and did not fall below 37 dB $LA_{90\ night}$.

There is some potential for loss of residential amenity during the daytime from the adjacent industrial and commercial activities. Most of the noisy operations are restricted to normal working hours. The main potential impact is from night-time operations at the road depot which is used for gritting operations during the winter months.

Sound levels have been predicted using a computer-based noise prediction model (SoundPlan 8.0) in accordance with ISO 9613. Noise sources are based on measurements near the existing operations and at similar operations elsewhere. The impacts have been assessed in accordance with BS 4142:2014 and World Health Organisation (WHO) sleep disturbance criteria.

Night-time sound levels at the north-east elevations (on Units 8 - 11 and 12 - 15) are predicted to exceed 50 dB $LA_{eq\ 15\ minutes}$ when gritting operations are underway. Sound levels on the sheltered south-west elevations are $\leq$40 dB $LA_{eq\ 15\ minutes}$. The design for the housing proposes to locate all bedrooms within these units on the sheltered elevations to prevent sleep disturbance. The windows for habitable rooms on the north-east elevations will be fitted with acoustic insulation and trickle vents to ensure that sound levels inside comply with WHO environmental noise criteria. The noisy night-time operations associated with road gritting are restricted to winter months during cold weather when future residents will be less likely to use open windows for ventilation.

Noise at the proposed development is predicted to be of low adverse impact in terms of BS 4142:2014 subject to the successful implementation of the mitigation measures set out in Section 6. Noise at the proposed development is predicted to comply with WHO sleep disturbance criteria subject to the successful implementation of the mitigation measures set out in Section 6.

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Acronyms

ATC	Automatic Traffic Counter
BS	British Standard
CRTN	Calculation of Road Traffic Noise (a method specified by the UK Department of Transport)
dB	decibels – the logarithmic scale used to measure noise
dBA	A weighted dB – measured levels adjusted for the effect on human hearing
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment (a series of organised activities – a process)
EPA	Environmental Protection Act 1990
ES	Environmental Statement (a document or documents)
ISO	International Standards Organisation
$LA_{eq\ T}$	The equivalent (eq) A weighted (A) average noise level (L) over a given period of time (T)
$LA_{90\ T}$	The A weighted (A) noise level (L) exceeded over 90% ($_{90}$) of a given period of time (T)
L_{WA}	Sound Power Level – a convenient unit of noise measurement independent of distance
m/s	metres per second
WHO	World Health Organisation

GLOSSARY

Acoustic studies make use of terminology that is specific to this type of assessment. The terminology employed in the report is discussed in this section.

dB

Noise is defined as unwanted sound. The range of audible sound is from 0 dB to 140 dB. The frequency response of the ear is usually taken to be about 18 Hz (number of oscillations per second) to 18000 Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in importance by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most widely used and which correlates best with subjective response to noise is the dB(A) weighting. This is an internationally accepted standard for noise measurements.

Loudness

For variable noise sources such as traffic, a difference of 3 dB(A) is just perceptible by most people. In addition, a doubling of traffic flow will increase the overall noise by 3 dB(A). The "loudness" of a noise is a purely subjective parameter but it is generally accepted that an increase/decrease of 10 dB(A) corresponds to a doubling/halving in perceived loudness. Road traffic noise changes as flow varies during the day and will also fluctuate within shorter time periods as vehicles pass the reception point.

Free Field

Free field measurements are taken at least 3.5m from any building or other hard reflecting surface. Noise standards within the UK are normally specified as external free field limits for ease of enforcement e.g. to avoid the necessity of gaining access to people's houses late at night. Noise standards at sensitive receptors can be expressed as the noise level measured or predicted inside a habitable room as in the case of the World Health Organisation sleep disturbance criteria; or as an external level where it is considered important to protect the amenity of the garden. Some noise standards are specified as façade levels as in the case of road traffic noise.

Statistical Level, L_N

The most commonly used statistical levels are the LA_{10} and LA_{90}.

The LA_{10} is a statistical sound level, being the dBA level exceeded for 10% of a given time. For example, if the hourly LA_{10} is 70 then during that hour the noise level was greater than 70dBA for 6 minutes (10%) and less than or equal to 70dBA for the remaining 54 minutes.

LA_{90} is the level exceeded for 90% of the time, which corresponds to the "quieter" periods. The LA_{90} is defined in *BS4142: 1990 Rating Industrial Noise Affecting Mixed Residential and Industrial Areas*, as the background noise level.

LA_{eq}

The LA_{eq} is used to describe ambient sound. The Noise Advisory Council Guide to the measurement and prediction of the Equivalent Continuous sound level, defined the LA_{eq} as follows:

The equivalent continuous noise level, LA_{eq}, is the level of notional steady sound which, at a given position and over a defined period of time would have the same A-weighted acoustic energy as the fluctuating noise.

A-Weighted

The "A" in LA_{eq} (or LA_{90}) refers to the A-weighted sound pressure level of the noise in decibels. Weighting is a filter contained in the sound level meter which is designed to produce the relative response of the human ear to sound at different frequencies.

1.0 INTRODUCTION

Background to Report

1.1. The Lomond Group, Unit 5, Lomond Business Park, Baltimore Road, Glenrothes, Fife, KY6 2PJ has made application to Perth and Kinross Council (PKC) for planning permission for a mixed use development on the site of the former Fisher's Laundry at Home Street, Aberfeldy. [Application Reference PK17/01864/FLL]. The Environmental Health Service of PKC has advised that this development would introduce housing next to industrial units and that an environmental noise impact assessment would be required to ensure that adequate noise mitigation was incorporated within the scheme to protect residential amenity and prevent sleep disturbance. The location of the proposed development site is shown in Figure 1.

1.2. The scheme proposes to develop fifteen new-build residential units and five light industrial units (2 new, 3 existing) on the site. The existing building, Parkfield House, is to be restored to residential use. It is envisaged that the proposed commercial/ industrial uses will not involve noisy activities and will act as a buffer between the existing commercial/industrial activities and the proposed residential uses. Further details on the proposed development are presented in Appendix 1.

1.3. The Airshed has been appointed by the project architect Aim on behalf of the applicant to conduct the environmental noise impact assessment to determine how noise from the existing environment and the proposed industrial units may affect the proposed dwellings within the development.

Potential Adverse Impacts

1.4. The proposed development is adjacent to existing residential properties. Noise and vibration during the construction phase have the potential to adversely affect the amenity of existing residential areas.

1.5. There are a number of commercial and industrial activities nearby with the potential to affect residential amenity. These include a small wastewater treatment works (WwTW) and PKC highways depot which is used to conduct seasonal gritting operations which include night-time noise. Other operations include a minerals processing depot, a vehicle repair workshop, and a builder's yard, which are conducted during the daytime (07:00 - 19:00). Noise from the civic amenity site is very intermittent and is unlikely to significantly contribute to ambient noise within the proposed development. Noise from the night-time operations at the WwTW and the grit depot has the potential to cause sleep disturbance.

Scope of Assessment

1.6. The assessment includes the results from a sound survey around the proposed development site conducted by The Airshed over three separate days in March 2018 to obtain current sound levels and to help determine the existing baseline sound in accordance with BS 4142:2014. Sound

affecting the proposed development has been assessed in accordance with BS 4142.

1.7. This assessment considers the potential impacts from existing and proposed commercial and industrial activity on residential amenity. Construction impacts have not been assessed quantitatively, as the programme for site clearance and construction has not yet been developed. Mitigation measures for the construction phase are set out in Section 6.

1.8. The methods and approach were submitted in advance to the local authority (PKC Environmental Health). This confirmed that the assessment would be based on the methods set out in BS 4142:2014[1] and would take account of the assessment method in the Technical Advice Note (TAN)[2] which forms part of the Scottish Government's Planning and Noise Advice 2011/1[3]. Further detail of the consultation with PKC is attached in Appendix 2.

1.9. This report describes the potential noise impacts likely to arise from the proposal, reviews the assessment criteria that have been used to consider the impacts, and reports the results of a baseline sound survey around the proposed development. Sound levels from the proposed development have been predicted at the nearest noise sensitive receptors and assessed against appropriate environmental noise criteria intended to protect human health and residential amenity.

1.10. This noise assessment has been conducted by Steve Fraser BSc MPhil MIoA MICWM CEnv who has more than 35 years of professional experience as an environmental consultant, Environmental Health Officer and Environmental Protection Officer. The baseline survey was conducted by Jon Champion BSc who has an Institute of Acoustics Certificate of Competence for Measurement of Environmental Noise and a Diploma in Acoustics with 10 years of practical experience in noise survey fieldwork.

Report Layout

1.11. Relevant noise standards are discussed in Section 2. Baseline sound is described in Section 3. The noise prediction methodology is outlined in Section 4. The results from the prediction exercise are presented in Section 5. Mitigation measures are proposed in Section 6. The overall significance of the noise arising from the proposed development is considered in Section 7.

[1] BSI 2014. Methods for rating and assessing industrial and commercial sound BS 4142:2014.
[2] Scottish Government 2011. Technical Advice Note. Assessment of Noise
[3] Scottish Government 2011. Planning Advice Note 1/2011 Planning and Noise

2.0 ENVIRONMENTAL NOISE CRITERIA

Planning Advice Note (PAN)

2.1. PAN 1/2011 Planning and Noise provides advice to planning authorities in Scotland on how they must seek to minimise the adverse impact of noise on new housing. This Guidance is not prescriptive with respect to specific noise standards, and is mainly concerned with the advising on good practice for environmental noise assessment. The noise impact assessment method set out in PAN 1/2011 Technical Guidance states: "*The choice of appropriate criteria noise levels and relevant time periods are the responsibility of the local authority. Although this may lead to inconsistencies between different local authorities and, indeed, across areas within a given local authority, it does provide flexibility, allowing particular circumstances to be taken into account and the use of the latest guideline values to be included where appropriate.*" The Technical Advice Note (TAN) issued to accompany the PAN for the assessment of noise does not include any specific recommended methods for assessing the effect of existing industry on new residential accommodation.

Statutory Nuisance

2.2. The Environmental Protection Act 1990 (EPA) imposes a duty on local authorities to periodically survey environmental noise levels and to investigate noise complaints. The Act requires local authorities to serve notice when noise nuisance exists. Under this regime the investigation and response to noise complaints would be the responsibility of PKC. The EPA requires that the person responsible for generating noise adopts the best practicable means to prevent or minimise nuisance.

Perth and Kinross Council

2.3. PKC's EHOs have responded to Airshed's consultation seeking Guidance on the Council's requirements for environmental noise criteria agreeing that the assessment should be conducted on the basis of BS 4142 and WHO environmental noise criteria.

BS 5228:2009 Control of Noise from Construction Sites

2.4. Noise impacts from construction and open sites may be predicted and assessed using BS 5228:2009. BS 5228 provides base data for noise emissions from a variety of plant and operations and a methodology for the prediction of noise levels at receptors. The annoyance from construction site noise is likely to depend on a number of factors such as site location, existing ambient noise levels, and duration of operations. As with all aspects of noise, the time of day and duration of the event are significant, as is the extent to which noise from the activity exceeds the existing background (LA_{90}) or ambient noise levels (LA_{eq}). The current version of the Standard includes an assessment framework for assessing the significance of impacts, where daytime levels < 65 dB $LA_{eq\ (07::00\ -\ 19:00)}$ are deemed to be insignificant.[4] BS 5228 acknowledges that stricter

[4] This category also applies to construction operations that are planned on Saturdays between 07:00 and 13:00. Stricter limits would apply outwith these hours.

standards should apply to some forms of construction operations where these are likely to last for more than six months.

BS 4142:2014

2.5. British Standard BS 4142:2014 *Methods for rating and assessing industrial and commercial sound* describes methods for determining sound from industrial and commercial operations from fixed installations, and from the loading and unloading of goods and materials at industrial and commercial premises. The Standard includes procedures for quantifying sound from tonal, intermittent and impulsive sound. Use of this Standard for predicting sound affecting the proposed development is appropriate. Sound levels during the daytime should be based on a 1 hour average exposure and at night-time over a period of 15 minutes[5]. The Standard also includes a procedure to determine the significance of the rated sound level from an installation where, typically, the greater the difference between the background sound level and the specific sound, the greater the magnitude of the impact. According to the Standard:

- An increase of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
- An increase of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

World Health Organisation Guidelines for Community Noise

2.6. The World Health Organisation (WHO) has published Guidelines for Community Noise, the outcome of a WHO expert task force meeting in 1999.[6] The WHO Guidelines advise that noise impacts within dwellings include annoyance and speech interference. These criteria are summarised in Table 2.1 below.

Table 2.1 – Summary of WHO Environmental Noise Criteria[7]

Environment	Critical Health Effect	Sound Level *dB $LA_{eq\ T}$*	Time (hours)
Outdoor living areas	Annoyance	50 - 55	16
Outside dwellings (long term average)	Sleep disturbance	40	8
Outside dwellings	Sleep disturbance	45	8
Inside dwellings	Speech intelligibility	35	16
Bedrooms	Sleep disturbance	30	8

Noise Assessment Criteria

[5] According to both BS 4142:2014 and WHO, night-time is defined as between 23:00 and 07:00 hours.
[6] World Health Organisation Geneva 1999. Guidelines for Community Noise.
[7] http://www.who.int/mediacentre/factsheets/fs258/en/

2.7. The following assessment criteria have been adopted to help determine the significance of the environmental noise impacts. These criteria are based on the method in BS 4142:2014 and WHO criteria. These criteria are set out in Table 2.2 below.

Table 2.2 - Environmental Noise Assessment Criteria

Predicted Noise Level	Justification
55 dB LA_{eq} 1 hour	WHO criteria propose a daytime limit at houses and outdoor living areas to protect amenity (for transport noise).
45 dB LA_{eq} 8 hour	WHO night-time noise criterion for outside dwellings.
40 dB L_{night}	WHO criteria propose a night-time sleep disturbance limit at dwellings based on the long-term average outdoor noise level. This is the predicted or measured level at the façade of any exposed elevation, but not taking the effect of that façade into account. This standard is intended to prevent sleep disturbance and to protect human health. The design of the new development should take this standard into account as a precautionary measure.
60 dB LA_{max}	In addition to the average noise level, WHO criteria propose a night-time limit for short-term peak noise at the façade of houses to prevent sleep disturbance.
30 dB LA_{eq} 1 hour	Critical noise level to prevent sleep disturbance inside bedrooms, based on WHO criteria.
45 dB LA_{max}	Critical noise level to prevent sleep disturbance inside bedrooms, based on WHO criteria.
Relative to background	Relevant when considering impact from the proposed development (BS 4142:2014). May be less relevant at night (23:00 – 07:00) where the main factor determining impact is the need to prevent sleep disturbance.

3.0. BASELINE

Baseline Sound Survey

3.1. A baseline survey was conducted between 7th and 8th March 2018. The aim of the baseline survey was to assess existing ambient and background sound levels at the site boundaries of the proposed development. Additional measurements were obtained at the WwTW, the vehicle repair shop and the adjacent minerals processing site to help quantify source estimates. The locations of the four baseline sites are shown in Figure 2.

3.2. The survey locations were selected to represent typical conditions within the study area. The preliminary results from the baseline survey and the source estimates have been submitted to PKC for comment.

3.3. Sound levels were recorded at 15 minute intervals. The parameters LA_{90}, LA_{max} and LA_{eq} are reported. Measurements were taken using Norsonic Type 1 sound level meters. The instrumentation was calibrated at the beginning and end of the survey period. The instrumentation was contained within sealed weather-proof cases with full outdoor microphone protection. Weather conditions during the survey periods were suitable, with light winds and no precipitation. The temperature, wind speed and wind direction were noted at the beginning and end of each survey period. These are recorded in the survey log. Further details of the baseline survey are contained within Appendix 3.

3.4. The dominant source of ambient sound at the west of the site in Home Street is from local road traffic. Commercial and industrial activity dominates the ambient sound to the east, and includes the inlet works at the WwTW, the barite mineral process operated by Barhaul and a small vehicle repair workshop. Details of the character of the sound at the survey locations are summarised in Table 3.1 below.

Table 3.1 – Summary of Survey Site Details

Site	Site Conditions
Site 1	This monitoring location was located close to Barhaul's builder's yard. The dominant sound was from a forklift truck, cherry picker and vehicles movements in the yard.
Site 2	This monitoring location is close to the WwTW. The dominant sound is from two augers in constant use. Sound from the loading process in the mineral processing depot was also audible along with vehicle movements in the gritting depot.
Site 3 Rowan Cottage	This monitoring location was dominated by sound from road traffic on Market Road.
Site 4	This monitoring location was located near the site boundary adjacent to the vehicle repair workshop.

3.5. The baseline survey data is presented in Appendix 3 and summarised in Table 3.2 below.

Table 3.2 – Summary of Baseline Sound 2018 (Sites 1 – 4)

Sites	Date	Time (start)	Time (end)	LA_{eq}	LA_{max}	LA_{90}
1	07-Mar-18	12:15	15:15	50	87	40
	08-Mar-18	06:30	06:45	45	61	39
	08-Mar-18	06:45	07:00	44	56	41
	08-Mar-18	07:00	09:30	54	75	45
2	07-Mar-18	14:35	15:35	50	74	49
	08-Mar-18	07:15	08:15	59	74	51
3	07-Mar-18	12:30	15:30	53	77	43
	08-Mar-18	06:30	06:45	51	66	38
	08-Mar-18	06:45	07:00	53	67	37
	08-Mar-18	07:00	07:15	50	68	48
4	08-Mar-18	08:15	09:30	51	73	47

N.B. Units = dB LA_T

3.6. Background sound levels range from 37 dB $LA_{90\ 15\ minutes}$ in the early morning (between 06:30 and 07:00) to 47 - 51 dB $LA_{90\ 1\ hour}$ during the daytime. The typical daytime ambient sound level at Baseline Sites 1 – 4 ranges from 50 – 59 dB $LA_{eq\ 1\ hour}$.

Proposed Design Criteria

3.7. The most robust criterion to protect human health is the WHO 40 dB L_{night}. This is typically based over a year and requires complex methods to calculate for the effects of meteorological conditions and source variability. The measured ambient sound levels exceed this criterion across the proposed development site and this is not considered to be a realistic design criterion for this urban setting.

3.8. Pragmatically this assessment adopts a design criterion that minimises the potential adverse impacts on the proposed development in terms of BS 4142:2014. The background sound level is assumed to be 47 dB $LA_{90\ 1\ hour}$ during the day reducing to 37 dB $LA_{90\ 15\ minutes}$ at night.

3.9. This assessment assumes the sound levels inside the proposed dwellings must comply with the WHO criteria set out in Table 2.2.

4.0 METHODOLOGY

Justification for Approach

4.1 Sound levels were measured at four locations adjacent to the proposed development site in suitable weather conditions. These sound levels provide a reasonable representation of existing ambient and background sound. Sound levels from the existing industrial and commercial activity have been predicted, based on the proposed layout.

4.2 The modelling technique adopted in this study is based on the procedure set out in ISO 9613[8] as implemented by SoundPlan 8.0 ®. ISO 9613 specifies an engineering method for calculating the attenuation of sound to predict sound levels at a distance from a variety of sources. The method predicts the equivalent continuous A –weighted sound pressure level (LA_{eq}) under meteorological conditions favourable to propagation from sources of known sound emission. This prediction technique is considered to be appropriate in practice for modelling a great variety of sound sources and environments. ISO 9613 may be applied to the prediction of sound from railways, roads, industry and many other ground-based sources. This prediction technique is considered to be appropriate for the sound sources under consideration in this assessment.

4.3 The model includes for geometrical divergence, atmospheric absorption, ground effects, reflection from surfaces, and screening by obstacles. The model allows for the use of correction factors for ground cover. For hard surfaces such as water or tarmac the correction is applied simply as 3 dB for all frequencies and distances. Where the ground cover is soft, such as grass, woodland, or other less reflective material, an empirical relationship between ground attenuation and frequency and distance may be used. Hard reflecting ground has been assumed across the study area.

4.4 These predictions assume downwind meteorological conditions which are favourable for sound propagation from the source to a receiver, where the predicted sound level is seldom exceeded. The estimated accuracy using this method is $\pm$3 dBA. The estimate of error in the ISO Standard is based on situations where there are no effects of attenuation due to screening.

4.5 The locations of the proposed residential and commercial units were initially obtained from drawings provided by Aim Architects (Design Statement Rev. B 19th October 2017). The detail of the surrounding area and ground conditions was obtained from a site centred OS map at scale 1:1250, a site walkover and OS Terrain 5 spot ground heights. Variations in local ground heights have been taken into account. A digital model of the ground and buildings was constructed using these plans as a map base. The model layouts are shown in Figures 3.1 - 3.4.

Scenarios Considered

4.6 A number of Scenarios have been considered as part of the assessment

[8] ISO 9613:1996 (E) Acoustics – Attenuation of sound during propagation outdoors. Part 1: Calculation of the absorption of sound by the atmosphere; and Part 2 : General method of calculation.

process to help calibrate the sound prediction model (Scenario 1) and to predict the sound from existing operations at the proposed dwellings (Scenario 2). Further Scenarios have been used to assess impacts when no gritting is underway (Scenario 3) and to help inform the noise mitigation measures for the proposed development (Scenario 4).

4.7. The sound sources used in the assessment are summarised in Table 4.1 below. Source estimates assume there are no tonal, intermittent or impulsive characteristics associated with the existing operations. Sound from gritting operations is based on detailed measurements conducted at a similar site elsewhere.

Table 4.1 – Sound Sources from Proposed Development

Description	Area	Source Type Modelled	Sound level dB L_{WA}
Barhaul Builder's Yard	1600m^2	Area	82
Grit Loading	-	Point	104
Idling vehicle in road depot	-	Point	99
Vehicle Repair Workshop	52m^2	Area	95
Mineral Process vehicle idling	-	Point	83
Mineral Process vehicle tipping	-	Point	99
WwTW	-	Point	96

4.8. Further details on the source assumptions used in the model are presented in Appendix 4.

5.0 ASSESSMENT RESULTS

5.1 This assessment reports the predicted sound levels based on the existing layout to help compare measured and predicted sound levels (Scenario 1); and sound levels at future noise sensitive receptors within the proposed development (Scenarios 2 - 5).

5.2 Sound levels have been predicted assuming all activity within the existing industrial and commercial areas is limited to daytime hours only (07:00 - 19:00), with the exception of the WwTW and seasonal gritting which are assumed to operate during the evening (19:00 - 23:00) and at night (23:00 - 07:00).

Scenario 1 – Comparison (Measured and Predicted)

5.3 The predicted sound levels at the survey locations are presented in Table 5.1 below. This indicates that the model predictions are sufficiently conservative and do not underestimate daytime sound levels. The one exception to this is at Baseline Site 3, near Rowan Cottage, where noise is mainly from road traffic activities which are not included within the model predictions. The detailed results for Scenario 1 are presented in Appendix 4.

Table 5.1 - Comparison of Measured and Predicted Daytime Sound Levels

Location	Predicted Sound (Scenario1)	Measured Levels
Baseline Site 1	53	50 - 54
Baseline Site 2	60	50 - 59
Baseline Site 3	41	50 - 53
Baseline Site 4	50	51

N.B. units = dB LA_{eq} daytime

Scenario 2 - Predicted Sound Levels

5.4 The results have been calculated over the study area at 5m intervals. The resulting predictions have been contoured using Surfer ® and plotted on an OS map base at 1:1250. The sound predictions are at 1.5m height above ground level. This is considered to represent noise exposure in gardens and at ground floor windows. Additional sound predictions have been made at fixed point receptors at each floor level on the worst case exposed elevations. The predicted daytime and night-time sound levels for Scenario 2, based on the initial design, are plotted in Figures 4.1 and 4.2 and summarised in Table 5.2 below. The detailed results for Scenario 2 are presented in Appendix 4.

Table 5.2 – Scenario 2 - Summary of Predicted Sound Levels (selected receptors)

Receptor		Predicted Sound		
No	Name	Elevation	Daytime	Night-time
7	Unit 5	SW	38	36
8		NW	46	44
9		NE	47	46
10		SE	42	39
11		NW	55	54
20	Units 8 - 11	NE	50	48
21		SW	49	49
22	Units 12 - 15	SW	40	40
23		NE	55	54

N.B. Units = dB $LA_{r\ T}$ free field at worst case floor level

5.5 The results from this prediction exercise indicate that night-time sound levels at the most exposed north-east facing elevations are predicted to exceed 50 dB $LA_{eq\ 15\ minutes}$ when seasonal gritting operations are included. The worst case affected units are the exposed elevations on Units 8 - 15 and Unit 5. Other dwellings are sheltered by these units and are unlikely to be affected by sound at night.

Scenario 3 - Predicted Sound Levels (no gritting)

5.6 Scenario 3 considers the predicted sound from the WwTW when there are no gritting operations underway. The worst case night-time sound level from the WwTW is predicted to be 46 dB $LA_{eq\ 15\ minutes}$ at the north-east facing elevation of Unit 5. The worst case predicted sound level on the north-east facing elevation of Units 8 - 11 is 45 dB $LA_{eq\ 15\ minutes}$.

Scenario 4 - With Mitigation

5.7 A further Scenario (Scenario 4) has been considered to help inform the mitigation measures for the scheme. This Scenario considers a slightly different building alignment to help reduce noise within the quiet courtyard. The model layout for Scenario 4 is shown in Figure 3.3.

5.8 The final design, Scenario 4 considers: a slight variation to the layout of Units 8 - 11, to reduce reflection onto the south-west elevation; along with an extended industrial Unit E to the north, to reduce the sound breaking through between Unit 5 and Units 8 -11; and a 3m acoustic barrier between Unit 5 and Units 8 - 11. The results from this revised Scenario are summarised in Table 5.3 below. This revised layout significantly reduces exposure at Unit 5 and the south-west elevation of Units 8 - 11. The daytime and night-time noise contours for this Scenario are plotted in Figures 5.1 and 5.2 respectively.

Table 5.3 – Scenario 4 - Summary of Predicted Sound Levels (selected receptors)

Receptor		Predicted Sound		
No	**Name**	**Elevation**	**Daytime**	**Night-time**
7	Unit 5	NW	40	39
8		SE	38	36
9		NW	40	39
10		SW	38	37
11		NE	41	40
20	Units 8 - 11	NE	53	53
21		SW	38	38
22	Units 12 - 15	SW	35	33
23		NE	53	52

N.B. Units = dB $LA_{r\ T}$ free field at relevant floor level

5.9 Daytime sound levels are predicted to be < 50 dB $LA_{eq\ 1\ hour}$ at all exposed elevations when no gritting operations are underway. The predicted impacts during the daytime are considered to be of minor (Low) adverse significance in terms of BS 4142:2014, where the daytime background is typically 47 - 51 dB $LA_{90\ 1\ hour}$ (at Baseline Sites 2 and 4).

5.10 Based on Scenario 4, night-time sound levels are predicted to be $\leq$40 dB $LA_{eq\ 15\ minutes}$ at all residential units within the proposed development except for the north-east facing elevations on Units 8 - 15. The predicted impact is of minor (Low) adverse significance in terms of BS 4142:2014 at all elevations (with the exception of the north-east facing elevations on

Units 8 - 15) assuming a typical night-time background of 37 - 41 dB $LA_{90\ 15\ minutes}$.

5.11 Sound levels are predicted to comply with the WHO's criteria for private gardens and outdoor living areas.

Uncertainty

5.12 Prediction errors within ISO 9613:1996 are $\pm$ 3dB. The model predictions are based on a widely validated prediction algorithm. Even with the potential prediction errors, the significance of the impacts remains unchanged in terms of BS 4142 assessment methods.

Sound Levels Inside New Dwellings

5.13 On the basis of the predicted ambient sound levels across the proposed development site, the worst case ambient sound is ~53 dB $LA_{eq\ 07:00 - 23:00}$, assuming that gritting operations are underway. The predicted night-time sound levels at the most exposed elevation are 53 dB $LA_{eq\ 15\ minutes}$ when gritting operations are included and 45 dB $LA_{eq\ 15\ minutes}$ outwith the winter period.

5.14 The project architect proposes to locate all bedrooms within Units 8 - 15 on the sheltered elevations so that night-time exposure is unlikely to be significant.

5.15 Acoustic mitigation is required during the winter months to protect residential amenity when gritting operations are underway. All windows on the north-east elevations of Units 8 - 15 shall be fitted with standard thermal insulation with trickle vents to ensure that sound levels inside dwellings do not exceed the criteria for habitable rooms as set out in Table 2.1. Conventional double glazing (30 dB R_{Wi}) with trickle vents (33 dB $D_{n,e}$) should ensure compliance with these criteria. No bedrooms shall be located on the north-east elevations of Units 8 - 15.

6.0 MITIGATION

Mitigation Measures for New Housing

6.1 The noise mitigation measures proposed at the development are listed in Table 6.1 below.

Table 6.1 - Proposed Noise Mitigation

Issue	Mitigation
Noise from gritting operations.	Extension of commercial block E northwards to help reduce propagation of sound into courtyard. Erection of 3m high acoustic barrier between Units 5 and 8 to reduce noise into courtyard.
Reflection in courtyard.	Slight re-alignment of Block forming Units 8 - 11 to reduce reflection in courtyard.
Breakthrough between Units 8 -11 and 12 - 15.	Erection of bike store between Units 8-11 and 12 - 15 to reduce noise breakthrough into courtyard.
Noise from gritting operations.	All bedrooms in Units 8 - 11 and 12 - 15 shall be located on the SW elevations to prevent sleep disturbance.
Noise from gritting operations.	All habitable rooms in Units 8 - 11 and 12 - 15 with windows on the NE elevations shall be provided with windows with an acoustic insulation of 30 dB R_{wi} with trickle vents 33 dB $D_{n,e}$ to prevent loss of amenity during the daytime.
Noise from proposed new industrial units.	The occupancy of these units will be controlled by the applicant to restrict the hours of operation and to require that no noisy operations are conducted inside or outside the units.

Construction Noise

6.2 Noise during construction has the potential to cause annoyance. The following procedures shall be adopted to ensure that noise impacts from construction operations are minimised, to protect local amenity:

- Prior to the commencement of each phase of demolition, ground clearance and construction, the appointed contractors shall prepare a method statement for the project. This shall include an assessment of potential noisy operations and outline the noise mitigation measures proposed. The demolition, ground clearance and construction noise impact assessment shall be used to help inform the development of the detailed working methods.

- The contractors shall be required to select the quietest item of suitable plant available for all site operations. The work programme on site shall also be phased to reduce the combined impacts arising from several noisy construction operations, to reduce adverse impacts. Where practicable, noise from fixed plant and equipment shall be contained within suitable acoustic enclosures or behind acoustic screens.

- Any plant and equipment required for operation at night (23:00 – 07:00) e.g. for dewatering and security lighting shall be mains electric powered where practicable.

- The site contractors shall conduct all site operations in accordance with accredited documented procedures. This shall include a complaint investigation procedure.

- All sub-contractors appointed by the main contractor shall be formally required through contract to comply with all environmental noise conditions.

7.0 CONCLUSIONS

7.1 The results from the baseline survey across the proposed development site indicate that the ambient sound is typically 50 - 59 dB $LA_{eq\ 1\ hour}$ during the daytime and that ambient sound levels reduce slightly at night.

7.2 There is no dominant sound across the proposed development site. Sources include traffic noise, the adjacent WwTW, and adjacent industrial and commercial activities. The daytime background sound ranges from 40 - 51 $LA_{90\ daytime}$ across the site and did not fall below 37 dB $LA_{90\ night}$ at night.

7.3 The impacts have been assessed in accordance with BS 4142:2014 and WHO environmental noise criteria. There is some potential for loss of residential amenity during the daytime from the adjacent industrial and commercial activities. Most of the noisy operations are restricted to normal working hours.

7.4 The main potential impact is from night-time operations at the road depot which is used for gritting operations during the winter months. Night-time sound levels at the north-east facing elevations on Units 8 - 11 and 12 - 15 are predicted to exceed 50 dB $LA_{eq\ 15\ minutes}$ when these operations are underway. Sound levels on the sheltered south-west elevations are $\leq$40 dB $LA_{eq\ 15\ minutes}$. The design proposes to locate all bedrooms within these units on the sheltered elevations to prevent sleep disturbance. The windows for habitable rooms on the north-east elevations will be fitted with acoustic insulation and trickle vents to ensure that sound levels inside comply with WHO environmental noise criteria. The noisy night-time operations associated with road gritting are restricted to winter months during cold weather when future residents are less likely to use open windows for ventilation.

7.5 Noise from the proposed installation is predicted to be of low adverse impact in terms of BS 4142:2014 subject to the successful implementation of the mitigation measures set out in Section 6.

7.6 Noise from the proposed development is predicted to comply with WHO sleep disturbance criteria subject to the successful implementation of the mitigation measures set out in Section 6.

270

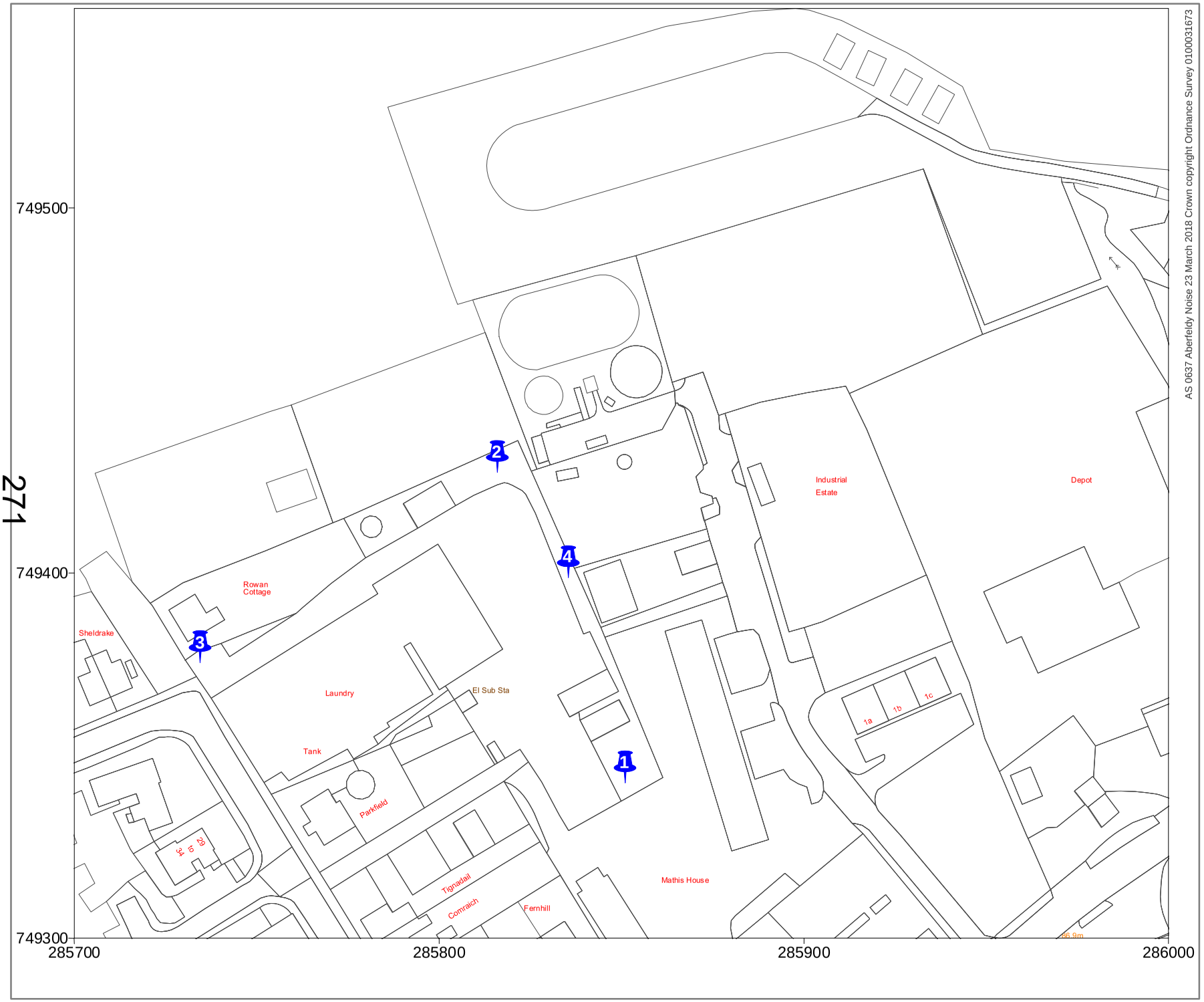
AS 0637 Aberfeldy Noise 05 March 2018 Crown copyright Ordnance Survey 0100031673

Site Location

indicative site boundary

Figure 1

The Airshed

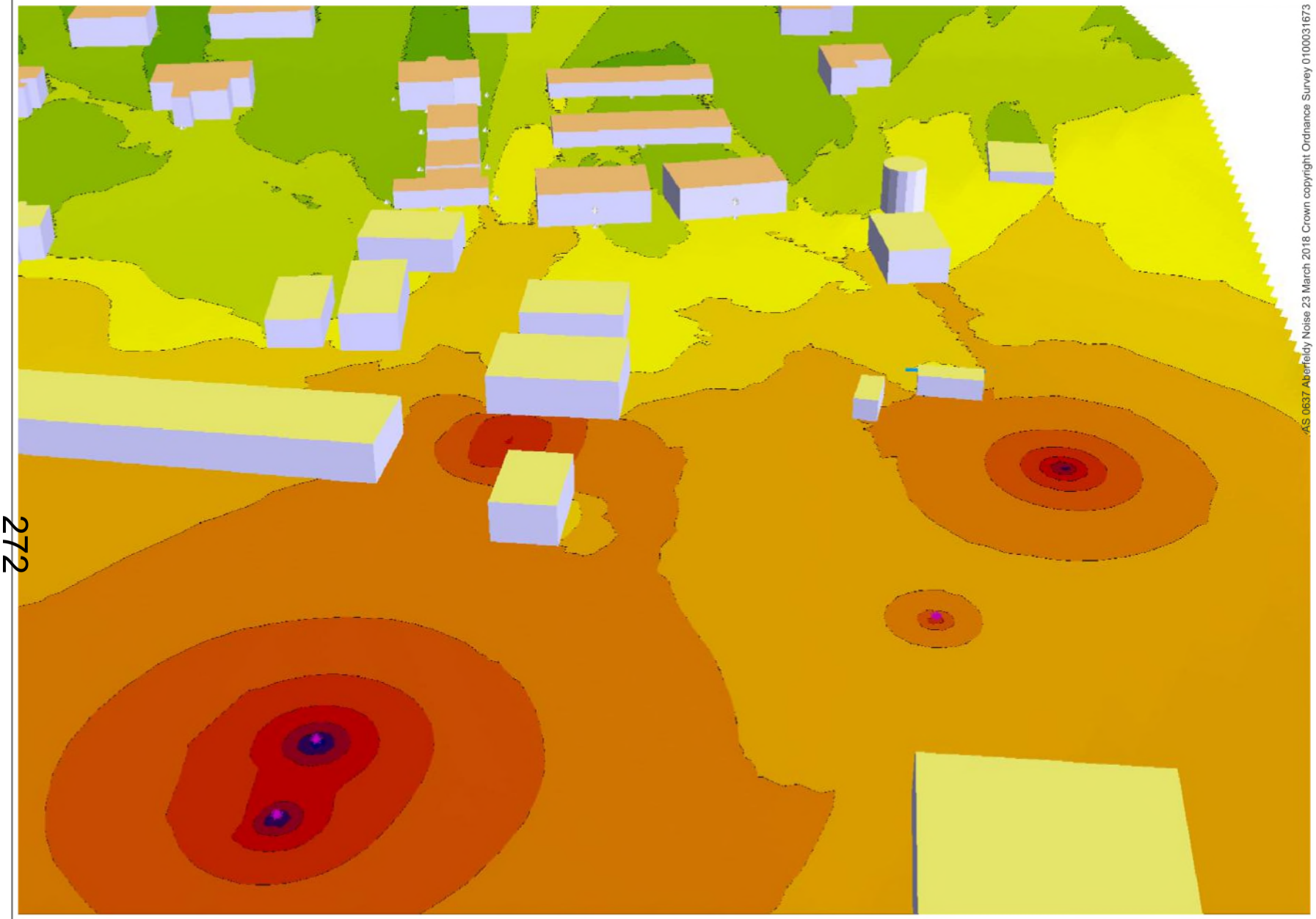


Baseline Surveys

location of baseline survey March 2018

Figure 2

The Airshed

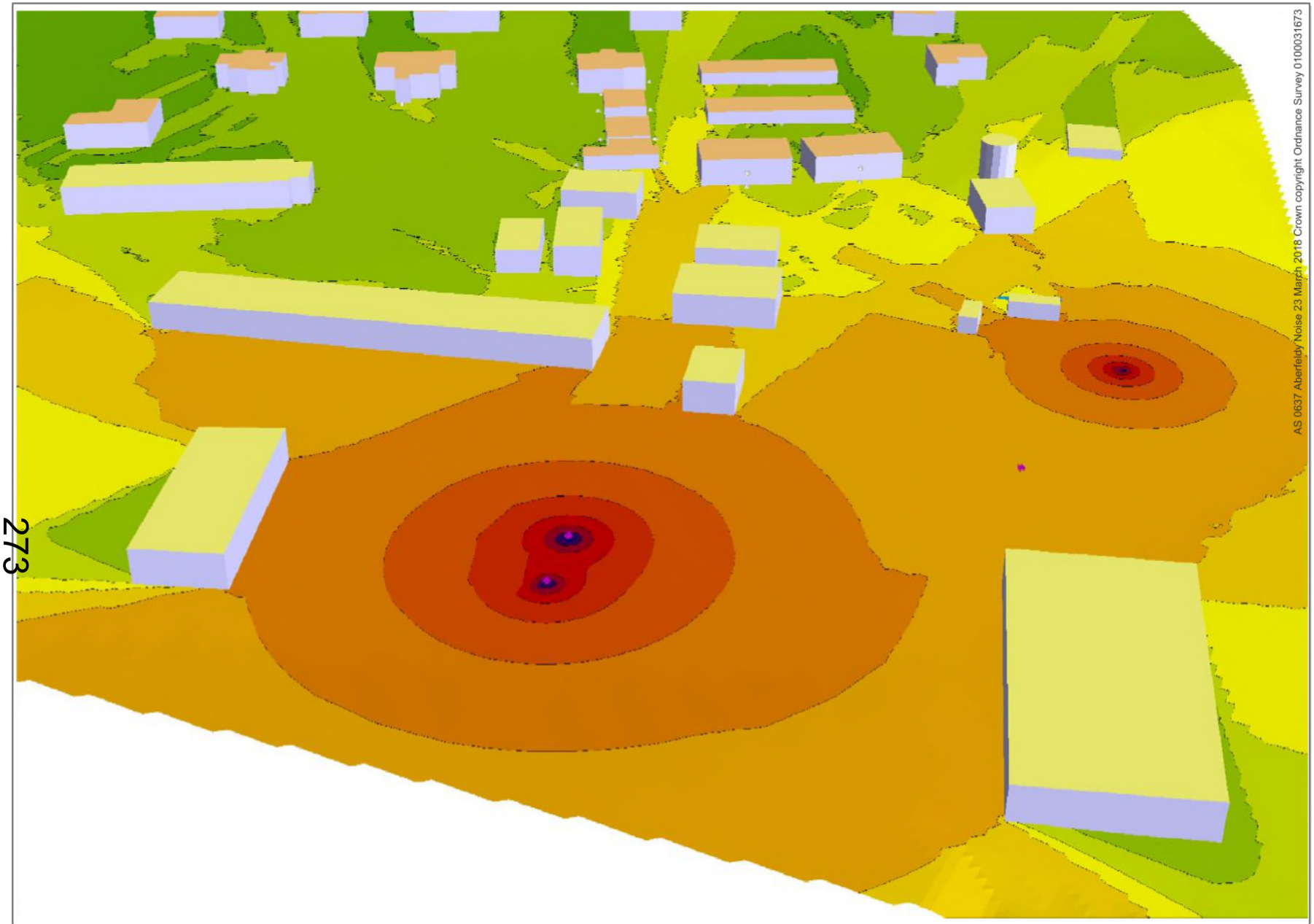


Daytime noise - looking west from roads depot

Model Layout

Figure 3.1

The Airshed

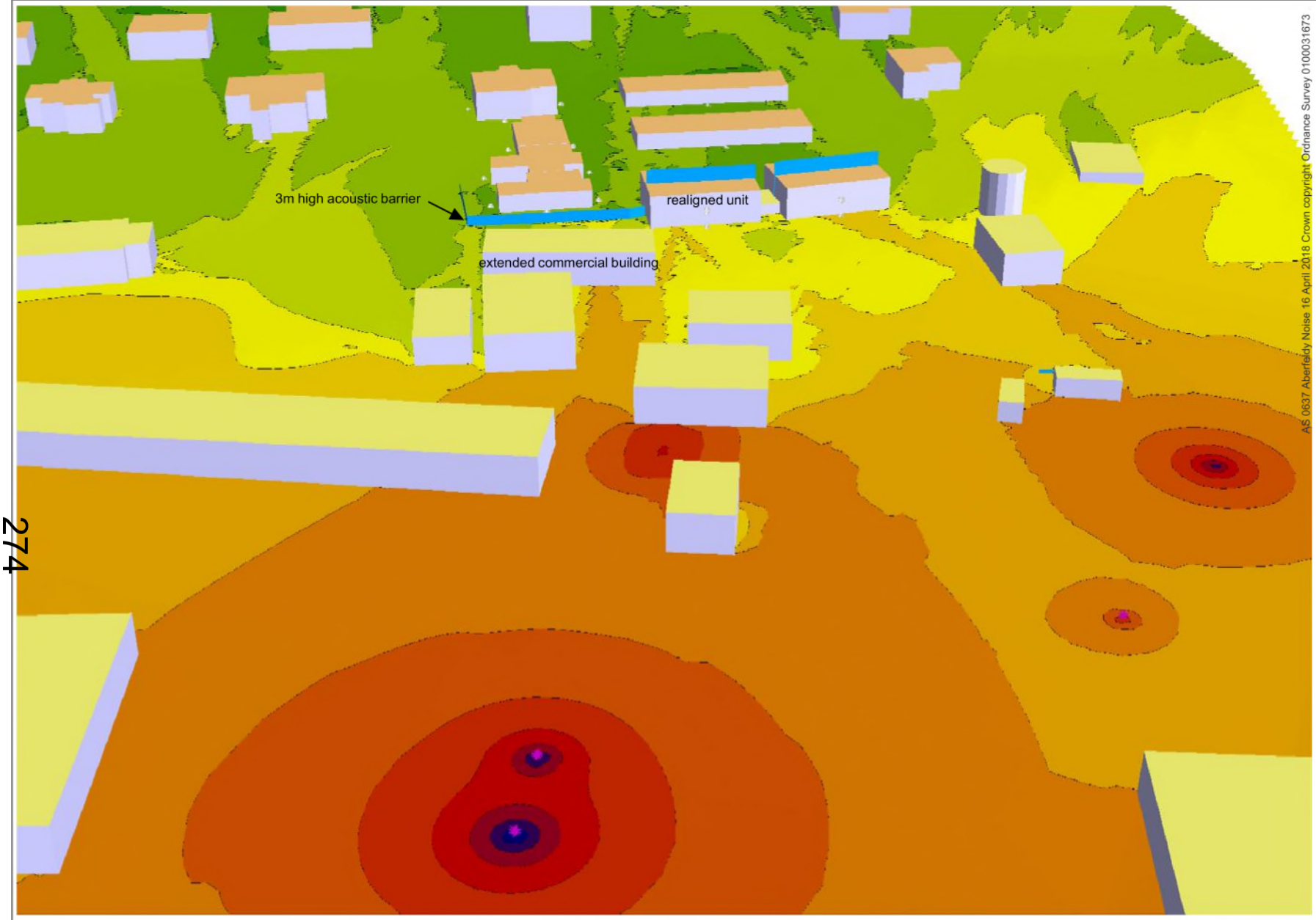


Night-time noise - looking west from roads depot

Model Layout

Figure 3.2

The Airshed



Daytime noise - looking west from roads depot (Scenario 4)

Model Layout

Figure 3.3

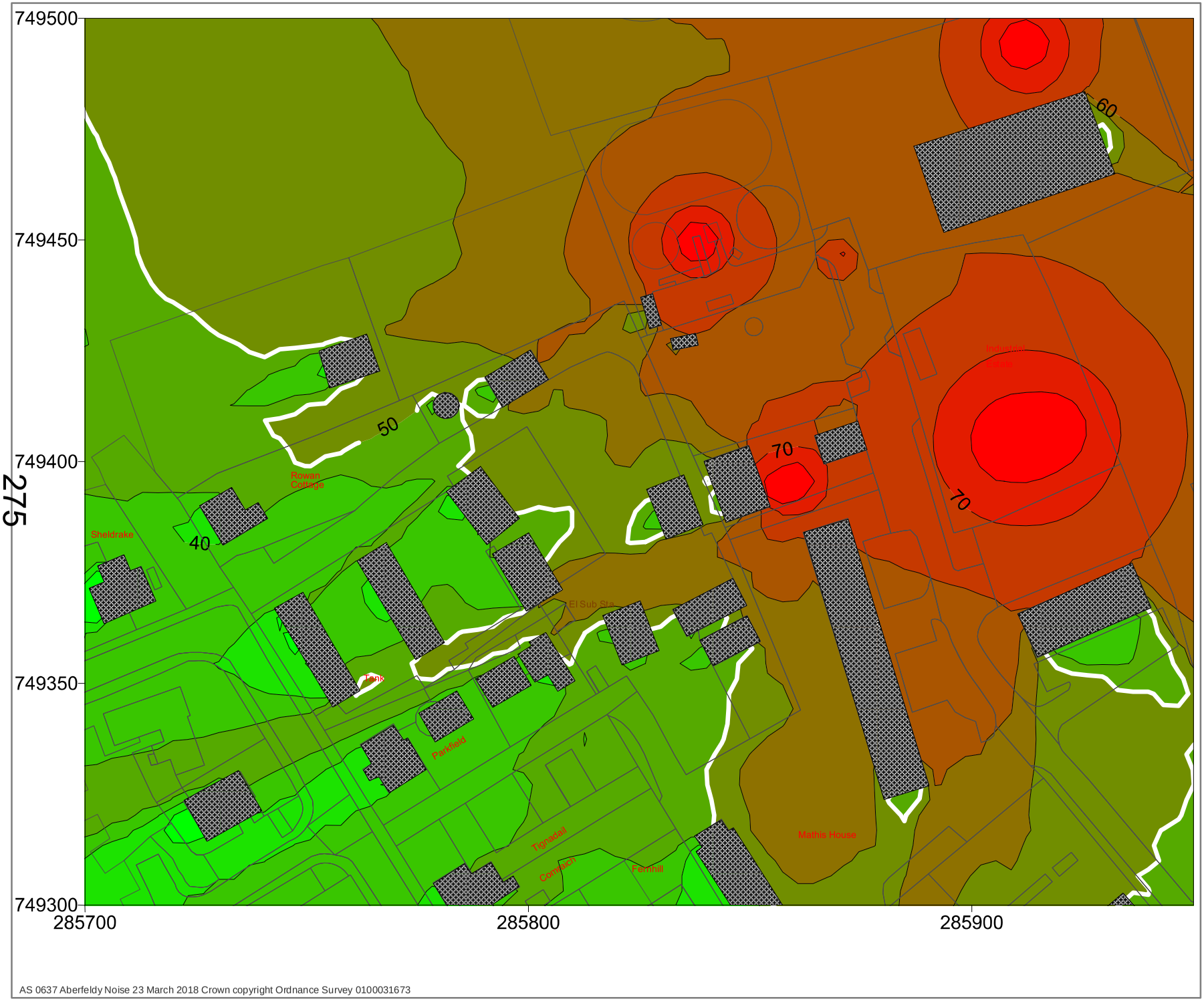


Figure 4.1

AS 0637 Aberfeldy Noise 23 March 2018 Crown copyright Ordnance Survey 0100031673

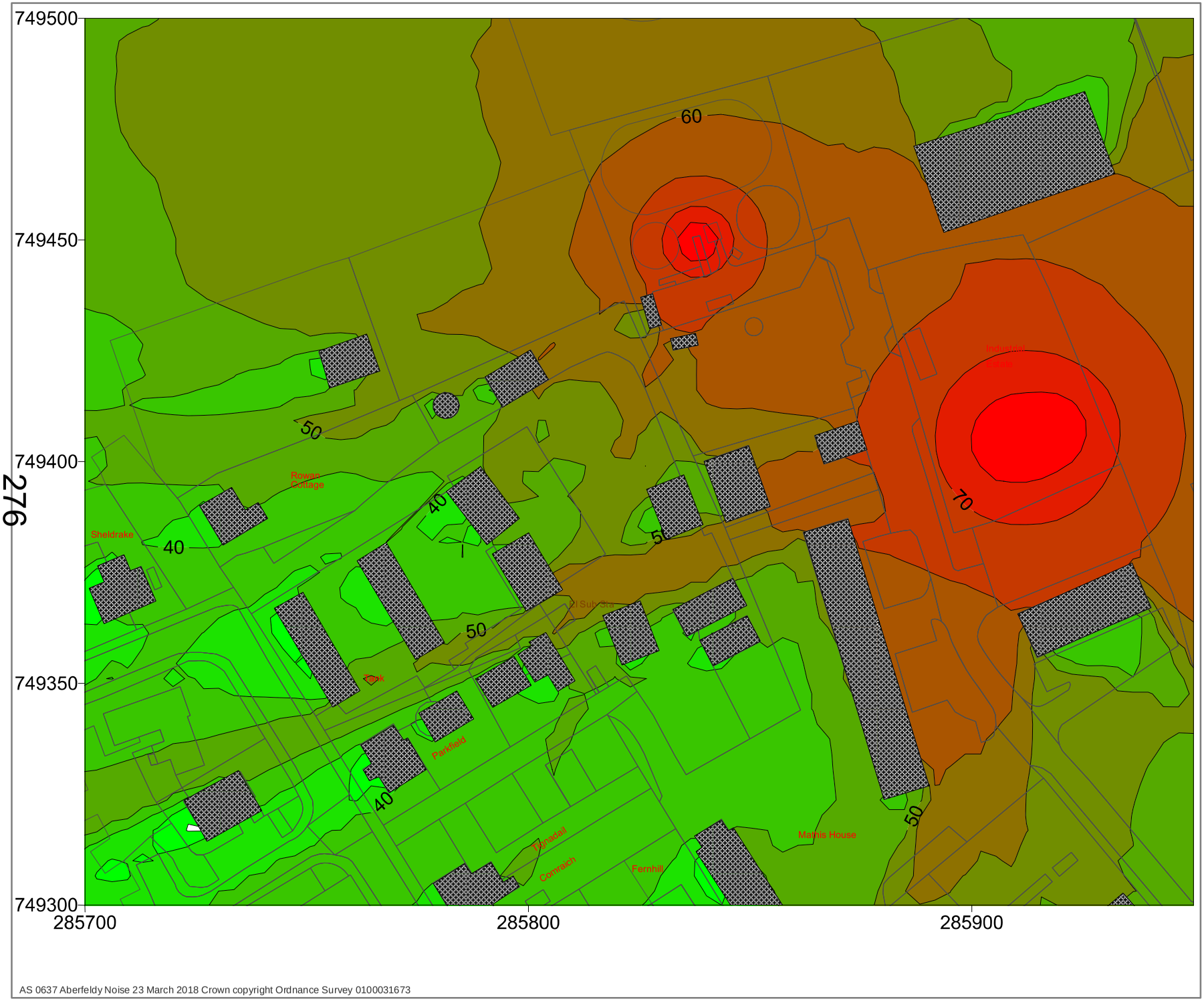


Figure 4.2

AS 0637 Aberfeldy Noise 23 March 2018 Crown copyright Ordnance Survey 0100031673

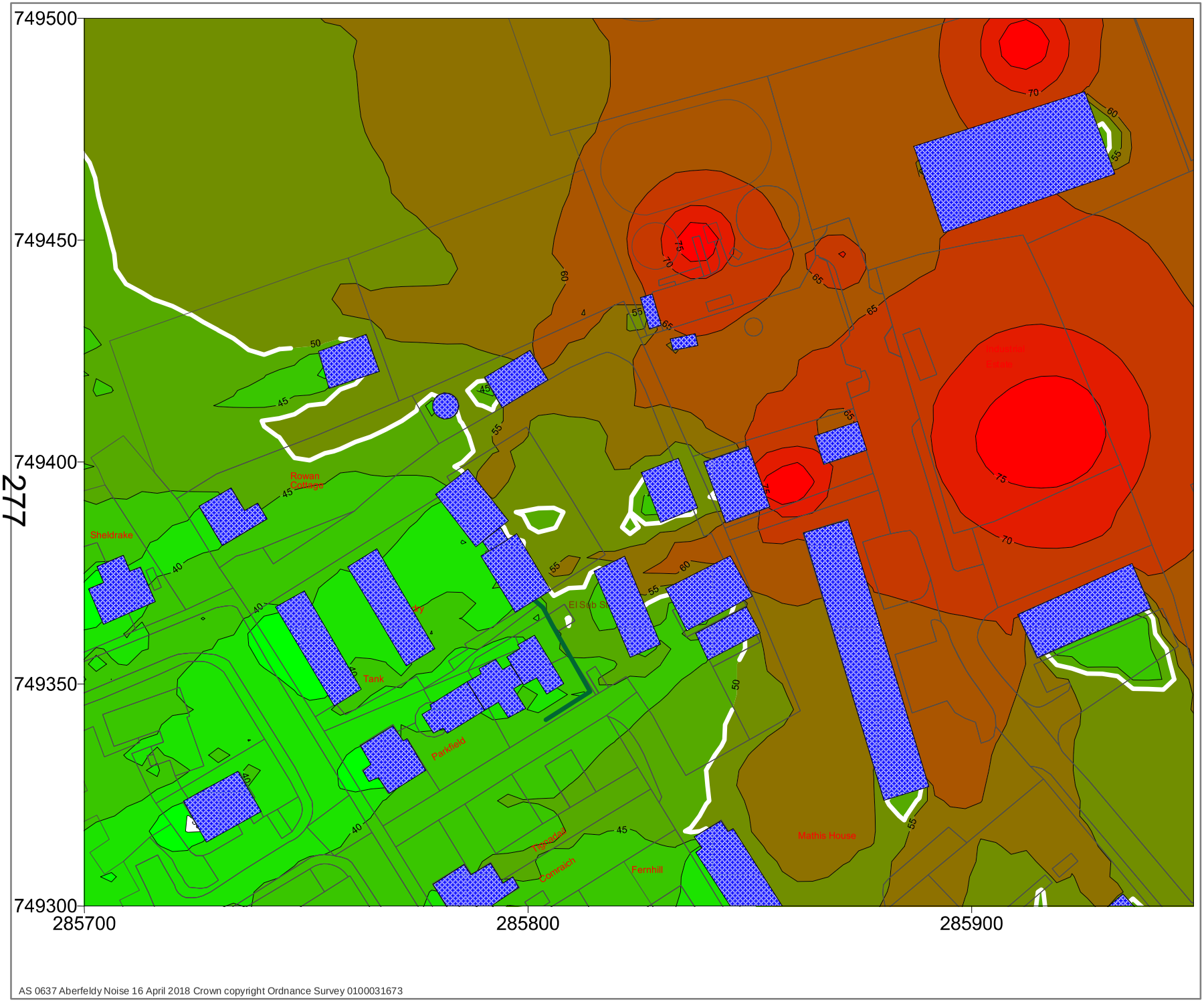


Figure 5.1

AS 0637 Aberfeldy Noise 16 April 2018 Crown copyright Ordnance Survey 0100031673

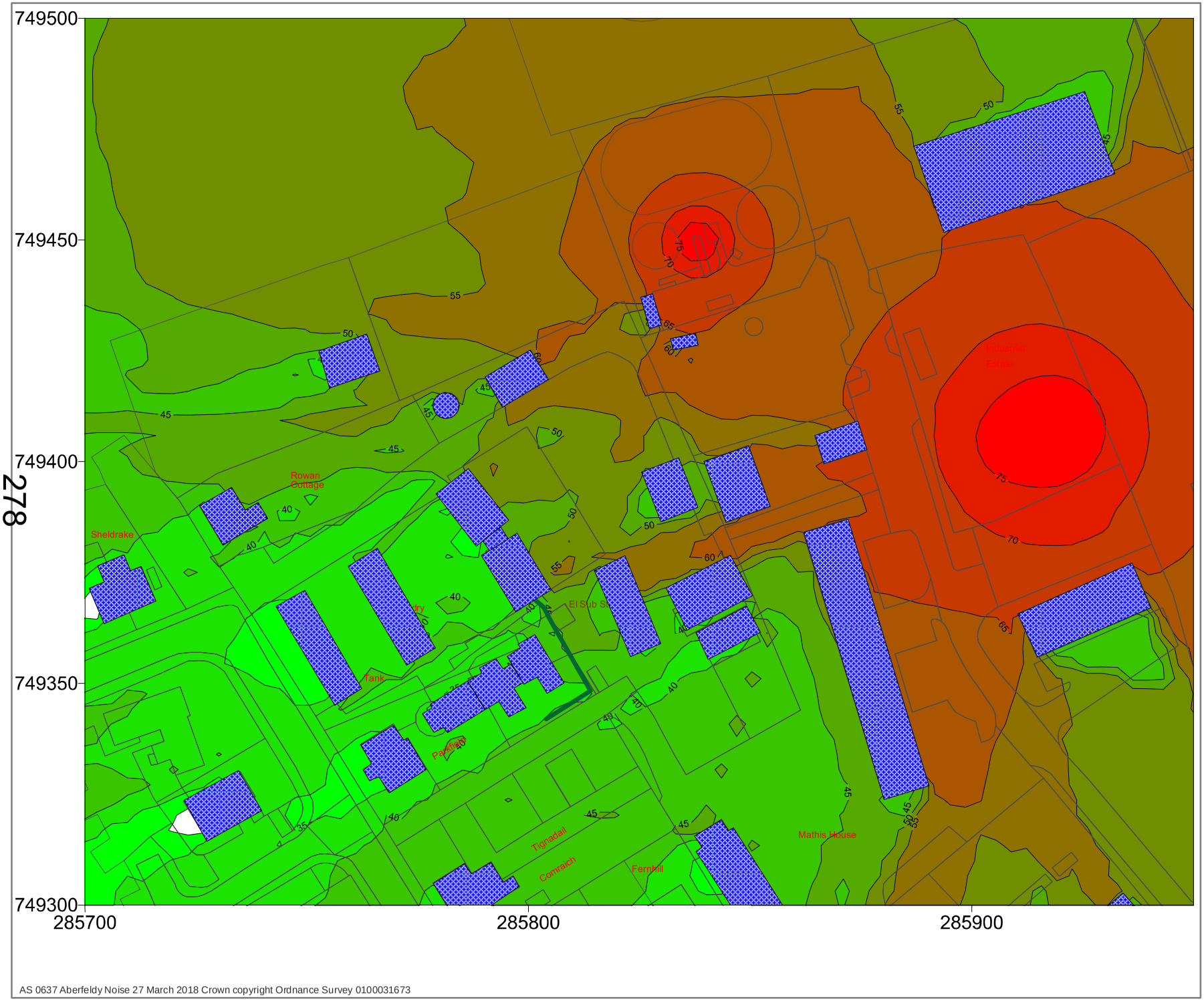


Figure 5.2

AS 0637 Aberfeldy Noise 27 March 2018 Crown copyright Ordnance Survey 0100031673

	PLOT(m²)	HOUSE(m²)	GARDEN(m²)	PRIVATE(m²)	BUILD TO PLOT
1	322.5	98	224.5	145.5	30%
2	307.8	98	209.8	131.7	32%
3	300	98	202	131.5	33%
4	316	98	218	135.8	31%
5	301	83.6	217.4	168	27.7%
6	270	75	195	129	27.7%
7	273.7	75	198.7	126.7	27.4%
8-11	407.8	153.5	254.3	106	
12-15	418	153.7	264.3	106	

	COMMERCIAL(m²)
A	100 (exist)
B	108
C	135.7 (exist)
D	90 (exist)
E	108

0 1 5 10m

Rev	Description	Date
A	Plans amended	13.10.17
B	Scale bar amended	25.10.17
C	Boundary corrected	01.11.17
D	House locations amended. Gardens increased	06.12.17
E	Hatch remodelled & Unit E extended	06.09.18

Client: Lomond Group
Project: Mixed use development Aberfeldy
Title: Proposed Site Plan

Date	Drawn	Checked
10.07.17	AR	GY
Scale	Drawing size	Approved
1:200	A1	—
Job no.	Dwg no.	Rev
17014	PL 01	E

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Regulatory Services Manager
Perth and Kinross Council
35 Kinnoull Street
Perth
PH1 5GD

By email

Dear Sir

Noise Impact Assessment for Residential Development
Home Street Aberfeldy

The Lomond Group, Unit 5, Lomond Business Park, Baltimore Road, Glenrothes, Fife, KY6 2PJ made application to Perth and Kinross Council (PKC) for planning permission for a mixed use development on the site of the former laundry at Home Street Aberfeldy (PK17/01864/FLL).

The environmental Health Service of PKC advised that this development would introduce housing next to industrial units and that an environmental noise impact assessment would be required to ensure that adequate noise mitigation was incorporated within the scheme to protect residential amenity.

The scheme proposes to develop fifteen new build residential units and five light industrial units (2 new, 3 existing) in a mixed use development on the historical site of Fisher's Laundry on Home Street, Aberfeldy. The existing building, Parkfield House is to be restored to residential use. It is envisaged that the proposed industrial uses will not involve noisy activities and act as a buffer between the existing industrial activities and the proposed residential uses.

The Airshed has been appointed by the project Architect Aim on behalf of the applicant to conduct the environmental noise impact assessment to determine how noise from the existing environment and the proposed industrial units may affect the proposed dwellings within the development.

I am writing to you to set out our proposed methods to quantify noise from the proposed scheme. We have already undertaken the baseline sound survey, conducted in March 2018.

Table 1 – Summary of Survey Site Details

Site	Site Conditions
Site 1	This monitoring location was located close to the builder's yard. The dominant sound was from a forklift truck, cherry picker and vehicles movements in the yard.
Site 2	This monitoring location is close to the WwTW. The dominant sound is from two augers in constant use Sound from the loading process in the mineral processing depot was also audible along with vehicle movements in the gritting depot.
Site 3 Rowan Cottage	This monitoring location was dominated by noise from road traffic on Market Road.
Site 4	This monitoring location was located near the site boundary adjacent to the vehicle repair workshop.

The Airshed Ltd, Registered Office: 5 Lauder Place, East Linton, East Lothian EH40 3DB
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Registered in Scotland Company No. SC309129
mail@theairshed.com www.theairshed.com

The baseline survey data is summarised in Table 2 below.

Table 2 – Summary of Baseline Noise 2017 (Sites 1 – 4)

Site	Date	Time (start)	Time (end)	LA_{eq}	LA_{max}	LA_{90}
1	*07-Mar-18*	*12:15*	*15:15*	*50*	*87*	*40*
	08-Mar-18	*06:30*	*06:45*	*45*	*61*	*39*
	08-Mar-18	*06:45*	*07:00*	*44*	*56*	*41*
	08-Mar-18	*07:00*	*09:30*	*54*	*75*	*45*
2	07-Mar-18	14:35	15:35	50	74	49
	08-Mar-18	07:15	08:15	59	74	51
3	*07-Mar-18*	*12:30*	*15:30*	*53*	*77*	*43*
	08-Mar-18	*06:30*	*06:45*	*51*	*66*	*38*
	08-Mar-18	*06:45*	*07:00*	*53*	*67*	*37*
	08-Mar-18	*07:00*	*07:15*	*50*	*68*	*48*
4	08-Mar-18	08:15	09:30	51	73	47

N.B. Units = dB LA

The locations of the four baseline sites are shown in Figure 2. Additionally we have conducted measurements at a number of locations to help quantify the noise from adjacent industrial and commercial activities.

We [redacted]

[redacted]

[redacted]o seek your advice on what noise criteria we should use when assessing impacts (in addition to the above). I hope our proposed approach meets with your approval and I look forward to hearing from you in due course.

Kind regards

[redacted]

Steve Fraser *BSc MPhil CEnv MIoA MCIWM*

Noise Survey

Project Number: AS 0637 **Project Name:** Aberfeldy Noise
Log Book Number 110

Meter 7

Site No:	1	**Start Date:**	Wednesday 7th March 2018	**Start Date:**	Thursday 8th March 2018
Location :	SE Boundary	Time:	12:15	Time:	06:30
OS Ref X:	*85846*	Calibration End:	113.7	Calibration End:	113.6
OS Ref Y:	*49334*				

Norsonic Nor-140 Sound Level Meter 7	Serial No.	1405074
Norsonic Nor-1251 Acoustic Calibrator	Serial No.	31060
Gras 40AF Microphone	Serial No.	114655
Norsonic Nor-1217 Outdoor Protection Ki	Serial No.	12175404

Calibration Factor 113.8

Meter 6

Site No:	2	**Start Date:**	Wednesday 7th March 2018	**Start Date:**	Thursday 8th March 2018
Location :	NE Boundary	Time:	14:35	Time:	07:15
OS Ref X:	*85734*	Calibration End:	113.5	Calibration End:	113.6
OS Ref Y:	*49384*				

Site No:	3	**Start Date:**	Wednesday 7th March 2018	**Start Date:**	Thursday 8th March 2018
Location :	Rowan Cottage	Time:	12:45	Time:	06:30
OS Ref X:	*85828*	Calibration End:	113.5	Calibration End:	113.6
OS Ref Y:	*49416*				

Site No:	4	**Start Date:**	Thursday 8th March 2018
Location :	Mechanics Garage	Time:	08:15
OS Ref X:	*85825*	Calibration End:	113.6
OS Ref Y:	*49441*		

Norsonic Nor-140 Sound Level Meter 7	Serial No.	1405074
Norsonic Nor-1251 Acoustic Calibrator	Serial No.	31060
Gras 40AF Microphone	Serial No.	114655
Norsonic Nor-1217 Outdoor Protection Ki	Serial No.	12175404

Calibration Factor 113.8

Site 1 - SE Boundary

Site 2 - NE Boundary

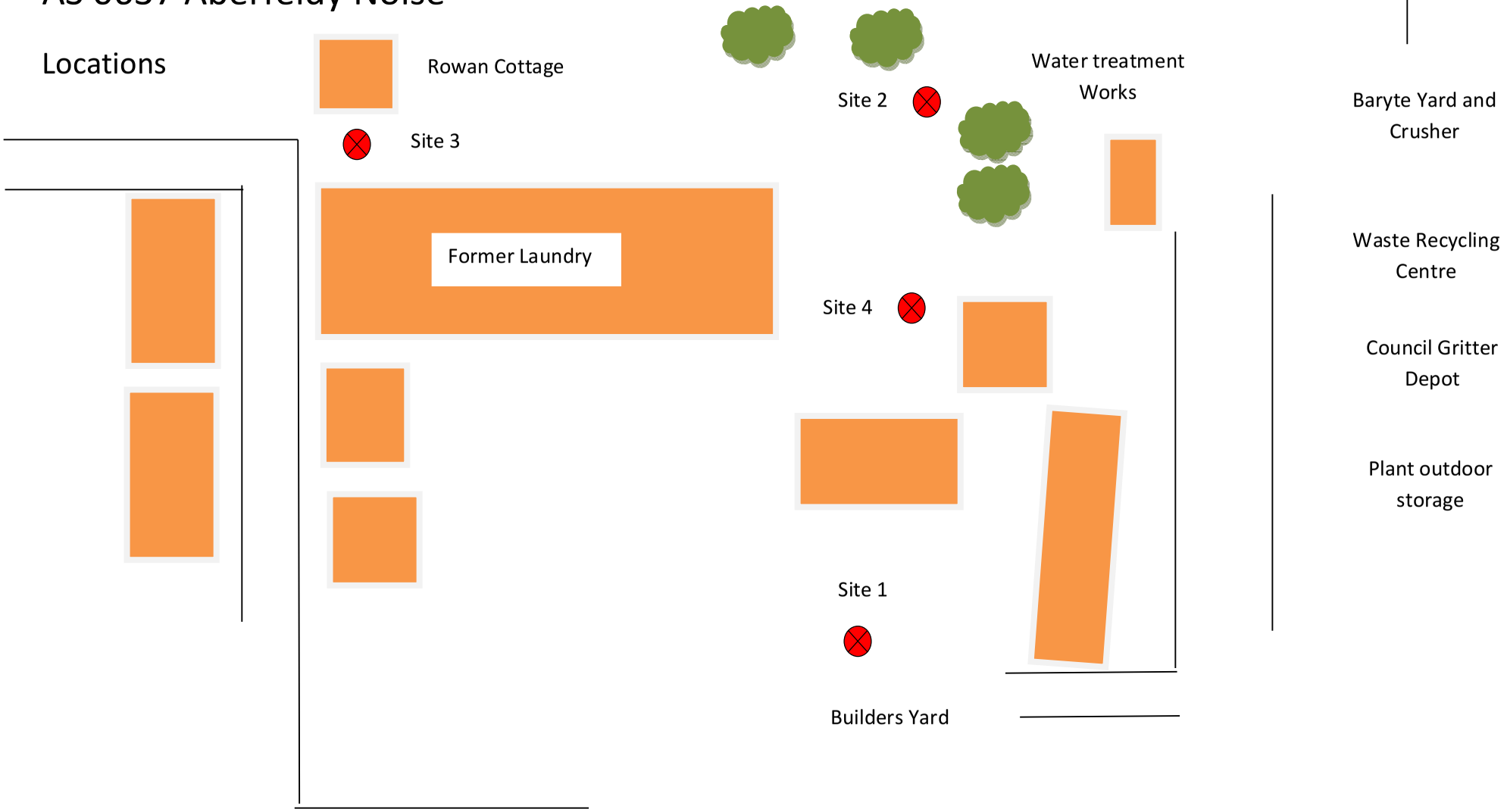
Site 3 - Rowan

Site 4 - Mechanics

Site Sketch

AS 0637 Aberfeldy Noise

Locations



Date	LAeq	LAmax	LA90	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1.0 kHz	1.25 kHz	1.6 kHz	2.0 kHz	2.5 kHz	3.15 kHz	4.0 kHz	5.0 kHz	6.3 kHz	8.0 kHz	10.0 kHz	12.5 kHz	16.0 kHz	20.0 kHz	antilog
(2018/03/07 12:30:01.00)	51.8	70.0	37.1	49.5	54.3	53.4	55.5	57.5	63.7	52.2	47.3	47.8	45.1	39.9	40.6	39.6	39.5	40.7	42.2	44.4	43.7	41.0	42.1	40.8	39.3	34.4	32.9	30.3	27.5	23.3	19.6	16.8	14.0	10.1	151356.1
(2018/03/07 12:45:01.00)	46.4	66.0	37.0	49.4	50.0	51.8	51.8	51.3	52.5	44.5	40.8	39.6	32.4	30.6	30.1	32.0	30.0	31.2	31.3	32.0	32.6	33.0	32.7	31.0	42.1	35.6	33.3	30.3	20.6	17.3	13.6	8.3	5.5	4.5	43651.58
(2018/03/07 13:00:01.00)	42.7	63.3	36.5	48.0	50.9	53.1	49.7	52.2	56.6	44.0	41.4	40.5	31.7	30.3	31.8	29.5	30.7	32.3	30.8	31.4	32.0	33.6	31.2	30.5	31.7	29.1	31.5	28.5	21.5	15.1	11.1	7.6	5.1	4.2	18620.87
(2018/03/07 13:15:01.00)	41.6	58.7	37.4	51.3	52.0	52.2	54.2	51.4	48.9	43.5	40.5	36.8	35.0	36.4	34.7	34.0	33.5	32.7	31.7	31.9	32.5	31.7	30.8	29.7	27.1	26.5	26.7	25.2	18.5	14.1	9.5	6.5	4.1	4.0	14454.4
(2018/03/07 13:30:01.00)	48.0	64.0	39.5	50.7	50.4	49.0	47.8	50.4	47.7	42.8	42.0	39.6	38.7	35.3	37.7	34.0	34.2	33.3	32.1	32.4	32.8	31.8	31.1	30.5	31.5	37.5	42.8	40.5	34.6	24.1	19.3	16.0	10.5	7.5	63095.73
(2018/03/07 13:45:01.00)	42.2	62.3	37.3	49.2	52.6	52.3	47.0	49.1	44.4	41.1	37.6	35.3	32.7	31.7	31.4	30.9	29.7	30.5	30.9	31.4	32.7	31.8	30.6	28.9	28.5	30.0	32.7	31.4	25.3	17.4	12.8	8.7	5.2	4.5	16595.87
(2018/03/07 14:00:01.00)	48.0	62.3	38.0	47.9	58.3	56.1	52.7	55.6	59.3	49.1	44.0	43.2	40.3	39.5	40.3	40.8	38.0	41.0	41.9	40.6	37.9	36.2	36.6	33.5	32.1	31.4	31.0	29.0	24.9	19.3	15.1	10.4	6.6	4.8	63095.73
(2018/03/07 14:15:01.00)	47.2	70.0	37.5	49.6	54.8	59.9	57.6	60.6	65.7	52.5	48.5	47.4	44.3	43.1	43.9	43.6	41.8	43.8	46.0	43.5	41.4	40.7	40.7	37.8	37.2	36.0	35.8	32.6	29.3	22.4	17.5	13.6	10.2	7.5	52981.47
(2018/03/07 14:30:02.00)	47.7	62.9	38.8	46.2	54.0	49.4	52.9	53.3	52.1	48.8	41.0	40.4	36.9	38.1	37.6	35.7	34.0	35.1	35.9	35.6	34.6	36.3	35.6	34.6	33.3	38.1	40.0	36.8	30.9	21.9	17.4	14.0	10.1	7.3	58884.37
(2018/03/07 14:45:02.00)	49.5	66.0	39.5	48.9	56.1	54.7	56.4	57.5	61.9	50.5	46.8	45.3	39.8	36.4	36.5	34.2	34.7	36.3	37.7	38.3	36.6	38.2	38.4	38.2	42.9	35.9	32.8	29.1	28.2	36.5	16.4	10.2	15.7	5.4	89125.09
(2018/03/07 15:00:02.00)	54.8	78.1	41.9	47.8	53.6	64.0	60.9	60.1	66.7	57.6	49.3	50.8	45.4	45.4	43.8	44.4	44.9	45.2	47.2	44.6	43.1	44.6	46.2	43.9	43.0	38.5	36.2	32.5	29.2	24.6	19.9	15.5	11.8	7.8	301995.2
(2018/03/07 15:15:02.00)	53.7	87.0	42.3	60.7	62.0	66.2	65.3	70.1	66.0	58.2	48.9	49.6	48.5	50.0	43.7	42.7	42.5	41.8	42.2	43.8	44.5	44.9	43.6	42.3	40.8	37.4	36.0	32.5	29.6	26.7	22.9	18.9	14.3	8.6	234422.9
	50	**87**	**40**																																

Date	LAeq	LAmax	LA90	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1.0 kHz	1.25 kHz	1.6 kHz	2.0 kHz	2.5 kHz	3.15 kHz	4.0 kHz	5.0 kHz	6.3 kHz	8.0 kHz	10.0 kHz	12.5 kHz	16.0 kHz	20.0 kHz	antilog
(2018/03/08 06:45:02.00)	44.7	60.7	38.8	43.3	54.3	47.1	52.6	44.0	42.8	37.1	32.1	33.5	26.1	26.1	26.2	27.5	32.3	37.1	32.2	31.1	30.9	29.8	28.6	33.0	37.4	36.2	33.6	30.1	27.1	26.1	14.5	7.4	6.9	4.5	29512.09
(2018/03/08 07:00:02.00)	44.4	56.0	40.5	46.3	57.9	54.4	53.0	49.1	45.1	42.0	37.1	35.3	31.6	29.3	29.4	31.7	31.0	34.2	32.5	37.0	32.2	30.8	29.5	31.7	35.3	35.3	34.3	28.5	25.6	24.1	12.9	7.9	6.6	4.2	27542.29
(2018/03/08 07:15:02.00)	44.3	54.2	37.6	45.9	55.8	50.6	55.8	48.2	48.4	44.5	40.7	40.0	33.1	35.9	37.0	35.4	35.6	35.9	33.7	35.0	35.7	33.0	30.9	29.9	33.5	33.3	30.2	27.4	20.1	22.7	13.5	12.1	9.3	5.3	26915.35
(2018/03/08 07:30:02.00)	54.5	66.2	45.4	53.2	62.3	64.6	62.9	68.5	68.3	65.5	61.7	65.2	51.2	48.1	45.4	43.7	43.8	43.8	43.4	42.7	41.4	40.2	41.2	38.8	37.0	36.6	36.6	32.5	26.7	24.0	19.6	14.6	9.6	6.3	281838.3
(2018/03/08 07:45:02.00)	61.0	70.6	59.2	55.9	68.6	70.5	72.4	73.1	71.1	69.9	68.6	70.7	61.5	55.6	56.2	51.6	51.0	49.3	49.6	49.4	48.5	48.1	49.6	45.8	44.4	43.0	42.2	39.5	35.7	34.9	30.7	22.7	19.4	15.4	1258925
(2018/03/08 08:00:02.00)	55.1	70.6	44.3	54.4	68.5	72.9	76.3	74.5	76.5	67.7	68.8	71.8	60.6	54.1	53.0	51.0	50.2	53.6	55.0	55.6	52.5	52.7	52.6	49.8	48.0	47.0	44.3	42.5	39.9	36.9	35.2	30.5	25.2	20.2	324946.7
(2018/03/08 08:15:02.00)	53.3	71.9	46.8	49.5	62.9	64.6	59.2	62.5	61.3	55.5	50.1	51.1	49.3	46.6	44.3	43.6	43.2	44.2	42.3	42.7	41.2	41.2	41.5	40.0	45.8	41.4	36.8	35.0	29.2	24.5	19.5	10.6	7.0	5.6	213796.2
(2018/03/08 08:30:02.00)	49.4	61.0	45.8	47.2	55.4	55.7	57.5	58.6	55.2	51.6	46.0	50.1	49.1	41.7	37.1	37.6	37.7	36.9	37.5	37.4	37.1	36.8	37.2	35.3	38.2	39.7	40.8	35.5	27.9	23.3	17.3	12.6	9.4	6.3	87096.36
(2018/03/08 08:45:02.00)	49.6	66.9	45.4	46.5	49.8	53.5	55.9	52.5	53.3	50.4	42.8	50.2	48.9	40.5	35.0	36.7	36.9	36.0	36.1	36.1	36.2	37.1	36.0	34.4	35.1	40.7	43.2	36.3	29.6	26.1	18.4	12.7	10.3	7.2	91201.08
(2018/03/08 09:00:02.00)	48.7	74.5	40.2	49.6	53.6	54.0	57.8	62.8	56.8	49.0	49.7	46.1	42.2	41.1	42.6	42.1	38.9	38.6	39.1	38.9	37.0	36.8	37.0	35.9	34.7	35.6	38.2	34.4	27.4	25.5	18.5	11.6	9.3	6.3	74131.02
(2018/03/08 09:15:01.00)	49.6	72.1	42.0	49.1	56.3	54.0	58.9	60.3	58.4	53.7	49.8	43.7	38.1	36.2	35.4	37.1	36.8	37.8	37.6	36.3	35.5	36.6	37.6	37.0	37.3	39.4	42.2	37.8	31.4	25.9	20.5	16.6	14.9	11.5	91201.08
(2018/03/08 09:30:01.00)	48.0	54.3	42.4	38.4	56.0	56.6	54.7	53.2	56.8	52.4	43.2	42.4	33.1	32.1	34.4	35.7	29.7	32.2	34.0	35.6	34.1	33.8	33.1	30.5	33.1	39.8	42.5	36.2	28.5	24.7	20.1	19.9	18.3	14.1	63095.73
	54	**75**	**45**																																

Site 3 - Rowan Cottage

Date	LAeq	LAmax	LA90	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1.0 kHz	1.25 kHz	1.6 kHz	2.0 kHz	2.5 kHz	3.15 kHz	4.0 kHz	5.0 kHz	6.3 kHz	8.0 kHz	10.0 kHz	12.5 kHz	16.0 kHz	20.0 kHz	antilog
(2018/03/07 12:45:01.00)	53.5	72.5	42.6	46.3	48.8	51.8	52.7	56.9	55.1	53.9	50.7	48.8	46.8	45.8	45.4	43.8	42.0	42.5	42.5	43.1	44.0	42.8	41.5	39.6	38.4	41.3	44.5	40.2	36.0	38.6	29.2	23.1	20.9	15.6	223872.1
(2018/03/07 13:00:01.00)	54.9	76.7	38.6	50.3	52.4	53.4	56.5	60.9	63.3	54.9	50.1	50.8	47.5	46.7	47.2	46.2	45.3	48.1	45.8	45.7	46.3	43.2	42.4	42.1	41.1	40.7	42.2	39.5	35.3	31.0	26.0	21.0	17.2	13.9	309029.5
(2018/03/07 13:15:01.00)	53.9	73.3	41.0	51.2	55.7	53.7	55.6	57.5	56.1	53.6	51.8	48.7	46.4	46.8	47.5	46.7	45.3	47.3	44.0	44.9	45.4	43.4	42.0	40.2	38.3	38.1	40.5	37.7	33.2	29.2	25.6	20.8	17.1	14.2	245470.9
(2018/03/07 13:30:01.00)	53.6	69.4	43.5	54.1	54.3	55.4	55.4	57.8	56.4	53.4	52.5	49.8	49.0	46.8	47.1	46.2	44.9	44.3	43.5	44.0	44.5	43.1	42.0	39.7	38.7	40.2	42.9	38.5	33.3	32.8	25.9	21.1	17.7	14.0	229086.8
(2018/03/07 13:45:01.00)	53.1	67.8	43.6	53.0	54.1	53.8	54.6	55.3	53.1	52.1	51.2	53.2	52.3	48.3	45.0	43.7	42.0	42.1	41.9	42.7	43.4	41.8	40.8	39.3	38.2	40.5	43.1	39.8	35.5	38.2	28.3	20.9	19.4	14.2	204173.8
(2018/03/07 14:00:01.00)	54.2	76.4	44.7	51.1	53.0	53.3	55.9	59.0	61.9	58.9	47.7	50.0	47.8	49.6	53.1	47.4	45.2	46.4	43.8	43.8	43.2	41.2	39.8	38.4	37.4	40.0	44.6	41.0	35.4	34.7	24.6	18.5	15.9	12.2	263026.8
(2018/03/07 14:15:01.00)	51.1	64.1	43.1	46.5	50.9	51.9	55.6	55.3	53.2	48.7	46.5	44.2	42.9	43.0	42.9	42.1	41.1	40.4	40.2	40.9	41.2	39.5	38.5	36.3	34.5	38.9	43.3	39.5	32.5	27.5	21.0	17.2	14.0	11.5	128825
(2018/03/07 14:30:01.00)	52.4	64.4	45.8	48.2	56.0	53.2	53.9	55.7	54.3	52.7	50.0	45.5	43.2	43.2	42.9	43.2	42.8	42.4	41.1	42.0	42.2	40.5	45.0	38.1	36.9	38.8	41.7	38.6	35.3	32.8	26.4	21.9	18.1	14.1	173780.1
	53	**77**	**43**																																

Site 2 - NE Boundary

(2018/03/07 14:35:02.00)	50.8	69.5	48.6	45.3	44.7	48.1	53.9	48.6	49.9	46.6	44.1	46.4	42.7	40.4	39.2	38.9	38.4	38.3	39.8	38.6	39.2	39.3	40.3	39.6	38.5	38.2	37.0	37.7	39.0	41.2	37.7	35.3	31.0	26.9	120226.4
(2018/03/07 14:36:02.00)	51.0	72.7	48.4	48.2	44.7	47.4	53.0	48.2	45.8	45.2	42.1	40.9	40.9	38.3	37.5	37.1	37.5	38.5	39.7	40.0	43.4	42.7	39.9	39.1	38.3	38.7	37.2	36.2	34.9	35.3	31.0	27.0	26.1	22.2	125892.5
(2018/03/07 14:37:01.00)	49.6	54.7	48.7	46.2	44.1	47.7	53.0	47.6	46.5	44.0	41.9	41.6	41.1	39.2	38.0	37.3	37.6	37.8	39.4	38.6	39.7	40.3	40.8	39.7	37.4	36.3	35.3	32.5	31.1	32.3	26.0	21.7	16.2	10.5	91201.08
(2018/03/07 14:38:01.00)	49.3	53.2	48.7	49.0	47.1	51.5	54.0	47.7	45.1	44.8	43.0	42.3	41.6	38.7	37.5	37.0	37.4	38.1	39.5	38.9	39.6	38.7	39.1	38.7	37.5	37.3	37.0	33.4	31.1	29.9	25.9	21.6	16.1	10.2	85113.8
(2018/03/07 14:39:01.00)	48.9	51.2	48.4	45.7	44.0	47.2	52.8	47.4	45.5	44.5	42.1	40.9	40.8	38.6	37.6	36.7	36.8	37.8	39.3	38.7	39.4	38.7	39.2	38.5	37.2	36.6	35.5	32.5	30.6	29.0	25.8	21.6	15.9	10.0	77624.71
(2018/03/07 14:40:01.00)	49.1	50.1	48.6	45.0	44.3	47.1	53.0	47.7	45.0	44.4	42.0	40.6	40.4	38.2	37.3	36.7	37.1	39.1	39.8	38.7	39.5	38.8	39.0	38.9	37.5	36.4	35.2	32.6	30.9	29.1	25.9	21.6	16.0	10.1	81283.05
(2018/03/07 14:41:01.00)	48.9	53.4	48.5	46.4	44.3	47.7	52.9	48.0	44.7	44.8	42.6	41.3	40.9	38.4	37.3	36.9	37.0	37.7	39.8	38.5	39.4	38.8	39.1	38.6	37.3	36.2	35.0	32.6	30.8	29.0	26.0	21.8	16.3	10.4	77624.71
(2018/03/07 14:42:01.00)	49.2	55.0	48.5	46.1	47.4	48.3	52.5	48.1	44.1	44.2	41.8	41.4	41.0	38.4	37.2	36.7	36.6	37.5	39.8	38.4	39.6	40.1	39.8	38.5	37.1	36.2	35.0	32.5	30.6	29.0	25.9	21.6	16.1	10.2	83176.38
(2018/03/07 14:43:02.00)	49.6	57.9	49.0	45.5	47.0	48.6	61.9	48.6	45.5	48.6	42.5	41.0	40.9	38.7	37.3	36.7	36.9	38.0	40.2	39.3	40.6	39.9	39.9	39.3	37.7	36.5	35.3	32.9	30.9	29.4	26.5	22.6	18.0	12.9	91201.08
(2018/03/07 14:44:01.00)	49.4	51.0	49.0	45.1	48.4	48.6	63.6	49.2	45.3	48.1	42.0	41.8	40.6	38.6	37.5	36.7	37.0	38.1	39.8	39.2	40.5	39.5	40.0	38.9	37.5	36.3	35.1	32.5	30.4	28.6	25.5	21.1	15.5	9.8	87096.36
(2018/03/07 14:45:01.00)	49.9	53.5	49.1	44.3	48.8	58.5	65.4	52.2	48.1	49.7	44.1	44.2	43.8	39.0	38.3	37.2	37.1	38.3	40.2	39.2	40.4	39.7	40.3	39.0	37.6	37.0	35.9	35.0	33.2	30.0	26.7	23.3	19.5	15.0	97723.72
(2018/03/07 14:46:01.00)	51.9	57.8	50.1	45.6	48.8	57.3	65.3	55.2	62.5	52.6	45.9	52.9	45.0	42.6	41.7	40.1	39.0	40.5	43.2	41.5	41.8	42.2	42.3	40.5	39.2	38.0	36.8	35.3	32.9	29.8	27.1	23.8	20.0	15.8	154881.7
(2018/03/07 14:47:02.00)	50.0	53.6	49.4	51.5	52.4	56.5	64.7	53.0	51.3	50.6	46.8	45.7	43.8	41.0	39.6	39.1	39.0	39.1	40.4	39.2	39.8	39.4	40.5	39.4	38.3	36.8	35.6	33.8	31.9	29.1	26.2	22.0	16.8	11.7	100000
(2018/03/07 14:48:02.00)	49.9	54.0	49.1	49.4	50.6	51.6	64.2	52.0	48.0	49.3	45.5	44.7	41.8	39.3	38.1	37.2	37.3	38.3	40.2	39.2	39.8	39.4	39.8	39.2	40.7	37.2	35.2	32.7	30.6	28.9	25.9	21.6	15.9	10.0	97723.72
(2018/03/07 14:49:02.00)	53.0	60.6	50.1	48.7	49.0	52.7	64.0	54.2	50.2	47.5	46.1	44.3	41.7	39.7	38.4	37.6	37.5	39.0	40.1	38.9	39.6	38.9	39.7	39.0	48.9	41.7	35.3	32.6	30.6	29.0	25.8	21.5	15.8	9.9	199526.2
(2018/03/07 14:50:02.00)	49.6	54.1	48.9	45.5	46.1	48.9	63.9	49.5	46.2	46.3	42.2	43.1	41.0	38.7	37.6	36.8	36.9	37.9	39.7	38.8	40.0	40.6	39.5	38.9	37.6	37.0	36.0	32.7	30.8	29.8	25.9	21.5	15.8	9.9	91201.08
(2018/03/07 14:51:02.00)	49.4	51.3	48.9	46.9	48.4	50.3	63.5	51.4	48.4	47.8	42.9	43.5	40.9	38.6	37.6	36.9	36.9	38.0	40.1	39.2	39.9	39.2	39.4	39.1	37.9	36.5	35.5	32.7	30.7	29.4	25.9	21.5	15.8	9.9	87096.36
(2018/03/07 14:52:02.00)	49.1	52.3	48.7	46.1	46.5	48.8	63.4	48.9	46.0	47.6	42.5	43.5	40.6	38.4	37.3	37.0	36.6	37.7	39.9	38.6	39.3	38.6	38.6	38.9	37.6	36.6	35.7	33.1	31.6	29.2	25.9	21.6	16.0	10.0	81283.05
(2018/03/07 14:53:02.00)	49.8	57.2	48.8	44.8	46.1	49.0	63.1	48.8	46.1	47.9	42.2	43.3	40.7	38.4	37.6	36.9	36.9	38.3	40.3	39.3	40.5	41.3	40.2	39.2	37.5	36.2	35.1	32.6	30.6	29.0	26.0	21.6	15.9	10.0	95499.26
(2018/03/07 14:54:02.00)	49.3	51.6	48.8	45.4	54.0	50.9	63.6	53.6	48.3	49.0	44.4	44.4	40.9	38.8	37.8	37.0	36.9	39.3	40.0	38.7	40.0	38.8	39.5	38.8	37.3	36.3	35.3	32.5	30.6	29.0	25.9	21.6	15.9	9.9	85113.8
(2018/03/07 14:55:02.00)	49.7	61.0	48.5	46.0	51.0	50.6	63.7	52.0	48.8	48.3	42.1	41.9	40.7	38.6	37.4	36.7	37.2	39.8	40.0	38.6	39.2	38.4	39.0	38.8	37.7	39.8	38.0	34.8	31.1	29.1	25.8	21.6	16.0	10.2	93325.43
(2018/03/07 14:56:02.00)	52.5	63.6	49.2	48.4	49.2	51.2	63.7	53.9	48.5	48.3	42.6	41.8	40.8	38.7	37.5	37.1	38.7	41.6	40.4	39.6	40.1	39.8	39.4	39.3	40.8	45.2	44.3	39.3	33.5	31.2	26.1	21.8	16.5	10.9	1777827.9
(2018/03/07 14:57:01.00)	50.7	56.9	48.8	45.6	49.9	52.2	63.6	52.8	49.3	48.5	43.2	42.5	41.0	39.0	37.8	37.0	38.7	43.0	40.1	40.9	40.5	39.6	40.5	40.1	38.5	39.3	37.8	35.1	32.4	32.7	26.1	21.7	16.2	10.2	117489.8
(2018/03/07 14:58:01.00)	50.8	58.4	49.0	46.5	49.4	49.3	63.3	53.1	47.5	48.5	42.9	42.5	41.1	38.7	37.9	37.3	38.8	41.0	40.2	38.8	39.2	38.6	39.2	39.1	38.1	41.2	40.3	36.5	35.8	39.7	27.5	21.8	17.7	11.2	120226.4
(2018/03/07 14:59:02.00)	50.7	58.4	49.1	45.9	49.1	51.1	63.1	52.1	47.7	48.8	42.5	42.3	40.9	38.4	37.7	37.1	38.5	41.3	40.1	39.3	40.5	39.3	39.5	39.8	37.8	39.7	40.0	35.0	35.8	36.5	26.0	20.9	16.8	10.1	117489.8
(2018/03/07 15:00:02.00)	50.4	55.9	49.2	46.7	47.3	49.8	63.2	52.1	49.4	49.8	43.1	43.1	41.3	38.8	37.6	37.3	37.0	38.1	40.3	39.3	39.6	39.0	39.7	39.3	38.2	40.2	39.9	36.1	33.5	35.8	27.1	21.8	17.1	10.7	109647.8
(2018/03/07 15:01:01.00)	50.5	60.7	48.8	45.9	46.1	48.9	63.2	49.3	45.6	48.7	42.5	41.8	40.8	38.4	37.5	36.8	37.5	39.2	40.4	39.0	39.5	40.0	41.4	41.2	38.4	38.8	37.3	34.1	31.8	34.4	26.1	21.6	18.8	10.4	112201.8
(2018/03/07 15:02:01.00)	51.5	62.6	49.2	47.7	45.9	50.7	62.9	52.3	53.7	49.2	43.8	45.1	42.1	39.7	38.4	37.5	37.5	38.8	40.9	39.3	39.7	39.4	40.8	40.5	39.8	41.5	42.0	39.0	33.2	31.0	26.2	21.8	16.5	11.0	141253.8
(2018/03/07 15:03:02.00)	53.0	64.2	49.5	46.3	46.2	49.3	63.1	49.3	57.6	57.7	44.6	45.6	44.6	44.6	39.7	39.0	38.0	39.2	41.0	39.4	39.9	39.0	39.9	40.4	40.2	43.8	46.0	42.1	33.5	32.0	26.3	22.3	18.9	13.6	199526.2
(2018/03/07 15:04:02.00)	51.1	58.8	49.2	45.3	48.1	64.6	63.5	50.2	60.4	53.3	44.4	45.7	42.8	41.2	38.2	37.4	37.3	38.5	40.3	38.8	39.3	38.9	39.9	39.7	38.7	41.5	42.2	35.5	33.2	34.7	26.5	21.7	16.9	10.8	128825
(2018/03/07 15:05:01.00)	52.6	61.6	49.2	45.2	45.7	64.5	63.3	50.6	59.2	52.4	44.8	44.0	41.7	40.6	38.1	37.0	37.1	38.3	40.2	38.9	39.2	38.5	39.3	39.2	39.9	45.5	45.2	39.7	35.0	35.2	26.5	21.8	17.0	11.2	181970.1
(2018/03/07 15:06:02.00)	51.1	57.1	49.4	41.6	44.7	61.4	62.9	58.6	62.6	53.9	45.6	48.5	45.1	43.5	39.2	37.6	38.2	39.8	40.3	39.1	39.8	39.0	39.2	39.0	38.2	42.4	41.1	34.8	32.4	33.0	26.1	21.6	16.3	10.1	128825
(2018/03/07 15:07:01.00)	52.4	60.5	49.2	43.7	45.7	55.2	62.5	56.9	64.8	57.3	48.3	53.8	50.2	47.6	41.7	40.4	40.0	41.2	41.6	39.7	40.0	39.1	39.5	39.0	38.1	43.4	43.3	35.9	33.3	35.2	26.7	21.6	17.1	10.7	173780.1
(2018/03/07 15:08:01.00)	50.6	58.0	48.9	44.9	49.6	64.7	64.7	50.6	50.6	50.6	44.4	42.7	41.1	39.7	38.2	36.7	37.2	38.3	39.9	38.7	39.5	39.2	39.2	38.8	38.1	42.0	40.8	34.1	31.8	33.1	26.0	21.5	16.3	9.9	114815.4
(2018/03/07 15:09:02.00)	51.2	60.1	49.3	43.9	48.5	63.4	64.8	52.1	54.9	51.5	44.7	43.8	41.5	40.9	38.3	36.8	37.1	38.1	39.9	39.1	39.9	39.1	39.6	39.3	38.6	43.5	41.8	35.5	32.3	34.7	26.3	21.6	17.6	10.1	131825.7
(2018/03/07 15:10:01.00)	52.1	57.1	50.1	46.4	50.0	51.2	64.2	61.0	65.7	60.8	51.1	54.9	49.8	47.7	42.6	40.8	40.2	41.0	42.3	40.6	40.8	40.1	40.7	39.6	38.2	40.1	40.1	34.5	32.6	32.0	26.0	21.5	16.0	9.9	162181
(2018/03/07 15:11:01.00)	50.1	57.6	49.0	43.7	49.2	64.1	64.8	50.3	53.0	51.9	44.0	42.6	40.9	41.7	38.5	37.0	37.0	38.1	40.0	38.8	39.4	38.8	39.5	39.0	37.7	40.4	39.2	33.2	31.2	32.1	26.1	21.5	16.2	10.0	102329.3
(2018/03/07 15:12:02.00)	49.5	56.6	48.6	48.4	49.1	51.2	63.8	50.0	47.8	50.7	42.4	42.3	40.8	39.7	38.2	36.6	37.5	38.6	39.8	38.6	39.4	38.6	38.7	38.7	37.9	38.5	37.9	33.3	31.3	29.9	25.9	21.5	15.9	10.0	98125.09
(2018/03/07 15:13:02.00)	49.8	61.2	48.9	47.5	49.4	53.9	63.6	50.9	52.2	51.5	45.5	46.1	42.0	39.9	38.8	37.2	37.4	39.0	41.3	39.4	40.3	39.5	39.6	39.1	37.6	37.0	36.1	32.8	30.7	29.2	25.8	21.5	15.8	9.9	95499.26
(2018/03/07 15:14:01.00)	50.0	58.3	48.9	47.2	48.2	51.2	64.1	51.4	50.7	52.2	48.6	47.1	42.5	41.7	39.1	37.0	37.7	38.7	40.3	39.5	40.3	39.3	39.4	39.7	37.8	37.7	37.5	33.3	30.6	29.0	25.0	20.6	15.0	9.4	100000
(2018/03/07 15:15:01.00)	50.8	60.9	49.2	47.8	48.1	52.2	62.4	50.2	47.4	51.6	46.6	46.0	41.7	41.3	38.2	36.6	37.2	38.3	40.3	39.4	40.2	39.4	39.9	39.1	38.6	40.7	40.5	38.6	31.9	30.0	26.6	21.8	16.9	13.0	1202226.4
(2018/03/07 15:16:01.00)	49.7	57.9	48.9	49.3	48.6	52.6	62.3	49.4	46.8	51.8	46.9	45.4	41.7	41.8	38.6	37.0	37.7	38.6	40.6	39.9	40.3	39.4	39.3	39.0	38.0	36.8	35.4	32.6	30.7	29.3	25.8	21.5	15.8	9.9	93325.43
(2018/03/07 15:17:02.00)	49.5	59.3	48.8	50.3	50.2	54.7	62.6	49.7	50.6	51.4	47.0	45.6	41.7	39.8	39.2	36.8	37.4	38.8	40.6	39.6	39.4	38.8	39.7	38.9	37.8	36.4	35.1	32.5	30.6	28.9	25.7	21.4	15.8	10.0	89125.09
(2018/03/07 15:18:01.00)	49.7	53.9	49.0	46.3	48.9	54.4	62.5	49.8	49.9	51.1	47.8	46.6	42.2	39.3	39.0	37.6	37.5	38.5	40.5	39.2	39.8	39.4	40.1	39.2	37.9	36.6	35.4	32.8	30.7	28.9	25.8	21.5	15.8	10.0	93325.43
(2018/03/07 15:19:02.00)	49.6	55.7	49.0	42.7	47.5	50.7	62.6	50.2	47.5	50.8	46.6	43.8	41.8	41.2	38.0	36.6	37.4	38.9	40.1	38.9	39.7	38.9	40.0	39.2	38.4	36.6	35.4	32.9	30.7	28.9	25.8	21.5	15.8	10.0	91201.08
(2018/03/07 15:20:01.00)	49.1	50.8	48.7	41.0	46.2	47.5	62.9	49.5	46.7	50.3	42.8	41.6	41.1	42.8	37.2	36.1	37.3	39.2	39.7	38.3	39.1	38.5	39.5	38.8	37.5	36.2	35.0	32.6	30.7	29.0	25.8	21.5	15.8	10.0	81283.05
(2018/03/07 15:21:02.00)	49.8	56.0	48.8	41.4	46.7	48.4	62.8	49.2	45.8	50.4	42.4	42.1	41.0	41.3	37.5	36.3	37.6	40.0	40.1	38.6	39.3	39.4	41.3	39.6	37.7	36.6	35.5	32.9	31.2	29.7	25.9	21.6	16.0	10.1	95499.26
(2018/03/07 15:22:02.00)	49.7	60.2	48.9	43.4	46.8	49.7	62.5	49.1	47.1	50.5	42.7	41.8	41.0	43.1	37.6	36.2	37.4	39.5	40.0	39.1	39.8	38.7	39.3	40.3	38.2	36.5	35.3	32.9	32.6	30.0	26.0	21.6	16.0	10.0	93325.43
(2018/03/07 15:23:02.00)	49.2	50.5	48.9	41.4	46.2	52.2	63.0	49.3	46.4	51.1	42.9	42.2	41.2	43.7	37.5	36.1	37.3	39.2	39.9	38.7	39.4	38.5	39.6	38.8	37.4	36.5	35.2	32.6	31.1	29.9	25.9	21.5	15.9	10.0	83176.38
(2018/03/07 15:24:01.00)	49.8	51.2	49.3	41.5	45.1	48.0	62.7	49.0	46.8	51.2	44.3	42.6	41.5	43.5	38.0	36.7	37.4	39.2	40.7	39.7	40.7	39.5	39.7	39.4	37.8	36.8	35.5	32.9	31.0	29.7	26.1	21.7	16.0	10.1	95499.26
(2018/03/07 15:25:02.00)	49.5	50.7	49.1	41.3	45.3	49.1	62.7	49.2	49.2	50.9	45.4	43.8	43.0	44.1	38.3	37.0	37.1	38.4	40.7	39.4	39.9	39.0	39.3	38.9	37.6	36.7	35.3	32.6	30.8	29.3	26.6	21.7	16.0	10.1	89125.09
(2018/03/07 15:26:01.00)	53.3	74.2	49.1	65.2	66.3	65.8	72.6	68.1	65.4	58.9	53.2	53.4	52.7	52.8	47.5	44.8	44.7	44.1	45.2	41.6	41.4	41.4	40.9	40.2	38.9	37.8	36.4	33.8	31.5	29.3	25.8	21.3	15.6	9.8	213796.2
(2018/03/07 15:27:02.00)	49.5	50.5	49.1	47.0	48.5	48.8	63.0	49.4	46.6	50.9	42.5	42.2	41.4	42.8	37.7	36.4	37.2	38.5	40.9	39.6	39.8	39.0	39.5	39.2	37.6	36.5	35.3	32.5	30.1	28.2	25.9	20.1	14.4	9.0	89125.09
(2018/03/07 15:28:02.00)	50.0	62.1	49.2	46.6	47.1	50.1	63.1	50.2	46.5	50.4	42.2	42.4	41.7	43.5	40.4	38.8	37.7	39.0	40.8	39.8	40.4	40.1	40.1	39.3	37.7	36.6	35.4	33.0	31.2	29.9	26.7	23.1	18.7	14.1	100000
(2018/03/07 15:29:02.00)	50.0	58.5	49.2	43.8	46.7	49.3	62.8	50.5	48.4	50.7	42.3	42.0	41.3	43.6	37.6	36.5	37.7	38.4	40.4	39.3	40.1	39.3	40.7	39.7	39.1	36.9	35.9	32.7	31.0	31.0	25.2	20.9	15.7	9.7	100000
(2018/03/07 15:30:02.00)	49.6	51.5	49.2	42.7	46.8	49.3	62.8	49.2	48.2	50.8	42.0	42.0	41.0	41.6	37.7	36.1	37.2	38.2	40.3	39.5	40.3	39.4	40.5	39.1	37.8	36.4	35.3	32.7	30.9	29.4	25.8	21.5	15.9	10.0	91201.08
(2018/03/07 15:31:02.00)	49.2	55.2	48.5	45.4	47.8	49.4	62.9	49.1	47.4	51.1	42.3	42.1	40.2	39.3	37.1	35.9	36.3	37.4	39.9	38.4	39.1	38.6	39.7	38.7	37.9	37.8	34.9	32.5	30.6	29.1	25.7	21.5	15.9	10.1	83176.38
(2018/03/07 15:32:02.00)	49.7	51.1	49.0	46.8	47.4	53.2	63.0	50.6	47.6	50.5	42.5	42.8	41.1	42.5	37.6	36.2	37.2	38.2	40.4	39.8	40.8	39.9	40.1	38.7	37.4	36.3	35.2	32.7	31.0	30.1	26.2	21.6	16.0	10.0	93325.43
(2018/03/07 15:33:01.00)	49.5	52.3	48.9	43.8	47.5	47.3	62.7	49.9	44.7	50.0	42.5	42.6	41.1	40.9	37.3	36.0	37.0	38.0	40.3	39.4	40.4	39.6	39.7	38.8	37.7	36.3	35.3	32.9	30.9	30.0	25.3	20.8	15.3	9.5	89125.09
(2018

Site 3 - Rowan Cottage

Date	LAeq	LAmax	LA90	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1.0 kHz	1.25 kHz	1.6 kHz	2.0 kHz	2.5 kHz	3.15 kHz	4.0 kHz	5.0 kHz	6.3 kHz	8.0 kHz	10.0 kHz	12.5 kHz	16.0 kHz	20.0 kHz	antilog
(2018/03/08 06:45:01.00)	51.2	66.4	38.1	46.7	47.6	57.1	52.3	46.6	45.5	43.9	43.1	39.4	36.3	37.0	37.2	36.2	35.1	35.6	35.1	37.2	39.3	36.8	36.8	34.6	37.2	40.8	47.1	38.5	30.1	22.9	18.2	16.1	12.1	9.0	131825.7
(2018/03/08 07:00:01.00)	52.7	66.6	37.4	48.5	51.2	56.0	53.9	53.9	57.7	52.1	44.8	46.4	45.2	39.9	41.0	39.7	37.2	37.2	38.2	39.5	40.0	37.7	37.0	35.1	38.2	43.7	48.3	38.7	31.7	25.2	20.9	17.6	14.8	11.1	186208.7
(2018/03/08 07:15:01.00)	50.3	67.9	47.9	43.6	52.3	51.7	62.8	48.9	45.7	45.0	43.0	46.4	41.2	38.7	38.3	37.2	37.6	38.4	39.1	37.7	38.4	38.7	39.0	39.0	38.5	41.0	41.0	36.3	33.7	32.4	31.2	28.7	25.0	21.7	107151.9
	52	**68**	**41**																																

Site 2 - NE Boundary

(2018/03/08 07:30:01.00)	51.5	65.2	48.7	47.6	55.4	58.8	58.7	55.9	55.3	52.6	49.5	48.8	42.7	39.7	39.0	36.9	38.1	38.9	39.4	38.3	38.6	39.0	39.0	38.9	38.9	43.3	42.9	39.0	35.8	35.4	27.2	22.9	18.7	12.2	141253.8
(2018/03/08 07:45:01.00)	53.7	71.9	49.7	49.8	59.1	61.7	66.6	60.8	59.2	57.2	57.0	52.4	47.3	43.8	41.6	38.6	39.1	40.2	42.9	40.0	39.6	39.7	39.8	39.4	41.2	46.0	45.2	42.6	34.7	30.8	27.4	23.6	19.9	15.9	234422.9
(2018/03/08 08:00:02.00)	63.7	74.3	58.2	49.6	59.8	64.3	69.4	63.9	61.9	56.7	55.6	53.5	47.8	45.2	41.5	39.6	40.6	41.3	43.6	41.8	42.1	44.1	41.2	40.2	39.4	38	36.5	38	35	35	28.3	24.4	21.2	15.9	2344229
(2018/03/08 08:15:01.00)	53.6	68.9	47.3	49.5	59.7	59.3	66.6	64.3	61.4	56.1	51.0	47.0	45.0	45.3	42.0	40.4	39.5	40.0	40.5	40.4	43.7	47.4	42.0	39.1	44.4	40.5	38.1	35.8	34.2	31.0	22.3	20.7	19.4	15.0	229086.8
	59	**74**	**51**																																

Site 4 - Mechanics Garage

(2018/03/08 08:30:01.00)	51.3	66.5	47.1	48.0	58.1	58.1	66.7	63.3	59.3	53.8	49.7	47.6	44.3	44.0	41.0	40.1	38.8	38.6	38.4	37.3	38.9	38.3	38.1	37.1	38.1	43.4	42.8	38.8	35.4	31.2	18.6	14.1	11.5	9.1	134896.3
(2018/03/08 08:45:02.00)	54.4	72.6	47.0	47.0	55.6	58.4	65.1	58.8	56.3	51.6	47.7	48.1	42.9	42.0	39.7	38.5	39.5	41.2	39.7	38.7	42.4	50.0	41.2	39.3	38.9	42.7	43.4	40.6	37.5	34.3	21.4	16.9	13.7	9.5	275422.9
(2018/03/08 09:00:01.00)	49.8	65.3	46.7	52.9	52.6	57.5	62.2	66.2	61.2	55.4	52.4	50.7	46.9	45.5	42.1	40.5	39.4	39.6	39.6	38.2	40.4	40.8	38.9	36.8	34.2	34.3	33.7	30.3	26.0	23.9	16.4	10.9	6.6	5.8	95499.26
(2018/03/08 09:15:01.00)	49.4	66.6	46.3	45.2	52.7	57.0	65.1	64.4	61.3	57.3	52.4	48.2	45.6	45.2	42.1	41.0	41.3	41.0	40.0	38.5	39.1	39.3	37.9	36.0	33.9	33.4	33.2	30.3	26.1	23.3	20.1	18.8	17.8	15.6	87096.36
(2018/03/08 09:30:02.00)	49.8	68.3	45.8	52.9	53.7	57.4	58.7	56.1	55.9	52.4	51.1	50.3	47.8	45.2	41.9	40.9	40.8	41.0	40.8	38.7	39.3	39.8	38.4	37.1	35.9	36.6	36.2	31.5	28.0	29.1	20.5	17.8	14.8	10.9	95499.26
	51	**73**	**47**																																

Data Summary

Site 1 - SE Boundary

Date	Time	Length (Mins.)	LAeq	LAmax	LA90
Wednesday 7th March 2018	12:15	180	50	87	40
Thursday 8th March 2019	06:30	180	54	75	45

Site 2 - NE Boundary

Date	Time	Length (Mins.)	LAeq	LAmax	LA90
Wednesday 7th March 2018	14:35	60	50	74	49
Thursday 8th March 2019	07:15	60	59	74	51

Site 3 - Rowan Cottage

Date	Time	Length (Mins.)	LAeq	LAmax	LA90
Wednesday 7th March 2018	12:30	120	53	77	43
Thursday 8th March 2019	06:30	45	52	68	41

Site 4 - Mechanics Garage

Date	Time	Length (Mins.)	LAeq	LAmax	LA90
Thursday 8th March 2019	08:15	75	51	73	47

Certificate of Calibration

Certificate No.: 4715719250

Object:	Sound Analyser Nor140
Supplier:	Norsonic AS
Type:	Nor140
Serial number:	1406914
Client:	AIR560

This instrument is tested and calibrated in accordance to the Norsonic production standard set for Nor140, ensuring that the instrument conforms to the following standards;

IEC 61672-1:2002 class 1
IEC 61260-1 class 1 Ed 1.0 2014-02
ANSI S1.4-1983 (R2001) with amd. S1.4A-1985 class 1
ANSI S1.43-1997 (R2002) class 1
ANSI S1.11-2004 class 1
DIN 45 657, Applicable parts
IEC 61094 part 4

Instrumentation used for calibration traceable to:

Electrical Parameters: IKM, Norway
Acoustical Parameters: PTB, Germany
Environmental Parameters: Justervesenet. Norway

Adjustments: None

Comments: None

Date of calibration:	**Calibration interval recommended**
2017-06-08	2 years

The environmental parameters applicable to this calibration are kept well within limits ensuring negligible deviation on obtained measurement results.

Calibrated by:

Sign. [redacted]

Norsonic
X 24, N-3420 LIERSKOGEN, NORWAY
TEL: +47 32 85 89 00

Norsonic AS, P.B 24, 3421 Lierskogen. Visitor address: Gunnersbråtan 2, Tranby, Norway.
Phone +47 32858900 Fax.: +47 32852208. email: info@norsonic.com

Warranty

Norsonic products are thoroughly inspected before they leave the factory. Carefully check the shipment for any physical damage in transit. Notify the factory or the distributor and file the claim with the carrier if there is any such damage.

Product type:	Sound Analyser Nor140
Serial no.:	1406914
Power:	11-15 Volt DC
Option included:	69
Option description:	00: Tmax 5 and Leql according to German standards 01: 1/1 octave real time frequency filters 0,5 - 16.000Hz 02: Reference spectrum comparison with digital Go/No Go TTL output 03: 1/3 octave real time filters 0,4 - 20.000Hz, require opt 2 04: Statistical Calculations for weighting network and 1/n octave filters 05: Parallel calculation of F, S, I time constants 06: Profile. L/t measuring mode w / multi spectrum if opt 2 or 3 are installed 07: Enhanced profile including 4 markers and time resolution from 50ms 08 Sound recording 09: Reverberation time decay and calculation of T20 and T30 10: Noise generator with pink or white noise 11: Building acoustic mode according to ISO140, ISO10052 and ISO717/1 & /2 12: SweptSine measurement technique 13: Speech Transmission Index mode 14: FFT measuring mode with absolute units 8000 lines, 15: Survey Sound Power mode for LwA measurements according to ISO-3746 16: Enhanced global trigger 17: Audiometer calibration with measurement of Lzeq, frequency and distortion 18: Extended measurement range to 150dBpeak including self noise compensation 19: Special options for Noise Monitoring
Application version:	4.0.1120 2017-03-23 10:33r
Id no.:	15719250
Accessories:	Preamplifier 1209 Serial No.: 21121 Microphone 1225 Serial No.: 212990
Related to order:	SO1721015

Checked and approved by [redacted] **Date:** 2017-06-08

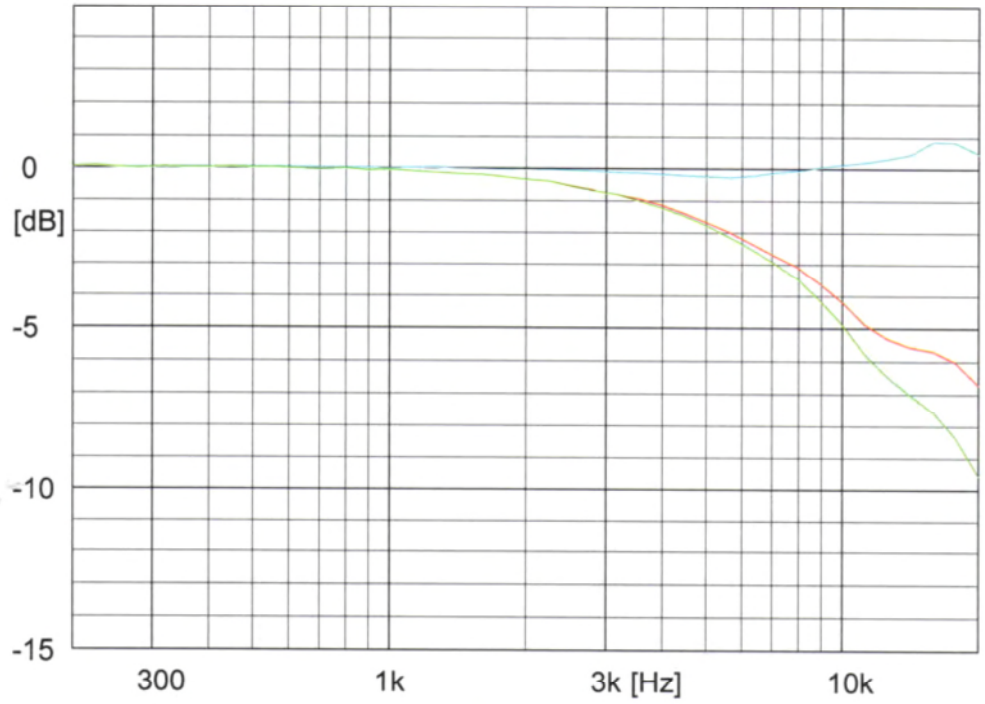
Norsonic
4, N-3420 LIERSKOGEN, NORWAY
TEL: +47 32 85 89 00

Warranty statement

Norsonic products are warranted against defects in material and workmanship. This warranty applies to 36 months from date of delivery.
Norsonic AS will repair or replace equipment, which proves to be defective during the warranty period. This warranty includes labour and parts. Equipment returned to the factory, for repair must be shipped freight prepaid. Repair due to misuse of the equipment and/or use of hardware, software or interfacing not provided by Norsonic AS are not covered by this warranty.
No other warranty is expressed or implied, included, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.
Norsonic AS shall not be liable for consequential damages

Norsonic AS, P.B 24, 3421 Lierskogen. Visitor address: Gunnersbråtan 2, Tranby, Norway.
Phone +47 32858900 Fax.: +47 32852208. email: info@norsonic.com

Microphone Calibration Certificate



Norsonic
Type: 1225

Serial no: 212990

Sensitivity: 52,80 mV/Pa
-25,55 dB re. 1 V/Pa
Capacitance: 22,19 pF
Date: 2017-06-06

Signature: [redacted]

Measurement conditions:

Polarisation voltage:	200,0 V
Pressure:	97,60 kPa
Temperature:	23,1 °C
Relative humidity:	44,0 %RH

Results are normalized to the reference conditions.

Free field response
Diffuse field response
Pressure (Actuator) response

Norsonic AS
www.norsonic.com

Campbell Associates Ltd
5b Chelmsford Road Industrial Estate
GREAT DUNMOW, Essex, GB-CM6 1HD
www.campbell-associates.co.uk
Phone 01371 871030 Facsimile 01371879106

Certificate of Calibration and Conformance

CALIBRATION 0789

Certificate No.: U26097

Test object:	**Sound Level Meter, BS EN IEC 61672-1:2003 Class 1 (Precision)**
Manufacturer:	**Norsonic**
Type:	**140**
Serial no:	**1405074**
Customer:	**The Airshed Ltd**
Address:	**5 Lauder Place, East Linton, East Lothian. EH40 3DB.**
Contact Person:	**Hilary Fraser**
Order No:	**AS 17-04**

Method :
Calibration has been performed as set out in CA Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification set out in BS EN IEC 61672-3:2006. Results and conformance statement are overleaf and detailed results are in the attached Test Report.

	Producer:	Type:	Serial No:	Certificate number
Microphone	GRAS	40AF	114655	26096
Calibrator*	Norsonic	1251	31060	U25588
Preamplifier	Norsonic	1209	21254	Included

Additional items that also have been submitted for verification

Wind shield	None
Attenuator	None
Extension cable	None

These items have been taken into account wherever appropriate.

	Pressure:	Temperature:	Relative humidity:
Environmental conditions:			
Reference conditions:	101.325 kPa	23.0 °C	50 %RH
Measurement conditions:	101.33 ± 0.01kPa	21.4 ± 0.2°C	51.3 ± 2%RH

Date received :	11/07/2017
Date of calibration:	17/07/2017
Date of issue:	18/07/2017

Engineer [redacted]
Palanivel Marappan B.Eng (Hons), M.Sc

Supervisor [redacted]
Darren Batten Tech IOA

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognized national standards, and to the units of measurement realized at the National Physical Laboratory or other recognized national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Certificate of Calibration and Conformance

UKAS Laboratory Number 0789

Certificate No.: U26097

Conformance

From markings on the sound level meter or by reference to the manufacturer's published literature it has been determined that the instrument submitted for verification was originally manufactured to BS EN IEC 61672-1:2002 and similarly that the associated sound calibrator conforms to BS EN IEC 60942.

Statement of conformance

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of BS EN IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available[1], from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with BS EN IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in BS EN IEC 61672-1:2002, and that the sound level meter submitted for testing conforms to the class 1 requirements of BS EN IEC 61672-1:2003.

[1] This evidence is held on file at the calibration laboratory

Measurement Results:

Indication at the calibration check frequency - IEC61672-3 Ed.1 #9	Passed
Self-generated noise - IEC 61672-3 Ed.1 #10	Passed
Acoustical signal tests of a frequency weighting - IEC 61672-3 Ed.1 #11	Passed
Frequency weightings: A Network - IEC 61672-3 Ed.1 #12.3	Passed
Frequency weightings: C Network - IEC 61672-3 Ed.1 #12.3	Passed
Frequency weightings: Z Network - IEC 61672-3 Ed.1 #12.3	Passed
Frequency and time weightings at 1 kHz IEC 61672-3 Ed.1 #13	Passed
Level linearity on the reference level range - IEC 61672-3 Ed.1 #14	Passed
Toneburst response - IEC 61672-3 Ed.1 #16	Passed
Peak C sound level - IEC 61672-3 Ed.1 #17	Passed
Overload indication - IEC 61672-3 Ed.1 #18	Passed
Electrical signal tests of frequency weightings - IEC 61672-3 Ed.1 #12	Passed

Comment

Correct level with associated calibrator is 113.9dB(A).

Observations

No information on the uncertainty of measurement, required by 11.7 of BS EN IEC 61672-3:2006 of the adjustment data given in the instruction manual or obtained from the manufacturer of supplier of the sound level meter, or the manufacturer of the microphone, or the manufacturer of the electrostatic actuator was published in the instruction manual or made available by the manufacturer or supplier. The uncertainty of measurement of the adjustment data has therefore been assumed to be numerically zero for the purposes of this periodic test. If these uncertainties are not actually zero, there is a possibility that the frequency response of the sound level meter may not conform to the requirements of BS EN IEC 61672-1:2003.

The details of the uncertainty for each measurement is available from the Calibration Laboratory on request and is based on the standard uncertainty multiplied by a coverage factor K=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements. Details on the sources of corrections and their associated uncertainties that relate to this verification are contained the detailed test report accompanying this certificate.

Calibration Report

Certificate No.:26096

Manufacturer: GRAS
Type: 40AF
Serial no: 114655

Customer: The Airshed Ltd
Address: 5 Lauder Place, East Linton, East Lothian. EH40 3DB.
Order No: AS 17-04
Contact Person: Hilary Fraser

Measurement Results:

	Sensitivity: (dB re 1V/Pa)	Capacitance: (pF)
1:	-26.70	22.3
2:	-26.70	22.3
3:	-26.71	22.3
Result (Average):	**-26.71**	**22.3**
Expanded Uncertainty:	0.10	2.00
Degree of Freedom:	>100	>100
Coverage Factor:	2.00	2.00

The following correction factors have been applied during the measurement:
Pressure:-0.010 dB/kPa Temperature:-0.007 dB/°C Relative humidity:0.000 dB/%RH

Reference Calibrator: WSC1 - Nor1253-24269 Volume correction: 0.000 dB
Records:K:\C A\Calibration\Nor-1504\Nor-1017 MicCal\2017\GRAS40AF_114655_M1.nmf
Measurement procedure: TP05
All results quoted are directly traceable to National Physical Laboratory, London

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA publication EA-4/02.

Comment:

Environmental conditions:

Pressure:	Temperature:	Relative humidity:
101.591 ± 0.042 kPa	22.4 ± 0.1 °C	44.1 ± 0.8 %RH

Date of calibration: 17/07/2017
Date of issue: 17/07/2017

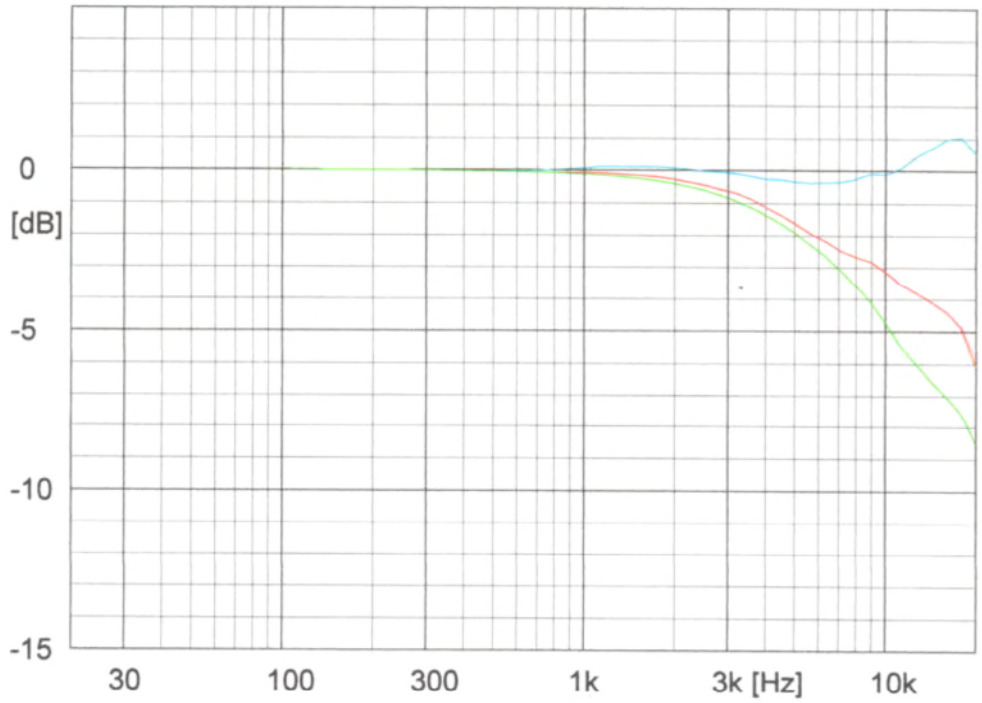
Supervisor : Darren Batten TechIOA
Engineer :

[redacted]

Palanivel Marappan B.Eng (Hons), M.Sc
Software version: 6.0h

Campbell Associates
www.campbell-associates.co.uk

Microphone Calibration Certificate



GRAS
Type: 40AF

Serial no: 114655

Sensitivity: 46.21 mV/Pa
-26.71 ±0.10 dB re. 1 V/Pa
Capacitance: 22.3 ±2.0 pF
Date: 17/07/2017

Signature: [redacted]

Measurement conditions:

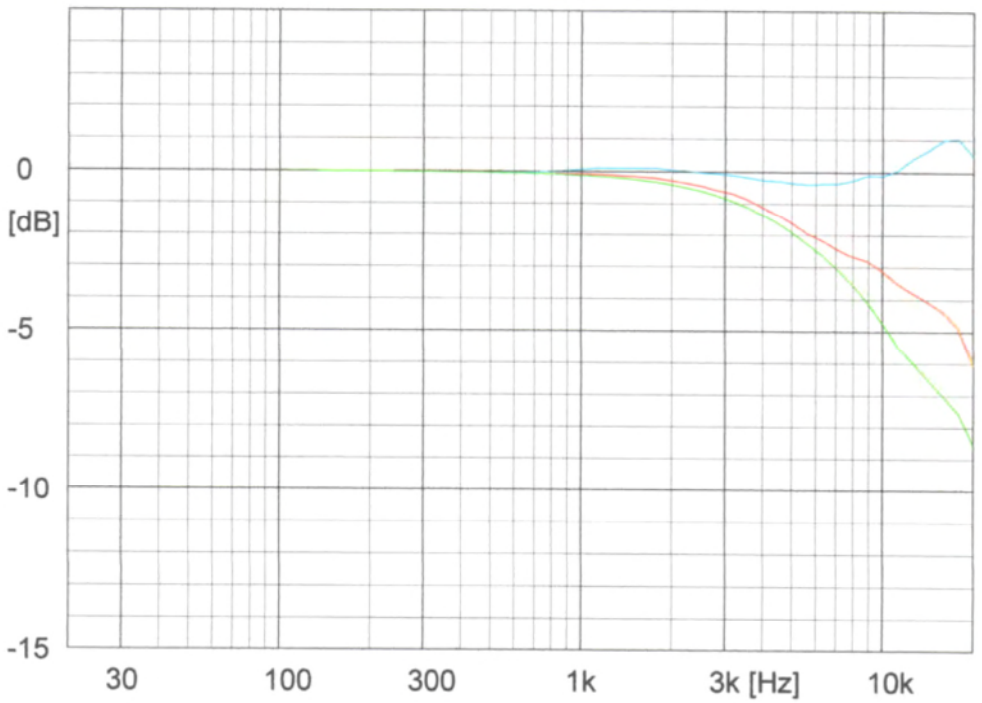
Polarisation voltage:	200.0 V
Pressure:	101.59 ±0.04 kPa
Temperature:	22.4 ±0.1 °C
Relative humidity:	44.1 ±0.8 %RH

Results are normalized to the reference conditions.

Free field response
Diffuse field response
Pressure (Actuator) response

Campbell Associates
www.campbell-associates.co.uk

Microphone Calibration Certificate



GRAS
Type: 40AF

Serial no: 114655

Sensitivity: 46.21 mV/Pa
-26.71 ±0.10 dB re. 1 V/Pa
Capacitance: 22.3 ±2.0 pF
Date: 17/07/2017

Signature: [redacted]

Measurement conditions:

Polarisation voltage:	200.0 V
Pressure:	101.59 ±0.04 kPa
Temperature:	22.4 ±0.1 °C
Relative humidity:	44.1 ±0.8 %RH

Results are normalized to the reference conditions.

Free field response
Diffuse field response
Pressure (Actuator) response

Campbell Associates
www.campbell-associates.co.uk

Comment:

Campbell Associates Ltd
5b Chelmsford Road Industrial Estate
GREAT DUNMOW, CM6 1HD, England
www.campbell-associates.co.uk
info@campbell-associates.co.uk
Phone 01371 871030 Facsimile 01371879106

CALIBRATION

0789

Certificate number: U25588

Certificate of Calibration and Conformance

Test object:	**Sound Calibrator**
Manufacturer:	**Norsonic**
Type:	**1251**
Serial no:	**31060**
Customer:	The Airshed Ltd
Address:	5 Lauder Place, East Linton. EH40 3DB.
Contact Person:	Hilary Fraser.

Measurement Results:	Level	Level Stability	Frequency	Frequency Stability	Distortion
1:	114.02 dB	0.06 dB	1000.08 Hz	0.00 %	<0.3 %
2:	114.02 dB	0.06 dB	1000.07 Hz	0.00 %	<0.3 %
3:	114.03 dB	0.06 dB	1000.07 Hz	0.00 %	<0.3 %
Result (Average):	**114.02 dB**	**0.06 dB**	**1000.07 Hz**	**0.00 %**	**<0.3 %**
Expanded Uncertainty:	0.10 dB	0.02 dB	1.00 Hz	0.01 %	0.10 %
Degree of Freedom:	>100	>100	>100	>100	>100
Coverage Factor:	2.00	2.00	2.00	2.00	2.00

The stated level is relative to 20µPa. The level is traceable to National Standards.
The stated level is valid at reference conditions. The following correction factors have been applied during the measurement: Pressure: 0.0005 dB/kPa Temperature: 0.003 dB/°C Relative humidity: 0.000 dB/%RH Load volume : 0.0003 dB/mm3
The reported expanded uncertainty of measurements is based on a standard uncertainty multiplied by the coverage factor of k=2, providing a level of confidence of approximately 95%. Where the degrees of freedom are insufficient to maintain this confidence level, the coverage factor is increased to maintain this confidence level. The uncertainty has been determined in accordance with UKAS requirements.
Records: K:\C A\Calibration\Nor-1504\Nor-1018 CalCal\2017\NOR1251_31060_M1.nmf

Environmental conditions:	Pressure:	Temperature:	Relative humidity:
Reference conditions:	101.325 kPa	23.0 °C	50 %RH
Measurement conditions:	100.635 ± 0.043 kPa	23.2 ± 0.1 °C	41.0 ± 1.0 %RH

Date received for calibration: 12/05/2017
Date of calibration: 18/05/2017
Date of issue: 18/05/2017
Engineer [redacted]
Michael Tickner
Supervisor [redacted]
Darren Batten Tech IOA

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Template UKAS_PE v2.10 DocR Cert-C0001

Certificate number: U25588

Preconditioning
The equipment was preconditioned for more than 4 hours in the specified calibration environment.

Measurements
The calibrator has been tested as described in the following annexes to BS EN IEC60942:2003 Sound Calibrators; B3.4 for sound pressure level, B3.5 for frequency, B3.6 for total distortion and A4.4 for short term stability of the pressure level.

Method
Calibration has been performed as set out in the current version of CA Technical procedure TP01

Instruments and program
A complete list of equipment, hardware and software that has been used in this calibration is available from the calibration laboratory on request.

Traceability
The measured values are traceable to an accredited national physical laboratory within the EU or EFTA.

Comment
Calibrated as received, no adjustments made.

Statement of conformance
As public evidence was available[1], from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in annex A of BS EN IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of that BS EN IEC 60942:2003.

[1] This evidence is held on file at the calibration laboratory.

Notes:
The sound pressure level generated by the calibrator in its ½ inch configuration was measured five times and averaged by a WS2P working standard microphone for class 1 or 2 devices or a LS2P reference microphone for class 0 or LS devices as specified in the International Standard BS EN 61094-4. The results of three replications and the mean of the measurements obtained are given in the measurement results table of this certificate. The frequency and distortion were measured in a similar manner. The figures in **BOLD** are the final results; a small correction factor may need to be added to the sound pressure level quoted here if the device is used to calibrate a sound level meter that is fitted with a free field response microphone. See manufacturer's handbooks for full details of this and other corrections that may be applicable.

Sonitus House, 5b Chelmsford Road Industrial Estate, Great Dunmow, GB-CM6 1HD
Tel (+44) 01371 871030 Fax (+44) 01371 879106
email calibration@campbell-associates.co.uk

Aberfeldy Noise
Run Info
Scenario 1

Project description

Project title:	Aberfeldy Noise
Project No.:	AS 0637
Project engineer:	Steve Fraser
Customer:	Aim Architects / Lomond Group

Description:
Noise impact assessment for proposed new mixed use development

Run description

Calculation type:	Single Point Sound
Title:	Scenario 1
Group:	
Run file:	RunFile.runx
Result number:	2
Local calculation (ThreadCount=8)	
Calculation start:	26/03/2018 18:26:04
Calculation end:	26/03/2018 18:26:10
Calculation time:	00:00:928 [m:s:ms]
No. of points:	8
No. of calculated points:	8
Kernel version:	SoundPLAN 8.0 (23/01/2018) - 32 bit

Run parameters

Reflection order:	3	
Maximum reflection distance to receiver		200 m
Maximum reflection distance to source		50 m
Search radius	5000 m	
Weighting:	dB(A)	
Allowed tolerance (per individual source):		0.100 dB
Create ground effect areas from road surfaces:		No

Standards:
- Industry: ISO 9613-2: 1996
- Air absorption: ISO 9613-1

regular ground effect (chapter 7.3.1), for sources without a spectrum automatically alternative ground effect

- Limitation of screening loss:
  - single/multiple 20.0 dB /25.0 dB
- Side Diffraction: Outdated method (side paths also around terrain)
- Use Eqn (Abar=Dz-Max(Agr,0)) instead of Eqn (12) (Abar=Dz-Agr) for insertion loss
- Environment:
  - Air pressure 1013.3 mbar
  - rel. humidity 70.0 %
  - Temperature 10.0 °C
  - Meteo. corr. C0(7-23h)[dB]=0.0; C0(23-7h)[dB]=0.0;
  - Ignore Cmet for Lmax industry calculation: No
- Parameter for screening: C2=20.0
- Dissection parameters:

Distance to diameter factor	8
Minimal distance	1 m
Max. difference ground effect + diffraction	1.0 dB
Max. number of iterations	4
Attenuation	
Foliage:	ISO 9613-2
Built-up area:	ISO 9613-2
Industrial site:	ISO 9613-2
Assessment:	PPG24 (day/night)

Reflection of "own" facade is suppressed

Geometry data

Scenario 1.sit	26/03/2018 18:25:56	
- contains:		
baseline survey sites.geo	26/03/2018 18:14:36	
buildings to be demolished.geo		13/03/2018 13:34:22
calculation area.geo	26/03/2018 14:45:06	
existing buildings - to be retained.geo		23/03/2018 14:38:48
ground conditions.geo	23/03/2018 15:23:22	
industrial noise sources.geo	26/03/2018 18:25:56	
OS base.geo	13/03/2018 16:17:02	
RDGM0001.dgm	13/03/2018 13:13:24	

Aberfeldy Noise
Assessed receiver levels
Scenario 1

RNo	Receiver	X m	Y m	Z m	LrD dB(A)	LrN dB(A)	
1	10m from outdoor working at garage	285856	749404	87.6	69	60	
2	15m from grit loading	285913	749421	86.5	73	73	
3	28m from inlet works WwTW	285827	749424	87.7	61	60	
4	bartye tipping	285908	749493	86.1	78	49	
5	Baseline Site 1	285851	749342	88.5	53	42	
6	Baseline Site 2	285816	749428	87.7	60	59	
7	Baseline Site 3	285735	749375	88.2	41	39	
8	Baseline Site 4	285835	749399	88.0	50	48	

Aberfeldy Noise
Octave spectra of the sources in dB(A) - Scenario 1

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Day histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
4m from tipping baryte	Point				99.0	99.0	0.0	0.0		0	daytime working	baryte tipping	73.4	82.7	89.6	92.3	94.4	91.9	88.7	80.4	
Barhaul builders	Area	1600.51			50.0	82.0	0.0	0.0		0	daytime working	builder yard	71.9	66.4	70.2	72.1	77.5	76.6	69.8	59.6	
baryte vehicle idling	Point				83.0	83.0	0.0	0.0		0	daytime working	slow moving vehicle	62.6	63.7	66.4	74.0	78.7	78.2	72.5	68.2	
grit loading	Point				104.0	104.0	0.0	0.0		0	100%/24h	loading grit (Canderside)	72.1	80.6	87.4	90.9	103.4	89.0	84.3	77.7	
idling vehicle	Point				99.0	99.0	0.0	0.0		0	100%/24h	idling vehicle	71.4	79.5	86.1	93.6	94.1	92.4	88.9	79.2	
mechanics garage	Area	52.32			78.0	95.2	0.0	0.0		0	daytime working	mechanics garage	72.8	78.0	85.1	88.4	90.1	88.0	85.3	82.5	
WwTW inlet works	Point				96.0	96.0	0.0	0.0		0	100%/24h	WwTW	78.1	76.8	81.3	84.2	90.5	92.2	87.7	78.1	

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Aberfeldy Noise
Mean propagation Leq - Scenario 1

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	Kl dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
Receiver 10m from grit loading Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 74 dB(A) LrN 74 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	77.52	-48.8	3.0	-18.4	-0.2		0.0	0.1	34.6	-1.2	0.0	0.0	33.4
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	77.52	-48.8	3.0	-18.4	-0.2		0.0	0.1	34.6		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	93.13	-50.4	3.5	-10.5	-0.3		0.0	1.0	25.4	-1.2	0.0	0.0	24.2
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	93.13	-50.4	3.5	-10.5	-0.3		0.0	1.0	25.4		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	53.81	-45.6	3.0	0.0	-0.5		0.0	0.4	40.3	-1.2	0.0	0.0	39.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	53.81	-45.6	3.0	0.0	-0.5		0.0	0.4	40.3		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	10.01	-31.0	3.0	0.0	-0.1		0.0	0.0	70.9	0.0	0.0	0.0	70.9
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	10.01	-31.0	3.0	0.0	-0.1		0.0	0.0	70.9	0.0	0.0	0.0	70.9
loader	Point	LrD			102.0	102.0		0.0	0.0	0	13.21	-33.4	3.0	0.0	-0.1		0.0	0.1	71.5	0.0	0.0	0.0	71.5
loader	Point	LrN			102.0	102.0		0.0	0.0	0	13.21	-33.4	3.0	0.0	-0.1		0.0	0.1	71.5	0.0	0.0	0.0	71.5
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	59.96	-46.5	3.0	-1.2	-0.6		0.0	1.8	51.6	-1.2	0.0	0.0	50.3
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	59.96	-46.5	3.0	-1.2	-0.6		0.0	1.8	51.6		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	83.67	-49.4	3.3	0.0	-0.9		0.0	0.4	49.4	0.0	0.0	0.0	49.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	83.67	-49.4	3.3	0.0	-0.9		0.0	0.4	49.4	0.0	0.0	0.0	49.4
Receiver 10m from outdoor working at garage Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 69 dB(A) LrN 58 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	105.71	-51.5	3.0	-14.4	-0.3		0.0	0.4	36.3	-1.2	0.0	0.0	35.1
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	105.71	-51.5	3.0	-14.4	-0.3		0.0	0.4	36.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	52.41	-45.4	3.1	-0.7	-0.3		0.0	0.7	39.4	-1.2	0.0	0.0	38.2
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	52.41	-45.4	3.1	-0.7	-0.3		0.0	0.7	39.4		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	44.11	-43.9	3.0	0.0	-0.4		0.0	0.0	41.7	-1.2	0.0	0.0	40.5
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	44.11	-43.9	3.0	0.0	-0.4		0.0	0.0	41.7		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	62.13	-46.9	3.0	-9.7	-0.1		0.0	6.5	51.9	0.0	0.0	0.0	51.9
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	62.13	-46.9	3.0	-9.7	-0.1		0.0	6.5	51.9	0.0	0.0	0.0	51.9
loader	Point	LrD			102.0	102.0		0.0	0.0	0	52.86	-45.5	3.0	-12.0	-0.1		0.0	7.5	54.9	0.0	0.0	0.0	54.9
loader	Point	LrN			102.0	102.0		0.0	0.0	0	52.86	-45.5	3.0	-12.0	-0.1		0.0	7.5	54.9	0.0	0.0	0.0	54.9
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	9.10	-30.2	3.0	0.0	-0.1		0.0	1.9	69.8	-1.2	0.0	0.0	68.6
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	9.10	-30.2	3.0	0.0	-0.1		0.0	1.9	69.8		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	49.21	-44.8	3.0	-0.3	-0.6		0.0	0.0	53.4	0.0	0.0	0.0	53.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	49.21	-44.8	3.0	-0.3	-0.6		0.0	0.0	53.4	0.0	0.0	0.0	53.4
Receiver 28m from inlet works WwTW Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 60 dB(A) LrN 59 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	109.84	-51.8	3.1	0.0	-0.7		0.0	0.0	49.6	-1.2	0.0	0.0	48.4

Aberfeldy Noise
Mean propagation Leq - Scenario 1

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	Lr
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	dB(A)
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	109.84	-51.8	3.1	0.0	-0.7		0.0	0.0	49.6		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	86.96	-49.8	3.4	-6.0	-0.4		0.0	2.1	31.4	-1.2	0.0	0.0	30.1
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	86.96	-49.8	3.4	-6.0	-0.4		0.0	2.1	31.4		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	48.19	-44.7	3.0	-6.9	-0.3		0.0	0.2	34.4	-1.2	0.0	0.0	33.1
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	48.19	-44.7	3.0	-6.9	-0.3		0.0	0.2	34.4		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	93.19	-50.4	3.0	0.0	-0.5		0.0	0.9	52.0	0.0	0.0	0.0	52.0
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	93.19	-50.4	3.0	0.0	-0.5		0.0	0.9	52.0	0.0	0.0	0.0	52.0
loader	Point	LrD			102.0	102.0		0.0	0.0	0	84.73	-49.6	3.0	0.0	-0.5		0.0	0.0	54.9	0.0	0.0	0.0	54.9
loader	Point	LrN			102.0	102.0		0.0	0.0	0	84.73	-49.6	3.0	0.0	-0.5		0.0	0.0	54.9	0.0	0.0	0.0	54.9
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	43.30	-43.7	3.0	-2.5	-0.5		0.0	2.5	54.0	-1.2	0.0	0.0	52.7
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	43.30	-43.7	3.0	-2.5	-0.5		0.0	2.5	54.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	27.74	-39.9	3.0	-5.2	-0.3		0.0	0.9	54.6	0.0	0.0	0.0	54.6
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	27.74	-39.9	3.0	-5.2	-0.3		0.0	0.9	54.6	0.0	0.0	0.0	54.6
Receiver bartye tipping Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 78 dB(A) LrN 50 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	3.99	-23.0	3.0	0.0	0.0		0.0	0.0	79.0	-1.2	0.0	0.0	77.7
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	3.99	-23.0	3.0	0.0	0.0		0.0	0.0	79.0		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	160.06	-55.1	4.4	-16.6	-0.2		0.0	0.6	15.1	-1.2	0.0	0.0	13.9
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	160.06	-55.1	4.4	-16.6	-0.2		0.0	0.6	15.1		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	60.58	-46.6	3.0	-11.0	-0.3		0.0	0.0	28.1	-1.2	0.0	0.0	26.9
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	60.58	-46.6	3.0	-11.0	-0.3		0.0	0.0	28.1		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	86.62	-49.7	3.0	-14.4	-0.1		0.0	0.0	37.7	0.0	0.0	0.0	37.7
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	86.62	-49.7	3.0	-14.4	-0.1		0.0	0.0	37.7	0.0	0.0	0.0	37.7
loader	Point	LrD			102.0	102.0		0.0	0.0	0	88.49	-49.9	3.0	-16.8	-0.2		0.0	0.5	38.6	0.0	0.0	0.0	38.6
loader	Point	LrN			102.0	102.0		0.0	0.0	0	88.49	-49.9	3.0	-16.8	-0.2		0.0	0.5	38.6	0.0	0.0	0.0	38.6
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	109.54	-51.8	3.7	-16.2	-0.3		0.0	2.6	33.2	-1.2	0.0	0.0	31.9
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	109.54	-51.8	3.7	-16.2	-0.3		0.0	2.6	33.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	82.18	-49.3	3.0	0.0	-0.8		0.0	0.0	48.9	0.0	0.0	0.0	48.9
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	82.18	-49.3	3.0	0.0	-0.8		0.0	0.0	48.9	0.0	0.0	0.0	48.9
Receiver Baseline Site 1 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 53 dB(A) LrN 43 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	163.99	-55.3	4.1	-18.0	-0.5		0.0	0.6	29.9	-1.2	0.0	0.0	28.7
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	163.99	-55.3	4.1	-18.0	-0.5		0.0	0.6	29.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	18.40	-36.3	3.0	0.0	-0.1		0.0	1.0	49.6	-1.2	0.0	0.0	48.4

Aberfeldy Noise
Mean propagation Leq - Scenario 1

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	18.40	-36.3	3.0	0.0	-0.1		0.0	1.0	49.6		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	105.97	-51.5	3.0	-0.1	-0.9		0.0	0.3	33.9	-1.2	0.0	0.0	32.6
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	105.97	-51.5	3.0	-0.1	-0.9		0.0	0.3	33.9		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	93.98	-50.5	3.0	-12.7	-0.1		0.0	0.4	39.1	0.0	0.0	0.0	39.1
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	93.98	-50.5	3.0	-12.7	-0.1		0.0	0.4	39.1	0.0	0.0	0.0	39.1
loader	Point	LrD			102.0	102.0		0.0	0.0	0	85.77	-49.7	3.0	-15.1	-0.2		0.0	0.5	40.6	0.0	0.0	0.0	40.6
loader	Point	LrN			102.0	102.0		0.0	0.0	0	85.77	-49.7	3.0	-15.1	-0.2		0.0	0.5	40.6	0.0	0.0	0.0	40.6
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	54.02	-45.6	3.0	-0.1	-0.6		0.0	0.5	52.4	-1.2	0.0	0.0	51.1
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	54.02	-45.6	3.0	-0.1	-0.6		0.0	0.5	52.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	108.76	-51.7	3.9	-15.9	-0.4		0.0	1.1	33.1	0.0	0.0	0.0	33.1
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	108.76	-51.7	3.9	-15.9	-0.4		0.0	1.1	33.1	0.0	0.0	0.0	33.1
Receiver Baseline Site 2 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 59 dB(A) LrN 58 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	116.55	-52.3	3.3	-10.0	-0.3		0.0	2.2	41.9	-1.2	0.0	0.0	40.6
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	116.55	-52.3	3.3	-10.0	-0.3		0.0	2.2	41.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	96.43	-50.7	3.6	-4.3	-0.5		0.0	1.9	32.1	-1.2	0.0	0.0	30.8
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	96.43	-50.7	3.6	-4.3	-0.5		0.0	1.9	32.1		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	57.09	-46.1	3.0	-12.0	-0.2		0.0	0.6	28.2	-1.2	0.0	0.0	27.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	57.09	-46.1	3.0	-12.0	-0.2		0.0	0.6	28.2		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	104.80	-51.4	3.0	0.0	-0.5		0.0	0.7	50.8	0.0	0.0	0.0	50.8
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	104.80	-51.4	3.0	0.0	-0.5		0.0	0.7	50.8	0.0	0.0	0.0	50.8
loader	Point	LrD			102.0	102.0		0.0	0.0	0	96.39	-50.7	3.0	0.0	-0.6		0.0	0.0	53.8	0.0	0.0	0.0	53.8
loader	Point	LrN			102.0	102.0		0.0	0.0	0	96.39	-50.7	3.0	0.0	-0.6		0.0	0.0	53.8	0.0	0.0	0.0	53.8
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	54.25	-45.7	3.0	-4.5	-0.5		0.0	2.7	50.2	-1.2	0.0	0.0	48.9
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	54.25	-45.7	3.0	-4.5	-0.5		0.0	2.7	50.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	31.21	-40.9	3.0	-5.8	-0.2		0.0	2.6	54.7	0.0	0.0	0.0	54.7
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	31.21	-40.9	3.0	-5.8	-0.2		0.0	2.6	54.7	0.0	0.0	0.0	54.7
Receiver Baseline Site 3 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 41 dB(A) LrN 40 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	213.25	-57.6	4.0	-8.4	-0.6		0.0	0.6	37.0	-1.2	0.0	0.0	35.8
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	213.25	-57.6	4.0	-8.4	-0.6		0.0	0.6	37.0		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	134.12	-53.5	2.8	-15.9	-0.1		0.0	2.1	17.4	-1.2	0.0	0.0	16.1
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	134.12	-53.5	2.8	-15.9	-0.1		0.0	2.1	17.4		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	152.64	-54.7	2.6	-4.7	-0.9		0.0	0.0	25.4	-1.2	0.0	0.0	24.1

Aberfeldy Noise
Mean propagation Leq - Scenario 1

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	152.64	-54.7	2.6	-4.7	-0.9		0.0	0.0	25.4		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	186.57	-56.4	2.4	-13.1	-0.2		0.0	0.0	31.7	0.0	0.0	0.0	31.7
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	186.57	-56.4	2.4	-13.1	-0.2		0.0	0.0	31.7	0.0	0.0	0.0	31.7
loader	Point	LrD			102.0	102.0		0.0	0.0	0	177.09	-56.0	2.0	-16.6	-0.5		0.0	0.1	31.1	0.0	0.0	0.0	31.1
loader	Point	LrN			102.0	102.0		0.0	0.0	0	177.09	-56.0	2.0	-16.6	-0.5		0.0	0.1	31.1	0.0	0.0	0.0	31.1
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	125.84	-53.0	2.3	-22.4	-0.7		0.0	3.5	24.9	-1.2	0.0	0.0	23.7
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	125.84	-53.0	2.3	-22.4	-0.7		0.0	3.5	24.9		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	127.47	-53.1	4.0	-9.3	-0.6		0.0	1.4	38.3	0.0	0.0	0.0	38.3
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	127.47	-53.1	4.0	-9.3	-0.6		0.0	1.4	38.3	0.0	0.0	0.0	38.3
Receiver Baseline Site 4 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 50 dB(A) LrN 49 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	122.36	-52.7	3.4	-11.3	-0.3		0.0	0.8	38.8	-1.2	0.0	0.0	37.6
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	122.36	-52.7	3.4	-11.3	-0.3		0.0	0.8	38.8		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	55.87	-45.9	3.1	-3.3	-0.3		0.0	0.7	36.3	-1.2	0.0	0.0	35.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	55.87	-45.9	3.1	-3.3	-0.3		0.0	0.7	36.3		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	58.72	-46.4	3.0	0.0	-0.5		0.0	0.6	39.7	-1.2	0.0	0.0	38.5
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	58.72	-46.4	3.0	0.0	-0.5		0.0	0.6	39.7		0.0		
grit loading	Point	LrD			99.0	99.0		0.0	0.0	0	83.89	-49.5	3.0	-13.9	-0.1		0.0	0.2	38.7	0.0	0.0	0.0	38.7
grit loading	Point	LrN			99.0	99.0		0.0	0.0	0	83.89	-49.5	3.0	-13.9	-0.1		0.0	0.2	38.7	0.0	0.0	0.0	38.7
loader	Point	LrD			102.0	102.0		0.0	0.0	0	74.52	-48.4	3.0	-17.4	-0.2		0.0	0.3	39.3	0.0	0.0	0.0	39.3
loader	Point	LrN			102.0	102.0		0.0	0.0	0	74.52	-48.4	3.0	-17.4	-0.2		0.0	0.3	39.3	0.0	0.0	0.0	39.3
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	23.94	-38.6	3.0	-18.8	-0.1		0.0	3.4	44.0	-1.2	0.0	0.0	42.8
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	23.94	-38.6	3.0	-18.8	-0.1		0.0	3.4	44.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	51.01	-45.1	3.0	-8.3	-0.3		0.0	2.4	47.6	0.0	0.0	0.0	47.6
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	51.01	-45.1	3.0	-8.3	-0.3		0.0	2.4	47.6	0.0	0.0	0.0	47.6

Aberfeldy Noise
Run Info
Scenario 2

Project description

Project title:	Aberfeldy Noise
Project No.:	AS 0637
Project engineer:	Steve Fraser
Customer:	Aim Architects / Lomond Group

Description:
Noise impact assessment for proposed new mixed use development

Run description

Calculation type:	Single Point Sound
Title:	Scenario 2
Group:	
Run file:	RunFile.runx
Result number:	3
Local calculation (ThreadCount=8)	
Calculation start:	26/03/2018 19:04:29
Calculation end:	26/03/2018 19:04:37
Calculation time:	00:01:877 [m:s:ms]
No. of points:	23
No. of calculated points:	23
Kernel version:	SoundPLAN 8.0 (23/01/2018) - 32 bit

Run parameters

Reflection order:	3	
Maximum reflection distance to receiver		200 m
Maximum reflection distance to source		50 m
Search radius	5000 m	
Weighting:	dB(A)	
Allowed tolerance (per individual source):		0.100 dB
Create ground effect areas from road surfaces:		No

Standards:
- Industry: ISO 9613-2: 1996
- Air absorption: ISO 9613-1

regular ground effect (chapter 7.3.1), for sources without a spectrum automatically alternative ground effect

- Limitation of screening loss:
  - single/multiple 20.0 dB /25.0 dB
- Side Diffraction: Outdated method (side paths also around terrain)
- Use Eqn (Abar=Dz-Max(Agr,0)) instead of Eqn (12) (Abar=Dz-Agr) for insertion loss
- Environment:
  - Air pressure 1013.3 mbar
  - rel. humidity 70.0 %
  - Temperature 10.0 °C
  - Meteo. corr. C0(7-23h)[dB]=0.0; C0(23-7h)[dB]=0.0;
  - Ignore Cmet for Lmax industry calculation: No
- Parameter for screening: C2=20.0
- Dissection parameters:

Distance to diameter factor	8
Minimal distance	1 m
Max. difference ground effect + diffraction	1.0 dB
Max. number of iterations	4
Attenuation	
Foliage:	ISO 9613-2
Built-up area:	ISO 9613-2
Industrial site:	ISO 9613-2
Assessment:	PPG24 (day/night)

Reflection of "own" facade is suppressed

Geometry data

Scenario 2.sit	26/03/2018 19:04:20	
- contains:		
calculation area.geo	26/03/2018 14:45:06	
existing buildings - to be retained.geo		23/03/2018 14:38:48
ground conditions.geo	23/03/2018 15:23:22	
industrial noise sources.geo	26/03/2018 18:25:56	
new build.geo	26/03/2018 19:04:20	
new industrial units.geo	23/03/2018 14:28:12	
OS base.geo	13/03/2018 16:17:02	
RDGM0001.dgm	13/03/2018 13:13:24	

Aberfeldy Noise
Assessed receiver levels
Scenario 2

RNo	Receiver	Fl	Dir	X m	Y m	Z m	LrD dB(A)	LrN dB(A)
1	Parkfield	GF	NE	285776	749335	88.6	40	37
2	Parkfield	GF	NW	285765	749339	88.6	40	39
3	Parkfield	GF	SW	285763	749329	88.6	32	30
4	Parkfield	GF	SE	285773	749327	88.6	39	37
5	Rowan Cottage	GF	NE	285741	749389	88.0	44	42
6	Tignadail	GF	NE	285798	749306	88.9	46	43
7	unit 5	GF	SW	285805	749350	88.5	38	36
8	unit 5	GF	NW	285799	749358	88.5	46	44
9	unit 5	GF	NE	285808	749357	88.5	47	46
10	unit 5	GF	SE	285809	749349	88.5	42	39
11	unit 5	GF	NW	285802	749361	88.5	55	54
12	unit 6	GF	NW	285792	749354	88.5	44	42
13	unit 6	GF	SE	285797	749346	88.5	40	38
14	unit 7	GF	SE	285784	749338	88.5	41	39
15	unit 7	GF	NW	285779	749347	88.5	41	40
16	units 1 & 3	GF	NE	285756	749360	88.3	38	37
17	units 1 & 3	GF	SW	285748	749355	88.3	32	31
18	units 2 & 4	GF	NE	285775	749371	88.4	38	36
19	units 2 & 4	GF	SW	285767	749366	88.4	38	38
20	units 8 - 11	GF	NE	285805	749378	88.5	48	47
		F 1				91.0	50	48
21	units 8 - 11	GF	SW	285795	749372	88.5	47	47
		F 1				91.0	49	49
22	units 12 - 15	GF	SW	285785	749387	88.5	39	39
		F 1				91.0	40	40
23	units 12 - 15	GF	NE	285794	749394	88.5	54	54
		F 1				91.0	55	54

Aberfeldy Noise
Octave spectra of the sources in dB(A) - Scenario 2

Name	Source type	l or A	Li	R'w	L'w	Lw	KI	KT	LwMax	DO-Wall	Day histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	
		m,m²	dB(A)	dB	dB(A)	dB(A)	dB	dB	dB(A)	dB			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
4m from tipping baryte	Point				99.0	99.0	0.0	0.0		0	daytime working	baryte tipping	73.4	82.7	89.6	92.3	94.4	91.9	88.7	80.4	
Barhaul builders	Area	1600.51			50.0	82.0	0.0	0.0		0	daytime working	builder yard	71.9	66.4	70.2	72.1	77.5	76.6	69.8	59.6	
baryte vehicle idling	Point				83.0	83.0	0.0	0.0		0	daytime working	slow moving vehicle	62.6	63.7	66.4	74.0	78.7	78.2	72.5	68.2	
grit loading	Point				104.0	104.0	0.0	0.0		0	100%/24h	loading grit (Canderside)	72.1	80.6	87.4	90.9	103.4	89.0	84.3	77.7	
idling vehicle	Point				99.0	99.0	0.0	0.0		0	100%/24h	idling vehicle	71.4	79.5	86.1	93.6	94.1	92.4	88.9	79.2	
mechanics garage	Area	52.32			78.0	95.2	0.0	0.0		0	daytime working	mechanics garage	72.8	78.0	85.1	88.4	90.1	88.0	85.3	82.5	
WwTW inlet works	Point				96.0	96.0	0.0	0.0		0	100%/24h	WwTW	78.1	76.8	81.3	84.2	90.5	92.2	87.7	78.1	

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Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB
RNo 1 Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 37 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	209.66	-57.4	2.8	-20.3	-0.7		0.0	3.2	26.5	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	209.66	-57.4	2.8	-20.3	-0.7		0.0	3.2	26.5		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	88.29	-49.9	2.8	-1.6	-0.5		0.0	2.0	34.8	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	88.29	-49.9	2.8	-1.6	-0.5		0.0	2.0	34.8		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	145.93	-54.3	2.5	-17.4	-0.6		0.0	4.6	17.9	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	145.93	-54.3	2.5	-17.4	-0.6		0.0	4.6	17.9		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	160.22	-55.1	2.7	-17.4	-0.7		0.0	2.3	35.8	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	160.22	-55.1	2.7	-17.4	-0.7		0.0	2.3	35.8	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	150.91	-54.6	2.2	-16.6	-0.5		0.0	1.1	30.7	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	150.91	-54.6	2.2	-16.6	-0.5		0.0	1.1	30.7	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	102.83	-51.2	2.1	-19.6	-0.5		0.0	4.4	30.5	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	102.83	-51.2	2.1	-19.6	-0.5		0.0	4.4	30.5		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	130.98	-53.3	3.0	-18.2	-0.4		0.0	0.7	27.7	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	130.98	-53.3	3.0	-18.2	-0.4		0.0	0.7	27.7	0.0	0.0	0.0
RNo 2 Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 39 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	213.18	-57.6	2.8	-17.1	-0.7		0.0	2.3	28.6	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	213.18	-57.6	2.8	-17.1	-0.7		0.0	2.3	28.6		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	98.55	-50.9	2.7	-14.1	-0.1		0.0	0.4	20.0	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	98.55	-50.9	2.7	-14.1	-0.1		0.0	0.4	20.0		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	149.52	-54.5	2.5	-12.3	-0.7		0.0	1.5	19.6	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	149.52	-54.5	2.5	-12.3	-0.7		0.0	1.5	19.6		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	167.59	-55.5	2.8	-15.4	-0.7		0.0	1.3	36.4	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	167.59	-55.5	2.8	-15.4	-0.7		0.0	1.3	36.4	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	158.18	-55.0	2.3	-13.5	-0.5		0.0	1.0	33.2	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	158.18	-55.0	2.3	-13.5	-0.5		0.0	1.0	33.2	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	109.05	-51.7	2.2	-11.8	-0.5		0.0	0.6	33.9	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	109.05	-51.7	2.2	-11.8	-0.5		0.0	0.6	33.9		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	132.39	-53.4	3.0	-15.4	-0.5		0.0	0.0	29.7	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	132.39	-53.4	3.0	-15.4	-0.5		0.0	0.0	29.7	0.0	0.0	0.0
RNo 3 Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 32 dB(A) LrN 30 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	222.68	-57.9	2.7	-22.0	-1.0		0.0	5.9	26.6	-1.2	0.0	0.0

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	222.68	-57.9	2.7	-22.0	-1.0		0.0	5.9	26.6		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	101.41	-51.1	3.0	-14.3	-0.2		0.0	0.7	20.2	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	101.41	-51.1	3.0	-14.3	-0.2		0.0	0.7	20.2		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	158.97	-55.0	2.5	-21.5	-0.8		0.0	7.5	15.7	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	158.97	-55.0	2.5	-21.5	-0.8		0.0	7.5	15.7		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	174.54	-55.8	2.7	-23.5	-0.8		0.0	1.1	27.6	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	174.54	-55.8	2.7	-23.5	-0.8		0.0	1.1	27.6	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	165.22	-55.4	2.2	-22.9	-0.9		0.0	0.9	22.9	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	165.22	-55.4	2.2	-22.9	-0.9		0.0	0.9	22.9	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	117.07	-52.4	2.2	-22.2	-0.7		0.0	0.2	22.3	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	117.07	-52.4	2.2	-22.2	-0.7		0.0	0.2	22.3		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	142.62	-54.1	3.0	-20.4	-0.7		0.0	1.7	25.5	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	142.62	-54.1	3.0	-20.4	-0.7		0.0	1.7	25.5	0.0	0.0	0.0
RNo 4 Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 39 dB(A) LrN 37 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	216.93	-57.7	2.7	-23.3	-1.1		0.0	1.8	21.5	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	216.93	-57.7	2.7	-23.3	-1.1		0.0	1.8	21.5		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	90.94	-50.2	3.1	-1.8	-0.5		0.0	2.1	34.7	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	90.94	-50.2	3.1	-1.8	-0.5		0.0	2.1	34.7		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	153.23	-54.7	2.5	-21.6	-0.8		0.0	5.6	14.1	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	153.23	-54.7	2.5	-21.6	-0.8		0.0	5.6	14.1		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	165.83	-55.4	2.7	-17.1	-0.7		0.0	2.4	35.9	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	165.83	-55.4	2.7	-17.1	-0.7		0.0	2.4	35.9	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	156.59	-54.9	2.2	-15.6	-0.6		0.0	0.6	30.8	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	156.59	-54.9	2.2	-15.6	-0.6		0.0	0.6	30.8	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	109.47	-51.8	2.2	-17.3	-0.4		0.0	0.4	28.3	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	109.47	-51.8	2.2	-17.3	-0.4		0.0	0.4	28.3		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	138.72	-53.8	3.0	-19.6	-0.6		0.0	0.4	25.4	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	138.72	-53.8	3.0	-19.6	-0.6		0.0	0.4	25.4	0.0	0.0	0.0
RNo 5 Receiver Rowan Cottage Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 44 dB(A) LrN 42 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	200.27	-57.0	4.5	-5.5	-0.7		0.0	0.0	40.3	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	200.27	-57.0	4.5	-5.5	-0.7		0.0	0.0	40.3		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	132.69	-53.4	3.1	-10.9	-0.2		0.0	1.1	21.6	-1.2	0.0	0.0

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Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	132.69	-53.4	3.1	-10.9	-0.2		0.0	1.1	21.6		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	140.80	-54.0	3.8	-4.7	-1.0		0.0	1.2	28.4	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	140.80	-54.0	3.8	-4.7	-1.0		0.0	1.2	28.4		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	178.38	-56.0	3.5	-17.7	-0.7		0.0	0.9	34.0	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	178.38	-56.0	3.5	-17.7	-0.7		0.0	0.9	34.0	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	169.00	-55.5	3.2	-17.2	-0.6		0.0	0.6	29.5	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	169.00	-55.5	3.2	-17.2	-0.6		0.0	0.6	29.5	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	118.00	-52.4	3.1	-20.4	-0.5		0.0	2.4	27.3	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	118.00	-52.4	3.1	-20.4	-0.5		0.0	2.4	27.3		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	114.33	-52.2	4.1	-6.6	-0.7		0.0	0.1	40.7	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	114.33	-52.2	4.1	-6.6	-0.7		0.0	0.1	40.7	0.0	0.0	0.0
RNo 6 Receiver Tignadail Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 46 dB(A) LrN 43 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	219.92	-57.8	4.5	-16.7	-0.6		0.0	1.0	29.4	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	219.92	-57.8	4.5	-16.7	-0.6		0.0	1.0	29.4		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	70.98	-48.0	3.1	-2.9	-0.4		0.0	2.7	36.5	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	70.98	-48.0	3.1	-2.9	-0.4		0.0	2.7	36.5		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	157.52	-54.9	3.8	-15.1	-0.6		0.0	1.0	17.2	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	157.52	-54.9	3.8	-15.1	-0.6		0.0	1.0	17.2		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	157.41	-54.9	4.0	-14.5	-0.6		0.0	0.7	38.5	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	157.41	-54.9	4.0	-14.5	-0.6		0.0	0.7	38.5	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	148.82	-54.4	3.9	-13.6	-0.4		0.0	0.5	34.8	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	148.82	-54.4	3.9	-13.6	-0.4		0.0	0.5	34.8	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	108.06	-51.7	3.8	-13.2	-0.3		0.0	7.3	41.1	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	108.06	-51.7	3.8	-13.2	-0.3		0.0	7.3	41.1		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	149.37	-54.5	3.9	-3.7	-1.7		0.0	0.7	40.8	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	149.37	-54.5	3.9	-3.7	-1.7		0.0	0.7	40.8	0.0	0.0	0.0
RNo 7 Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 36 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	179.91	-56.1	3.2	-22.4	-0.8		0.0	1.8	24.8	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	179.91	-56.1	3.2	-22.4	-0.8		0.0	1.8	24.8		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	61.30	-46.7	2.6	-6.9	-0.3		0.0	0.2	30.9	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	61.30	-46.7	2.6	-6.9	-0.3		0.0	0.2	30.9		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	116.49	-52.3	2.5	-21.4	-0.6		0.0	1.8	13.0	-1.2	0.0	0.0

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	116.49	-52.3	2.5	-21.4	-0.6		0.0	1.8	13.0		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	127.60	-53.1	2.8	-24.0	-0.6		0.0	3.9	33.1	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	127.60	-53.1	2.8	-24.0	-0.6		0.0	3.9	33.1	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	118.29	-52.5	2.4	-22.8	-0.6		0.0	2.6	28.1	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	118.29	-52.5	2.4	-22.8	-0.6		0.0	2.6	28.1	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	70.87	-48.0	2.2	-21.5	-0.4		0.0	1.0	28.4	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	70.87	-48.0	2.2	-21.5	-0.4		0.0	1.0	28.4		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	105.65	-51.5	3.1	-18.2	-0.3		0.0	1.9	31.0	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	105.65	-51.5	3.1	-18.2	-0.3		0.0	1.9	31.0	0.0	0.0	0.0
RNo 8 Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 46 dB(A) LrN 44 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	176.66	-55.9	3.2	-11.8	-0.6		0.0	0.2	34.1	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	176.66	-55.9	3.2	-11.8	-0.6		0.0	0.2	34.1		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	68.80	-47.7	2.4	-13.7	-0.1		0.0	2.9	25.9	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	68.80	-47.7	2.4	-13.7	-0.1		0.0	2.9	25.9		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	112.95	-52.1	2.5	-5.0	-0.8		0.0	0.0	27.7	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	112.95	-52.1	2.5	-5.0	-0.8		0.0	0.0	27.7		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	129.39	-53.2	2.9	-11.2	-0.6		0.0	0.1	41.9	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	129.39	-53.2	2.9	-11.2	-0.6		0.0	0.1	41.9	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	119.94	-52.6	2.4	-9.7	-0.4		0.0	0.1	38.8	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	119.94	-52.6	2.4	-9.7	-0.4		0.0	0.1	38.8	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	70.56	-48.0	2.2	-14.4	-0.5		0.0	7.2	41.8	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	70.56	-48.0	2.2	-14.4	-0.5		0.0	7.2	41.8		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	99.52	-50.9	3.0	-13.9	-0.5		0.0	0.0	33.7	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	99.52	-50.9	3.0	-13.9	-0.5		0.0	0.0	33.7	0.0	0.0	0.0
RNo 9 Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 47 dB(A) LrN 46 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	172.24	-55.7	3.4	-16.7	-0.5		0.0	0.4	29.8	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	172.24	-55.7	3.4	-16.7	-0.5		0.0	0.4	29.8		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	59.53	-46.5	2.6	-1.8	-0.4		0.0	1.5	37.5	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	59.53	-46.5	2.6	-1.8	-0.4		0.0	1.5	37.5		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	108.76	-51.7	2.5	-12.9	-0.4		0.0	2.8	23.2	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	108.76	-51.7	2.5	-12.9	-0.4		0.0	2.8	23.2		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	121.46	-52.7	2.9	-19.5	-0.5		0.0	1.0	35.2	0.0	0.0	0.0

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	121.46	-52.7	2.9	-19.5	-0.5		0.0	1.0	35.2	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	112.08	-52.0	2.5	-15.1	-0.4		0.0	0.2	34.2	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	112.08	-52.0	2.5	-15.1	-0.4		0.0	0.2	34.2	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	63.76	-47.1	2.4	-16.6	-0.3		0.0	5.5	39.1	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	63.76	-47.1	2.4	-16.6	-0.3		0.0	5.5	39.1		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	97.92	-50.8	3.1	-1.5	-1.3		0.0	0.0	45.6	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	97.92	-50.8	3.1	-1.5	-1.3		0.0	0.0	45.6	0.0	0.0	0.0	
RNo 10 Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 42 dB(A) LrN 39 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	178.13	-56.0	3.3	-19.1	-0.6		0.0	1.7	28.3	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	178.13	-56.0	3.3	-19.1	-0.6		0.0	1.7	28.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	56.92	-46.1	2.7	-1.1	-0.4		0.0	1.4	38.6	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	56.92	-46.1	2.7	-1.1	-0.4		0.0	1.4	38.6		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	114.91	-52.2	2.6	-21.8	-0.6		0.0	10.6	21.6	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	114.91	-52.2	2.6	-21.8	-0.6		0.0	10.6	21.6		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	124.14	-52.9	2.9	-21.5	-0.5		0.0	0.0	32.0	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	124.14	-52.9	2.9	-21.5	-0.5		0.0	0.0	32.0	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	114.88	-52.2	2.5	-18.8	-0.4		0.0	1.6	31.6	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	114.88	-52.2	2.5	-18.8	-0.4		0.0	1.6	31.6	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	68.31	-47.7	2.3	-17.2	-0.3		0.0	1.1	33.4	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	68.31	-47.7	2.3	-17.2	-0.3		0.0	1.1	33.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	105.29	-51.4	3.1	-10.7	-0.6		0.0	0.4	36.8	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	105.29	-51.4	3.1	-10.7	-0.6		0.0	0.4	36.8	0.0	0.0	0.0	
RNo 11 Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 55 dB(A) LrN 54 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	172.60	-55.7	3.3	-14.5	-0.5		0.0	0.9	32.5	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	172.60	-55.7	3.3	-14.5	-0.5		0.0	0.9	32.5		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	66.81	-47.5	2.4	-9.3	-0.3		0.0	4.8	32.2	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	66.81	-47.5	2.4	-9.3	-0.3		0.0	4.8	32.2		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	108.89	-51.7	2.5	-5.7	-0.7		0.0	0.2	27.6	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	108.89	-51.7	2.5	-5.7	-0.7		0.0	0.2	27.6		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	125.64	-53.0	2.9	-0.2	-0.7		0.0	0.0	53.1	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	125.64	-53.0	2.9	-0.2	-0.7		0.0	0.0	53.1	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	116.17	-52.3	2.5	-0.8	-1.0		0.0	0.0	47.4	0.0	0.0	0.0	

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	116.17	-52.3	2.5	-0.8	-1.0		0.0	0.0	47.4	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	66.59	-47.5	2.3	-9.0	-0.6		0.0	3.4	43.8	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	66.59	-47.5	2.3	-9.0	-0.6		0.0	3.4	43.8		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	95.73	-50.6	3.0	-11.4	-0.5		0.0	0.3	36.7	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	95.73	-50.6	3.0	-11.4	-0.5		0.0	0.3	36.7	0.0	0.0	0.0
RNo 12 Receiver unit 6 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 44 dB(A) LrN 42 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	184.05	-56.3	3.0	-19.5	-0.6		0.0	0.3	25.9	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	184.05	-56.3	3.0	-19.5	-0.6		0.0	0.3	25.9		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	74.27	-48.4	2.4	-14.0	-0.1		0.0	4.1	26.1	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	74.27	-48.4	2.4	-14.0	-0.1		0.0	4.1	26.1		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	120.32	-52.6	2.4	-7.5	-0.7		0.0	0.2	24.8	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	120.32	-52.6	2.4	-7.5	-0.7		0.0	0.2	24.8		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	137.14	-53.7	2.8	-13.4	-0.6		0.0	1.4	40.5	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	137.14	-53.7	2.8	-13.4	-0.6		0.0	1.4	40.5	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	127.70	-53.1	2.3	-11.4	-0.4		0.0	0.6	37.0	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	127.70	-53.1	2.3	-11.4	-0.4		0.0	0.6	37.0	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	78.41	-48.9	2.0	-13.0	-0.4		0.0	5.3	40.1	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	78.41	-48.9	2.0	-13.0	-0.4		0.0	5.3	40.1		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	105.93	-51.5	2.9	-16.4	-0.4		0.0	0.1	30.7	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	105.93	-51.5	2.9	-16.4	-0.4		0.0	0.1	30.7	0.0	0.0	0.0
RNo 13 Receiver unit 6 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 38 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	187.31	-56.4	3.0	-21.7	-0.7		0.0	1.8	25.0	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	187.31	-56.4	3.0	-21.7	-0.7		0.0	1.8	25.0		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	68.32	-47.7	2.6	-1.3	-0.4		0.0	1.6	36.8	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	68.32	-47.7	2.6	-1.3	-0.4		0.0	1.6	36.8		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	123.73	-52.8	2.5	-21.0	-0.6		0.0	8.7	19.8	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	123.73	-52.8	2.5	-21.0	-0.6		0.0	8.7	19.8		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	136.12	-53.7	2.8	-20.4	-0.6		0.0	3.6	35.8	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	136.12	-53.7	2.8	-20.4	-0.6		0.0	3.6	35.8	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	126.80	-53.1	2.3	-19.2	-0.5		0.0	3.3	31.9	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	126.80	-53.1	2.3	-19.2	-0.5		0.0	3.3	31.9	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	79.07	-49.0	2.0	-20.0	-0.4		0.0	1.4	29.3	-1.2	0.0	0.0

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	79.07	-49.0	2.0	-20.0	-0.4		0.0	1.4	29.3		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	111.47	-51.9	3.0	-19.6	-0.4		0.0	2.0	29.1	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	111.47	-51.9	3.0	-19.6	-0.4		0.0	2.0	29.1	0.0	0.0	0.0
RNo 14 Receiver unit 7 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 41 dB(A) LrN 39 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	201.44	-57.1	2.8	-21.5	-0.8		0.0	3.6	26.1	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	201.44	-57.1	2.8	-21.5	-0.8		0.0	3.6	26.1		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	80.33	-49.1	2.7	-1.4	-0.5		0.0	2.2	35.9	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	80.33	-49.1	2.7	-1.4	-0.5		0.0	2.2	35.9		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	137.75	-53.8	2.5	-20.9	-0.6		0.0	4.7	14.9	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	137.75	-53.8	2.5	-20.9	-0.6		0.0	4.7	14.9		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	151.19	-54.6	2.7	-18.2	-0.6		0.0	4.4	37.7	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	151.19	-54.6	2.7	-18.2	-0.6		0.0	4.4	37.7	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	141.88	-54.0	2.2	-17.4	-0.5		0.0	3.4	32.6	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	141.88	-54.0	2.2	-17.4	-0.5		0.0	3.4	32.6	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	94.10	-50.5	2.1	-18.9	-0.4		0.0	1.8	29.3	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	94.10	-50.5	2.1	-18.9	-0.4		0.0	1.8	29.3		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	123.78	-52.8	3.0	-18.9	-0.5		0.0	1.1	27.8	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	123.78	-52.8	3.0	-18.9	-0.5		0.0	1.1	27.8	0.0	0.0	0.0
RNo 15 Receiver unit 7 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 41 dB(A) LrN 40 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	198.37	-56.9	2.7	-19.3	-0.7		0.0	0.1	25.0	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	198.37	-56.9	2.7	-19.3	-0.7		0.0	0.1	25.0		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	85.60	-49.6	2.5	-13.1	-0.1		0.0	1.2	22.9	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	85.60	-49.6	2.5	-13.1	-0.1		0.0	1.2	22.9		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	134.65	-53.6	2.4	-12.1	-0.6		0.0	0.6	19.7	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	134.65	-53.6	2.4	-12.1	-0.6		0.0	0.6	19.7		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	152.03	-54.6	2.7	-15.3	-0.6		0.0	1.3	37.5	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	152.03	-54.6	2.7	-15.3	-0.6		0.0	1.3	37.5	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	142.61	-54.1	2.2	-13.4	-0.5		0.0	1.2	34.4	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	142.61	-54.1	2.2	-13.4	-0.5		0.0	1.2	34.4	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	93.46	-50.4	2.1	-13.4	-0.4		0.0	0.6	33.7	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	93.46	-50.4	2.1	-13.4	-0.4		0.0	0.6	33.7		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	118.81	-52.5	2.9	-16.3	-0.4		0.0	0.2	30.0	0.0	0.0	0.0

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Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	118.81	-52.5	2.9	-16.3	-0.4		0.0	0.2	30.0	0.0	0.0	0.0	
RNo 16 Receiver units 1 & 3 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 37 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	205.24	-57.2	2.6	-17.7	-0.6		0.0	0.0	26.1	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	205.24	-57.2	2.6	-17.7	-0.6		0.0	0.0	26.1		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	109.53	-51.8	2.6	-8.3	-0.3		0.0	1.2	25.4	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	109.53	-51.8	2.6	-8.3	-0.3		0.0	1.2	25.4		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	142.44	-54.1	2.4	-19.1	-0.5		0.0	3.4	15.1	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	142.44	-54.1	2.4	-19.1	-0.5		0.0	3.4	15.1		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	168.80	-55.5	2.7	-18.5	-0.7		0.0	3.6	35.5	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	168.80	-55.5	2.7	-18.5	-0.7		0.0	3.6	35.5	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	159.28	-55.0	2.2	-17.4	-0.6		0.0	1.8	30.0	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	159.28	-55.0	2.2	-17.4	-0.6		0.0	1.8	30.0	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	108.33	-51.7	2.1	-21.6	-0.6		0.0	2.3	25.7	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	108.33	-51.7	2.1	-21.6	-0.6		0.0	2.3	25.7		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	121.40	-52.7	2.9	-18.9	-0.4		0.0	2.3	29.2	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	121.40	-52.7	2.9	-18.9	-0.4		0.0	2.3	29.2	0.0	0.0	0.0	
RNo 17 Receiver units 1 & 3 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 32 dB(A) LrN 31 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	214.37	-57.6	2.6	-21.2	-0.8		0.0	0.0	22.0	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	214.37	-57.6	2.6	-21.2	-0.8		0.0	0.0	22.0		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	116.66	-52.3	2.7	-16.4	-0.1		0.0	2.5	18.4	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	116.66	-52.3	2.7	-16.4	-0.1		0.0	2.5	18.4		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	151.66	-54.6	2.5	-22.5	-0.8		0.0	0.4	7.9	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	151.66	-54.6	2.5	-22.5	-0.8		0.0	0.4	7.9		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	177.82	-56.0	2.7	-22.7	-0.8		0.0	1.3	28.6	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	177.82	-56.0	2.7	-22.7	-0.8		0.0	1.3	28.6	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	168.31	-55.5	2.2	-21.6	-0.8		0.0	0.7	24.1	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	168.31	-55.5	2.2	-21.6	-0.8		0.0	0.7	24.1	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	117.45	-52.4	2.2	-23.0	-0.8		0.0	0.8	22.0	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	117.45	-52.4	2.2	-23.0	-0.8		0.0	0.8	22.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	130.28	-53.3	2.9	-21.7	-0.7		0.0	0.3	23.7	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	130.28	-53.3	2.9	-21.7	-0.7		0.0	0.3	23.7	0.0	0.0	0.0	
RNo 18 Receiver units 2 & 4 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 36 dB(A)																							

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	183.76	-56.3	2.7	-12.1	-0.6		0.0	0.3	32.9	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	183.76	-56.3	2.7	-12.1	-0.6		0.0	0.3	32.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	94.20	-50.5	2.4	-8.9	-0.2		0.0	0.9	25.9	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	94.20	-50.5	2.4	-8.9	-0.2		0.0	0.9	25.9		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	120.74	-52.6	2.3	-10.9	-0.6		0.0	0.4	21.6	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	120.74	-52.6	2.3	-10.9	-0.6		0.0	0.4	21.6		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	147.64	-54.4	2.7	-19.0	-0.6		0.0	0.0	32.7	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	147.64	-54.4	2.7	-19.0	-0.6		0.0	0.0	32.7	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	138.12	-53.8	2.1	-17.9	-0.5		0.0	0.0	28.9	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	138.12	-53.8	2.1	-17.9	-0.5		0.0	0.0	28.9	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	86.94	-49.8	2.0	-21.3	-0.5		0.0	2.4	28.0	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	86.94	-49.8	2.0	-21.3	-0.5		0.0	2.4	28.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	100.73	-51.1	2.8	-18.0	-0.4		0.0	0.7	30.1	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	100.73	-51.1	2.8	-18.0	-0.4		0.0	0.7	30.1	0.0	0.0	0.0	
RNo 19 Receiver units 2 & 4 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 38 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	193.25	-56.7	2.6	-21.9	-0.8		0.0	5.8	28.0	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	193.25	-56.7	2.6	-21.9	-0.8		0.0	5.8	28.0		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	100.56	-51.0	2.5	-15.8	-0.1		0.0	3.9	21.5	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	100.56	-51.0	2.5	-15.8	-0.1		0.0	3.9	21.5		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	130.32	-53.3	2.3	-22.3	-0.7		0.0	5.0	14.1	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	130.32	-53.3	2.3	-22.3	-0.7		0.0	5.0	14.1		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	156.91	-54.9	2.7	-22.7	-0.7		0.0	7.1	35.5	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	156.91	-54.9	2.7	-22.7	-0.7		0.0	7.1	35.5	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	147.38	-54.4	2.2	-21.7	-0.7		0.0	5.7	30.1	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	147.38	-54.4	2.2	-21.7	-0.7		0.0	5.7	30.1	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	96.33	-50.7	2.1	-23.1	-0.7		0.0	3.0	25.8	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	96.33	-50.7	2.1	-23.1	-0.7		0.0	3.0	25.8		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	109.84	-51.8	2.8	-21.6	-0.6		0.0	7.2	32.0	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	109.84	-51.8	2.8	-21.6	-0.6		0.0	7.2	32.0	0.0	0.0	0.0	
RNo 20 Receiver units 8 - 11 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 48 dB(A) LrN 47 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	157.84	-55.0	3.5	-8.3	-0.5		0.0	0.6	39.4	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	157.84	-55.0	3.5	-8.3	-0.5		0.0	0.6	39.4		0.0		

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	69.53	-47.8	2.5	-6.3	-0.3		0.0	3.2	33.3	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	69.53	-47.8	2.5	-6.3	-0.3		0.0	3.2	33.3		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	94.15	-50.5	2.7	-0.1	-0.8		0.0	0.6	34.8	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	94.15	-50.5	2.7	-0.1	-0.8		0.0	0.6	34.8		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	117.39	-52.4	3.0	-12.8	-0.5		0.0	1.1	42.4	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	117.39	-52.4	3.0	-12.8	-0.5		0.0	1.1	42.4	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	107.87	-51.6	2.6	-11.6	-0.4		0.0	0.2	38.2	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	107.87	-51.6	2.6	-11.6	-0.4		0.0	0.2	38.2	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	56.69	-46.1	2.6	-18.2	-0.2		0.0	7.7	41.0	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	56.69	-46.1	2.6	-18.2	-0.2		0.0	7.7	41.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	79.07	-49.0	2.8	-5.4	-0.6		0.0	0.3	44.2	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	79.07	-49.0	2.8	-5.4	-0.6		0.0	0.3	44.2	0.0	0.0	0.0	
RNo 20 Receiver units 8 - 11 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 50 dB(A) LrN 48 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	157.89	-55.0	2.9	-6.9	-0.5		0.0	1.0	40.5	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	157.89	-55.0	2.9	-6.9	-0.5		0.0	1.0	40.5		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	69.62	-47.8	2.7	-5.9	-0.3		0.0	3.0	33.7	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	69.62	-47.8	2.7	-5.9	-0.3		0.0	3.0	33.7		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	94.22	-50.5	2.9	0.0	-0.8		0.0	0.8	35.5	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	94.22	-50.5	2.9	0.0	-0.8		0.0	0.8	35.5		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	117.44	-52.4	2.9	-11.3	-0.5		0.0	1.4	44.1	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	117.44	-52.4	2.9	-11.3	-0.5		0.0	1.4	44.1	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	107.92	-51.7	2.9	-10.2	-0.4		0.0	0.3	39.9	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	107.92	-51.7	2.9	-10.2	-0.4		0.0	0.3	39.9	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	56.80	-46.1	2.8	-17.9	-0.2		0.0	7.7	41.4	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	56.80	-46.1	2.8	-17.9	-0.2		0.0	7.7	41.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	79.17	-49.0	2.9	-4.8	-0.6		0.0	0.5	45.0	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	79.17	-49.0	2.9	-4.8	-0.6		0.0	0.5	45.0	0.0	0.0	0.0	
RNo 21 Receiver units 8 - 11 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 47 dB(A) LrN 47 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	168.91	-55.5	3.2	-22.6	-0.8		0.0	7.0	30.2	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	168.91	-55.5	3.2	-22.6	-0.8		0.0	7.0	30.2		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	76.49	-48.7	2.4	-12.2	-0.2		0.0	2.6	26.0	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	76.49	-48.7	2.4	-12.2	-0.2		0.0	2.6	26.0		0.0		

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Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	105.30	-51.4	2.4	-20.5	-0.5		0.0	2.6	15.5	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	105.30	-51.4	2.4	-20.5	-0.5		0.0	2.6	15.5		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	128.52	-53.2	2.9	-21.6	-0.6		0.0	15.1	46.6	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	128.52	-53.2	2.9	-21.6	-0.6		0.0	15.1	46.6	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	119.00	-52.5	2.5	-20.7	-0.6		0.0	4.3	32.0	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	119.00	-52.5	2.5	-20.7	-0.6		0.0	4.3	32.0	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	68.07	-47.7	2.2	-22.6	-0.5		0.0	1.2	27.9	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	68.07	-47.7	2.2	-22.6	-0.5		0.0	1.2	27.9		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	88.80	-50.0	2.9	-20.9	-0.4		0.0	0.3	27.8	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	88.80	-50.0	2.9	-20.9	-0.4		0.0	0.3	27.8	0.0	0.0	0.0
RNo 21 Receiver units 8 - 11 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 49 dB(A) LrN 49 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	168.96	-55.5	2.8	-21.4	-0.6		0.0	0.0	24.2	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	168.96	-55.5	2.8	-21.4	-0.6		0.0	0.0	24.2		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	76.56	-48.7	2.7	-11.5	-0.2		0.0	3.9	28.2	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	76.56	-48.7	2.7	-11.5	-0.2		0.0	3.9	28.2		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	105.36	-51.4	2.8	-19.6	-0.4		0.0	0.2	14.6	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	105.36	-51.4	2.8	-19.6	-0.4		0.0	0.2	14.6		0.0	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	128.57	-53.2	2.8	-21.3	-0.5		0.0	17.4	49.3	0.0	0.0	0.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	128.57	-53.2	2.8	-21.3	-0.5		0.0	17.4	49.3	0.0	0.0	0.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	119.05	-52.5	2.8	-19.8	-0.5		0.0	2.8	31.9	0.0	0.0	0.0
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	119.05	-52.5	2.8	-19.8	-0.5		0.0	2.8	31.9	0.0	0.0	0.0
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	68.14	-47.7	2.7	-22.2	-0.4		0.0	1.3	28.9	-1.2	0.0	0.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	68.14	-47.7	2.7	-22.2	-0.4		0.0	1.3	28.9		0.0	
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	88.90	-50.0	2.8	-20.3	-0.4		0.0	0.3	28.4	0.0	0.0	0.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	88.90	-50.0	2.8	-20.3	-0.4		0.0	0.3	28.4	0.0	0.0	0.0
RNo 22 Receiver units 12 - 15 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 39 dB(A) LrN 39 dB(A)																						
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	165.99	-55.4	3.2	-20.0	-0.6		0.0	1.0	27.2	-1.2	0.0	0.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	165.99	-55.4	3.2	-20.0	-0.6		0.0	1.0	27.2		0.0	
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	91.04	-50.2	2.4	-14.1	-0.2		0.0	2.0	22.0	-1.2	0.0	0.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	91.04	-50.2	2.4	-14.1	-0.2		0.0	2.0	22.0		0.0	
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	103.42	-51.3	2.4	-21.5	-0.5		0.0	1.3	13.3	-1.2	0.0	0.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	103.42	-51.3	2.4	-21.5	-0.5		0.0	1.3	13.3		0.0	

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	134.81	-53.6	3.0	-23.0	-0.6		0.0	0.0	29.7	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	134.81	-53.6	3.0	-23.0	-0.6		0.0	0.0	29.7	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	125.35	-53.0	2.6	-22.3	-0.7		0.0	0.4	26.1	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	125.35	-53.0	2.6	-22.3	-0.7		0.0	0.4	26.1	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	74.16	-48.4	2.2	-22.5	-0.5		0.0	1.3	27.3	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	74.16	-48.4	2.2	-22.5	-0.5		0.0	1.3	27.3		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	82.34	-49.3	2.7	-21.2	-0.4		0.0	10.2	38.0	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	82.34	-49.3	2.7	-21.2	-0.4		0.0	10.2	38.0	0.0	0.0	0.0	
RNo 22 Receiver units 12 - 15 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 40 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	166.04	-55.4	2.8	-18.4	-0.4		0.0	0.0	27.6	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	166.04	-55.4	2.8	-18.4	-0.4		0.0	0.0	27.6		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	91.09	-50.2	2.6	-13.3	-0.1		0.0	1.6	22.6	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	91.09	-50.2	2.6	-13.3	-0.1		0.0	1.6	22.6		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	103.48	-51.3	2.8	-20.5	-0.4		0.0	1.8	15.4	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	103.48	-51.3	2.8	-20.5	-0.4		0.0	1.8	15.4		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	134.85	-53.6	2.8	-22.6	-0.6		0.0	0.0	30.1	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	134.85	-53.6	2.8	-22.6	-0.6		0.0	0.0	30.1	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	125.40	-53.0	2.8	-21.0	-0.5		0.0	0.6	28.0	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	125.40	-53.0	2.8	-21.0	-0.5		0.0	0.6	28.0	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	74.24	-48.4	2.7	-22.0	-0.4		0.0	1.5	28.5	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	74.24	-48.4	2.7	-22.0	-0.4		0.0	1.5	28.5		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	82.44	-49.3	2.8	-20.6	-0.4		0.0	10.3	38.8	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	82.44	-49.3	2.8	-20.6	-0.4		0.0	10.3	38.8	0.0	0.0	0.0	
RNo 23 Receiver units 12 - 15 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 54 dB(A) LrN 54 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	154.47	-54.8	3.5	-3.4	-0.6		0.0	0.1	43.7	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	154.47	-54.8	3.5	-3.4	-0.6		0.0	0.1	43.7		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	86.48	-49.7	2.6	-7.1	-0.3		0.0	2.9	30.4	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	86.48	-49.7	2.6	-7.1	-0.3		0.0	2.9	30.4		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	91.90	-50.3	2.7	-0.1	-0.8		0.0	1.2	35.7	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	91.90	-50.3	2.7	-0.1	-0.8		0.0	1.2	35.7		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	124.82	-52.9	3.1	-13.9	-0.5		0.0	13.0	52.7	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	124.82	-52.9	3.1	-13.9	-0.5		0.0	13.0	52.7	0.0	0.0	0.0	

Aberfeldy Noise
Mean propagation Leq - Scenario 2

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	115.42	-52.2	2.8	-13.5	-0.4		0.0	6.4	42.1	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	115.42	-52.2	2.8	-13.5	-0.4		0.0	6.4	42.1	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	64.42	-47.2	2.5	-18.6	-0.3		0.0	12.7	44.4	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	64.42	-47.2	2.5	-18.6	-0.3		0.0	12.7	44.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	71.12	-48.0	2.7	-11.7	-0.3		0.0	4.6	43.4	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	71.12	-48.0	2.7	-11.7	-0.3		0.0	4.6	43.4	0.0	0.0	0.0	
RNo 23 Receiver units 12 - 15 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 55 dB(A) LrN 54 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	154.53	-54.8	2.9	-2.0	-0.8		0.0	0.1	44.4	-1.2	0.0	0.0	
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	154.53	-54.8	2.9	-2.0	-0.8		0.0	0.1	44.4		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	86.55	-49.7	2.7	-6.7	-0.3		0.0	2.8	30.8	-1.2	0.0	0.0	
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	86.55	-49.7	2.7	-6.7	-0.3		0.0	2.8	30.8		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	91.97	-50.3	2.9	0.0	-0.8		0.0	1.2	36.0	-1.2	0.0	0.0	
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	91.97	-50.3	2.9	0.0	-0.8		0.0	1.2	36.0		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	124.87	-52.9	2.9	-12.5	-0.5		0.0	12.2	53.2	0.0	0.0	0.0	
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	124.87	-52.9	2.9	-12.5	-0.5		0.0	12.2	53.2	0.0	0.0	0.0	
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	115.47	-52.2	2.9	-11.9	-0.4		0.0	6.6	43.9	0.0	0.0	0.0	
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	115.47	-52.2	2.9	-11.9	-0.4		0.0	6.6	43.9	0.0	0.0	0.0	
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	64.52	-47.2	2.8	-18.3	-0.3		0.0	12.0	44.2	-1.2	0.0	0.0	
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	64.52	-47.2	2.8	-18.3	-0.3		0.0	12.0	44.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	71.24	-48.0	2.9	-9.9	-0.4		0.0	3.0	43.6	0.0	0.0	0.0	
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	71.24	-48.0	2.9	-9.9	-0.4		0.0	3.0	43.6	0.0	0.0	0.0	

Aberfeldy Noise
Run Info
Scenario 3 - no gritting

Project description

Project title: Aberfeldy Noise
Project No.: AS 0637
Project engineer: Steve Fraser
Customer: Aim Architects / Lomond Group

Description:
Noise impact assessment for proposed new mixed use development

Run description

Calculation type: Single Point Sound
Title: Scenario 3 - no gritting
Group:
Run file: RunFile.runx
Result number: 5
Local calculation (ThreadCount=8)
Calculation start: 26/03/2018 19:45:38
Calculation end: 26/03/2018 19:45:46
Calculation time: 00:01:995 [m:s:ms]
No. of points: 23
No. of calculated points: 23
Kernel version: SoundPLAN 8.0 (23/01/2018) - 32 bit

Run parameters

Reflection order:	3	
Maximum reflection distance to receiver		200 m
Maximum reflection distance to source		50 m
Search radius	5000 m	
Weighting:	dB(A)	
Allowed tolerance (per individual source):		0.100 dB
Create ground effect areas from road surfaces:		No

Standards:
- Industry: ISO 9613-2: 1996
- Air absorption: ISO 9613-1

regular ground effect (chapter 7.3.1), for sources without a spectrum automatically alternative ground effect

- Limitation of screening loss:
  - single/multiple 20.0 dB /25.0 dB
- Side Diffraction: Outdated method (side paths also around terrain)
- Use Eqn (Abar=Dz-Max(Agr,0)) instead of Eqn (12) (Abar=Dz-Agr) for insertion loss
- Environment:
  - Air pressure 1013.3 mbar
  - rel. humidity 70.0 %
  - Temperature 10.0 °C
  - Meteo. corr. C0(7-23h)[dB]=0.0; C0(23-7h)[dB]=0.0;
  - Ignore Cmet for Lmax industry calculation: No
- Parameter for screening: C2=20.0
- Dissection parameters:

Distance to diameter factor	8
Minimal distance	1 m
Max. difference ground effect + diffraction	1.0 dB
Max. number of iterations	4
Attenuation	
Foliage:	ISO 9613-2
Built-up area:	ISO 9613-2
Industrial site:	ISO 9613-2
Assessment:	PPG24 (day/night)
Reflection of "own" facade is suppressed	

Geometry data

Scenario 3.sit	26/03/2018 19:44:54	
- contains:		
calculation area.geo	26/03/2018 14:45:06	
existing buildings - to be retained.geo		23/03/2018 14:38:48
ground conditions.geo	23/03/2018 15:23:22	
industrial noise sources no gritting.geo		23/03/2018 15:15:40
new build.geo	26/03/2018 19:04:20	
OS base.geo	13/03/2018 16:17:02	
new industrial units tweaked.geo		26/03/2018 19:23:50
acoustic barriers.geo	26/03/2018 14:45:06	
RDGM0001.dgm	13/03/2018 13:13:24	

Aberfeldy Noise
Assessed receiver levels
Scenario 3 - no gritting

RNo	Receiver	Fl	Dir	X m	Y m	Z m	LrD dB(A)	LrN dB(A)
1	Parkfield	GF	NE	285776	749335	88.6	36	28
2	Parkfield	GF	NW	285765	749339	88.6	33	30
3	Parkfield	GF	SW	285763	749329	88.6	30	26
4	Parkfield	GF	SE	285773	749327	88.6	35	26
5	Rowan Cottage	GF	NE	285741	749389	88.0	43	41
6	Tignadail	GF	NE	285798	749306	88.9	42	35
7	unit 5	GF	SW	285805	749350	88.5	34	30
8	unit 5	GF	NW	285799	749358	88.5	33	28
9	unit 5	GF	NE	285808	749357	88.5	36	32
10	unit 5	GF	SE	285809	749349	88.5	38	30
11	unit 5	GF	NW	285802	749361	88.5	35	31
12	unit 6	GF	NW	285792	749354	88.5	34	31
13	unit 6	GF	SE	285797	749346	88.5	37	29
14	unit 7	GF	SE	285784	749338	88.5	37	29
15	unit 7	GF	NW	285779	749347	88.5	33	30
16	units 1 & 3	GF	NE	285756	749360	88.3	32	29
17	units 1 & 3	GF	SW	285748	749355	88.3	27	24
18	units 2 & 4	GF	NE	285775	749371	88.4	35	30
19	units 2 & 4	GF	SW	285767	749366	88.4	34	32
20	units 8 - 11	GF	NE	285805	749378	88.5	46	44
		F 1				91.0	47	45
21	units 8 - 11	GF	SW	285795	749372	88.5	33	28
		F 1				91.0	33	28
22	units 12 - 15	GF	SW	285785	749387	88.5	39	38
		F 1				91.0	39	39
23	units 12 - 15	GF	NE	285794	749394	88.5	48	44
		F 1				91.0	49	44

Aberfeldy Noise
Run Info
Scenario 4 (rev2)

Project description

Project title: Aberfeldy Noise
Project No.: AS 0637
Project engineer: Steve Fraser
Customer: Aim Architects / Lomond Group

Description:
Noise impact assessment for proposed new mixed use development

Run description

Calculation type: Single Point Sound
Title: Scenario 4 (rev2)
Group:
Run file: RunFile.runx
Result number: 8
Local calculation (ThreadCount=8)
Calculation start: 16/04/2018 09:31:39
Calculation end: 16/04/2018 09:31:47
Calculation time: 00:01:892 [m:s:ms]
No. of points: 23
No. of calculated points: 23
Kernel version: SoundPLAN 8.0 (11/04/2018) - 32 bit

Run parameters

Reflection order:	3	
Maximum reflection distance to receiver		200 m
Maximum reflection distance to source		50 m
Search radius	5000 m	
Weighting:	dB(A)	
Allowed tolerance (per individual source):		0.100 dB
Create ground effect areas from road surfaces:		No

Standards:
- Industry: ISO 9613-2: 1996
- Air absorption: ISO 9613-1

regular ground effect (chapter 7.3.1), for sources without a spectrum automatically alternative ground effect

- Limitation of screening loss:
  - single/multiple 20.0 dB /25.0 dB
- Side Diffraction: Outdated method (side paths also around terrain)
- Use Eqn (Abar=Dz-Max(Agr,0)) instead of Eqn (12) (Abar=Dz-Agr) for insertion loss
- Environment:
  - Air pressure 1013.3 mbar
  - rel. humidity 70.0 %
  - Temperature 10.0 °C
  - Meteo. corr. C0(7-23h)[dB]=0.0; C0(23-7h)[dB]=0.0;
  - Ignore Cmet for Lmax industry calculation: No
- Parameter for screening: C2=20.0
- Dissection parameters:

Distance to diameter factor	8
Minimal distance	1 m
Max. difference ground effect + diffraction	1.0 dB
Max. number of iterations	4
Attenuation	
Foliage:	ISO 9613-2
Built-up area:	ISO 9613-2
Industrial site:	ISO 9613-2
Assessment:	PPG24 (day/night)

Reflection of "own" facade is suppressed

Geometry data

Scenario 5.sit	31/03/2018 16:21:28	
- contains:		
acoustic barriers.geo	31/03/2018 16:21:28	
calculation area.geo	26/03/2018 14:45:06	
existing buildings - to be retained.geo		31/03/2018 16:10:52
ground conditions.geo	23/03/2018 15:23:22	
industrial noise sources.geo	26/03/2018 18:25:56	
new industrial units tweaked.geo		31/03/2018 16:10:52
OS base.geo	13/03/2018 16:17:02	
revised layout 30 March 2018.geo		31/03/2018 16:14:34
RDGM0001.dgm	13/03/2018 13:13:24	

Aberfeldy Noise
Assessed receiver levels
Scenario 4 (rev2)

RNo	Receiver	Fl	Dir	X m	Y m	Z m	LrD dB(A)	LrN dB(A)
1	Parkfield	GF	NW	285765	749339	89	38	37
2	Parkfield	GF	NE	285776	749335	89	39	36
3	Parkfield	GF	SE	285773	749327	89	40	38
4	Parkfield	GF	SW	285763	749329	89	32	30
5	Rowan Cottage	GF	NE	285741	749389	88	44	42
6	Tignadail	GF	NE	285798	749306	89	44	41
7	unit 5	GF	NW	285799	749361	89	40	39
8	unit 5	GF	SE	285807	749348	89	38	36
9	unit 5	GF	NW	285796	749358	89	40	39
10	unit 5	GF	SW	285802	749349	89	38	37
11	unit 5	GF	NE	285806	749356	89	41	40
12	Unit 6	GF	NW	285790	749355	89	38	37
13	Unit 6	GF	SE	285798	749343	89	40	38
14	Unit 7	GF	NW	285782	749349	89	37	36
15	Unit 7	GF	SE	285786	749341	89	40	39
16	units 1 & 3	GF	NE	285757	749360	88	37	37
17	units 1 & 3	GF	SW	285749	749356	88	31	30
18	units 2 & 4	GF	SW	285765	749365	88	38	37
19	units 2 & 4	GF	NE	285773	749370	88	37	36
20	units 8 - 11	GF	NE	285802	749378	89	52	51
		F 1				91	53	53
21	units 8 - 11	GF	SW	285792	749372	89	38	38
		F 1				91	38	38
22	units 12 - 15	GF	SW	285783	749386	88	34	33
		F 1				91	35	33
23	units 12 - 15	GF	NE	285792	749393	88	53	52
		F 1				91	53	52

Aberfeldy Noise
Octave spectra of the sources in dB(A) - Scenario 4 (rev2)

Name	Source type	X	Y	Z	l or A	Lw	Day histogram	Emission spectrum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	16kHz	
		m	m	m	m,m²	dB(A)			dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	
4m from tipping baryte	Point	285912	749494	86.3		99.0	daytime working	baryte tipping	73.4	82.7	89.6	92.3	94.4	91.9	88.7	80.4	65.7	
Barhaul builders	Area	285862	749336	87.9	1601	82.0	daytime working	builder yard	71.9	66.4	70.2	72.1	77.5	76.6	69.8	59.6	43.8	
baryte vehicle idling	Point	285870	749446	87.2		83.0	daytime working	slow moving vehicle	62.6	63.7	66.4	74.0	78.7	78.2	72.5	68.2	41.7	
grit loading	Point	285918	749407	87.3		104.0	100%/24h	loading grit (Canderside)	72.1	80.6	87.4	90.9	103.4	89.0	84.3	77.7	68.6	
idling vehicle	Point	285909	749405	87.3		99.0	100%/24h	idling vehicle	71.4	79.5	86.1	93.6	94.1	92.4	88.9	79.2	68.4	
mechanics garage	Area	285859	749395	87.2	52	95.2	daytime working	mechanics garage	72.8	78.0	85.1	88.4	90.1	88.0	85.3	82.5	75.2	
WwTW inlet works	Point	285838	749450	86.4		96.0	100%/24h	WwTW	78.1	76.8	81.3	84.2	90.5	92.2	87.7	78.1	65.8	

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Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 37 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	213.18	-57.6	2.8	-19.0	-0.7		0.0	4.3	28.9	-1.2	0.0	0.0	27.6
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	213.18	-57.6	2.8	-19.0	-0.7		0.0	4.3	28.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	98.54	-50.9	2.7	-13.0	-0.2		0.0	0.4	21.1	-1.2	0.0	0.0	19.9
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	98.54	-50.9	2.7	-13.0	-0.2		0.0	0.4	21.1		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	149.52	-54.5	2.5	-12.6	-0.7		0.0	2.0	19.8	-1.2	0.0	0.0	18.5
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	149.52	-54.5	2.5	-12.6	-0.7		0.0	2.0	19.8		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	167.59	-55.5	2.8	-18.7	-0.7		0.0	3.5	35.3	0.0	0.0	0.0	35.3
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	167.59	-55.5	2.8	-18.7	-0.7		0.0	3.5	35.3	0.0	0.0	0.0	35.3
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	158.18	-55.0	2.3	-17.7	-0.6		0.0	2.6	30.7	0.0	0.0	0.0	30.7
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	158.18	-55.0	2.3	-17.7	-0.6		0.0	2.6	30.7	0.0	0.0	0.0	30.7
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	109.01	-51.7	2.2	-20.4	-0.5		0.0	1.9	26.7	-1.2	0.0	0.0	25.5
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	109.01	-51.7	2.2	-20.4	-0.5		0.0	1.9	26.7		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	132.39	-53.4	3.0	-17.3	-0.5		0.0	0.0	27.9	0.0	0.0	0.0	27.9
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	132.39	-53.4	3.0	-17.3	-0.5		0.0	0.0	27.9	0.0	0.0	0.0	27.9
Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 39 dB(A) LrN 36 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	209.66	-57.4	2.8	-18.7	-0.7		0.0	0.9	25.8	-1.2	0.0	0.0	24.5
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	209.66	-57.4	2.8	-18.7	-0.7		0.0	0.9	25.8		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	88.30	-49.9	2.8	-1.7	-0.5		0.0	2.0	34.7	-1.2	0.0	0.0	33.4
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	88.30	-49.9	2.8	-1.7	-0.5		0.0	2.0	34.7		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	145.93	-54.3	2.5	-18.7	-0.6		0.0	5.0	16.9	-1.2	0.0	0.0	15.7
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	145.93	-54.3	2.5	-18.7	-0.6		0.0	5.0	16.9		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	160.22	-55.1	2.7	-18.5	-0.7		0.0	1.5	34.0	0.0	0.0	0.0	34.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	160.22	-55.1	2.7	-18.5	-0.7		0.0	1.5	34.0	0.0	0.0	0.0	34.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	150.91	-54.6	2.2	-17.9	-0.5		0.0	1.1	29.3	0.0	0.0	0.0	29.3
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	150.91	-54.6	2.2	-17.9	-0.5		0.0	1.1	29.3	0.0	0.0	0.0	29.3
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	102.84	-51.2	2.1	-20.5	-0.5		0.0	6.0	31.1	-1.2	0.0	0.0	29.8
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	102.84	-51.2	2.1	-20.5	-0.5		0.0	6.0	31.1		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	130.98	-53.3	3.0	-18.8	-0.4		0.0	1.3	27.7	0.0	0.0	0.0	27.7
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	130.98	-53.3	3.0	-18.8	-0.4		0.0	1.3	27.7	0.0	0.0	0.0	27.7
Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 38 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	216.93	-57.7	2.7	-23.3	-1.1		0.0	1.8	21.5	-1.2	0.0	0.0	20.2

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	Lr
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	dB(A)
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	216.93	-57.7	2.7	-23.3	-1.1		0.0	1.8	21.5		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	90.93	-50.2	3.1	-1.7	-0.5		0.0	2.1	34.8	-1.2	0.0	0.0	33.5
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	90.93	-50.2	3.1	-1.7	-0.5		0.0	2.1	34.8		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	153.23	-54.7	2.5	-22.4	-0.8		0.0	6.2	13.8	-1.2	0.0	0.0	12.6
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	153.23	-54.7	2.5	-22.4	-0.8		0.0	6.2	13.8		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	165.83	-55.4	2.7	-14.9	-0.7		0.0	1.6	37.3	0.0	0.0	0.0	37.3
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	165.83	-55.4	2.7	-14.9	-0.7		0.0	1.6	37.3	0.0	0.0	0.0	37.3
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	156.59	-54.9	2.2	-17.0	-0.6		0.0	1.4	30.1	0.0	0.0	0.0	30.1
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	156.59	-54.9	2.2	-17.0	-0.6		0.0	1.4	30.1	0.0	0.0	0.0	30.1
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	109.47	-51.8	2.2	-19.5	-0.5		0.0	3.6	29.2	-1.2	0.0	0.0	27.9
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	109.47	-51.8	2.2	-19.5	-0.5		0.0	3.6	29.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	138.72	-53.8	3.0	-19.3	-0.6		0.0	0.8	26.1	0.0	0.0	0.0	26.1
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	138.72	-53.8	3.0	-19.3	-0.6		0.0	0.8	26.1	0.0	0.0	0.0	26.1
Receiver Parkfield Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 32 dB(A) LrN 30 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	222.68	-57.9	2.7	-23.4	-1.1		0.0	7.1	26.3	-1.2	0.0	0.0	25.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	222.68	-57.9	2.7	-23.4	-1.1		0.0	7.1	26.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	101.41	-51.1	3.0	-14.4	-0.2		0.0	0.8	20.2	-1.2	0.0	0.0	18.9
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	101.41	-51.1	3.0	-14.4	-0.2		0.0	0.8	20.2		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	158.97	-55.0	2.5	-22.9	-1.0		0.0	8.9	15.5	-1.2	0.0	0.0	14.3
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	158.97	-55.0	2.5	-22.9	-1.0		0.0	8.9	15.5		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	174.54	-55.8	2.7	-23.9	-0.8		0.0	1.1	27.3	0.0	0.0	0.0	27.3
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	174.54	-55.8	2.7	-23.9	-0.8		0.0	1.1	27.3	0.0	0.0	0.0	27.3
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	165.22	-55.4	2.2	-23.3	-1.0		0.0	1.0	22.5	0.0	0.0	0.0	22.5
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	165.22	-55.4	2.2	-23.3	-1.0		0.0	1.0	22.5	0.0	0.0	0.0	22.5
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	117.05	-52.4	2.2	-22.5	-0.8		0.0	0.6	22.4	-1.2	0.0	0.0	21.1
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	117.05	-52.4	2.2	-22.5	-0.8		0.0	0.6	22.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	142.62	-54.1	3.0	-21.4	-0.7		0.0	2.0	24.8	0.0	0.0	0.0	24.8
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	142.62	-54.1	3.0	-21.4	-0.7		0.0	2.0	24.8	0.0	0.0	0.0	24.8
Receiver Rowan Cottage Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 44 dB(A) LrN 42 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	200.27	-57.0	4.5	-5.5	-0.7		0.0	0.0	40.3	-1.2	0.0	0.0	39.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	200.27	-57.0	4.5	-5.5	-0.7		0.0	0.0	40.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	132.62	-53.4	3.1	-11.4	-0.2		0.0	0.9	21.0	-1.2	0.0	0.0	19.7

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	132.62	-53.4	3.1	-11.4	-0.2		0.0	0.9	21.0		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	140.80	-54.0	3.8	-4.7	-1.0		0.0	1.2	28.4	-1.2	0.0	0.0	27.2
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	140.80	-54.0	3.8	-4.7	-1.0		0.0	1.2	28.4		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	178.38	-56.0	3.5	-17.8	-0.7		0.0	0.9	33.8	0.0	0.0	0.0	33.8
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	178.38	-56.0	3.5	-17.8	-0.7		0.0	0.9	33.8	0.0	0.0	0.0	33.8
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	169.00	-55.5	3.2	-17.4	-0.6		0.0	0.4	29.1	0.0	0.0	0.0	29.1
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	169.00	-55.5	3.2	-17.4	-0.6		0.0	0.4	29.1	0.0	0.0	0.0	29.1
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	118.08	-52.4	3.1	-21.3	-0.6		0.0	2.7	26.7	-1.2	0.0	0.0	25.4
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	118.08	-52.4	3.1	-21.3	-0.6		0.0	2.7	26.7		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	114.33	-52.2	4.1	-6.6	-0.7		0.0	0.1	40.7	0.0	0.0	0.0	40.7
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	114.33	-52.2	4.1	-6.6	-0.7		0.0	0.1	40.7	0.0	0.0	0.0	40.7
Receiver Tignadail Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 44 dB(A) LrN 41 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	219.92	-57.8	4.5	-16.3	-0.6		0.0	0.8	29.6	-1.2	0.0	0.0	28.3
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	219.92	-57.8	4.5	-16.3	-0.6		0.0	0.8	29.6		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	70.99	-48.0	3.1	-2.8	-0.4		0.0	2.5	36.3	-1.2	0.0	0.0	35.1
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	70.99	-48.0	3.1	-2.8	-0.4		0.0	2.5	36.3		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	157.52	-54.9	3.8	-15.4	-0.6		0.0	1.1	17.0	-1.2	0.0	0.0	15.8
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	157.52	-54.9	3.8	-15.4	-0.6		0.0	1.1	17.0		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	157.41	-54.9	4.0	-14.5	-0.6		0.0	0.7	38.5	0.0	0.0	0.0	38.5
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	157.41	-54.9	4.0	-14.5	-0.6		0.0	0.7	38.5	0.0	0.0	0.0	38.5
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	148.82	-54.4	3.9	-13.6	-0.4		0.0	0.5	34.8	0.0	0.0	0.0	34.8
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	148.82	-54.4	3.9	-13.6	-0.4		0.0	0.5	34.8	0.0	0.0	0.0	34.8
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	108.13	-51.7	3.9	-14.9	-0.3		0.0	7.1	39.3	-1.2	0.0	0.0	38.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	108.13	-51.7	3.9	-14.9	-0.3		0.0	7.1	39.3		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	149.37	-54.5	3.9	-13.5	-0.5		0.0	3.4	34.8	0.0	0.0	0.0	34.8
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	149.37	-54.5	3.9	-13.5	-0.5		0.0	3.4	34.8	0.0	0.0	0.0	34.8
Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 39 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	174.55	-55.8	3.2	-16.6	-0.5		0.0	0.0	29.2	-1.2	0.0	0.0	28.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	174.55	-55.8	3.2	-16.6	-0.5		0.0	0.0	29.2		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	69.00	-47.8	2.4	-15.9	-0.1		0.0	5.4	26.1	-1.2	0.0	0.0	24.8
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	69.00	-47.8	2.4	-15.9	-0.1		0.0	5.4	26.1		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	110.83	-51.9	2.5	-16.5	-0.4		0.0	2.5	19.1	-1.2	0.0	0.0	17.8

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	Lr
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	dB(A)
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	110.83	-51.9	2.5	-16.5	-0.4		0.0	2.5	19.1		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	128.11	-53.1	2.9	-19.6	-0.5		0.0	4.1	37.7	0.0	0.0	0.0	37.7
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	128.11	-53.1	2.9	-19.6	-0.5		0.0	4.1	37.7	0.0	0.0	0.0	37.7
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	118.64	-52.5	2.4	-17.1	-0.4		0.0	1.7	33.2	0.0	0.0	0.0	33.2
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	118.64	-52.5	2.4	-17.1	-0.4		0.0	1.7	33.2	0.0	0.0	0.0	33.2
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	69.00	-47.8	2.2	-21.7	-0.4		0.0	1.4	28.9	-1.2	0.0	0.0	27.6
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	69.00	-47.8	2.2	-21.7	-0.4		0.0	1.4	28.9		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	97.15	-50.7	3.0	-20.6	-0.4		0.0	1.2	28.4	0.0	0.0	0.0	28.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	97.15	-50.7	3.0	-20.6	-0.4		0.0	1.2	28.4	0.0	0.0	0.0	28.4
Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 36 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	179.96	-56.1	3.2	-19.5	-0.6		0.0	3.4	29.4	-1.2	0.0	0.0	28.1
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	179.96	-56.1	3.2	-19.5	-0.6		0.0	3.4	29.4		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	59.17	-46.4	2.7	-11.1	-0.1		0.0	1.7	28.7	-1.2	0.0	0.0	27.4
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	59.17	-46.4	2.7	-11.1	-0.1		0.0	1.7	28.7		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	116.65	-52.3	2.6	-22.2	-0.6		0.0	7.9	18.3	-1.2	0.0	0.0	17.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	116.65	-52.3	2.6	-22.2	-0.6		0.0	7.9	18.3		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	126.55	-53.0	2.9	-21.1	-0.5		0.0	0.0	32.2	0.0	0.0	0.0	32.2
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	126.55	-53.0	2.9	-21.1	-0.5		0.0	0.0	32.2	0.0	0.0	0.0	32.2
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	117.27	-52.4	2.4	-20.0	-0.4		0.0	0.7	29.4	0.0	0.0	0.0	29.4
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	117.27	-52.4	2.4	-20.0	-0.4		0.0	0.7	29.4	0.0	0.0	0.0	29.4
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	70.45	-47.9	2.2	-21.5	-0.4		0.0	3.2	30.7	-1.2	0.0	0.0	29.5
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	70.45	-47.9	2.2	-21.5	-0.4		0.0	3.2	30.7		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	106.47	-51.5	3.1	-20.5	-0.4		0.0	4.5	31.1	0.0	0.0	0.0	31.1
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	106.47	-51.5	3.1	-20.5	-0.4		0.0	4.5	31.1	0.0	0.0	0.0	31.1
Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 39 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	178.62	-56.0	3.1	-15.7	-0.5		0.0	0.0	29.9	-1.2	0.0	0.0	28.6
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	178.62	-56.0	3.1	-15.7	-0.5		0.0	0.0	29.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	70.94	-48.0	2.4	-16.0	-0.1		0.0	1.8	22.2	-1.2	0.0	0.0	20.9
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	70.94	-48.0	2.4	-16.0	-0.1		0.0	1.8	22.2		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	114.90	-52.2	2.4	-15.3	-0.5		0.0	0.6	18.1	-1.2	0.0	0.0	16.8
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	114.90	-52.2	2.4	-15.3	-0.5		0.0	0.6	18.1		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	131.86	-53.4	2.8	-22.6	-0.6		0.0	5.2	35.4	0.0	0.0	0.0	35.4

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	131.86	-53.4	2.8	-22.6	-0.6		0.0	5.2	35.4	0.0	0.0	0.0	35.4
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	122.41	-52.7	2.4	-21.0	-0.5		0.0	3.5	30.7	0.0	0.0	0.0	30.7
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	122.41	-52.7	2.4	-21.0	-0.5		0.0	3.5	30.7	0.0	0.0	0.0	30.7
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	72.94	-48.3	2.1	-22.5	-0.5		0.0	2.3	28.4	-1.2	0.0	0.0	27.1
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	72.94	-48.3	2.1	-22.5	-0.5		0.0	2.3	28.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	100.96	-51.1	3.0	-12.7	-0.5		0.0	0.0	34.6	0.0	0.0	0.0	34.6
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	100.96	-51.1	3.0	-12.7	-0.5		0.0	0.0	34.6	0.0	0.0	0.0	34.6
Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 37 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	181.78	-56.2	3.1	-22.5	-0.8		0.0	3.4	26.0	-1.2	0.0	0.0	24.8
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	181.78	-56.2	3.1	-22.5	-0.8		0.0	3.4	26.0		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	63.55	-47.1	2.6	-14.5	-0.1		0.0	3.7	26.6	-1.2	0.0	0.0	25.4
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	63.55	-47.1	2.6	-14.5	-0.1		0.0	3.7	26.6		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	118.29	-52.5	2.5	-22.5	-0.6		0.0	5.2	15.2	-1.2	0.0	0.0	13.9
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	118.29	-52.5	2.5	-22.5	-0.6		0.0	5.2	15.2		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	130.03	-53.3	2.8	-24.1	-0.6		0.0	6.4	35.2	0.0	0.0	0.0	35.2
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	130.03	-53.3	2.8	-24.1	-0.6		0.0	6.4	35.2	0.0	0.0	0.0	35.2
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	120.70	-52.6	2.4	-23.0	-0.6		0.0	5.7	30.9	0.0	0.0	0.0	30.9
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	120.70	-52.6	2.4	-23.0	-0.6		0.0	5.7	30.9	0.0	0.0	0.0	30.9
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	73.05	-48.3	2.1	-22.8	-0.5		0.0	3.7	29.4	-1.2	0.0	0.0	28.2
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	73.05	-48.3	2.1	-22.8	-0.5		0.0	3.7	29.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	106.91	-51.6	3.0	-19.2	-0.3		0.0	1.4	29.4	0.0	0.0	0.0	29.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	106.91	-51.6	3.0	-19.2	-0.3		0.0	1.4	29.4	0.0	0.0	0.0	29.4
Receiver unit 5 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 41 dB(A) LrN 40 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	174.13	-55.8	3.3	-20.0	-0.6		0.0	1.5	27.4	-1.2	0.0	0.0	26.1
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	174.13	-55.8	3.3	-20.0	-0.6		0.0	1.5	27.4		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	61.69	-46.8	2.5	-10.9	-0.2		0.0	2.0	28.7	-1.2	0.0	0.0	27.5
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	61.69	-46.8	2.5	-10.9	-0.2		0.0	2.0	28.7		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	110.58	-51.9	2.5	-20.2	-0.5		0.0	5.2	18.2	-1.2	0.0	0.0	16.9
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	110.58	-51.9	2.5	-20.2	-0.5		0.0	5.2	18.2		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	123.91	-52.9	2.9	-21.9	-0.5		0.0	3.5	35.1	0.0	0.0	0.0	35.1
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	123.91	-52.9	2.9	-21.9	-0.5		0.0	3.5	35.1	0.0	0.0	0.0	35.1
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	114.52	-52.2	2.5	-20.6	-0.4		0.0	2.4	30.7	0.0	0.0	0.0	30.7

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	114.52	-52.2	2.5	-20.6	-0.4		0.0	2.4	30.7	0.0	0.0	0.0	30.7
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	65.94	-47.4	2.3	-22.0	-0.4		0.0	2.3	30.1	-1.2	0.0	0.0	28.8
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	65.94	-47.4	2.3	-22.0	-0.4		0.0	2.3	30.1		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	99.16	-50.9	3.1	-12.4	-0.5		0.0	3.0	38.3	0.0	0.0	0.0	38.3
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	99.16	-50.9	3.1	-12.4	-0.5		0.0	3.0	38.3	0.0	0.0	0.0	38.3
Receiver Unit 6 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 37 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	184.36	-56.3	2.9	-19.9	-0.6		0.0	0.2	25.3	-1.2	0.0	0.0	24.1
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	184.36	-56.3	2.9	-19.9	-0.6		0.0	0.2	25.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	76.01	-48.6	2.4	-16.1	-0.1		0.0	2.9	22.5	-1.2	0.0	0.0	21.3
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	76.01	-48.6	2.4	-16.1	-0.1		0.0	2.9	22.5		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	120.63	-52.6	2.4	-19.9	-0.5		0.0	2.0	14.5	-1.2	0.0	0.0	13.2
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	120.63	-52.6	2.4	-19.9	-0.5		0.0	2.0	14.5		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	138.24	-53.8	2.8	-19.3	-0.6		0.0	0.4	33.5	0.0	0.0	0.0	33.5
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	138.24	-53.8	2.8	-19.3	-0.6		0.0	0.4	33.5	0.0	0.0	0.0	33.5
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	128.79	-53.2	2.3	-18.1	-0.5		0.0	1.5	31.1	0.0	0.0	0.0	31.1
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	128.79	-53.2	2.3	-18.1	-0.5		0.0	1.5	31.1	0.0	0.0	0.0	31.1
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	79.28	-49.0	2.0	-21.2	-0.4		0.0	1.7	28.4	-1.2	0.0	0.0	27.1
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	79.28	-49.0	2.0	-21.2	-0.4		0.0	1.7	28.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	105.78	-51.5	2.9	-16.2	-0.4		0.0	0.0	30.9	0.0	0.0	0.0	30.9
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	105.78	-51.5	2.9	-16.2	-0.4		0.0	0.0	30.9	0.0	0.0	0.0	30.9
Receiver Unit 6 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 38 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	189.49	-56.5	2.9	-22.0	-0.8		0.0	5.5	28.2	-1.2	0.0	0.0	27.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	189.49	-56.5	2.9	-22.0	-0.8		0.0	5.5	28.2		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	66.76	-47.5	2.7	-1.9	-0.4		0.0	1.1	36.0	-1.2	0.0	0.0	34.7
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	66.76	-47.5	2.7	-1.9	-0.4		0.0	1.1	36.0		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	126.01	-53.0	2.5	-21.7	-0.6		0.0	10.8	20.9	-1.2	0.0	0.0	19.7
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	126.01	-53.0	2.5	-21.7	-0.6		0.0	10.8	20.9		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	136.76	-53.7	2.8	-19.7	-0.6		0.0	2.7	35.4	0.0	0.0	0.0	35.4
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	136.76	-53.7	2.8	-19.7	-0.6		0.0	2.7	35.4	0.0	0.0	0.0	35.4
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	127.50	-53.1	2.3	-18.9	-0.5		0.0	2.0	30.9	0.0	0.0	0.0	30.9
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	127.50	-53.1	2.3	-18.9	-0.5		0.0	2.0	30.9	0.0	0.0	0.0	30.9
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	80.55	-49.1	2.1	-20.9	-0.4		0.0	2.0	28.8	-1.2	0.0	0.0	27.5

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Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	80.55	-49.1	2.1	-20.9	-0.4		0.0	2.0	28.8		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	114.44	-52.2	3.0	-19.3	-0.4		0.0	3.3	30.4	0.0	0.0	0.0	30.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	114.44	-52.2	3.0	-19.3	-0.4		0.0	3.3	30.4	0.0	0.0	0.0	30.4
Receiver Unit 7 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 37 dB(A) LrN 36 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	195.15	-56.8	2.7	-20.6	-0.7		0.0	0.6	24.3	-1.2	0.0	0.0	23.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	195.15	-56.8	2.7	-20.6	-0.7		0.0	0.6	24.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	83.39	-49.4	2.5	-16.1	-0.1		0.0	1.1	20.0	-1.2	0.0	0.0	18.7
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	83.39	-49.4	2.5	-16.1	-0.1		0.0	1.1	20.0		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	131.43	-53.4	2.4	-18.6	-0.5		0.0	1.4	14.3	-1.2	0.0	0.0	13.1
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	131.43	-53.4	2.4	-18.6	-0.5		0.0	1.4	14.3		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	148.91	-54.5	2.7	-20.1	-0.6		0.0	1.6	33.0	0.0	0.0	0.0	33.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	148.91	-54.5	2.7	-20.1	-0.6		0.0	1.6	33.0	0.0	0.0	0.0	33.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	139.48	-53.9	2.2	-18.3	-0.5		0.0	0.9	29.4	0.0	0.0	0.0	29.4
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	139.48	-53.9	2.2	-18.3	-0.5		0.0	0.9	29.4	0.0	0.0	0.0	29.4
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	90.15	-50.1	2.0	-21.4	-0.5		0.0	2.0	27.3	-1.2	0.0	0.0	26.1
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	90.15	-50.1	2.0	-21.4	-0.5		0.0	2.0	27.3		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	115.76	-52.3	2.9	-16.9	-0.4		0.0	0.2	29.5	0.0	0.0	0.0	29.5
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	115.76	-52.3	2.9	-16.9	-0.4		0.0	0.2	29.5	0.0	0.0	0.0	29.5
Receiver Unit 7 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 40 dB(A) LrN 39 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	198.11	-56.9	2.8	-21.6	-0.8		0.0	3.1	25.6	-1.2	0.0	0.0	24.3
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	198.11	-56.9	2.8	-21.6	-0.8		0.0	3.1	25.6		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	77.83	-48.8	2.6	-1.7	-0.5		0.0	2.0	35.6	-1.2	0.0	0.0	34.4
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	77.83	-48.8	2.6	-1.7	-0.5		0.0	2.0	35.6		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	134.43	-53.6	2.4	-21.5	-0.6		0.0	5.2	15.0	-1.2	0.0	0.0	13.8
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	134.43	-53.6	2.4	-21.5	-0.6		0.0	5.2	15.0		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	147.86	-54.4	2.7	-20.5	-0.6		0.0	5.8	37.0	0.0	0.0	0.0	37.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	147.86	-54.4	2.7	-20.5	-0.6		0.0	5.8	37.0	0.0	0.0	0.0	37.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	138.54	-53.8	2.2	-19.6	-0.5		0.0	4.6	31.9	0.0	0.0	0.0	31.9
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	138.54	-53.8	2.2	-19.6	-0.5		0.0	4.6	31.9	0.0	0.0	0.0	31.9
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	90.66	-50.1	2.1	-20.7	-0.4		0.0	1.9	27.9	-1.2	0.0	0.0	26.7
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	90.66	-50.1	2.1	-20.7	-0.4		0.0	1.9	27.9		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	120.71	-52.6	3.0	-20.3	-0.5		0.0	2.3	27.8	0.0	0.0	0.0	27.8

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	120.71	-52.6	3.0	-20.3	-0.5		0.0	2.3	27.8	0.0	0.0	0.0	27.8
Receiver units 1 & 3 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 37 dB(A) LrN 37 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	204.62	-57.2	2.6	-18.4	-0.6		0.0	2.0	27.4	-1.2	0.0	0.0	26.1
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	204.62	-57.2	2.6	-18.4	-0.6		0.0	2.0	27.4		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	109.26	-51.8	2.6	-11.9	-0.2		0.0	1.4	22.3	-1.2	0.0	0.0	21.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	109.26	-51.8	2.6	-11.9	-0.2		0.0	1.4	22.3		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	141.83	-54.0	2.4	-19.7	-0.6		0.0	4.4	15.5	-1.2	0.0	0.0	14.3
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	141.83	-54.0	2.4	-19.7	-0.6		0.0	4.4	15.5		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	168.28	-55.5	2.7	-19.3	-0.7		0.0	3.8	34.9	0.0	0.0	0.0	34.9
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	168.28	-55.5	2.7	-19.3	-0.7		0.0	3.8	34.9	0.0	0.0	0.0	34.9
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	158.76	-55.0	2.2	-18.2	-0.6		0.0	2.2	29.5	0.0	0.0	0.0	29.5
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	158.76	-55.0	2.2	-18.2	-0.6		0.0	2.2	29.5	0.0	0.0	0.0	29.5
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	107.75	-51.6	2.1	-22.0	-0.6		0.0	1.9	25.0	-1.2	0.0	0.0	23.7
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	107.75	-51.6	2.1	-22.0	-0.6		0.0	1.9	25.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	120.78	-52.6	2.9	-19.3	-0.4		0.0	1.9	28.4	0.0	0.0	0.0	28.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	120.78	-52.6	2.9	-19.3	-0.4		0.0	1.9	28.4	0.0	0.0	0.0	28.4
Receiver units 1 & 3 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 31 dB(A) LrN 30 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	213.76	-57.6	2.6	-21.3	-0.8		0.0	0.0	21.9	-1.2	0.0	0.0	20.7
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	213.76	-57.6	2.6	-21.3	-0.8		0.0	0.0	21.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	116.30	-52.3	2.7	-16.6	-0.1		0.0	2.6	18.3	-1.2	0.0	0.0	17.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	116.30	-52.3	2.7	-16.6	-0.1		0.0	2.6	18.3		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	151.05	-54.6	2.5	-22.6	-0.8		0.0	0.4	7.8	-1.2	0.0	0.0	6.6
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	151.05	-54.6	2.5	-22.6	-0.8		0.0	0.4	7.8		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	177.29	-56.0	2.7	-23.8	-0.8		0.0	1.3	27.4	0.0	0.0	0.0	27.4
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	177.29	-56.0	2.7	-23.8	-0.8		0.0	1.3	27.4	0.0	0.0	0.0	27.4
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	167.77	-55.5	2.2	-22.7	-0.9		0.0	0.5	22.7	0.0	0.0	0.0	22.7
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	167.77	-55.5	2.2	-22.7	-0.9		0.0	0.5	22.7	0.0	0.0	0.0	22.7
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	116.83	-52.3	2.2	-23.1	-0.8		0.0	1.0	22.1	-1.2	0.0	0.0	20.9
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	116.83	-52.3	2.2	-23.1	-0.8		0.0	1.0	22.1		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	129.67	-53.2	2.9	-21.7	-0.6		0.0	0.3	23.7	0.0	0.0	0.0	23.7
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	129.67	-53.2	2.9	-21.7	-0.6		0.0	0.3	23.7	0.0	0.0	0.0	23.7
Receiver units 2 & 4 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 37 dB(A)																							

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	Lr
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	dB(A)
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	195.60	-56.8	2.6	-22.1	-0.8		0.0	6.3	28.2	-1.2	0.0	0.0	26.9
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	195.60	-56.8	2.6	-22.1	-0.8		0.0	6.3	28.2		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	102.25	-51.2	2.5	-16.2	-0.1		0.0	3.5	20.5	-1.2	0.0	0.0	19.3
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	102.25	-51.2	2.5	-16.2	-0.1		0.0	3.5	20.5		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	132.68	-53.4	2.4	-22.5	-0.7		0.0	5.9	14.7	-1.2	0.0	0.0	13.4
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	132.68	-53.4	2.4	-22.5	-0.7		0.0	5.9	14.7		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	159.19	-55.0	2.7	-22.7	-0.7		0.0	7.3	35.5	0.0	0.0	0.0	35.5
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	159.19	-55.0	2.7	-22.7	-0.7		0.0	7.3	35.5	0.0	0.0	0.0	35.5
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	149.67	-54.5	2.2	-21.7	-0.7		0.0	6.0	30.3	0.0	0.0	0.0	30.3
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	149.67	-54.5	2.2	-21.7	-0.7		0.0	6.0	30.3	0.0	0.0	0.0	30.3
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	98.65	-50.9	2.1	-23.1	-0.7		0.0	2.5	25.1	-1.2	0.0	0.0	23.8
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	98.65	-50.9	2.1	-23.1	-0.7		0.0	2.5	25.1		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	112.10	-52.0	2.9	-21.6	-0.6		0.0	4.0	28.6	0.0	0.0	0.0	28.6
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	112.10	-52.0	2.9	-21.6	-0.6		0.0	4.0	28.6	0.0	0.0	0.0	28.6
Receiver units 2 & 4 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 37 dB(A) LrN 36 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	186.11	-56.4	2.6	-15.7	-0.7		0.0	0.4	29.3	-1.2	0.0	0.0	28.0
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	186.11	-56.4	2.6	-15.7	-0.7		0.0	0.4	29.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	95.69	-50.6	2.4	-10.7	-0.2		0.0	1.6	24.6	-1.2	0.0	0.0	23.4
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	95.69	-50.6	2.4	-10.7	-0.2		0.0	1.6	24.6		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	123.10	-52.8	2.3	-17.1	-0.6		0.0	2.0	16.8	-1.2	0.0	0.0	15.5
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	123.10	-52.8	2.3	-17.1	-0.6		0.0	2.0	16.8		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	149.92	-54.5	2.7	-19.1	-0.7		0.0	0.0	32.4	0.0	0.0	0.0	32.4
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	149.92	-54.5	2.7	-19.1	-0.7		0.0	0.0	32.4	0.0	0.0	0.0	32.4
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	140.40	-53.9	2.1	-18.0	-0.6		0.0	0.0	28.6	0.0	0.0	0.0	28.6
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	140.40	-53.9	2.1	-18.0	-0.6		0.0	0.0	28.6	0.0	0.0	0.0	28.6
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	89.25	-50.0	2.0	-21.6	-0.5		0.0	1.1	26.2	-1.2	0.0	0.0	25.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	89.25	-50.0	2.0	-21.6	-0.5		0.0	1.1	26.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	102.98	-51.2	2.8	-19.4	-0.4		0.0	3.6	31.4	0.0	0.0	0.0	31.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	102.98	-51.2	2.8	-19.4	-0.4		0.0	3.6	31.4	0.0	0.0	0.0	31.4
Receiver units 8 - 11 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 52 dB(A) LrN 51 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	159.68	-55.1	3.5	-7.7	-0.6		0.0	0.4	39.6	-1.2	0.0	0.0	38.3
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	159.68	-55.1	3.5	-7.7	-0.6		0.0	0.4	39.6		0.0		

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Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	Lr
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	dB(A)
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	71.91	-48.1	2.5	-5.6	-0.4		0.0	1.8	32.2	-1.2	0.0	0.0	30.9
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	71.91	-48.1	2.5	-5.6	-0.4		0.0	1.8	32.2		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	96.04	-50.6	2.6	-0.1	-0.9		0.0	0.5	34.5	-1.2	0.0	0.0	33.3
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	96.04	-50.6	2.6	-0.1	-0.9		0.0	0.5	34.5		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	119.93	-52.6	3.0	-9.0	-0.5		0.0	4.8	49.7	0.0	0.0	0.0	49.7
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	119.93	-52.6	3.0	-9.0	-0.5		0.0	4.8	49.7	0.0	0.0	0.0	49.7
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	110.41	-51.9	2.6	-8.3	-0.4		0.0	2.7	43.7	0.0	0.0	0.0	43.7
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	110.41	-51.9	2.6	-8.3	-0.4		0.0	2.7	43.7	0.0	0.0	0.0	43.7
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	59.21	-46.4	2.6	-17.5	-0.2		0.0	5.8	39.5	-1.2	0.0	0.0	38.2
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	59.21	-46.4	2.6	-17.5	-0.2		0.0	5.8	39.5		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	80.29	-49.1	2.8	-7.2	-0.5		0.0	0.1	42.1	0.0	0.0	0.0	42.1
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	80.29	-49.1	2.8	-7.2	-0.5		0.0	0.1	42.1	0.0	0.0	0.0	42.1
Receiver units 8 - 11 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 53 dB(A) LrN 53 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	159.74	-55.1	2.9	-6.4	-0.6		0.0	0.6	40.4	-1.2	0.0	0.0	39.2
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	159.74	-55.1	2.9	-6.4	-0.6		0.0	0.6	40.4		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	71.98	-48.1	2.7	-5.4	-0.4		0.0	1.8	32.6	-1.2	0.0	0.0	31.4
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	71.98	-48.1	2.7	-5.4	-0.4		0.0	1.8	32.6		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	96.11	-50.6	2.9	0.0	-0.8		0.0	0.8	35.3	-1.2	0.0	0.0	34.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	96.11	-50.6	2.9	0.0	-0.8		0.0	0.8	35.3		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	119.98	-52.6	2.9	-8.1	-0.5		0.0	5.9	51.6	0.0	0.0	0.0	51.6
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	119.98	-52.6	2.9	-8.1	-0.5		0.0	5.9	51.6	0.0	0.0	0.0	51.6
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	110.47	-51.9	2.9	-7.4	-0.4		0.0	2.9	45.1	0.0	0.0	0.0	45.1
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	110.47	-51.9	2.9	-7.4	-0.4		0.0	2.9	45.1	0.0	0.0	0.0	45.1
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	59.32	-46.5	2.8	-17.2	-0.2		0.0	5.1	39.2	-1.2	0.0	0.0	38.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	59.32	-46.5	2.8	-17.2	-0.2		0.0	5.1	39.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	80.39	-49.1	2.8	-6.4	-0.5		0.0	0.1	43.0	0.0	0.0	0.0	43.0
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	80.39	-49.1	2.8	-6.4	-0.5		0.0	0.1	43.0	0.0	0.0	0.0	43.0
Receiver units 8 - 11 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 38 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	170.77	-55.6	3.2	-23.7	-0.9		0.0	4.4	26.4	-1.2	0.0	0.0	25.2
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	170.77	-55.6	3.2	-23.7	-0.9		0.0	4.4	26.4		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	78.66	-48.9	2.3	-17.4	-0.1		0.0	3.6	21.5	-1.2	0.0	0.0	20.3
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	78.66	-48.9	2.3	-17.4	-0.1		0.0	3.6	21.5		0.0		

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li	R'w	L'w	Lw	l or A	KI	KT	Ko	S	Adiv	Agr	Abar	Aatm	Amisc	ADI	dLrefl	Ls	dLw	Cmet	ZR	Lr
			dB(A)	dB	dB(A)	dB(A)	m,m²	dB	dB	dB	m	dB	dB	dB	dB	dB	dB	dB	dB(A)	dB	dB	dB	dB(A)
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	107.21	-51.6	2.4	-22.4	-0.6		0.0	0.2	11.1	-1.2	0.0	0.0	9.8
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	107.21	-51.6	2.4	-22.4	-0.6		0.0	0.2	11.1		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	130.93	-53.3	2.9	-21.8	-0.6		0.0	5.2	36.4	0.0	0.0	0.0	36.4
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	130.93	-53.3	2.9	-21.8	-0.6		0.0	5.2	36.4	0.0	0.0	0.0	36.4
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	121.41	-52.7	2.5	-20.9	-0.6		0.0	3.5	30.8	0.0	0.0	0.0	30.8
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	121.41	-52.7	2.5	-20.9	-0.6		0.0	3.5	30.8	0.0	0.0	0.0	30.8
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	70.41	-47.9	2.2	-22.9	-0.5		0.0	1.2	27.2	-1.2	0.0	0.0	25.9
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	70.41	-47.9	2.2	-22.9	-0.5		0.0	1.2	27.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	90.22	-50.1	2.9	-21.5	-0.5		0.0	0.3	27.1	0.0	0.0	0.0	27.1
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	90.22	-50.1	2.9	-21.5	-0.5		0.0	0.3	27.1	0.0	0.0	0.0	27.1
Receiver units 8 - 11 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 38 dB(A) LrN 38 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	170.82	-55.6	2.8	-21.4	-0.6		0.0	0.0	24.1	-1.2	0.0	0.0	22.9
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	170.82	-55.6	2.8	-21.4	-0.6		0.0	0.0	24.1		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	78.73	-48.9	2.7	-13.3	-0.1		0.0	4.2	26.5	-1.2	0.0	0.0	25.3
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	78.73	-48.9	2.7	-13.3	-0.1		0.0	4.2	26.5		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	107.27	-51.6	2.8	-19.6	-0.4		0.0	0.3	14.4	-1.2	0.0	0.0	13.2
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	107.27	-51.6	2.8	-19.6	-0.4		0.0	0.3	14.4		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	130.98	-53.3	2.8	-21.2	-0.6		0.0	3.6	35.3	0.0	0.0	0.0	35.3
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	130.98	-53.3	2.8	-21.2	-0.6		0.0	3.6	35.3	0.0	0.0	0.0	35.3
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	121.46	-52.7	2.8	-19.7	-0.5		0.0	3.3	32.2	0.0	0.0	0.0	32.2
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	121.46	-52.7	2.8	-19.7	-0.5		0.0	3.3	32.2	0.0	0.0	0.0	32.2
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	70.48	-48.0	2.7	-22.2	-0.4		0.0	1.1	28.4	-1.2	0.0	0.0	27.2
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	70.48	-48.0	2.7	-22.2	-0.4		0.0	1.1	28.4		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	90.31	-50.1	2.8	-20.3	-0.4		0.0	0.3	28.3	0.0	0.0	0.0	28.3
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	90.31	-50.1	2.8	-20.3	-0.4		0.0	0.3	28.3	0.0	0.0	0.0	28.3
Receiver units 12 - 15 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 34 dB(A) LrN 33 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	168.05	-55.5	3.1	-21.5	-0.6		0.0	1.4	25.9	-1.2	0.0	0.0	24.6
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	168.05	-55.5	3.1	-21.5	-0.6		0.0	1.4	25.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	92.99	-50.4	2.4	-15.4	-0.1		0.0	2.4	21.0	-1.2	0.0	0.0	19.7
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	92.99	-50.4	2.4	-15.4	-0.1		0.0	2.4	21.0		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	105.59	-51.5	2.3	-22.3	-0.6		0.0	1.4	12.4	-1.2	0.0	0.0	11.2
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	105.59	-51.5	2.3	-22.3	-0.6		0.0	1.4	12.4		0.0		

Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	137.18	-53.7	2.9	-23.3	-0.6		0.0	0.0	29.3	0.0	0.0	0.0	29.3
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	137.18	-53.7	2.9	-23.3	-0.6		0.0	0.0	29.3	0.0	0.0	0.0	29.3
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	127.73	-53.1	2.5	-22.6	-0.7		0.0	0.5	25.6	0.0	0.0	0.0	25.6
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	127.73	-53.1	2.5	-22.6	-0.7		0.0	0.5	25.6	0.0	0.0	0.0	25.6
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	76.53	-48.7	2.1	-23.4	-0.6		0.0	1.6	26.2	-1.2	0.0	0.0	25.0
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	76.53	-48.7	2.1	-23.4	-0.6		0.0	1.6	26.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	84.18	-49.5	2.7	-21.9	-0.5		0.0	0.8	27.7	0.0	0.0	0.0	27.7
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	84.18	-49.5	2.7	-21.9	-0.5		0.0	0.8	27.7	0.0	0.0	0.0	27.7
Receiver units 12 - 15 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 35 dB(A) LrN 33 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	168.10	-55.5	2.8	-19.0	-0.4		0.0	0.0	26.9	-1.2	0.0	0.0	25.7
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	168.10	-55.5	2.8	-19.0	-0.4		0.0	0.0	26.9		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	93.04	-50.4	2.6	-13.9	-0.1		0.0	1.7	21.9	-1.2	0.0	0.0	20.7
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	93.04	-50.4	2.6	-13.9	-0.1		0.0	1.7	21.9		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	105.65	-51.5	2.8	-20.3	-0.4		0.0	2.4	16.0	-1.2	0.0	0.0	14.7
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	105.65	-51.5	2.8	-20.3	-0.4		0.0	2.4	16.0		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	137.23	-53.7	2.8	-22.5	-0.6		0.0	0.0	30.0	0.0	0.0	0.0	30.0
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	137.23	-53.7	2.8	-22.5	-0.6		0.0	0.0	30.0	0.0	0.0	0.0	30.0
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	127.77	-53.1	2.8	-21.0	-0.5		0.0	0.0	27.2	0.0	0.0	0.0	27.2
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	127.77	-53.1	2.8	-21.0	-0.5		0.0	0.0	27.2	0.0	0.0	0.0	27.2
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	76.62	-48.7	2.7	-22.0	-0.4		0.0	1.3	28.0	-1.2	0.0	0.0	26.8
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	76.62	-48.7	2.7	-22.0	-0.4		0.0	1.3	28.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	84.28	-49.5	2.7	-20.6	-0.4		0.0	0.3	28.5	0.0	0.0	0.0	28.5
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	84.28	-49.5	2.7	-20.6	-0.4		0.0	0.3	28.5	0.0	0.0	0.0	28.5
Receiver units 12 - 15 Fl GF LrD,lim dB(A) LrN,lim dB(A) LrD 53 dB(A) LrN 52 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	156.73	-54.9	3.4	-2.5	-0.8		0.0	0.0	44.3	-1.2	0.0	0.0	43.1
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	156.73	-54.9	3.4	-2.5	-0.8		0.0	0.0	44.3		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	88.48	-49.9	2.5	-5.9	-0.4		0.0	2.0	30.3	-1.2	0.0	0.0	29.0
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	88.48	-49.9	2.5	-5.9	-0.4		0.0	2.0	30.3		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	94.29	-50.5	2.6	-0.1	-0.8		0.0	0.1	34.2	-1.2	0.0	0.0	33.0
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	94.29	-50.5	2.6	-0.1	-0.8		0.0	0.1	34.2		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	127.45	-53.1	3.1	-14.8	-0.5		0.0	13.0	51.6	0.0	0.0	0.0	51.6
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	127.45	-53.1	3.1	-14.8	-0.5		0.0	13.0	51.6	0.0	0.0	0.0	51.6

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Aberfeldy Noise
Mean propagation Leq - Scenario 4 (rev2)

Source	Source type	Time slice	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	l or A m,m²	KI dB	KT dB	Ko dB	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	Amisc dB	ADI dB	dLrefl dB	Ls dB(A)	dLw dB	Cmet dB	ZR dB	Lr dB(A)
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	118.05	-52.4	2.7	-14.5	-0.4		0.0	3.8	38.3	0.0	0.0	0.0	38.3
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	118.05	-52.4	2.7	-14.5	-0.4		0.0	3.8	38.3	0.0	0.0	0.0	38.3
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	67.09	-47.5	2.4	-19.6	-0.3		0.0	13.9	44.2	-1.2	0.0	0.0	42.9
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	67.09	-47.5	2.4	-19.6	-0.3		0.0	13.9	44.2		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	73.08	-48.3	2.6	-11.6	-0.3		0.0	4.6	43.2	0.0	0.0	0.0	43.2
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	73.08	-48.3	2.6	-11.6	-0.3		0.0	4.6	43.2	0.0	0.0	0.0	43.2
Receiver units 12 - 15 Fl F 1 LrD,lim dB(A) LrN,lim dB(A) LrD 53 dB(A) LrN 52 dB(A)																							
4m from tipping baryte	Point	LrD			99.0	99.0		0.0	0.0	0	156.78	-54.9	2.9	-1.5	-0.9		0.0	0.1	44.7	-1.2	0.0	0.0	43.4
4m from tipping baryte	Point	LrN			99.0	99.0		0.0	0.0	0	156.78	-54.9	2.9	-1.5	-0.9		0.0	0.1	44.7		0.0		
Barhaul builders	Area	LrD			50.0	82.0	1600.5	0.0	0.0	0	88.55	-49.9	2.7	-5.6	-0.4		0.0	2.0	30.7	-1.2	0.0	0.0	29.5
Barhaul builders	Area	LrN			50.0	82.0	1600.5	0.0	0.0	0	88.55	-49.9	2.7	-5.6	-0.4		0.0	2.0	30.7		0.0		
baryte vehicle idling	Point	LrD			83.0	83.0		0.0	0.0	0	94.36	-50.5	2.9	0.0	-0.8		0.0	0.1	34.7	-1.2	0.0	0.0	33.4
baryte vehicle idling	Point	LrN			83.0	83.0		0.0	0.0	0	94.36	-50.5	2.9	0.0	-0.8		0.0	0.1	34.7		0.0		
grit loading	Point	LrD			104.0	104.0		0.0	0.0	0	127.50	-53.1	2.9	-13.2	-0.5		0.0	11.3	51.4	0.0	0.0	0.0	51.4
grit loading	Point	LrN			104.0	104.0		0.0	0.0	0	127.50	-53.1	2.9	-13.2	-0.5		0.0	11.3	51.4	0.0	0.0	0.0	51.4
idling vehicle	Point	LrD			99.0	99.0		0.0	0.0	0	118.10	-52.4	2.9	-12.7	-0.4		0.0	3.5	39.9	0.0	0.0	0.0	39.9
idling vehicle	Point	LrN			99.0	99.0		0.0	0.0	0	118.10	-52.4	2.9	-12.7	-0.4		0.0	3.5	39.9	0.0	0.0	0.0	39.9
mechanics garage	Area	LrD			78.0	95.2	52.3	0.0	0.0	0	67.19	-47.5	2.8	-19.3	-0.3		0.0	13.1	44.0	-1.2	0.0	0.0	42.8
mechanics garage	Area	LrN			78.0	95.2	52.3	0.0	0.0	0	67.19	-47.5	2.8	-19.3	-0.3		0.0	13.1	44.0		0.0		
WwTW inlet works	Point	LrD			96.0	96.0		0.0	0.0	0	73.19	-48.3	2.8	-9.9	-0.4		0.0	3.1	43.4	0.0	0.0	0.0	43.4
WwTW inlet works	Point	LrN			96.0	96.0		0.0	0.0	0	73.19	-48.3	2.8	-9.9	-0.4		0.0	3.1	43.4	0.0	0.0	0.0	43.4

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STATEMENT IN SUPPORT OF LOCAL REVIEW
RELATIVE TO THE REFUSAL OF
PLANNING APPLICATION REFERENCE
18/01662/FLL

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January 2019

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Appendix 2: Schedule of Documents
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1.0 INTRODUCTION

1.1 This Statement has been prepared by Andrew Bennie Planning Limited on behalf of Lomond Group (Scotland) Ltd in support of their request that the Planning Authority, under the provisions of Section 43A of the Town and Country Planning (Scotland) Act 1997 Review the decision of the Appointed Person to refuse planning permission in respect of planning application reference 18/01662/FLL.

1.2 This Statement should be read in conjunction with the matters set out within the completed Notice of Review Form, a copy of which is included at Appendix 1 of this Statement.

2.0 PROPOSALS SUBJECT TO REVIEW

2.1 Under the terms of planning application reference 18/01662/FLL, full detailed planning permission was sought for the erection of fifteen new residential units, with a further residential unit being created through the refurbishment and return to residential use of Parkfield House and the creation of five small industrial units, three of which consist of the refurbishment of existing industrial units on the Site, with the remaining units being new build.

2.2 Full details of the proposed development are provided within the Design Statement, which accompanied the application submission (see Document 6).

2.3 The fifteen new build residential units comprise of a mix of bungalows (seven in total) and two storey flatted units (eight in total).

2.4 The proposed bungalow units would range in size from $75m^2$ to $84m^2$ in floor area, with all of the flatted units having a floor area of $73m^2$.

2.5 Two of the bungalow units would face directly onto Home Street, with a further two units being located to the east and parallel to the units facing onto Home Street. The remaining bungalows would be located along the southern boundary of the Site, to the rear and east of Parkfield House.

2.6 All of the proposed bungalow units would be provided with 2 dedicated off street parking spaces.

2.7 The flatted units, which stand two storeys in height, would be accommodated within two linked blocks, located in a central position on the Site.

2.8 A total of twenty off street parking spaces, including three dedicated disabled parking bays, would be provided for the proposed flatted units.

2.9 The two new proposed light industrial units would be located in the eastern section of the Site, with one of the new build units being sited to the east side of the bungalows which lie along the southern boundary of the Site. The second new build light industrial unit is located at the north eastern corner of the Site.

2.10 A total of sixteen off street parking spaces, including two dedicated disabled parking bays, would be provided to serve the needs of the light industrial units.

2.11 Vehicular access to the Site would be by way of an upgrading of the existing site access road, with the internal road layout providing access to both the residential units and the light industrial units.

3.0 REASONS FOR REQUESTING THE REVIEW

3.1 On the basis of the Grounds of Review, which are set out within Section 5.0 of this Statement, it is submitted that the appointed person has failed to provide sufficient reasons to reasonably justify the refusal of this planning application when considered against the relevant provisions of the development plan.

3.2 Rather, it is submitted that the application proposals can be both fully and reasonably justified against the relevant provisions of the development plan.

3.3 Consequently, this Review is put forward on the basis of the unreasonable and unjustifiable refusal of the planning application in question.

4.0 REVIEW PROCEDURE

4.1 In addition to consideration of those matters, which are set out within the Notice of Review Form and this Statement, it is requested that the Local Review Body also carry out an accompanied inspection of the application site.

4.2 Given the nature of the application proposals, it is considered that the carrying out of an accompanied site inspection represents the best means of allowing the Local Review Body to gain a full and proper understanding of the nature of the proposed development when considered within the context of the adjacent building group and of the lack of impact that the application proposals would have upon the surrounding area and in turn the extent to which the proposals can be reasonably justified against the relevant provisions of the adopted Local Development Plan.

5.0 ADDITIONAL DOCUMENTATION

5.1 In addition to that documentation which was lodged in support of the application which forms the basis of this Request to Review, the documentation which supports this Review includes one additional document (see Document 4ii within Appendix 3) which was not before the Appointed Person at the point at which the application was determined.

5.2 This additional document takes the form of an updated position statement on the matter of the identified Flood Risk, which relates to the Site and responds to matters, which were raised by the Council's Flood Officer as part of his consideration of the application submission.

5.4 Accordingly, it is respectfully requested that the Local Review Body allow for the submission of this additional document as part of this Review.

6.0 GROUNDS OF REVIEW

6.1 The application which forms the basis of this Review, was refused planning permission on the basis of the reasons set out below:

"1: The proposal is contrary to Policy EP2 (Employment) of the Perth and Kinross Local Development Plan (LDP) 2014, which states that areas identified for employment uses should be retained for such uses. The proposed residential development on the site would result in the loss of an allocated employment site. Whilst information has been submitted which seeks to depart from policy EP2, the allocation of this site is currently subject to review through the Proposed LDP2. LDP2 is currently subject to examination and no modification is proposed to the plan. As such the application is considered to be premature at this time and any further application should await the outcome of the Scottish Minister's examination process.

2: The proposal is contrary to Policy EP8 (Noise Pollution) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed residential development can be accommodated on site without its amenity being detrimentally affected by the adjacent industrial uses.

3. The proposal is contrary to Policy EP2 (New Development and Flooding) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed development would not be at risk from fluvial flooding."

6.2 A full copy of the Decision Notice on this application is provided at Document 9, within Appendix 3 of this Statement.

6.3 Our response to the stated reasons for the refusal of planning application reference 18/01662/FLL is set out below.

6.4 Section 25 of the Town and Country Planning (Scotland) Act 1997 provides that:

"Where in making any determination under the Planning Act, regard is to be had to the development plan, the determination shall be in accordance with the plan unless material considerations indicate otherwise".

6.5 Section 37(2) of the Act further provides that in dealing with applications for planning permission:

"... the Authority shall have regard to the provisions of the development plan, so far as material to the application, and to any other material considerations."

6.6 For the purposes of the determination of this Review, the current, approved development plan covering the application site comprises the approved TAYplan Strategic Development Plan and the adopted Perth and Kinross Local Development Plan (adopted 3rd February 2014).

6.7 Given the scale of the development to which this Review relates and as it does not give rise to any issues, which are a strategic consequence to the provisions of the TAYplan Strategic Development Plan, the terms of the TAYplan are not considered further within this Statement.

Reason for Refusal 1

6.8 The first stated reason for the refusal of this planning application states that:

1: The proposal is contrary to Policy EP2 (Employment) of the Perth and Kinross Local Development Plan (LDP) 2014, which states that areas identified for employment uses should be retained for such uses. The proposed residential development on the site would result in the loss of an allocated employment site. Whilst information has been submitted which seeks to depart from policy EP2, the allocation of this site is currently subject to review through the Proposed LDP2. LDP2 is currently subject to examination and no modification is proposed to the plan. As such the application is considered to be premature at this time and any further application should await the outcome of the Scottish Minister's examination process.

6.9 Prior to addressing this Reason for the Refusal of the application, which forms the basis of this Request to Review, it is considered that the reference to Policy EP2 (Employment) is a typographical error, with it being considered that the policy, which the Council has intended to refer to is Policy ED1: Employment and Mixed Use Areas.

6.10 Our response to this Reason for the Refusal of the application is therefore framed on the basis of the above position.

6.11 Policy ED1 of the adopted Local Development Plan states, at Part A that:

"Policy ED1A Areas identified for employment uses should be retained for such uses. Within these areas any proposed development must be compatible with surrounding land uses. In addition all the following criteria will be applied to development proposals in these areas (individual sites may also have specific requirements):

(a) Proposals should not detract from the amenity of adjoining, especially residential, areas.

(b) The local road network should be suitable for the traffic generated by the proposals.

(c) There should be good walking, cycling and public transport links to new employment generating uses.

(d) Proposals for retail uses in employment areas will not generally be acceptable unless they are ancillary to an acceptable use on the site.

(e) Proposals for waste management facilities can be considered to be acceptable subject to detailed site specific considerations.

(f) Proposals should not result in adverse impacts, either individually or in combination, on the integrity of any European designated site."

6.12 Whilst it is clear that the aim of this part of the policy is to seek to retain, and hence protect, the use, for employment purposes, of all of those areas covered by the terms of the Policy, in applying this specific element of the Policy to the consideration of any application seeking permission for a non-employment related use, the salient consideration is whether or not there is any proven demand for the use of the land concerned for "employment" purposes which would be potentially compromised in the event that the land in question were to be redeveloped for some alternative purpose.

6.13 To this end, the application submission to which this Request to Review relates, was accompanied and supported by various documents which demonstrate clearly that there

is no demand for the retention in its entirety of the application site for employment purposes.

6.14 Furthermore, this information also points to the fact that through the development which is proposed under this application, provision can be made for creation of new industrial/commercial units of a size and type for which there is some, albeit it, limited demand within the local area.

6.15 From a financial perspective, the provision of these new industrial/commercial units does however require to be supported by the proposed residential element of the overall development scheme, without which, the provision of the new industrial/commercial units would simply not be commercially viable.

6.16 Whilst it is acknowledged and accepted that a degree of tension exists between the form of development, which is proposed under this application and the provisions of Part A of Policy ED1, it is our respectful submission that in light of the provisions of Sections 25 and 37(2) of the 1997 Act, when regard is had to those material considerations which are of relevance to the determination of this application, sufficient justification exists to set aside the provisions of the Local Development Plan, insofar as they relate to the application site, and in so doing, allow planning permission to be granted in respect of this Request to Review the refusal of the application.

6.17 It is our respectful submission that the undernoted matters are of material relevance in this regard.

1: The development, which is proposed under this application, retains 50% of the site in employment use and will provide for the possibility of an increase in the number of people employed on the site.

2: It has been established that there is no demand for the retention of the entirety of the site for industrial/commercial purposes.

3: The cost of redeveloping the site for employment related purposes requires the cross funding which will be generated by the proposed residential element of the overall development.

4: The proposed development will not compromise the outcome of the ongoing Local Development Plan Examination.

6.18 Each of the above noted considerations are addressed in detail below.

1: The development, which is proposed under this application, retains over 50% of the site in employment use and will provide for the possibility of an increase in the number of people employed on the site.

6.19 The layout plan, which forms part of the application submission, confirms that the residential component of the proposed development comprises less than 50% of the overall site area (the commercial/industrial area extending to 4,000m^2, with the residential area extending to 3,733m^2).

6.20 When operated by its former owners, Fishers Laundry, the site is on record, based upon information provided by Fishers Laundry, as having employed, on average over the last five years of their operation of the site, some 30-35 full time workers on the site.

6.21 Advice obtained from J & E Shepherd indicates that in their experience, businesses of the type and size, which would occupy units of the size, which are proposed under this application employ, on average, 5 - 6 full time workers.

6.22 As such, the five units, which are proposed under this application, have the potential to create something in the order of 25 -30 full time jobs, which is approximately equal to the number of jobs that previously existed on the site.

6.23 Accordingly, it is submitted that in terms of the employment generating potential of the proposed development, the proposed development will not result in any significant reduction in the number of full time jobs that could be accommodated on the site, this being irrespective of the fact that the actual area of the site which is devoted to industrial/commercial use is reduced.

6.24 As such, it is respectfully submitted that the proposed development will not have any significant impact upon the employment generating potential of the site.

6.25 Furthermore, in the event of this Request to Review being dismissed, it is evident that the site will, in light of the clear absence of any demand for the industrial/commercial use thereof in its present configuration, remain vacant and as such will produce no ongoing employment opportunities.

2: It has been established that there is no demand for the retention of the entirety of the site for industrial/commercial purposes.

6.26 The application submission is accompanied by a number of reports/documents which address the issue of the demand which exists for industrial/commercial accommodation within the wider Aberfeldy area, all of which point clearly to the fact that there is no demand for the use of the site by a single occupier.

6.27 This conclusion is supported by the fact that when the site was placed on the open market, no offers were forthcoming for the purchase of the site for industrial/commercial purposes.

6.28 These various reports have however shown that there is some demand for the provision of the type and size of industrial/commercial units, which are proposed under this application.

6.29 Consequently, the development proposed under this application provides an opportunity to fulfill this demand.

3: The cost of redeveloping the site for employment related purposes requires the cross funding which will be generated by the proposed residential element of the overall development.

6.30 Information has been submitted in support of this application, which provides details of the financial modeling associated with the redevelopment of the site solely for industrial/commercial purposes (this information being predicated by the fact that the main building which exists on the site at present is, for a variety of reasons, incapable of being reused for any beneficial purpose).

6.31 This information, in summary, highlights clearly that the redevelopment of the site solely for industrial/commercial purposes would fail to make a positive financial return and that hence it would not be commercially viable to pursue this course of action.

6.32 The financial considerations, which underpin the sites long-term future, point to two potential outcomes. First, if the Council insist upon the site being retained solely for industrial/commercial use, the site will remain vacant, as it would be commercially unviable to do otherwise. Second, through the form of development which is proposed under this application, over 50% of the site could be redeveloped for industrial/commercial purposes, which would generate approximately the same number of jobs that were generated during the period that the site was operated by Fishers Laundry.

6.33 It is our respectful submission that the second of these potential scenarios self evidently is in the best interests of the long-term future of the site.

4: The proposed development will not compromise the outcome of the ongoing Local Development Plan Examination.

6.34 Within the terms of their Schedule 4 response relative to the objection to the emerging plan which has been submitted in respect of this site, which seeks its reallocation under the terms of Policy 7B: Mixed Use Areas rather than part A of the Policy, the Council has stated that:

"In a change from the adopted LDP, the proposals maps in the Proposed LDP now distinguishes between 'core' and 'general' business and industrial areas. Core areas should be retained for Class 4, 5 and 6. The purpose of differentiating between core and general areas was to enable the Council to protect the most important areas for Class 4, 5 and 6 uses, and conversely to identify those areas where there may be potential for a wider mix of uses.

The site of the former Fishers Laundry site MU369 (MD023) is within the Aberfeldy Business Park. Aberfeldy is one of the largest settlements in the Highland area and plays an important role in the economy of this area. The consolidation and expansion of employment land within the eastern edge of Aberfeldy is important to provide opportunities for sustainable economic growth within an accessible location. The Business Park is therefore identified in the LDP as an Employment Safeguarding (Core) Area and the allocated site at E10 is identified as Area of Proposed Employment (Core). Until such time as the employment site E10 is delivered the Business Park is the only area in Aberfeldy which is specifically identified in the LDP as an area which is to be safeguarded for employment uses under Policy 7A.

The removal of a sizeable part of the Business Park from the Employment Safeguarding (Core) designation will impact on local availability of serviced land and buildings for business, industry or storage and distribution uses in Aberfeldy. It is acknowledged, however, that a marketing exercise has been undertaken and that this concluded that at that time there was '...no commercial demand for the continued use / operation of this site for solely business / industrial purposes' (Representation 0191/01/001). Whilst the delivery of employment land is important the Council recognises that the viability of redeveloping this site wholly for employment uses is marginal at best as, in addition to the demolition and development costs, the former use suggests a high likelihood of contamination on site. There would therefore be merit in considering a mixed use site if

limited residential units could cross subsidise the delivery of small business units.

The support from the Community Council for allowing the site to be redeveloped for a mix of residential and commercial / business uses is acknowledged. Changing the designation of this site to mixed use under Policy 7B may enhance the viability of the site, subject to safeguards to ensure the delivery of business units prior to the occupation of the first house.

No modification is proposed to the Plan. However if the Reporter is minded to accept the modification the Council would wish that the following specific developer requirements are included:

1. Class 4 units compatible with neighbouring residential uses will be delivered in advance of the occupation of the first residential unit.

2. Residential uses to comprise no more than 50% of the site

3. A contamination study and remediation if required

4. Flood risk assessment

5. Suitable vehicular access and road layout through the site

6. Noise attenuations measures may be required

Note that although the site is 0.85ha it would be inappropriate to indicate a capacity range as the number of potential units is unknown at this stage and is likely to be heavily influenced by the detailed design."

6.35 It is clear from the terms of the relevant section of the Council's Schedule 4 Response on Issue 33, that they understand and appreciate the various issues associated with the inclusion of the application site within that that wider area of land to which the provisions of Part A of Policy 7 apply and that in light of this understanding, they have suggested a number of conditions which should be applied in the event of the appointed Reporter accepting the proposed modification which has been put forward on behalf of the applicant.

6.36 In considering the "conditions" which have be put forward by the Council within the terms of this Schedule 4 Response, the following comments are made.

1: The requirement to provide Class 4 units on the site, which would be compatible with the neighbouring residential uses, is acknowledged. It is intended that these units will be

provided in two phases, the first phase comprising the refurbishment of the existing commercial units on the site, with the second phase comprising the construction of the proposed new build units.

Due to restrictions associated with the financing of this development, whilst the refurbished units will be made available for use prior to the occupation of the first of the proposed dwelling houses on the site, it is proposed that the construction of the new build Class 4 units will take place after the occupation of the last of the dwelling houses proposed under this application.

2: The site layout plan confirms that the residential component of the proposed development comprises less than 50% of the overall site area (the commercial/industrial area extending to 4,000m^2, with the residential area extending to 3,733m^2).

3: The requirement for a contamination study and any associated remediation strategy can be dealt with by way of an appropriately worded planning condition.

4: The application submission is supported by a detailed Flood Risk Assessment, the terms of which provide confirmation that the development of the site, as proposed, is not constrained by virtue of any flood related considerations.

5: The proposed development layout is considered to provide for both a suitable means of vehicular access to the site and also a suitable internal road layout.

6: The application submission is supported by a detailed Noise Assessment Report, the terms of which confirm that the proposed development of the site is not constrained by any noise related considerations.

6.37 When consideration is had to the matters outlined above, it is submitted that the application submission has, or will by way of the discharge of conditions attached to the planning permission which is sought under this application, responded fully to those conditional matters which are detailed within the Schedule 4 Response on Issue 33.

6.38 Whilst the constraints that are imposed upon the Council in terms of the potential consequences of bringing forward any "notifiable modifications" to the Proposed Plan are both acknowledged and accepted, which are considered to underpin the stance that the Council has taken in terms of the drafting of the Schedule 4 Response on Issue 33, it is clear that as the two objections to which this response relates, which include one

submitted by the local Community Council, both wish to see that Proposed Plan modified in line with the matters detailed in paragraph 6.35 above, it is clear that the interests of neither of these parties would be prejudiced if this application were to be granted planning permission given that the issue of planning permission would have the effect of securing the modification which has been sought by both of said parties.

6.39 As is noted above at paragraphs 6.4 and 6.5, Sections 25 and 37(2) of the Town and County Planning (Scotland) Act 1997, as amended, detail the considerations, which should be taken into account when assessing applications for planning permission and state respectively that:

"Where in making any determination under the Planning Act, regard is to be had to the development plan, the determination shall be in accordance with the plan unless material considerations indicate otherwise".

"... the Authority shall have regard to the provisions of the development plan, so far as material to the application, and to any other material considerations."

6.40 It is our respectful submission that the terms of the Council's Schedule 4 Response relative to Issue 33 falls within the scope of material considerations which are of relevance to the determination of this Request to Review, the terms of which are considered to provide sufficient weight to justify setting aside the terms of the current development plan policies which relate to the site.

6.41 As the terms of Sections 25 and 37(2) of the 1997 Act both make provision for the granting of planning permission in instances when the consideration of relevant material considerations outweigh the provisions of the development plan, as in our respectful submission is the case in terms of this application, it is our submission that it is neither necessary or indeed justifiable to await the outcome of the ongoing Examination into the Local Development Plan Proposed Plan before making a positive decision on this application.

6.42 Given that the Council has clearly signaled within the terms of the Schedule 4 Response on Issue 33 that they have no objection to the modification which is proposed for this site by the applicant, which would allow the proposed development to proceed in conformity with the provisions of the Proposed Plan, and as the conditional matters outlined by the Council within said Response have been addressed in full within the application submission, it is our respectful submission that the development to which this application

relates can be fully and reasonably justified and that as such, planning permission in respect thereof should be granted through this Request to Review and that the issue of prematurity which has been referred to by the Council is not a valid consideration in this specific case.

Reason for Refusal 2

6.43 The second stated reason for the refusal of the application states that:

2: The proposal is contrary to Policy EP8 (Noise Pollution) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed residential development can be accommodated on site without its amenity being detrimentally affected by the adjacent industrial uses.

6.44 Policy EP8: Noise Pollution states, amongst other things that:

"There will be a presumption against the siting of development proposals which will generate high levels of noise in the locality of existing or proposed noise sensitive land uses and similarly against the locating of noise sensitive uses near to sources of noise generation."

6.45 The application submission was supported by a full detailed Environmental Noise Impact Assessment the scope and draft terms of which were the subject of discussion between the applicant's acoustic consultant and officials of the Council's Environmental Health service.

6.46 In commenting on the scope and draft terms of this Assessment, the Council officer dealing with the matter advised that *"I've had a look over and that all seems fine to me as long as the worst affected night time receptors are orientated away from the industrial estate".*

6.47 It is with regret that this officer had left the Council at the point at which the application was formally submitted, with the "new" case officer adopting a radically different view when compared to that of the officer who provided the original advice.

6.48 In addressing the salient points (shown in italics), which have been raised by the Council's Environmental Health service, the following comments are made.

"No information appears to have been provided about the 5 proposed/refurbished light industrial units. I note from the submitted plans that Unit E will be located in very close proximity to proposed residential units and that the access road to the light industrial units will be via the road for the proposed residential properties off Home Street."

6.49 The proposed mitigation measures for the scheme are set out in Table 6.1 of the Assessment. This includes the statement that the occupancy of these units will be controlled by the applicant to restrict the hours of operation and to require that no noisy operations are conducted inside or outside the units. Clearly this could be enforced by a suitable planning condition.

"The baseline survey does not include periods between 15:30 and 19:00 or periods at night. The background sound levels used for the assessment were obtained at the boundary of the industrial estate and may not be representative of conditions where no industrial activities are underway."

6.50 The basis of the sound surveys conducted at the site was submitted as part of the initial consultation, so it would have been helpful if these reservations could have been expressed at that time. In any event, the Officer reviewing the assessment appears to misinterpret the baseline survey data. The assessment adopts the lowest measured level 37 dB LA90 15 minutes, which was obtained at Baseline Site 3 – Rowan Cottage on Home Street between 06:30 and 07:00.

6.51 This baseline survey location is well away from any industrial noise. Irrespective of the night-time background sound level, noise levels in gardens and outdoor living areas are not a direct consideration at night (23:00 - 07:00) when the main consideration at night is to ensure that impacts should be assessed against absolute health-based criteria derived from World Health Organisation (WHO) sleep disturbance criteria.

"No corrections have been applied to the noise from industrial activities to allow for acoustic features e.g. tonal characteristics from industrial activity."

6.52 Measurements were obtained close to the WwTW (approximately 28m from the nearest noise generating plant). The results from this measurement indicate that sound from the works is free from tonal characteristics.

6.53 Accordingly no character correction has been applied to the measured levels used to predict the contribution from the WwTW.

6.54 There were no gritting operations underway at the time of the survey, so the source estimates used in the assessment were based on a survey conducted at Lambhill.

6.55 The survey notes that the predominant sound from the loading and unloading operations was from HGV site traffic and engine noise from the wheeled shovel. This character of this source is ubiquitous in the urban environment, and does not merit the addition of any character correction.

6.56 The measurements at Baseline Sites 1, 2 and 4, which include noise from industrial activities, have been assessed. These indicate that the frequency characteristics at the three sites are broadly similar and free from tonal characteristics are defined in Annex C of BS 4142:2018.

6.57 Based on the results from these surveys, no character correction has been applied to the source estimates used to predict sound from the existing industrial activities as these are typical of ambient sound in urban environments, where the dominant predicted noise source at the nearest proposed residential units is from vehicle engine noise.

6.58 This objective analysis agrees with the subjective assessment of the survey technician Jon Champion BSc, who has an Institute of Acoustics and Noise Control (IoA) Certificate of Competence for Measurement of Environmental Noise, a Diploma in Acoustics issued by the IoA and more than 10 years of practical experience in noise survey fieldwork.

"Relying on closed windows to reduce noise from industry is unacceptable to Environmental Health".

6.59 The worst case predicted noise level under any operational condition (when night-time gritting is underway in the winter) is 53 dB LAeq 15 minutes at night. This is on the exposed north-east facing elevation.

6.60 This operation will only occur during periods of cold winter weather when people are likely to have their windows closed in any event. The mitigation measures proposed in the scheme include trickle vents so that noise levels inside habitable rooms on the exposed elevations will comply with the criteria in Table 4 of BS 8233:2014.

6.61 Most residents within the proposed development are likely to retire to sleep after 23:00, so that there is a low risk of any loss of amenity from night-time exposure to winter gritting operations. All bedrooms are located on sheltered elevations.

6.62 The worst case predicted night-time noise level outside any bedroom is <40 dB LAeq 15 minutes, so that there is no significant risk of sleep disturbance inside bedrooms, even assuming open windows. The design therefore only relies on closed windows on the north- east elevation when most residents will be in their bedrooms and would have their living room windows closed anyway because of the cold weather.

6.63 Based upon the above noted considerations, it is our respectful submission that sufficient information has been presented to demonstrate that subject to the implementation of the mitigation measures set out within the Environmental Noise Impact Assessment (Table 6.1), noise related considerations do not present an impediment to the successful implementation of the development proposed under this Request to Review.

Reason for Refusal 3

6.64 The third and final stated reason for the refusal of this planning application states that:

3. The proposal is contrary to Policy EP2 (New Development and Flooding) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed development would not be at risk from fluvial flooding."

6.65 The application submission was supported by a full detailed Flood Risk Assessment. In commenting on the terms of this Assessment, the Council's Flood Risk Officer highlighted the following concerns:

- Design flows in the FRA are lower than those used for the Tay in our flood study.
- The flood study has various hydrologic assessment points to check flows and the most suitable one to use for flows at this site is located at approx. NN8569049744. Flows are below:
    - Qmed – 382.432 m3/s
    - 1:200 – 1015.36 m3/s
- The consultant should use the above flows and re-run their model, including a run for 1:200 plus climate change flow.
- New buildings are being located within the functional floodplain (albeit not residential) – this is not acceptable.
- It was unclear whether there will be land raising associated with the development – no land raising permitted within the 1:200 year floodplain, which should be identified using the revised flows above.

6.66 Dealing with the first and second of these concerns, and as requested, the model has been re-run using the figures provided by the Council, with the outcome of this exercise demonstrating that that section of the site which is proposed for residential development purposes remains outwith the calculated limit of the functional floodplain and as such is free from any identified flood risk.

6.67 Details of this revised flood model, is provided within the update to the Flood Risk Assessment, which is provided at Document 4ii.

6.68 With regards to the third point of concern, it is submitted that Scottish Planning Policy (SPP) promotes a precautionary approach to flood risk and advises that the planning system should prevent development which would have a significant probability of being affected by flooding or would increase the probability of flooding elsewhere.

6.69 SPP sets out a flood risk framework to guide development.

6.70 This framework establishes three categories of coastal and watercourse flood risk (little or no risk; low to medium risk; and medium to high risk) and the appropriate planning approach within each category. It sets out the types of development that may or may not be acceptable depending on the level of flood risk.

6.71 SPP further advises that the flood risk framework should be read in conjunction with SEPA's Land Use Vulnerability Guidance (see Document 10) to aid decision making and notes that this guidance is particularly relevant where changes of use are being proposed.

6.72 When regard is had to Tables 1 & 2 within this Guidance, as the proposed development does not represent a scenario which would introduce a more vulnerable use to the application site, least wise not that part of the site to which the flood risk relates, the Guidance would be permissive of the industrial/commercial aspect of the overall proposals, irrespective of the fact that this section of the site may or may not flood.

6.73 Given the matters set out above, it is our respectful submission that the work which has been undertaken to establish the nature of the flood risk which affects the site has demonstrated that that section of the site which is proposed for redevelopment for residential purposes is free from any identified flood risk and that the terms of the Scottish Governments guidance on flood related matters, read in conjunction with the provisions of SEPA's Land Use Vulnerability Guidance, do not preclude against the redevelopment, for industrial/commercial purposes, of that part of the site which is subject to potential risk of flooding.

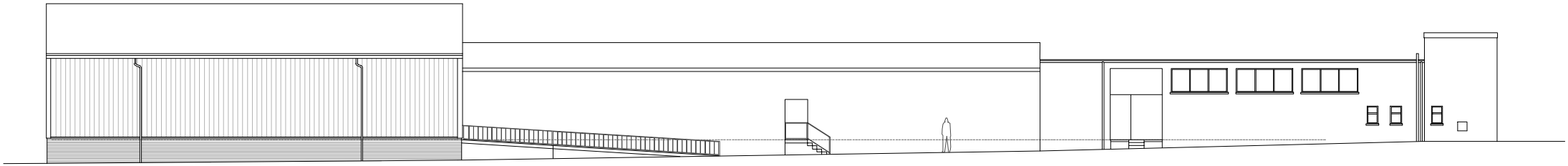
7.0 SUMMARY

7.1 It is my respectful submission that the Appointed Person has failed to adequately demonstrate that the proposed development cannot be fully and reasonably justified against the relevant provisions of the adopted development plan and that accordingly the decision to refuse the application cannot be reasonably or unjustifiably supported.

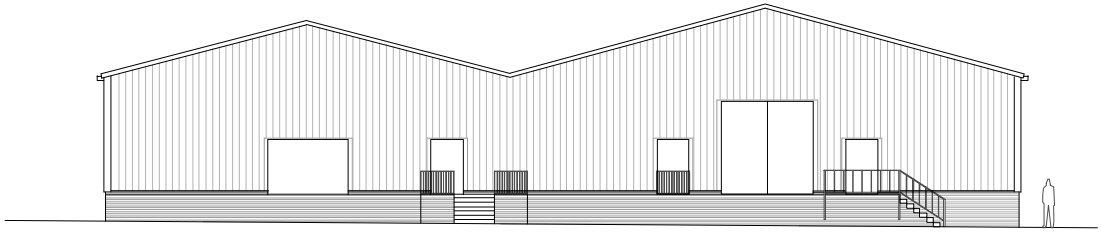
7.2 Furthermore, it is submitted that when a full and proper assessment of the merits of the application proposal is undertaken against the relevant provisions of the development plan, the form of development which is proposed under the application to which this Request to Review relates can be fully and reasonably justified, and that when regard is had to those matters which have been highlighted as being of material relevance to the determination of this Review, that said matters add significant weigh to the case in support of this Review.

7.3 **Taking into account all of those matters set out above, I would respectfully request that the Local Review Body uphold this Review and in so doing, grant planning permission in principle pursuant to planning application reference 18/01662/FLL.**

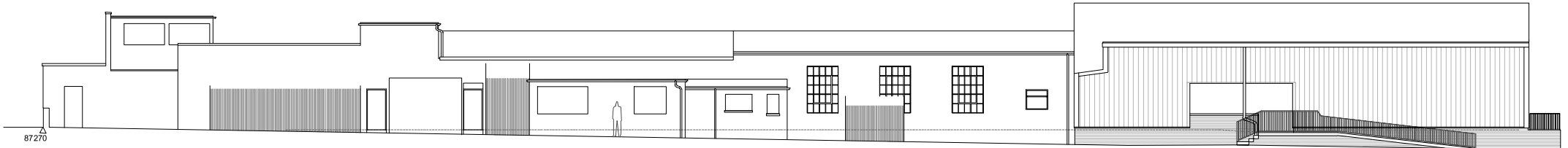
South West elevation



North West elevation



North East elevation



South East elevation

373

0 1 5 10m

Rev	Description	Date
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Client:
Lomond Group

Project:
Home Street, Aberfeldy

Title:
Existing Elevations - former Fishers Laundry Works

aim architecture interiors media
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camperdown street
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date	drawn	checked
10.07.17	AR	GY
scale	drawing size	approved
1:200	A3	--
Job no.	Drg no.	Rev
17014	EX 02	--

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Document 7

SUPPLEMENTARY PLANNING STATEMENT IN SUPPORT OF PLANNING STATEMENT IN SUPPORT OF PLANNING APPLICATION FOR ERECTION OF A MIXED USE DEVELOPMENT COMPRISING RESIDENTIAL AND LIGHT INDUSTRIAL UNITS LAND AT HOME STREET, ABERFELDY

Prepared by:

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October 2018

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1.0 Introduction

2.0 Perth & Kinross Proposed Local Development Plan, Update Statement

3.0 Discussion

Appendix 1: Schedule 4 Response, Issue 33

1.0 INTRODUCTION

1.1 This Supplementary Planning Statement has been prepared by Andrew Bennie Planning Limited, on behalf of Lomond Group, and is submitted in further support of their application for full planning permission for the erection of a mixed use development comprising fifteen new build residential units and five light industrial units on land at Home Street, Aberfeldy.

1.2 This Statement provides an update on the salient matters raised by the Council within the terms of their Schedule 4 Responses, which form part of the submissions made by the Council as part of the ongoing Examination of the Perth & Kinross Proposed Local Development Plan.

1.3 Should Perth & Kinross Council require any further, relevant information or clarification of any matters relating to these proposals, Andrew Bennie Planning Limited would be pleased to assist in its timeous provision.

2.0 PERTH & KINROSS PROPOSED LOCAL DEVELOPMENT PLAN, UPDATE STATEMENT

2.1 Under cover of letter dated 14th September 2018, Perth & Kinross Council submitted to the DPEA, the above noted Plan requesting within said letter that that Scottish Ministers appoint a person(s) to examine the Proposed Plan.

2.2 As required under the terms of the legislative framework governing this Examination process, the Council has produced a series of Schedule 4 Responses, which provide a summary of those unresolved objects to the Proposed Plan and providing also an indication of the Council's reasons for not modifying the Plan to address the substantive terms of these outstanding objections.

2.3 Those objections, which relate to the settlement of Aberfeldy, are detailed under the terms of the Schedule 4 Response relative to Issue 33, a copy of which is provided at Appendix 1 of this Statement.

2.4 With regards to the objection to the Proposed Plan which has been submitted on behalf of the Lomond Group and which relates specifically to the application site and which seeks the change in the "allocation" of the site so that Policy 7B: Mixed Use Areas applies to the site rather than part A of the Policy, the Schedule 4 Response states that:

"In a change from the adopted LDP, the proposals maps in the Proposed LDP now distinguishes between 'core' and 'general' business and industrial areas. Core areas should be retained for Class 4, 5 and 6. The purpose of differentiating between core and general areas was to enable the Council to protect the most important areas for Class 4, 5 and 6 uses, and conversely to identify those areas where there may be potential for a wider mix of uses.

The site of the former Fishers Laundry site MU369 (MD023) is within the Aberfeldy Business Park. Aberfeldy is one of the largest settlements in the Highland area and plays an important role in the economy of this area. The consolidation and expansion of employment land within the eastern edge of Aberfeldy is important to provide opportunities for sustainable economic growth within an accessible location. The Business Park is therefore identified in the LDP as an Employment Safeguarding (Core) Area and the allocated site at E10 is identified as Area of Proposed Employment (Core). Until such time as the employment site E10 is delivered the Business Park is the only area in Aberfeldy which is specifically identified in the LDP as an area which is to be safeguarded for employment uses under Policy 7A.

The removal of a sizeable part of the Business Park from the Employment Safeguarding (Core) designation will impact on local availability of serviced land and buildings for business, industry or storage and distribution uses in Aberfeldy. It is acknowledged, however, that a marketing exercise has been undertaken and that this concluded that at that time there was '...no commercial demand for the continued use / operation of this site for solely business / industrial purposes' (Representation 0191/01/001). Whilst the delivery of employment land is important the Council recognises that the viability of redeveloping this site wholly for employment uses is marginal at best as, in addition to the demolition and development costs, the former use suggests a high likelihood of contamination on site. There would therefore be merit in considering a mixed use site if limited residential units could cross subsidise the delivery of small business units.

The support from the Community Council for allowing the site to be redeveloped for a mix of residential and commercial / business uses is acknowledged. Changing the designation of this site to mixed use under Policy 7B may enhance the viability of the site, subject to safeguards to ensure the delivery of business units prior to the occupation of the first house.

No modification is proposed to the Plan. However if the Reporter is minded to accept the modification the Council would wish that the following specific developer requirements are included:

1. *Class 4 units compatible with neighbouring residential uses will be delivered in advance of the occupation of the first residential unit.*

2. *Residential uses to comprise no more than 50% of the site*

3. *A contamination study and remediation if required*

4. *Flood risk assessment*

5. *Suitable vehicular access and road layout through the site*

6. *Noise attenuations measures may be required*

Note that although the site is 0.85ha it would be inappropriate to indicate a capacity range as the number of potential units is unknown at this stage and is likely to be heavily influenced by the detailed design."

3.0 DISCUSSION

3.1 It is clear from the terms of the relevant section of the Council's Schedule 4 Response on Issue 33, that they understand and appreciate the various issues associated with the inclusion of the application site within that that wider area of land to which the provisions of Part A of Policy 7 apply and that in light of this understanding, they have suggested a number of conditions which should be applied in the event of the appointed Reporter accepting the proposed modification which has been put forward on behalf of the Lomond Group.

3.2 Whilst the constraints that are imposed upon the Council in terms of the potential consequences of bringing forward any "notifiable modifications" to the Proposed Plan are both acknowledged and accepted, which are considered to underpin the stance that the Council has taken in terms of the drafting of the Schedule 4 Response on Issue 33, it is clear that as the two objections to which this response relates, which include one submitted by the local Community Council, both wish to see that Proposed Plan modified in line with the matters detailed in paragraph 3.1 above, it is clear that the interests of neither of these parties would be prejudiced if this application were to be granted planning permission given that the issue of planning permission would have the effect of securing the modification which has been sought by both of said parties.

3.3 Sections 25 and 37(2) of the Town and County Planning (Scotland) Act 1997, as amended, detail the considerations, which should be taken into account when assessing applications for planning permission and state respectively that:

"Where in making any determination under the Planning Act, regard is to be had to the development plan, the determination shall be in accordance with the plan unless material considerations indicate otherwise".

"... the Authority shall have regard to the provisions of the development plan, so far as material to the application, and to any other material considerations."

3.4 It is our respectful submission that the terms of the Council's Schedule 4 Response relative to Issue 33 falls within the scope of material considerations which are of relevance to the determination of this application, the terms of which are considered

to provide sufficient weight to justify setting aside the terms of the current development plan policies which relate to the site.

3.5 In considering the "conditions" which have be put forward by the Council within the terms of this Schedule 4 Response, the following comments are made.

1: The requirement to provide Class 4 units on the site, which would be compatible with the neighbouring residential uses, is acknowledged. It is intended that these units will be provided in two phases, the first phase comprising, as a minimum, the refurbishment of the existing commercial units on the site, with the second phase comprising the construction of the balance of the proposed commercial.

Due to restrictions associated with the financing of this development, whilst the refurbished units will be made available for use prior to the occupation of the first of the proposed dwelling houses on the site, it is proposed that the construction of the new build Class 4 units be phased so as to coincide with the occupation of the last of the dwelling houses proposed under this application.

2: The site layout plan confirms that the residential component of the proposed development comprises less than 50% of the overall site area (the commercial/industrial area extending to 4,000m^2, with the residential area extending to 3,733m^2).

3: The requirement for a contamination study and any associated remediation strategy can be dealt with by way of an appropriately worded planning condition.

4: The application submission is supported by a detailed Flood Risk Assessment, the terms of which provide confirmation that the development of the site, as proposed, is not constrained by virtue of any flood related considerations.

5: The proposed development layout is considered to provide for both a suitable means of vehicular access to the site and also a suitable internal road layout.

6: The application submission is supported by a detailed Noise Assessment Report, the terms of which confirm that the proposed development of the site is not constrained by any noise related considerations.

3.6 When consideration is had to the matters outlined above, it is submitted that the application submission has, or will by way of the discharge of conditions attached to the planning permission which is sought under this application, responded fully to those conditional matters which are detailed within the Schedule 4 Response on Issue 33.

3.7 As the terms of Sections 25 and 37(2) of the 1997 Act both make provision for the granting of planning permission in instances when the consideration of relevant material considerations outweigh the provisions of the development plan, as in our respectful submission is the case in terms of this application, it is our submission that it is neither necessary or indeed justifiable to await the outcome of the ongoing Examination into the Local Development Plan Proposed Plan before making a positive decision on this application.

3.8 Given that the Council has clearly signaled within the terms of the Schedule 4 Response on Issue 33 that they have no objection to the modification which is proposed for this site by the Lomond Group, which would allow the proposed development to proceed in conformity with the provisions of the Proposed Plan, and as the conditional matters outlined by the Council within said Response have been addressed in full within the application submission, it is our respectful submission that the development to which this application relates can be fully and reasonably justified and that as such, planning permission in respect thereof should be granted.

Issue 33	**Highland Area – Aberfeldy**	
Development plan reference:	Aberfeldy, page 98-99 E10 / H36 – Borlick, Aberfeldy, page 100-102	**Reporter:**
Body or person(s) submitting a representation raising the issue (including reference number):		
The Lomond Group (0191) Aberfeldy Community Council (0399) John Lumsden (0524)	Royal Society for the Protection of Birds (RSPB) (0546) A&J Stephen Limited (0622)	
Provision of the development plan to which the issue relates:	Development sites in Aberfeldy	

Planning authority's summary of the representation(s):

E10 & H36: Borlick

RSPB (0546/01/019): Whilst the site specific developer requirement to enhance biodiversity is welcomed, it is too vague. Woodland enhancement would help to increase habitat and habitat network links for birds, helping the Council fulfill its statutory duty to further the conservation of biodiversity and contribute towards achieving the Plan's vision and objectives as set out in section 3.3. Specific wording change is suggested.

A&J Stephen Limited (0622/01/001): Object to the sixth site specific developer requirement which requires 'Access from the A827 with secondary link into Old Crieff Road along Borlick Farm access track'. A more suitable secondary access through an alternative route may be possible and this option should be reflected in the LDP in order to assist in the assessment of all possible access options for the site and explore all detailed opportunities for vehicular and cycle / pedestrian connectivity beyond the site.

Area of Employment Safeguarding (Core)

The Lomond Group (0191/01/001): Object to the inclusion of the former Fisher's Laundry on Home Street, Aberfeldy within the 'Core Employment Safeguarding' allocation.

In early 2016 the site became surplus to the operation requirements of Fishers Laundry. The site was the subject of a full marketing exercise which confirmed that there is no commercial demand for the continued use of the site solely for business / industrial purposes. The site was purchased by the The Lomond Group in August 2017 who are progressing proposals for a limited number of new build residential units and a total of five light commercial / business units. These new units will generate the same level of jobs on the site as was the case during the final years that the site was operated by its previous owners.

The inclusion of the site within an area safeguarded as a "Core" employment area places an unduly and unreasonable restriction upon the ability of the site to be redeveloped for potentially non-employment related purposes. The allocation of the site should be

amended so that it would instead fall under Policy 7B: Mixed Use Sites.

Aberfeldy Community Council (0399/01/001): Support proposals for mixed residential and industrial units use for the former Fishers Laundry site and support reducing the area of this site designated as 'employment safeguarding' to enable the proposed development to be considered. Allowing a portion of the site adjacent to Home Street to be redeveloped as housing would improve the townscape in this area and not materially damage the possibilities for future employment.

New site

John Lumsden (0524/01/001): Site H100 (Amulree Road) should be included in the Plan for future property development.

Modifications sought by those submitting representations:

E10 & H36: Borlick

RSPB (0546/01/019): To sites E10 and H36, add the following after 'Enhancement of biodiversity' bullet point: 'including woodland enhancement to include an increase in berry bearing native trees and shrubs'.

A&J Stephen Limited (0622/01/001): The sixth site specific developer requirement for site H36 should be amended to read: 'Access from A827 with secondary link into Old Crieff Road along Borlick Farm access track or other suitable secondary route'.

Area of Employment Safeguarding (Core)

The Lomond Group (0191/01/001): The site of the former Fisher's Laundry should be allocated so that Policy 7B: Mixed Use Areas applies rather than part A of the Policy.

Aberfeldy Community Council (0399/01/001): Reduce the extent of the area designated 'Employment Safeguarding' on the former Fisher's Laundry on Home Street.

New site

John Lumsden (0524/01/001): Site H100 (Amulree Road) should be included in the Plan.

Summary of responses (including reasons) by planning authority:

E10 & H36: Borlick

RSPB (0546/01/019): The site specific developer requirements relating to biodiversity for these sites have been carried forward from the adopted Plan. 'Enhancement of biodiversity' is a standard requirement which has been included for many sites in the LDP. A more specific requirement is given in the Plan where a need for a particular form of enhancement has been identified through detailed study or research. No evidence has been submitted that such a specific need has been identified for sites E10 and H36.

No modification is proposed to the Plan. However if the Reporter is minded to accept the modification the Council would be comfortable with making this change as it would not have any implications for any other aspect of the plan.

A&J Stephen Limited (0622/01/001): The site specific developer requirement relating to the secondary access has been carried forward from the adopted Plan and this was not raised as an issue during the Examination of that Plan. No information has been provided in the representation that demonstrates that a secondary access along the Borlick Farm access is no longer the most suitable option, and no proposals have formally been put forward for an alternative secondary access.

No modification is proposed to the Plan. However if the Reporter is minded to accept the modification the Council would wish that a requirement for multiple access to the site is retained for both vehicles and pedestrians.

Area of Employment Safeguarding (Core)

The Lomond Group (0191/01/001); Aberfeldy Community Council (0399/01/001): In a change from the adopted LDP, the proposals maps in the Proposed LDP now distinguishes between 'core' and 'general' business and industrial areas. Core areas should be retained for Class 4, 5 and 6. The purpose of differentiating between core and general areas was to enable the Council to protect the most important areas for Class 4, 5 and 6 uses, and conversely to identify those areas where there may be potential for a wider mix of uses.

The site of the former Fishers Laundry site MU369 (MD023) is within the Aberfeldy Business Park. Aberfeldy is one of the largest settlements in the Highland area and plays an important role in the economy of this area. The consolidation and expansion of employment land within the eastern edge of Aberfeldy is important to provide opportunities for sustainable economic growth within an accessible location. The Business Park is therefore identified in the LDP as an Employment Safeguarding (Core) Area and the allocated site at E10 is identified as Area of Proposed Employment (Core). Until such time as the employment site E10 is delivered the Business Park is the only area in Aberfeldy which is specifically identified in the LDP as an area which is to be safeguarded for employment uses under Policy 7A.

The removal of a sizeable part of the Business Park from the Employment Safeguarding (Core) designation will impact on local availability of serviced land and buildings for business, industry or storage and distribution uses in Aberfeldy. It is acknowledged, however, that a marketing exercise has been undertaken and that this concluded that at that time there was '…no commercial demand for the continued use / operation of this site for solely business / industrial purposes' (Representation 0191/01/001). Whilst the delivery of employment land is important the Council recognises that the viability of redeveloping this site wholly for employment uses is marginal at best as, in addition to the demolition and development costs, the former use suggests a high likelihood of contamination on site. There would therefore be merit in considering a mixed use site if limited residential units could cross subsidise the delivery of small business units.

The support from the Community Council for allowing the site to be redeveloped for a mix of residential and commercial / business uses is acknowledged. Changing the designation of this site to mixed use under Policy 7B may enhance the viability of the site, subject to safeguards to ensure the delivery of business units prior to the occupation of the first house.

No modification is proposed to the Plan. However if the Reporter is minded to accept the

modification the Council would wish that the following specific developer requirements are included: ‘

- Class 4 units compatible with neighbouring residential uses will be delivered in advance of the occupation of the first residential unit.
- Residential uses to comprise no more than 50% of the site
- A contamination study and remediation if required
- Flood risk assessment
- Suitable vehicular access and road layout through the site
- Noise attenuations measures may be required

Note that although the site is 0.85ha it would be inappropriate to indicate a capacity range as the number of potential units is unknown at this stage and is likely to be heavily influenced by the detailed design.

New site

John Lumsden (0524/01/001): Site H100 (MD022) was included as a potential option in the Main Issues Report (MIR) (CD046, pages 57-58). At that time there were two sites allocated for housing in Aberfeldy but there was some uncertainty as to whether one of these – H37 South of Kenmore Road – was going to come forward. Site H100 was put forward as a possible alternative to H37. Since the MIR was published adopted Plan site H37 (CD014, pages 158-160) has received planning consent and work has started on site. Whilst site H100 is considered to potentially offer the best option for the future longer term expansion of the town, it is very unlikely that the market in this area would be able to deliver more houses within the Plan period if a third site were to be allocated. It would be more likely to result in the same number of houses being built, just distributed over three sites instead of two and may undermine market confidence, affecting the viability of one or both of the existing / allocated sites.

No modification is proposed to the Plan.

Reporter’s conclusions:

Reporter’s recommendations:

PERTH AND KINROSS COUNCIL

Lomond Group c/o Aim Design Ged Young Unit 5 City Quay Camperdown Street Dundee DD1 3JA	Pullar House 35 Kinnoull Street PERTH PH1 5GD
	Date 30th October 2018

TOWN AND COUNTRY PLANNING (SCOTLAND) ACT

Application Number: **18/01662/FLL**

I am directed by the Planning Authority under the Town and Country Planning (Scotland) Acts currently in force, to refuse your application registered on 12th September 2018 for permission for **Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works Land 60 Metres North Of Burnside Joiners Home Street Aberfeldy** for the reasons undernoted.

Interim Development Quality Manager

Reasons for Refusal

1. The proposal is contrary to Policy EP2 (Employment) of the Perth and Kinross Local Development Plan (LDP) 2014 which states that areas identified for employment uses should be retained for such uses. The proposed residential development on the site would result in the loss of an allocated employment site. Whilst information has been submitted which seeks to depart from policy EP2, the allocation of this site is currently subject to review through the Proposed LDP2. LDP2 is currently subject to examination and no modification is proposed to the plan. As such the application is considered to be premature at this time and any further application should await the outcome of the Scottish Minister's examination process.

2. The proposal is contrary to Policy EP8 (Noise Pollution) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed residential development can be accommodated on site without its amenity being detrimentally affected by the adjacent industrial uses.

3. The proposal is contrary to Policy EP2 (New Development and Flooding) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed development would not be at risk from fluvial flooding.

Justification

The proposal is not in accordance with the Development Plan and there are no material reasons which justify departing from the Development Plan.

Informatives

Records indicate that at least part of the proposed development site lies within a radon affected area where the measurement/monitoring of radon gas and the installation of mitigation measures may be required.

Further information on radon gas and the associated reports that can be obtained is available at www.ukradon.org and at http://shop.bgs.ac.uk/georeports/.

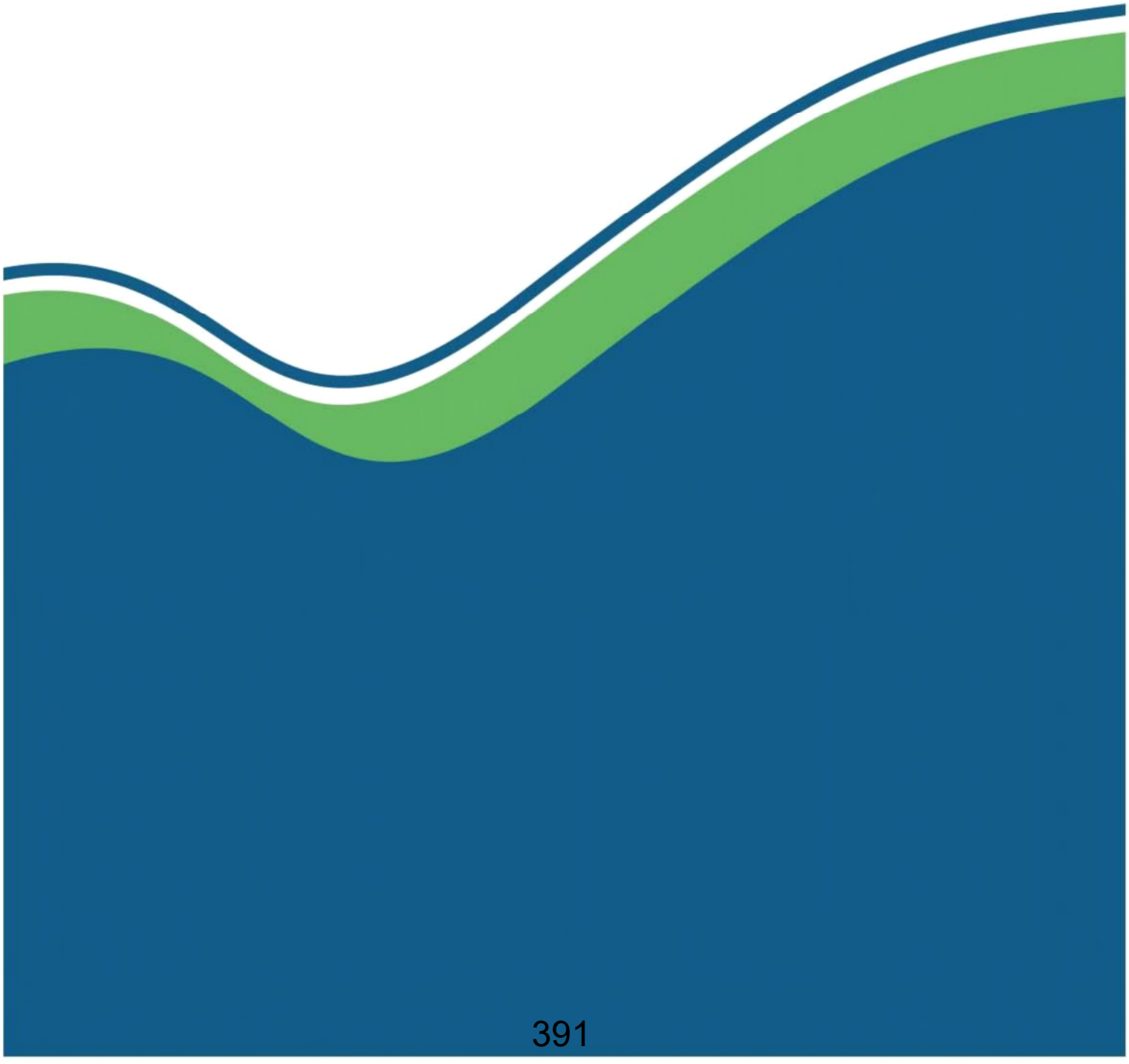
The plans relating to this decision are listed below and are displayed on Perth and Kinross Council's website at www.pkc.gov.uk "Online Planning Applications" page

Plan Reference

18/01662/1	**18/01662/9**	**18/01662/17**
18/01662/2	**18/01662/10**	**18/01662/18**
18/01662/3	**18/01662/11**	
18/01662/4	**18/01662/12**	
18/01662/5	**18/01662/13**	
18/01662/6	**18/01662/14**	
18/01662/7	**18/01662/15**	
18/01662/8	**18/01662/16**	

SEPA
Scottish Environment Protection Agency

Flood Risk and Land Use Vulnerability Guidance



SCOTTISH ENVIRONMENT PROTECTION AGENCY	Identifier:	LUPS-GU24
Land Use Planning System **SEPA Guidance**	Pages:	7
	Issue no:	Version 3
	Issue date:	February 2018
Flood Risk and Land Use Vulnerability Guidance		

Update Summary

Version	*Description*
Version 1	First issue 2012
Version 2	Second issue August 2017 – document shortened to remove repetition, and textual changes made to align document with Scottish Planning Policy 2014.
Version 3	Third issue February 2018 – minor amendments made to correct errors in document.

Notes

This document provides SEPA guidance on land use planning and flood risk. It is based on SEPA's interpretation of national planning policy and duties and requirements under relevant legislation.

This document is uncontrolled if printed. Always refer to the online document for accurate and up-to-date information.

Flood Risk and Land Use Vulnerability Guidance

1 Summary and background

1.1 The purpose of this guidance is to:

- aid understanding of the relative vulnerability to flooding of different land uses;
- assist in the interpretation of SEPA's Flood Risk Planning Guidance, which is based upon the risk framework in the Scottish Government's Scottish Planning Policy 2014 (SPP).

1.2 SEPA has created this guidance to assist in our assessment of the vulnerability to flooding of different types of land use. Table 1 classifies the relative vulnerability of land uses, grouping them into five categories from Most Vulnerable through to Water Compatible Uses.

1.3 Table 2 of this document then provides **a very brief outline** of the likely SEPA planning response for each set of land uses relative to the category of flood risk, and based upon the risk framework in SPP. **For a more detailed understanding of SEPA's likely planning response to proposals through both the Development Planning and Development Management process, this document must be read in conjunction with our Flood Risk Planning Guidance.**

1.4 SEPA will use this guidance in the assessment of sites for both Development Planning and Development Management purposes.

1.5 This guidance classifies land uses according to how they are impacted by flooding, i.e. their relative susceptibility and resilience to flooding, and any wider community impacts caused by their damage or loss.

1.6 The classification recognises that certain types of development, and the people who use and live in them, are more at risk from flooding than others (e.g. children, the elderly and people with mobility problems that may have more difficulty in escaping fast flowing water).

1.7 The term 'land use vulnerability' is used in this guidance to differentiate between a range of land uses, taking account of flooding impacts on land uses in terms of their relative susceptibility and resilience to flooding. It also reflects wider community impacts caused by their damage or loss. For example, a police station is not more likely to suffer damage (be susceptible) or less able to recover (be resilient) than a comparable office building. However, it is in a more vulnerable category than an office use because a higher value is placed upon the wider community impacts that would be caused by its potential loss or damage during a flood event. Similar considerations apply to the inclusion of hazardous waste facilities within the highly vulnerable category and other waste treatment facilities being within the less vulnerable category.

1.8 The classification comprises five categories:

1. Most Vulnerable Uses
2. Highly Vulnerable Uses
3. Least Vulnerable Uses
4. Essential Infrastructure
5. Water Compatible Uses

1.9 In relation to Table 1, you should note that:

- The list of uses is neither exhaustive nor definitive.

- Flood risk management infrastructure, and other risk mitigation actions needed to ensure development is safe, may differ between uses within the same category.

- The impact of a flood may change in nature relative to the uses within the same category. In particular, a change of use to a dwelling house from other uses within the Highly Vulnerable Uses category could significantly increase the overall flood risk, especially in relation to human health and financial impacts.

1.10 The classification (Table 1) is linked to the risk framework in SPP by a matrix of flood risk (Table 2). Table 2 gives a very brief outline of SEPA's likely planning response for each of the three flood risk categories of the risk framework relative to each of the five vulnerability categories. In producing this guidance, SEPA has sought to refine and enhance the vulnerability classification and definitions identified in the SPP risk framework.

Table 1: SEPA Land Use Vulnerability Classification[1]

1. Most Vulnerable Uses	2. Highly Vulnerable Uses	3. Least Vulnerable Uses	4. Essential Infrastructure	5. Water Compatible Uses[3]
For the purpose of this guidance, **Most Vulnerable Uses** include land uses that are defined as both ***civil infrastructure*** and ***most vulnerable*** in the SPP 2014 glossary. Civil infrastructure is denoted with an asterisk (*) in the list below. Most Vulnerable Uses therefore comprise: • police stations* • ambulance stations* • fire stations* • command centres and telecommunications installations required to be operational during flooding* • emergency dispersal points* • hospitals* • schools* • care homes* • nurseries • residential institutions, e.g. prisons, children's homes • basement dwellings • single dwelling houses in remote rural locations • dwelling houses situated behind informal embankments[2] • caravans, mobile homes, chalets and park homes intended for permanent residential use • holiday caravan, chalet, and camping sites • installations requiring hazardous substance consent (but where there is demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or with energy infrastructure, that require a coastal or water-side location, or other high flood risk areas, then the facilities should be classified as **Essential Infrastructure – see column 4).**	Comprise: • buildings used for dwelling houses • social services homes (ambulant /adult) • hostels and hotels • student halls of residence • non-residential uses for health service • landfill and sites used for waste management facilities for hazardous waste	Comprise: • shops • financial, professional, and other services • restaurants and cafés • hot-food takeaways • drinking establishments • nightclubs • offices • general industry • storage and distribution • non-residential institutions not included in Most Vulnerable or Highly Vulnerable Uses • assembly and leisure • land and buildings used for agriculture and forestry that are subject to planning control • waste treatment (except landfill and hazardous waste facilities) • minerals working and processing (except for sand and gravel)	Comprises: • essential transport infrastructure (including mass evacuation routes) that has to cross the area at risk • essential utility infrastructure that has to be located in a flood risk area for operational reasons (this includes electricity generating power stations and grid and primary sub-stations, sewage treatment plants and water treatment works, wind turbines and other energy generating technologies) • installations requiring hazardous substance consent **only** where there is demonstrable need to locate such installations for the bulk storage of materials with port or other similar facilities, or with energy infrastructure that requires a coastal, water-side, or other high flood risk area location.	Comprise: • flood control infrastructure • environmental monitoring stations • water transmission infrastructure and pumping stations • sewage transmission infrastructure and pumping stations • sand and gravel workings • docks, marinas and wharves • navigation facilities • MOD defence installations • ship building, repairing, and dismantling • dockside fish processing and refrigeration and compatible activities requiring a waterside location • water-based recreation (excluding sleeping accommodation) • lifeguard and coastguard stations • amenity open space • nature conservation and biodiversity • outdoor sports and recreation and essential facilities such as changing rooms • essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific operational warning[4] and evacuation plan.

[1] Developments that combine a mixture of uses should be placed in the higher of the relevant classes of flood risk vulnerability. The impact of a flood on the particular land use could vary within each vulnerability class. In particular, a change of use to a dwelling house within the 'Highly Vulnerable' category could significantly increase the overall flood risk, especially in relation to human health and financial impacts. Any proposal for a change of use to a dwelling house should therefore be supported by a flood risk assessment. The redevelopment (including change of use) of an existing building or site provides a valuable opportunity to reduce the vulnerability of that site to flooding and therefore to reduce overall flood risk. This can be achieved through changes to less vulnerable land uses and improvements to the management of flood risk on the site.

[2] Embankments not formally constituted under flood prevention legislation including agricultural flood embankments constructed under permitted development rights.

[3] Advice in the SPP risk framework on these activities is limited. The nature of the above activities necessitates locations that are prone to flooding. Generally, it is difficult to recommend a specific annual return period to guide development decisions for such uses. SEPA would recommend that the risk of flooding should be assessed giving particular consideration to:

1. Specific locational requirements of the development and availability of alternative locations;
2. Consideration of any loss of floodplain storage (in riverside developments) that may increase flood risk to nearby existing development and options to mitigate against this;
3. Appropriate mitigation measures, including water resistance and resilience measures;
4. Health and safety implications and the need for access, egress, and evacuation, with specific consideration of, and provision of, measures to provide for these where:
   - The development will attract the public especially vulnerable people such as children and old people.
   - Large numbers of the public may gather and where evacuation routes are limited.
   - Hazardous materials are stored or processed.

[4] In this context, specific warning does not mean a formal flood warning from SEPA. SEPA does not support the provision of flood warning as a viable reason to develop in flood risk areas. Warning is a non-structural measure that does not physically prevent flooding and has associated uncertainties.

Table 2: SEPA Matrix of Flood Risk (to be read in conjunction with our Flood Risk Planning Guidance)

Classification / Flood Risk	Most Vulnerable Uses	Highly Vulnerable Uses	Least Vulnerable Uses	Essential Infrastructure	Water Compatible Uses
Little or no risk (<0.1% AP)	No constraints	No constraints	No constraints	No constraints	No constraints
Low to medium risk (0.1% - 0.5% AP)	Generally not suitable for Civil Infrastructure: where Civil Infrastructure must be located in these areas, or is being substantially extended, it should be designed to be capable of remaining operational and accessible during extreme flood events (i.e. 0.1% AP). Generally not suitable for other Most Vulnerable Uses unless site-specific factors suggest a more favourable approach should be taken, or where one of the following apply: • Redevelopment of an existing building, including changes of use to an equal or less vulnerable use to the existing use. • Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use. • Where the principle of development on the site has been established in an up-to-date, adopted development plan or the National Planning Framework and flood risk issues were given due consideration as part of the plan preparation process and our assessment of risk has not changed in the interim.	Generally suitable for development though an FRA may be required at upper end of the probability range (i.e. close to 0.5% AP).	Generally suitable for development though an FRA may be required at upper end of the probability range (i.e. close to 0.5% AP).	Generally suitable for development.	Generally suitable for development.
Medium to high risk within built up area (>0.5% AP)	Generally not suitable for development unless one of the following apply: • Redevelopment of an existing building, including changes of use to an equal or less vulnerable use to the existing use. • Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use. • Where the principle of development on the site has been established in an up-to-date, adopted development plan or the National Planning Framework and flood risk issues were given due consideration as part of the plan preparation process and our assessment of risk has not changed in the interim.	Generally not suitable for development unless one of the following apply: • Redevelopment of an existing building, including changes of use to an equal or less vulnerable use to the existing use. • Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use. • Where the principle of development on the site has been established in an up-to-date, adopted development plan or the National Planning Framework and flood risk issues were given due consideration as part of the plan preparation process and our assessment of risk has not changed in the interim. • The site is protected by a flood protection scheme of the appropriate standard that is already in existence and maintained, is under construction,	Generally not suitable for development unless one of the following apply: • Redevelopment of an existing building, including changes of use to an equal or less vulnerable use to the existing use. • Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use. • Where the principle of development on the site has been established in an up-to-date, adopted development plan or the National Planning Framework and flood risk issues were given due consideration as part of the plan preparation process and our assessment of risk has not changed in the interim. • The site is protected by a flood protection scheme of the appropriate standard that is already in existence and maintained, is under	Suitable for essential infrastructure, designed and constructed to remain operational during floods (i.e. 0.5% AP), and not impede water flow.	Generally suitable for development - job related accommodation and some recreational, sport, amenity and nature conservation uses are only suitable provided that appropriate evacuation procedures are in place

		or is planned for in a current flood risk management plan.	construction, or is planned for in a current flood risk management plan.		
Medium to high risk within undeveloped and sparsely developed area (>0.5% AP)	Generally not suitable for development unless one of the following apply: • Redevelopment of an existing building, including changes of use to an equal or less vulnerable use to the existing use. • Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use. • Where the principle of development on the site has been established in an up-to-date, adopted development plan or the National Planning Framework and flood risk issues were given due consideration as part of the plan preparation process and our assessment of risk has not changed in the interim.	Generally not suitable for development unless one of the following apply: • Redevelopment of an existing building, including changes of use to an equal or less vulnerable use to the existing use. • Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use. • Where the principle of development on the site has been established in an up-to-date, adopted development plan or the National Planning Framework and flood risk issues were given due consideration as part of the plan preparation process and our assessment of risk has not changed in the interim.	Generally not suitable for development unless one of the following apply: • Redevelopment of an existing building, including changes of use to an equal or less vulnerable use to the existing use. • Redevelopment of a previously developed site where it involves the demolition of existing buildings and/or erection of additional buildings within a development site, and the proposed land use is equal or less vulnerable than the existing land use. • Where the principle of development on the site has been established in an up-to-date, adopted development plan or the National Planning Framework and flood risk issues were given due consideration as part of the plan preparation process and our assessment of risk has not changed in the interim.	Generally suitable where a flood risk location is required for operational reasons and an alternative lower-risk location, is not available – development should be designed and constructed to be operational during floods (i.e. 0.5% AP), and not impede water flow.	Generally suitable for development - job related accommodation and some recreational, sport, amenity and nature conservation uses are only suitable provided that appropriate evacuation procedures are in place, and an alternative, lower risk location is not available.

TCP/11/16(583) – Planning Application – 18/01662/FLL – Change of use of office to dwellinghouse, erection of 2 units (class 4), erection of 7 dwellinghouses, 8 flats and associated works, land 60 metres north of Burnside Joiners, Home Street, Aberfeldy

PLANNING DECISION NOTICE *(included in applicant's submission, see pages 398-390)*

REPORT OF HANDLING

REFERENCE DOCUMENTS *(part included in applicant's submission, see pages 79-87 and 109-114)*

REPORT OF HANDLING

DELEGATED REPORT

Ref No	**18/01662/FLL**	
Ward No	**P4- Highland**	
Due Determination Date	**11.11.2018**	
Case Officer	**John Williamson**	
Report Issued by		**Date**
Countersigned by		**Date**

PROPOSAL: Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works

LOCATION: Land 60 Metres North Of Burnside Joiners Home Street Aberfeldy

SUMMARY:

This report recommends **refusal** of the application as the development is considered to be contrary to the relevant provisions of the Development Plan and there are no material considerations apparent which justify setting aside the Development Plan.

DATE OF SITE VISIT: 19 September 2018

SITE PHOTOGRAPHS

BACKGROUND AND DESCRIPTION OF PROPOSAL

Full planning consent is sought for the erection of a total of 15 new residential units, comprising seven bungalows and two blocks of flats (eight units) and the refurbishment of an existing property to bring it back into residential use. The proposal also involves the creation of five industrial units at the eastern end of the site which involves the refurbishment of three existing units on the site and the erection of two new units. Two of bungalows are proposed to be located at the western end of the site fronting onto Home Street with two further bungalows sitting immediately to the east and parallel to Home Street. Three further bungalows are proposed on the southern side of the site sitting behind the existing dwellinghouse (Parkfield House). The flatted blocks, which are proposed to be two storeys and within two linked blocks are proposed to be located in a central position in the site. A total of twenty parking spaces with three disabled bays are proposed for the flats.

The industrial units are proposed to be located at the eastern end of the site with one of the new units located immediately to the east of the bungalows on the southern boundary of the site and the other in a central position on the eastern boundary. Sixteen parking spaces are proposed to serve the industrial units.

Access into the site is proposed along an upgraded existing access which runs along the northern boundary of the site and provides access onto Home Street. An internal road layout provides access to the bungalows, flats and industrial units.

The application site is currently occupied by the former Fishers Laundry facility. The site is currently vacant and out of use as Fishers have moved to

a new location. The site is dominated by a large single storey industrial building which is located in a central/northern position on the site and a number of smaller scale industrial units and hardstanding areas. There is an existing dwellinghouse located in the south east corner of the site, fronting onto Home Street which previously acted as an office for the business. The site is bound to the west by Home Street, to the north by playfields, to the east by existing industrial premises within the Aberfeldy Business Park and to the south by residential properties. The site is located within the Aberfeldy Conservation Area.

There is an associated Conservation Area Consent application for the demolition of the main industrial building on the site (18/01663/CON).

This application is a re-submission of a previously withdrawn application (17/01864/FLL).

SITE HISTORY

17/01864/FLL Change of use of office to dwellinghouse, erection of 2no units (Class 4), erection of 7no dwellinghouses, 8no flats and associated works 4 December 2017 Application Withdrawn

17/01864/FLL Change of use of office to dwellinghouse, erection of 2no units (Class 4), erection of 7no dwellinghouses, 8no flats and associated works 4 December 2017 Application Withdrawn

17/02028/CON Demolition of building 6 December 2017 – Application returned

18/01663/CON Demolition of building - Recommended for refusal

PRE-APPLICATION CONSULTATION

Pre application Reference: Various discussions

NATIONAL POLICY AND GUIDANCE

The Scottish Government expresses its planning policies through The National Planning Framework, the Scottish Planning Policy (SPP), Planning Advice Notes (PAN), Creating Places, Designing Streets, National Roads Development Guide and a series of Circulars.

DEVELOPMENT PLAN

The Development Plan for the area comprises the TAYplan Strategic Development Plan 2016-2036 and the Perth and Kinross Local Development Plan 2014.

TAYplan Strategic Development Plan 2016 – 2036 - Approved October 2017

Whilst there are no specific policies or strategies directly relevant to this proposal the overall vision of the TAYplan should be noted. The vision states *"By 2036 the TAYplan area will be sustainable, more attractive, competitive and vibrant without creating an unacceptable burden on our planet. The quality of life will make it a place of first choice where more people choose to live, work, study and visit, and where businesses choose to invest and create jobs."*

Perth and Kinross Local Development Plan 2014 – Adopted February 2014

The Local Development Plan is the most recent statement of Council policy and is augmented by Supplementary Guidance.

The principal policies are, in summary:

Policy PM1A - Placemaking
Development must contribute positively to the quality of the surrounding built and natural environment, respecting the character and amenity of the place. All development should be planned and designed with reference to climate change mitigation and adaption.

Policy PM1B - Placemaking
All proposals should meet all eight of the placemaking criteria.

Policy RD1 - Residential Areas
In identified areas, residential amenity will be protected and, where possible, improved. Small areas of private and public open space will be retained where they are of recreational or amenity value. Changes of use away from ancillary uses such as local shops will be resisted unless supported by market evidence that the existing use is non-viable. Proposals will be encouraged where they satisfy the criteria set out and are compatible with the amenity and character of an area.

Policy ED1A - Employment and Mixed Use Areas
Areas identified for employment uses should be retained for such uses and any proposed development must be compatible with surrounding land uses and all six of the policy criteria, in particular retailing is not generally acceptable unless ancillary to the main use.

Policy PM2 - Design Statements
Design Statements should normally accompany a planning application if the development comprises 5 or more dwellings, is a non-residential use which exceeds 0.5 ha or if the development affects the character or appearance of a Conservation Area, Historic Garden, Designed Landscape or the setting of a Listed Building or Scheduled Monument.

Policy PM3 - Infrastructure Contributions
Where new developments (either alone or cumulatively) exacerbate a current or generate a need for additional infrastructure provision or community facilities, planning permission will only be granted where contributions which are reasonably related to the scale and nature of the proposed development are secured.

Policy RD4 - Affordable Housing
Residential development consisting of 5 of more units should include provision of an affordable housing contribution amounting to 25% of the total number of units. Off-site provision or a commuted sum is acceptable as an alternative in appropriate circumstances.

Policy TA1B - Transport Standards and Accessibility Requirements
Development proposals that involve significant travel generation should be well served by all modes of transport (in particular walking, cycling and public transport), provide safe access and appropriate car parking. Supplementary Guidance will set out when a travel plan and transport assessment is required.

Policy HE1B - Non Designated Archaeology
Areas or sites of known archaeological interest and their settings will be protected and there will be a strong presumption in favour of preservation in situ. If not possible provision will be required for survey, excavation, recording and analysis.

Policy HE3A - Conservation Areas
Development within a Conservation Area must preserve or enhance its character or appearance. The design, materials, scale and siting of a new development within a Conservation Area, and development outwith an area that will impact upon its special qualities should be appropriate to its appearance, character and setting. Where a Conservation Area Appraisal has been undertaken the details should be used to guide the form and design of new development proposals.

Policy NE3 - Biodiversity
All wildlife and wildlife habitats, whether formally designated or not should be protected and enhanced in accordance with the criteria set out. Planning permission will not be granted for development likely to have an adverse effect on protected species.

Policy EP1A - Climate Change, Carbon Reduction and Sustainable Construction
Development will only be permitted on areas of undisturbed carbon rich soils, including peatland, where it has been clearly demonstrated that there is no viable alternative, or where the economic and social benefits of the development outweigh any potential detrimental effect on the environment.

Policy EP2 - New Development and Flooding
There is a general presumption against proposals for built development or land raising on a functional flood plain and in areas where there is a significant

probability of flooding from any source, or where the proposal would increase the probability of flooding elsewhere. Built development should avoid areas at significant risk from landslip, coastal erosion and storm surges. Development should comply with the criteria set out in the policy.

Policy EP3B - Water, Environment and Drainage
Foul drainage from all developments within and close to settlement envelopes that have public sewerage systems will require connection to the public sewer. A private system will only be considered as a temporary measure or where there is little or no public sewerage system and it does not have an adverse effect on the natural and built environment, surrounding uses and the amenity of the area.

Policy EP3C - Water, Environment and Drainage
All new developments will be required to employ Sustainable Urban Drainage Systems (SUDS) measures.

Policy EP8 - Noise Pollution
There is a presumption against the siting of proposals which will generate high levels of noise in the locality of noise sensitive uses, and the location of noise sensitive uses near to sources of noise generation.

Policy EP12 - Contaminated Land
The creation of new contamination will be prevented. Consideration will be given to proposals for the development of contaminated land where it can be demonstrated that remediation measures will ensure the site / land is suitable for the proposed use.

Proposed Perth and Kinross Local Development Plan 2 (LDP2)

Perth & Kinross Council is progressing with preparation of a new Local Development Plan to provide up-to-date Development Plan coverage for Perth & Kinross. When adopted, the Perth & Kinross Local Development Plan 2 (LDP2) will replace the current adopted Perth & Kinross Local Development Plan (LDP). The Proposed Local Development Plan 2 (LDP2) was approved at the Special Council meeting on 22 November 2017.

The representations received on the Proposed LDP2 and the Council's responses to these were considered at the Special Council meeting on 29 August 2018. The unresolved representation to the Proposed Plan after this period is likely to be considered at an Examination by independent Reporter(s) appointed by the Scottish Ministers, later this year. The Reporter(s) will thereafter present their conclusions and recommendations on the plan, which the Council must accept prior to adoption. It is only in exceptional circumstances that the Council can elect not to do this.

The Proposed LDP2 represents Perth & Kinross Council's settled view in relation to land use planning and as such it is a material consideration in the determination of planning applications. It sets out a clear, long-term vision and planning policies for Perth & Kinross to meet the development needs of the

area up to 2028 and beyond. The Proposed LDP2 is considered consistent with the Strategic Development Plan (TAYplan) and Scottish Planning Policy (SPP) 2014. However, the outcome of the Examination could potentially result in modifications to the Plan.

As such, currently limited weight can be given to its content where subject of a representation, and the policies and proposals of the plan are only referred to where they would materially alter the recommendation or decision.

OTHER POLICIES

Developer Contributions and Affordable Housing Supplementary Guidance

CONSULTATION RESPONSES

INTERNAL

Transport Planning – no objection

Perth And Kinross Heritage Trust – condition recommended requiring standing building survey to be undertaken

Development Negotiations Officer – no objection subject to provision of affordable housing on site and payment of commuted sum towards affordable housing – detail outlined in appraisal section below

Structures And Flooding – objection on flood risk grounds – details in appraisal section below

Strategy And Policy – concerns regarding proposal being contrary to adopted LDP and pre-empting examination of the LDP2 by Scottish Government Report

Environmental Health (Contaminated Land) – condition recommended

Environmental Health (Noise Odour) – objection on lack of information related to noise assessment and impact on proposed residential use from existing industrial noise sources.

EXTERNAL

Aberfeldy Community Council – unanimous support for the application. Support principle of a mixed use development on the site subject to detailed assessment of application. Also support provision of the type of small scale housing and business space proposed on site.

Scottish Water – no objection

REPRESENTATIONS

The following points were raised in the 5 representation(s) received all of which supported the application. The responses include one letter from the Aberfeldy Community Council

- Neighbour seeking for studio to be created for creating landscape art
- Support mixed use of site and benefit to area
- Provides additional much needed housing and business units

All of the above reasons for support are noted and referred to within the appraisal section below. However the application requires to be determined in accordance with the Development Plan unless material consideration indicate otherwise.

ADDITIONAL INFORMATION RECEIVED:

Environmental Impact Assessment (EIA)	Not Required
Screening Opinion	Not Required
EIA Report	Not Required
Appropriate Assessment	Not Required
Design Statement or Design and Access Statement	Submitted
Report on Impact or Potential Impact eg Flood Risk Assessment	Noise Impact Assessment, Flood Risk Assessment, Planning Statement

APPRAISAL

Sections 25 and 37 (2) of the Town and Country Planning (Scotland) Act 1997 require that planning decisions be made in accordance with the development plan unless material considerations indicate otherwise. The Development Plan for the area comprises the approved TAYplan 2016 and the adopted Perth and Kinross Local Development Plan 2014.

The determining issues in this case are whether; the proposal complies with development plan policy; or if there are any other material considerations which justify a departure from policy.

Principle

The site is wholly within an area designated in the adopted LDP as an existing employment area. Policy ED1 Employment and Mixed Use Areas therefore applies, specifically part A of that policy which requires that areas identified for employment uses should be retained for such uses. As such the proposal in principle, given the residential element proposed is contrary to the adopted

LDP. Following consultation with the Council's Strategy and Policy Team their view is that the development of part of the site for housing would result in the loss of a sizeable area of the existing employment area and there is a risk that it could set an undesirable precedent for further moves away from employment use. This is currently the only significant industrial estate in the town and it is therefore important that is it protected and retained for employment uses.

The above LDP is currently subject to review and the proposed LPD2 consultation took place between December 2017 and February 2018 and the LDP2 and associated documents have recently been submitted to Scottish Ministers for examination. During this consultation period the owners of this site submitted representations regarding the allocation of this site.

In a change from the adopted LDP, the proposals maps in Proposed LDP2 now distinguishes between 'core' and 'general' business and industrial areas. Core areas should be retained for Class 4, 5 and 6. The purpose of differentiating between core and general areas is to enable the Council to protect the most important areas for Class 4, 5 and 6 uses, and conversely to identify those areas where there may be potential for a wider mix of uses.

LDP2 is currently at examination. The applicant submitted a representation on the Proposed Plan requesting that the site of the former Fisher's Laundry be allocated so that Policy 7B: Mixed Use Areas applies rather than part A of the Policy. The details of this will be considered within the “Proposed LDP2” section below.

Adopted Local Development Plan

The applicant was advised during consideration of the previously withdrawn application that detailed evidence of a full marketing exercise to seek an employment use for the site requires to be provided for any consideration to be given to a departure from policy ED1A in order to demonstrate any continued demand for employment uses on this site.

This application includes details of a marketing exercise which was undertaken by JLL which commenced in July 2016. The site was subsequently purchased by the Lomond Group (the current applicant). The exercise indicates that there was no other developer interest in the site. A further assessment of the potential demand for employment uses on the site was undertaken by J & E Shepherds Surveyors. This included establishing the possibility of splitting the existing building into smaller units. This information concludes that the building as a whole, given its size would unlikely generate a tenant and that investment required to modernise and split the building into smaller units would be unviable.

They then assess the demand for new commercial space in Aberfeldy which concludes that the main types of occupiers are generally seeking premises of 1000sqft in area which can qualify for 100% rates relief. The report concludes that the proposed commercial units on the eastern side of the site will allow for

this and that there is no market demand to retain the entire site for employment based uses.

Further information is presented in relation to job creation and states that the number of jobs which could potentially be created within the proposed industrial units on site would be similar to that likely to have been employed at Fishers prior to closing.

Proposed LDP2

Whilst all of the above evidence is noted the examination process associated with LDP2 for this particular site is also relevant as referred to above.

The site of the former Fishers Laundry is within the Aberfeldy Business Park. Aberfeldy is one of the largest settlements in the Highland area and plays an important role in the economy of this area. The consolidation and expansion of employment land within the eastern edge of Aberfeldy is important to provide opportunities for sustainable economic growth within an accessible location. The Business Park is therefore identified in the LDP2 as an Employment Safeguarding (Core) Area. There is also an allocated site (E10) which is identified as Area of Proposed Employment (Core) but until such time as this allocated and site is delivered the Business Park is the only area in Aberfeldy which is specifically identified in the LDP2 for safeguarding for employment uses under Policy 7A.

LDP2 is currently at examination. The applicant submitted a representation on the Proposed Plan requesting that the site of the former Fisher's Laundry be allocated so that Policy 7B: Mixed Use Areas applies rather than part A of the Policy. The issue will therefore be subject to the examination process and the final decision will be made by the appointed Scottish Government Reporter. At their meeting on 29 August the Council agreed the responses to the issues raised in the representations by the applicant. The following is an extract from that agreed response to the representation from the applicant:

'The removal of a sizeable part of the Business Park from the Employment Safeguarding (Core) designation will impact on local availability of serviced land and buildings for business, industry or storage and distribution uses in Aberfeldy. It is acknowledged, however, that a marketing exercise has been undertaken and that this concluded that at that time there was '…no commercial demand for the continued use / operation of this site for solely business / industrial purposes' (Representation 0191/01/001). Whilst the delivery of employment land is important the Council recognises that the viability of redeveloping this site wholly for employment uses is marginal at best as, in addition to the demolition and development costs, the former use suggests a high likelihood of contamination on site. There would therefore be merit in considering a mixed use site if limited residential units could cross subsidise the delivery of small business units."

The support from the Community Council for allowing the site to be redeveloped for a mix of residential and commercial / business uses is

acknowledged. Changing the designation of this site to mixed use under Policy 7B may enhance the viability of the site, subject to safeguards to ensure the delivery of business units prior to the occupation of the first house.

In their response (known as a Schedule 4 response) the Council acknowledged the potential difficulties in redeveloping the whole site for employment uses. The fact remains, however, that this site is now subject to the examination process and it will therefore be for the Examination Reporter to determine whether the site should be reallocated to allow for non-employment uses.

Whilst no modification is proposed to the LDP the Council has indicated if the reporter is minded to accept the modification, they would wish that the following specific developer requirements are included:

- Class 4 units compatible with neighbouring residential uses will be delivered in advance of the occupation of the first residential unit.
- Residential uses to comprise no more than 50% of the site
- A contamination study and remediation if required
- Flood risk assessment
- Suitable vehicular access and road layout through the site
- Noise attenuations measures may be required'

In response to the above view, the applicant's agent has submitted an additional planning statement which seeks to address the response from the Council. The applicant states in paragraph 3.2 that neither of the parties who submitted a representation on this site (Lomond Group and the Community Council) would be 'prejudiced if this application were to be granted planning permission given that the issue of planning permission would have the effect of securing the modification which has been sought by both of said parties'. This, however, misses the point that the Reporter may decide not to accept the modification which has been put forward by these two parties. The Reporter could instead choose to leave the Plan as is, i.e. retain the site within the wider Employment Safeguarding (Core) Area.

I disagree with the statement in paragraph 3.4 that the terms of the Schedule 4 provide sufficient weight to 'justify setting aside the terms of the current development plan policies which relate to the site', and also in paragraph 3.8 that 'the Council has clearly signalled…that they have no objection to the modification which is proposed'; Whilst the Council's response in the Schedule 4 acknowledges that changing the designation to mixed use may enhance the viability of the site, ultimately no modification has been proposed to the Plan in the Schedule 4 response.

I also disagree with the statement in paragraph 3.7 that 'it is neither necessary or indeed justifiable to await the outcome of the ongoing Examination…before making a positive decision on this application. ' It is entirely appropriate to await the outcome of the Examination as not doing so could potentially result in the Council granting planning permission for a use which is contrary to the

Development Plan if the Reporter decides not to modify the Plan. The Council cannot be seen to pre-empt the decision of an appointed reporter.

My view is that whilst the proposed mixed use outlined in the submission may be able to be justified this is still entirely dependent on the outcome of the examination process of the LDP2.

My view is that as it stands the adopted LDP remains relevant and approval of this application before the LDP2 has been examined would only serve to undermine the Council's policy position, regardless of the justification provided by the applicant. The applicant was advised that the most appropriate mechanism for seeking a mixed use development on the site is through the LDP process and not to submit this application until the LDP2 examination process was complete but has chosen to do so. As such the application is considered to be premature at this time and any further application should await the outcome of the examination process. As such the proposal is considered contrary to Policy EP2 of the LDP.

Design and Layout

A detailed description of the proposed layout of the site is provided within the background and description section above. Policy RD1 of the LDP states that infill residential development will be accepted where the density makes the most efficient use of the site and where existing residential amenity will be retained and respected. My concerns relating to the principle of residential use of the site area outlined above. Nevertheless I am required to consider whether the overall layout is acceptable. I consider the density levels of the proposed housing and flats to be acceptable and to relate successfully to established character of this part of Aberfeldy. The bungalow units are located within relatively small plots but given their size the garden ground for each plot is considered to be sufficient.

The layout also proposes to front two of the bungalows onto Home Street with the larger flats located towards the centre of the site where their scale and mass will be reduced given the distance from the public realm. I consider the layout of the residential element of the site and density levels proposed to be acceptable and to accord with Policy RD1 where it relates to density and character. The scale and design of the bungalows and flatted blocks are generally considered to be acceptable and proposes to utilise white smooth render and larch cladding on the walls, together with grey upvc windows and a concrete tile roof. In this part of Aberfeldy almost all of the properties have a natural slate roof. On that basis I consider this to be a key component of the character of the conservation area. As such it is recommended that a condition secures the use of a natural slate roof on the residential buildings, to ensure the overall design complies with the requirements of policy HE3A of the LDP.

Nevertheless the principle of the proposed residential development on the site remains unacceptable for the reasons outlined in the principle section above.

Indicative landscaping is marked on the site plan including a landscaped buffer between the residential and light industrial elements. Full details of the proposed landscaping should be secured by condition.

The proposed light industrial units are located at the eastern end of the site adjacent to the existing industrial uses and in terms of layout this is considered to be the most appropriate location for these uses. The proposed design of the units is relatively simple and conducive to the use of the buildings and are considered to be acceptable in the context of the area.

Residential Amenity

Noise

The site is located within close proximity to Aberfeldy Business Park where a number of industrial uses operation. Policy EP8 of the LDP states that there is a presumption against the siting of noise sensitive uses (residential) close to sources of noise generation. A Noise Impact Assessment (NIA) accompanies the application as PKC Environmental Health (EH) previously raised concern that the residential amenity of future occupiers of the site would be poor.

EH have considered the NIA and indicated that the methodology used is not appropriate and this is detailed in their response. They have also indicated that the adjacent waste water treatment works and gritting operations (though seasonal) operate over a 24 hour period and no assessment of night time noise levels has been provided. EH also indicate that other industrial uses operate to 1900hrs and no daytime noise levels beyond 1530hrs have been assessed.

They have also concluded that the mitigation proposed (windows being closed, double glazing and acoustic trickle vents) is not appropriate to cater for industrial noise given that it is irregular and contains different types of noise source components. It is considered more appropriate to assess noise with windows open.

Overall EH do not consider the methodology used to be appropriate in assessing the impact of the existing industrial uses on the proposed residential properties and therefore objected to the application as it has not been demonstrated that noise from the industrial estate will not adversely impact on the residential amenity of future occupants of the development. The proposal is therefore contrary to Policy EP8 of the LDP.

Overlooking and Daylight/Sunlight

The orientation of the flats blocks and houses are positioned to minimise the impact on residential amenity and to meet the Council's guidance. Recognised guidance on this matter which is based upon the Building Research Establishment's (BRE) guide on site layout planning which is applied throughout Perth and Kinross seeks a minimum of 18m from window to window and a minimum of 9m window to boundary. These requirements

are met on the southern boundary of the site and whilst they are not met on the new bungalows, these are single storey and the proposed boundary treatments will prevent overlooking between these properties.

In terms of daylight and sunlight reduction, again there is guidance in place which allows an assessment of impact to be made. The 25 degree approach applies. This requires suitable daylight for habitable rooms to be achieved when a 25 degree vertical angle is taken from the centre of the lowest window on an existing property. The line from this window at a 25 degree angle determines what the maximum ridge height of the adjacent building. In this instance given the distance between the existing properties and the proposed development the proposal would not result in loss of daylight and sunlight to the surrounding properties.

Flooding and Drainage

The site is proposed to connect to the public drainage system which is considered to accord with the requirements of Policy EP3B of the LDP.

In terms of flood risk, Policy EP2 of the LDP states that there will be a general presumption against proposals for built development or land raising on a functional flood plain and in areas where there is a significant probability of flooding from any source or where the proposal would increase the risk of flooding elsewhere. The Council's Structures and Flooding Team have indicated that they are currently carrying out a flood protection study for Aberfeldy. As it is ongoing the outputs from the study are not yet public but they would use this as the main source of flood risk information for Aberfeldy for assessing applications.

They have advised that the outputs from the Council's flood study vary from those outlined in the submitted Flood Risk Assessment (FRA) for this application. As such, Structures and Flooding have indicated that the design flows in the FRA are lower than those used for the River Tay in the Council's study. Structures and Flooding are therefore seeking for the consultant to re-run their modelling based upon the flows identified in the Council's study.

They have also advised that some of the non residential buildings proposed on the site are located within the functional flood plan which is not acceptable and that it was unclear whether there was any landraising proposed.

Given the concerns outlined above regarding the principle of development on this site I do not intend to request this additional information relating to flood risk. On that basis the proposal is considered to be contrary to Policy EP2 of the LDP as insufficient information has been submitted to demonstrate that the site is free from flood risk.

Affordable Housing

The Council's Affordable Housing Policy requires that 25% of the total number of houses, above a threshold of 5 units, for which planning consent is being sought is to be in the form of affordable housing.

For the purposes of this calculation the former dwellinghouse 'Parkfield House' will be exempt from the affordable housing requirement as it is to revert back to residential use from an office. The affordable housing requirement is calculated on the 15 new build units and equates to 3.75 units (15 x 25%).

Within Aberfeldy there is an identified need for 2 and 3 bed affordable units. The proposal as it stands does not include information as to how the affordable housing requirement will be delivered. The Council would seek the delivery of 3 units' onsite in the first instance with the remaining 0.75 unit equivalent made through a commuted sum. The commuted sum payment for the Highland Hosing Market Area is £19,000 per unit.

Within Aberfeldy there is an identified need for 2 and 3 bed affordable units. The proposal as it stands does not include information as to how the affordable housing requirement will be delivered. The Council would seek the delivery of 3 units' onsite in the first instance with the remaining 0.75 unit equivalent made through a commuted sum. The commuted sum would therefore be £14,250. The applicant has indicated that their preferred method for delivery of affordable housing on site would be (mid market rent) MMR or subsidised low cost for sale. Discussions are taking place with the Affordable Housing Enabler regarding the exact tenure of units on site. Whilst these discussions are ongoing the principle of development on this remains unacceptable as outlined above.

Developer Contributions

The Council Developer Contributions Supplementary Guidance requires a financial contribution towards increased primary school capacity in areas where a primary school capacity constraint has been identified. A capacity constraint is defined as where a primary school is operating, or likely to be operating following completion of the proposed development and extant planning permissions, at or above 80% of total capacity.

This proposal is within the catchment of Breadalbane Primary School.

Education & Children's Services have no capacity concerns in this catchment area at this time.

Access and Parking

The site is proposed to be provided with an appropriate access at its north west corner into Home Street. This will provide access into the site to serve the proposed residential elements of the site and the employment uses

proposed at the sites eastern end. The access onto Home Street is considered to be appropriate and the exact details can be secured by an appropriately worded condition. Transport Planning have reviewed the layout of the site and advised that it is generally considered to be acceptable subject to the provision of an appropriate turning head at the end of the adoptable road and the provision of street lighting with the layout, design and specification to the standards required by the Roads Authority.

Contaminated Land

Due to the former use of the site it has potential to be contaminated. As such there is a requirement under Policy EP12 of the LDP to ensure that an assessment of any potential contamination is undertaken and appropriate remediation measures are put forward for consideration. This could be secured by an appropriately worded condition.

Trees

There are trees located within the grounds of the existing dwellinghouse which are proposed to be retained. These should be protected during construction operations as they contribute to the character of the Conservation Area. This can be secured by an appropriately worded condition.

Bio Diversity

The demolition of existing buildings on the site may impact on both nesting birds and bats. The demolition of the buildings is considered separately under application 18/01663/CON. A bat and bird survey should be submitted so an understanding of the impact can be understood and these should be submitted with any follow up application.

Economic Impact

Whilst there will be economic benefit associated with the application given the provision of additional housing and business units, together with the economic benefits associated with the construction operations this is not considered to outweigh the reasons for refusal outlined below.

Conclusion

In conclusion, the application must be determined in accordance with the adopted Development Plan unless material considerations indicate otherwise. In this respect, the proposal is considered to be contrary to the adopted Local Development Plan 2014. I have taken account of material considerations, including the contents of the Proposed LDP2 and the fact that it is currently subject to examination and consider these to add weight to the recommendation of refusal in this instance.

APPLICATION PROCESSING TIME

The recommendation for this application has been made within the statutory determination period.

LEGAL AGREEMENTS

None required.

DIRECTION BY SCOTTISH MINISTERS

None applicable to this proposal.

RECOMMENDATION

Refuse the application

Reasons for Recommendation

The proposal is contrary to Policy EP2 (Employment) of the Perth and Kinross Local Development Plan (LDP) 2014 which states that areas identified for employment uses should be retained for such uses. The proposed residential development on the site would result in the loss of an allocated employment site. Whilst information has been submitted which seeks to depart from policy EP2, the allocation of this site is currently subject to review through the Proposed LDP2. LDP2 is currently subject to examination and no modification is proposed to the plan. As such the application is considered to be premature at this time and any further application should await the outcome of the Scottish Minister's examination process.

The proposal is contrary to Policy EP8 (Noise Pollution) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed residential development can be accommodated on site without its amenity being detrimentally affected by the adjacent industrial uses.

The proposal is contrary to Policy EP2 (New Development and Flooding) of the Perth and Kinross Local Development Plan 2014 as insufficient information has been submitted to demonstrate that the proposed development would not be at risk from fluvial flooding.

Justification

The proposal is not in accordance with the Development Plan and there are no material reasons which justify departing from the Development Plan

Informatives

None

Procedural Notes

Not Applicable.

PLANS AND DOCUMENTS RELATING TO THIS DECISION

18/01662/1

18/01662/2

18/01662/3

18/01662/4

18/01662/5

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Date of Report

29 October 2018

design statement

Mixed Use Development, Home Street, Aberfeldy

Revision E
06.03.18

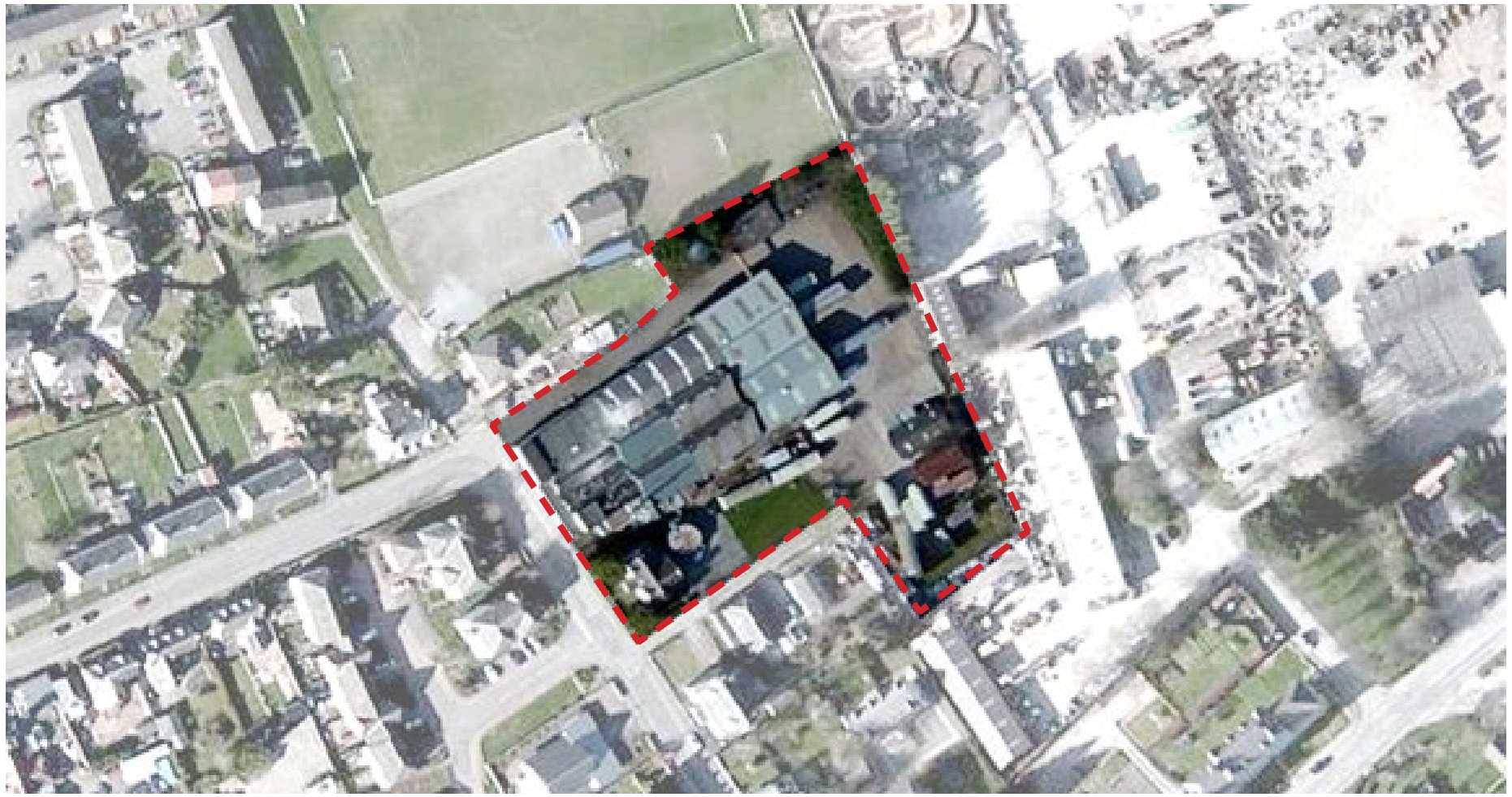
1.00 INTRODUCTION & SITE

This document describes a proposal for mixed use residential and light industrial development by considering the existing site character in terms of the aesthetic and social context in which it is situated.

The proposed plans have been developed by Aim Design working with McGregor McMahon Structural Engineers for Lomond Group. The proposals have been further developed reflecting meetings held with Aberfeldy Community Council and discussion with Perth & Kinross Council. This document should be read in conjunction with the following supporting documents available under separate cover:

- Flooding Statement: McGregor McMahon Engineers
- Planning Policy Statement: Andrew Bennie Planning Ltd.

It is proposed to develop fifteen new build residential units and five light industrial units (2 new, 3 existing) in a mixed use development on the historical site of Fisher's Laundry on Home Street, Aberfeldy. The existing building, Parkfield House is to be restored to residential use. The site has lain unused for a considerable period of time and it is proposed that it could be re-imagined as a functional piece of Aberfeldy's townscape structure and amenity.



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SITE HISTORY

Historically the site operated as a laundry works for Fishers Laundry, who were originally established in Aberfeldy in 1900. In 2015 prior to its closure the facility employed over 40 permanent members of the local community. Since its closure the building has failed to attract a viable operator and has lain empty whilst on the market.

The north of the site is bounded by Breadalbane FC grounds, to the south and west is a residential area, and to the east are commercial, light industrial properties.

Parkfield House, located within the site boundary at the southern corner, was originally constructed as a residence but has in recent times been used as offices.

2.00 THE SITE - Photographic Record

Photographs of the former Fisher’s Laundry site and Parkfield House

3.00 COMMUNITY CONSULTATION

Aim and their client Lomond Group were invited to present outline proposals to Aberfeldy Community Council at Aberfeldy Town Hall, Wednesday 6th of Sept. 2017. The meeting was attended by approximately 25 members of the community. The proposals for low cost housing and additional small business accommodation was received positively. The Community Council were in support of the redevelopment of the former Fishers Laundry site to residential and the opportunity additional centrally located small business space would present to support the business hub space recently established. There were no strong views on the retention of the former factory which was considered unsightly by several attending the meeting. The support from the Community Council was unanimous with no adverse comments received.

4.00 REMOVALS & RETENTION

It is proposed that the former derelict Fisher's Laundry facility is demolished, however several buildings on site are to be retained and incorporated into the proposal. This includes Parkfield House and three light industrial units will be refreshed internally and made available for business use.

The site benefits from established existing road access points off of Home Street that are to be upgraded as required as part of this proposal.

RETENTION OF PARKFIELD HOUSE

It is proposed that the internal layout of Parkfield House will remain unchanged. It is proposed to refurbish the internal material including the decoration, flooring, kitchen and bathroom spaces. Essential repairs will also be carried out to the roof. All spaces will remain as the original house layout which has remained unaltered during its use as an office.

5.00 DESIGN OBJECTIVES

The design concept is to replace the building and urban edge of the former Fisher's Laundry on Home Street, to not exceed the existing heights of the Laundry adjacent to Home Street, to integrate the site with the local streets and green spaces, and to increase the quality of housing stock in the Aberfeldy area with low to medium cost housing.

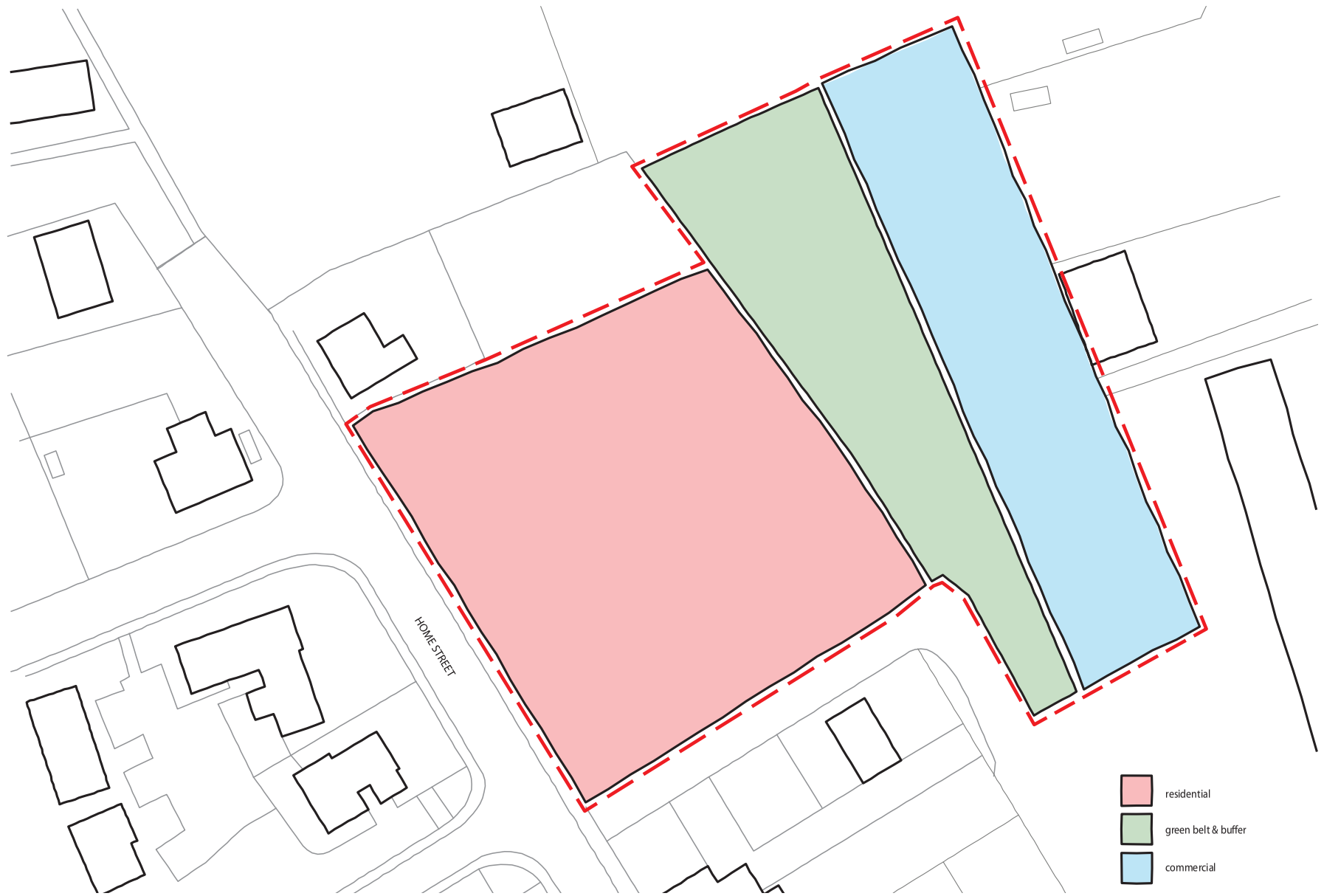
Of key importance is the retention of the urban edge on Home Street. The elevations of the proposed courtyard bungalow buildings pay homage to the Fisher's Laundry peaked roof finials, identifying these former features with the two peaked chimney points, reflecting the historical elevation.

The west most area adjacent to Home Street is proposed to become a mixture of semi-detached, detached and flatted housing. This will introduce inhabited areas back to this corner of Home Street.

Additionally, the area to the rear of the site is proposed to be retained as light industrial and strengthened with additional commercial space for small businesses.

Between these two zones is an area of green space to provide additional planted amenity as well as secondary screening from the light industrial zone to the east. The existing mature greenbelt to the extreme east boundary is to be retained in full to strengthen natural screening between the residential and commercial zones.

A high quality of the design is proposed to create an improved contribution to the character, environment, and general amenity of the surrounding area. At the same time, reference is derived from the existing character of the Fisher's Laundry facility in terms of massing, material and Home Street building edge.



6.00 PROPOSAL

The plan to the right indicates the proposed layout of buildings and their relationship to the existing context.

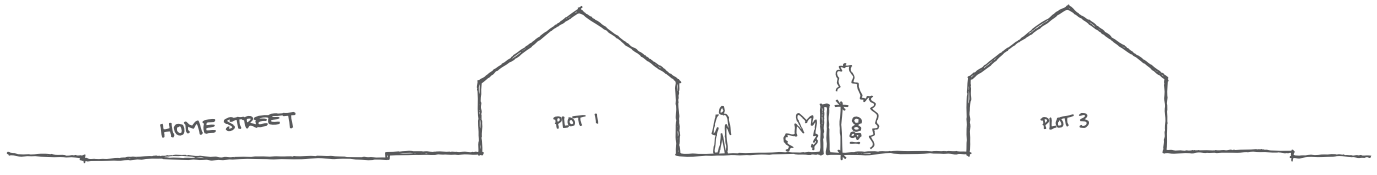
The proposed site development consists of:

- Semi-detached and detached bungalows type (7 of);
- Two storey flatted type (8 of);
- Change of use of Parkfield House back to residential
- Single storey commercial / light industrial type (2 new units with 3 existing units to be retained)

The density of accommodation is designed to be contextually similar to the neighbouring areas.

Parking is provided at a rate of 2 off street spaces per bungalow (14 total), 2 off street parking spaces for Parkfield House and 20 off street spaces for the flatted development (including 3 dedicated wheelchair accessible spaces). 16 off street spaces (including 2 dedicated wheelchair accessible spaces) are proposed for the existing and new light industrial units.

Existing elevation (top) and proposed (bottom) showing two peaked chimney points



Section through bungalow properties indicating 1800mm high privacy fence and planting between gardens and opposing habitable rooms

7.00 PREVIOUS APPLICATION

In October 2017 an application was lodged, also for fifteen new build residential units and five light industrial units in a mixed use development (reference 17/01864/FLL). Following discussions with Planning Officer John Williamson this application was withdrawn and a meeting arranged. At this meeting (30/11/17 at PKC offices in Perth) between the Planning Officer, Developer, Architect and Planning Consultant an alternative strategy was tabled for the site which increased each of the building / plot ratios and clarified several aspects of policy. Additionally extra information was provided regarding the design suitability to local context and a local area building / plot ratio comparison. This extra information can be found in this document in sections 9. & 10.

This new planning application embraces and applies the design amendments discussed and agreed at this meeting. The plot areas of each house have been increased and the building / plot ratio has subsequently improved for each house to levels that were considered acceptable to the case officer at that time.

Originally proposed application site plan

	PLOT(m²)	HOUSE(m²)	GARDEN(m²)	PRIVATE(m²)	BUILD TO PLOT
1	248.8	98	151	84.5	39%
2	257	98	159	82	38%
3	269	98	171	103	36%
4	283	98	185	105	34%
5	264	83.6	180.4	121	32%
6	211	83.6	127.4	76	39%
7	255.6	75	180.6	115	29.4%
8-11	408.5	153.5	255	107	
12-15	418	153.7	264.3	106	

	COMMERCIAL(m²)
A	100 (exist)
B	108
C	135.7 (exist)
D	90 (exist)
E	108

Originally proposed application building / plot ratios

	PLOT(m²)	HOUSE(m²)	GARDEN(m²)	PRIVATE(m²)	BUILD TO PLOT
1	322.5	98	224.5	145.5	30%
2	307.8	98	209.8	131.7	32%
3	300	98	202	131.5	33%
4	316	98	218	135.8	31%
5	301	83.6	217.4	168	27.7%
6	270	75	195	129	27.7%
7	273.7	75	198.7	126.7	27.4%
8-11	407.8	153.5	254.3	106	
12-15	418	153.7	264.3	106	

	COMMERCIAL(m²)
A	100 (exist)
B	108
C	135.7 (exist)
D	90 (exist)
E	108

Revised application building / plot ratios

8.00 SITE PLAN

- Extent of adoptable access road
- Application boundary
- Asphalt paving
- Asphalt rd
- Permeable concrete sets
- 600x600 concrete paviours
- Grassed area

	PLOT(m²)	HOUSE(m²)	GARDEN(m²)	PRIVATE(m²)	BUILD TO PLOT
1	322.5	98	224.5	145.5	30%
2	307.8	98	209.8	131.7	32%
3	300	98	202	131.5	33%
4	316	98	218	135.8	31%
5	301	83.6	217.4	168	27.7%
6	270	75	195	129	27.7%
7	273.7	75	198.7	126.7	27.4%
8-11	407.8	153.5	254.3	106	
12-15	418	153.7	264.3	106	

	COMMERCIAL(m²)
A	100 (exist)
B	108
C	135.7 (exist)
D	90 (exist)
E	108

9.00 LOCAL PLOT DENSITY

Proposed site

Proposed dwelling plot sizes

Randomly selected existing local dwelling plot sizes

Proposed flatted development plot sizes

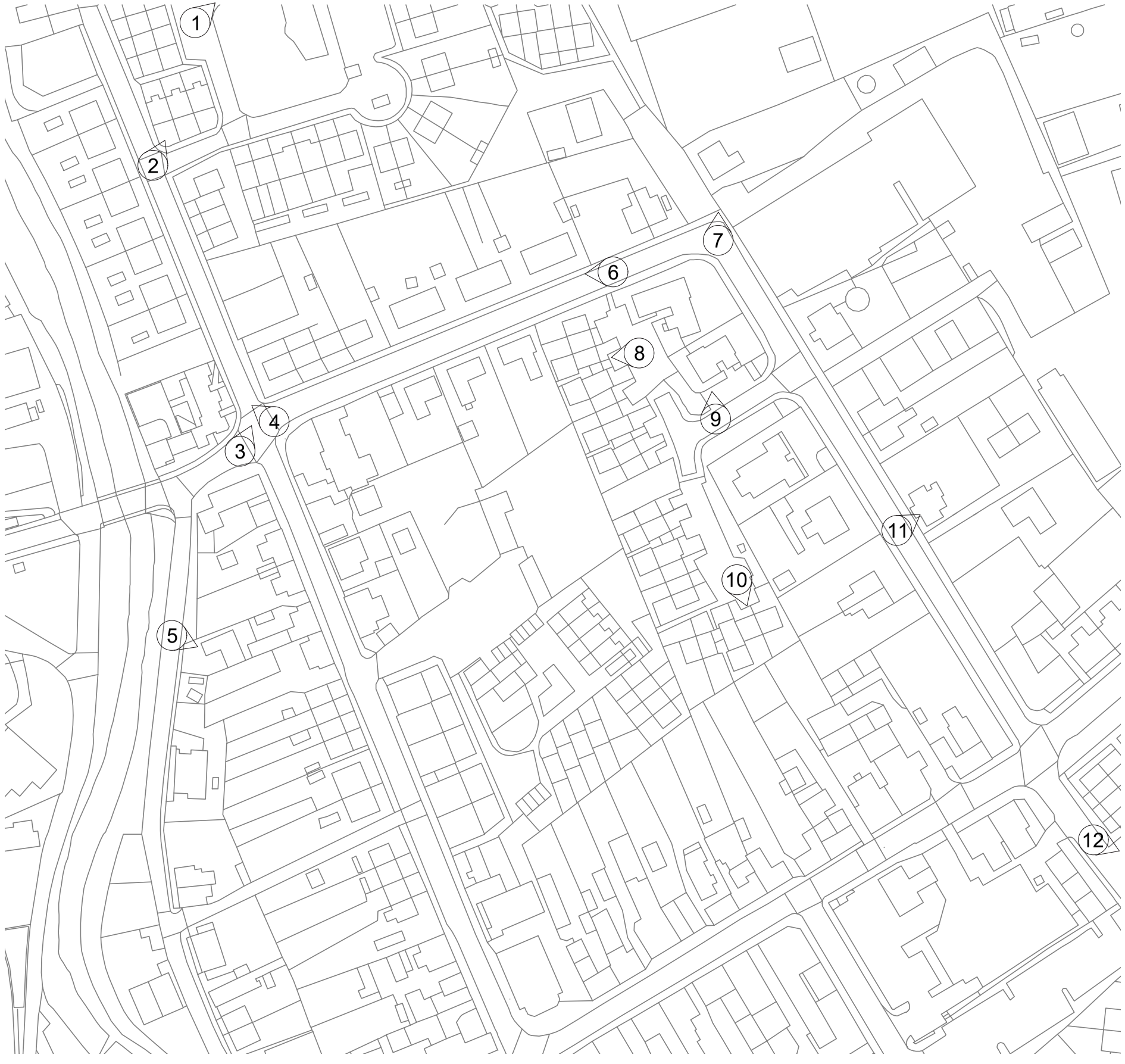
Existing 6 & 8 flat plot sizes

–% Building to plot ratio

The proposed detached and semi-detached dwellings are equal to or greater in area than a large proportion of the existing surrounding built developments.

10.00 LOCAL CONTEXT

The local context consists of a variety of white rendered, single to three storey, semi detached dwellings with grey slate or tiled roofs. The design of the proposal aims to emulate the style of the neighbouring buildings in order to integrate within the fabric of the town. This includes Rowan Cottage and Parkfield House, both of which are white rendered and grey roofed and site on either side of the primary development elevations.



10.01 LOCAL CONTEXT

1

2

3

4

5

6

7

8

9

10

11

12

11.00 VISUALS - MAIN HOME STREET PROPOSED ELEVATION - LOOKING EAST

430

11.01 VISUALS - PROPOSED AERIAL VIEW - LOOKING EAST

11.02 VISUALS - PROPOSED INTERNAL STREET VIEW - LOOKING SOUTH EAST

DRAWING ISSUE/RECORD

Page No. 01 Sheet No. 01

PROJECT Housing Aberfeldy **REF NO.** 17014

DATE OF ISSUE																																
	year	17	17	17	18	18																										
	month	08	10	10	09	09																										
	day	15	20	26	12	12																										

DRAWING TITLE	DRG NO	AMENDMENTS																														
Existing location plan	EX00		✓		A	A																										
Existing site plan	EX01		✓		A	A																										
Proposed Site Plan	PL01	✓	A	B	E	E																										
Proposed plan & elevs plot 1-4	PL02	✓	✓	A	B																											
Proposed plan & elevs plot 5-7	PL03	✓	✓		B																											
Proposed plan & elevs plot 8-15	PL04	✓	✓		A																											
Proposed plan & elevs light industrial B	PL05		✓	A	C																											
Proposed site elevs	PL06		✓		B																											
Proposed plan & elevs light industrial E	PL07				✓																											
Design Statement			B		C	C																										

DISTRIBUTION

COPIES / FORMAT

	Client	✓	✓	✓																												
	Local Authority		✓	✓	✓	✓																										
	Structural Consultant		✓																													
	M & E Consultant																															
	Quantity Surveyor																															
	Main Contractor																															
	Planning Consultant		✓																													
	Other																															

LEGEND

✓	no amendments
E/B	capital indicates drawing revision
c	writable CD
e	electronic mail

ADDITIONAL INFORMATION

	Planning application	Planning application	Planning Permission	Conservation Area Conse																												

aim, unit 5, city quay, camperdown street, dundee, dd1 3ja
t: 01382 200505 f: 01382 201185 e: admin@aimdesign.co.uk w: www.aimdesign.co.uk

TCP/11/16(583) – Planning Application – 18/01662/FLL – Change of use of office to dwellinghouse, erection of 2 units (class 4), erection of 7 dwellinghouses, 8 flats and associated works, land 60 metres north of Burnside Joiners, Home Street, Aberfeldy

REPRESENTATIONS

Nael Hanna
[redacted]

Support

18th September, 2018

Mr John Williamson
Planning Officer – Development Management
Perth and Kinross Council
Pullar House – 35 Kinnoull Street
Perth
PH1 5GD

RECEIVED
20 SEP 2018

Planning Ref: 18/01662/FLL
Old Fishers Laundry, Home Street, Aberfeldy.

Dear Mr Williamson,

As per my previous letter to you on the 21st November 2017. I wholeheartedly support this application and would like to enquire whether there is a possibility of a studio within this development incorporating working from home.

I obtain a lot of my inspiration from the surrounding area, creating landscape art.

I would be inspired to work from home in a studio located in the centre of Aberfeldy.

Your advices would be greatly appreciated.

Kind Regards

[redacted]

ENTERED IN COMPUTER
20 SEP 2018

Nael Hanna.

RECEIVED
28 SEP 2018

On Tap Water and Drainage Ltd

[redacted]

John Williamson (Planning Officer)
Development Management
Perth & Kinross Council
Pullar House
35 Kinnoull Street
Perth
PH1 5GD

Date: 18th September, 2018

ENTERED IN COMPUTER
28 SEP 2018

Dear Mr Williamson,

Re: Planning Ref 18/01662/FLL - Old Fishers Laundry, Aberfeldy.

I can confirm that we support the old fishers laundry in Aberfeldy's new planning application reference stated above and in conjunction with my previous letter to you in November of last year.

We do a lot of water mains work in this area and can support the use of a small commercial unit. The housing development is a prefect size for my son to relocate and run this depot.

I look forward to a positive outcome for this exciting new development.

Yours sincerely

[redacted]

Tom Pryde

18th September 2018

Perth & Kinross Council
Pullar House 35 Kinnoull Street
Perth
PH1 5GD

Development Operations
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
Glasgow
G33 6FB

Development Operations
Freephone Number - 0800 3890379
E-Mail - DevelopmentOperations@scottishwater.co.uk
www.scottishwater.co.uk

Dear Local Planner

PH15 Aberfeldy Home St Land 60M N Burnside Joiners
PLANNING APPLICATION NUMBER: 18/01662/FLL
OUR REFERENCE: 766757
PROPOSAL: Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works

Please quote our reference in all future correspondence

Scottish Water has no objection to this planning application; however, the applicant should be aware that this does not confirm that the proposed development can currently be serviced and would advise the following:

Water

- There is currently sufficient capacity in the Killiecrankie Water Treatment Works. However, please note that further investigations may be required to be carried out once a formal application has been submitted to us.

Foul

- There is currently sufficient capacity in the Aberfeldy Waste Water Treatment Works. However, please note that further investigations may be required to be carried out once a formal application has been submitted to us.

The applicant should be aware that we are unable to reserve capacity at our water and/or waste water treatment works for their proposed development. Once a formal connection application is submitted to Scottish Water after full planning permission has been granted, we will review the availability of capacity at that time and advise the applicant accordingly.

Surface Water

For reasons of sustainability and to protect our customers from potential future sewer flooding, Scottish Water will not normally accept any surface water connections into our combined sewer system.

There may be limited exceptional circumstances where we would allow such a connection for brownfield sites only, however this will require significant justification from the customer taking account of various factors including legal, physical, and technical challenges.

In order to avoid costs and delays where a surface water discharge to our combined sewer system is anticipated, the developer should contact Scottish Water at the earliest opportunity with strong evidence to support the intended drainage plan prior to making a connection request. We will assess this evidence in a robust manner and provide a decision that reflects the best option from environmental and customer perspectives.

General notes:

- **Scottish Water asset plans can be obtained from our appointed asset plan providers:**

  Site Investigation Services (UK) Ltd
  Tel: 0333 123 1223
  Email: sw@sisplan.co.uk
  www.sisplan.co.uk

- Scottish Water's current minimum level of service for water pressure is 1.0 bar or 10m head at the customer's boundary internal outlet. Any property which cannot be adequately serviced from the available pressure may require private pumping arrangements to be installed, subject to compliance with Water Byelaws. If the developer wishes to enquire about Scottish Water's procedure for checking the water pressure in the area then they should write to the Customer Connections department at the above address.

- If the connection to the public sewer and/or water main requires to be laid through land out-with public ownership, the developer must provide evidence of formal approval from the affected landowner(s) by way of a deed of servitude.

- Scottish Water may only vest new water or waste water infrastructure which is to be laid through land out with public ownership where a Deed of Servitude has been obtained in our favour by the developer.

- The developer should also be aware that Scottish Water requires land title to the area of land where a pumping station and/or SUDS proposed to vest in Scottish Water is constructed.

- **Please find all of our application forms on our website at the following link https://www.scottishwater.co.uk/business/connections/connecting-your-property/new-development-process-and-applications-forms**

Next Steps:

- **Single Property/Less than 10 dwellings**

  For developments of less than 10 domestic dwellings (or non-domestic equivalent) we will require a formal technical application to be submitted directly to Scottish Water or via the chosen Licensed Provider if non domestic, once full planning permission has been granted. Please note in some instances we will require a Pre-Development Enquiry Form to be submitted (for example rural location which are deemed to have a significant impact on our infrastructure) however we will make you aware of this if required.

- **10 or more domestic dwellings:**

  For developments of 10 or more domestic dwellings (or non-domestic equivalent) we require a Pre-Development Enquiry (PDE) Form to be submitted directly to Scottish Water prior to any formal Technical Application being submitted. This will allow us to fully appraise the proposals.

  Where it is confirmed through the PDE process that mitigation works are necessary to support a development, the cost of these works is to be met by the developer, which Scottish Water can contribute towards through Reasonable Cost Contribution regulations.

- **Non Domestic/Commercial Property:**
  Since the introduction of the Water Services (Scotland) Act 2005 in April 2008 the water industry in Scotland has opened up to market competition for non-domestic customers. All Non-domestic Household customers now require a Licensed Provider to act on their behalf for new water and waste water connections. Further details can be obtained at www.scotlandontap.gov.uk

- **Trade Effluent Discharge from Non Dom Property:**
  Certain discharges from non-domestic premises may constitute a trade effluent in terms of the Sewerage (Scotland) Act 1968. Trade effluent arises from activities including; manufacturing, production and engineering; vehicle, plant and equipment washing, waste and leachate management. It covers both large and small premises, including activities such as car washing and launderettes. Activities not covered include hotels, caravan sites or restaurants.

  If you are in any doubt as to whether or not the discharge from your premises is likely to be considered to be trade effluent, please contact us on 0800 778 0778 or email TEQ@scottishwater.co.uk using the subject "Is this Trade Effluent?". Discharges that are deemed to be trade effluent need to apply separately for permission to discharge to the sewerage system. The forms and application guidance notes can be found using the following link https://www.scottishwater.co.uk/business/our-

services/compliance/trade-effluent/trade-effluent-documents/trade-effluent-notice-form-h

Trade effluent must never be discharged into surface water drainage systems as these are solely for draining rainfall run off.

For food services establishments, Scottish Water recommends a suitably sized grease trap is fitted within the food preparation areas so the development complies with Standard 3.7 a) of the Building Standards Technical Handbook and for best management and housekeeping practices to be followed which prevent food waste, fat oil and grease from being disposed into sinks and drains.

The Waste (Scotland) Regulations which require all non-rural food businesses, producing more than 50kg of food waste per week, to segregate that waste for separate collection. The regulations also ban the use of food waste disposal units that dispose of food waste to the public sewer. Further information can be found at www.resourceefficientscotland.com

If the applicant requires any further assistance or information, please contact our Development Operations Central Support Team on 0800 389 0379 or at planningconsultations@scottishwater.co.uk.

Yours sincerely

Angela Allison
Angela.Allison@scottishwater.co.uk

To:	John Williamson, Planning Officer
From:	Sophie Nicol, Historic Environment Manager
Tel:	01738 477027
Email:	[redacted]
Date:	19th September 2018

18/01662/FLL | Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works | Land 60 Metres North Of Burnside Joiners Home Street Aberfeldy

Thank you for consulting PKHT on the above application.

Recent research by Historic Environment Scotland (HES) in commemoration of the centenary of World War One has revealed that part of the Old Fishers Laundry complex may have originated as a military drill hall. The Aberfeldy Drill Hall was the drill station for "B" Squadron, 1st Scottish Horse and the base for "H" Company, of the 6th Black Watch. The location of the drill hall in Aberfeldy was thought to be Wade Place, to the north west of Home Street. However Wade Place was built in the mid to late 20th century and was a green-field site in 1914. As a double-pitched roof is a frequent characteristic of a drill hall, HES have suggested that a building encapsulated within the modern flat-roofed laundry building was the Aberfeldy Drill Hall. Since our last memo for application 17/01864/FLL a letter from the Fisher family has revealed that family history records suggest there was not a drill hall on site but instead the Laundry buildings were erected by the Fisher family. However, it is feasible that part of the laundry was used as a drill hall for a short period.

As the Laundry complex is proposed for demolition and in addition to the above this complex is an important part of Scotland's industrial heritage therefore an appropriate record of the complex, with particular emphasis on the possible Drill Hall, should be created. It is recommended that a negative suspensive condition for standing building recording be attached to consent, if granted.

Recommendation:
In line with Scottish Planning Policy historic environment section (paragraphs 135-137 and 150), it is recommended that the following condition be attached to consent, if granted:

Development shall not commence until the developer has secured an archaeological standing building survey, to be carried out by an independent and suitable qualified archaeological organisation. The scope of the archaeological standing building survey will be set by Perth and Kinross Heritage Trust on behalf of the Council as Planning Authority. The name of archaeological organisation retained by the developer shall be given to the Planning Authority and Perth and Kinross Heritage Trust in writing not less than fourteen days before the commencement date provided in the Notice of Initiation of Development. Copies of the resulting survey shall be deposited in the National Monuments Records for Scotland and in the Perth and Kinross Historic Environment Record upon completion of the survey.

Notes:

1. **Should consent be given, it is important that the developer, or his agent, contact me as soon as possible. I can then explain the procedure of works required and, if necessary, prepare for them written Terms of Reference.**

2. This advice is based on information held on the Perth and Kinross Historic Environment Record. This database of archaeological sites and historic buildings is regularly updated.

Comments to the Development Quality Manager on a Planning Application

Planning Application ref.	18/01662/FLL	**Comments provided by**	Euan McLaughlin
Service/Section	Strategy & Policy	**Contact Details**	**Development Negotiations Officer:** Euan McLaughlin T [redacted]
Description of Proposal	Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works		
Address of site	Land 60 Metres North Of Burnside Joiners, Home Street, Aberfeldy		
Comments on the proposal	**NB: Should the planning application be successful and such permission not be implemented within the time scale allowed and the applicant subsequently requests to renew the original permission a reassessment may be carried out in relation to the Council's policies and mitigation rates pertaining at the time.** THE FOLLOWING REPORT, SHOULD THE APPLICATION BE SUCCESSFUL IN GAINING PLANNING APPROVAL, MAY FORM THE BASIS OF A SECTION 75 PLANNING AGREEMENT WHICH MUST BE AGREED AND SIGNED PRIOR TO THE COUNCIL ISSUING A PLANNING CONSENT NOTICE. **Affordable Housing** With reference to the above planning application the Council's Affordable Housing Policy requires that 25% of the total number of houses, above a threshold of 5 units, for which planning consent is being sought is to be in the form of affordable housing. For the purposes of this calculation the former dwellinghouse 'Parkfield House' will be exempt from the affordable housing requirement as it is to revert back to residential use from an office. The affordable housing requirement is calculated on the 15 new build units and equates to 3.75 units (15 x 25%). Within Aberfeldy there is an identified need for 2 and 3 bed affordable units. The proposal as it stands does not include information as to how the affordable housing requirement will be delivered. The Council would seek the delivery of 3 units' onsite in the first instance with the remaining 0.75 unit equivalent made through a commuted sum. The commuted sum payment for the Highland Hosing Market Area is £19,000 per unit. The applicant should contact the Council Affordable Housing Enabler to discuss the options for securing the affordable housing requirement on site. **Primary Education** With reference to the above planning application the Council Developer Contributions Supplementary Guidance requires a financial contribution		

	towards increased primary school capacity in areas where a primary school capacity constraint has been identified. A capacity constraint is defined as where a primary school is operating, or likely to be operating following completion of the proposed development and extant planning permissions, at or above 80% of total capacity. This proposal is within the catchment of Breadalbane Primary School. Education & Children's Services have no capacity concerns in this catchment area at this time.
Recommended planning condition(s)	**Summary of Requirements** Affordable Housing: 3 units on site. Applicant should speak to Affordable Housing Enabler to agree method of securing delivery. Commuted sum payment £14,250 Education: £0 **Total: £14,250** **Phasing** It is advised that the preferred method of payment would be upfront of release of planning permission. Due to the scale of the contribution requirement it may be appropriate to enter into a S.75 Legal Agreement. If S.75 entered into the commuted sum should be made as a single payment. The timescale for this payment is open to discussion but it is suggested that it is made upon completion of the 8th unit.
Recommended informative(s) for applicant	**Payment** **Before remitting funds the applicant should satisfy themselves that the payment of the Development Contributions is the only outstanding matter relating to the issuing of the Planning Decision Notice.** **Methods of Payment** On no account should cash be remitted. **Scheduled within a legal agreement** This will normally take the course of a Section 75 Agreement where either there is a requirement for Affordable Housing on site which will necessitate a Section 75 Agreement being put in place and into which a Development Contribution payment schedule can be incorporated, and/or the amount of Development Contribution is such that an upfront payment may be considered prohibitive. The signed Agreement must be in place prior to the issuing of the Planning Decision Notice. **NB:** The applicant is cautioned that the costs of preparing a Section 75 agreement from the applicant's own Legal Agents may in some instances be

	in excess of the total amount of contributions required. As well as their own legal agents fees, Applicants will be liable for payment of the Council's legal fees and outlays in connection with the preparation of the Section 75 Agreement. The applicant is therefore encouraged to contact their own Legal Agent who will liaise with the Council's Legal Service to advise on this issue. **Other methods of payment** Providing that there is no requirement to enter into a Section 75 Legal Agreement, eg: for the provision of Affordable Housing on or off site and or other Planning matters, as advised by the Planning Service the developer/applicant may opt to contribute the full amount prior to the release of the Planning Decision Notice. **Remittance by Cheque** The Planning Officer will be informed that payment has been made when a cheque is received. However this may require a period of 14 days from date of receipt before the Planning Officer will be informed that the Planning Decision Notice may be issued. Cheques should be addressed to 'Perth and Kinross Council' and forwarded with a covering letter to the following: Perth and Kinross Council Pullar House 35 Kinnoull Street Perth PH15GD **Bank Transfers** All Bank Transfers should use the following account details; **Sort Code:** 834700 **Account Number:** 11571138 Please quote the planning application reference. Direct Debit The Council operate an electronic direct debit system whereby payments may be made over the phone. To make such a payment please call 01738 475300 in the first instance. When calling please remember to have to hand: a) Your card details. b) Whether it is a Debit or Credit card. c) The full amount due. d) The planning application to which the payment relates. e) If you are the applicant or paying on behalf of the applicant. f) Your e-mail address so that a receipt may be issued directly. Affordable Housing For Affordable Housing contributions please quote the following ledger code: 1-30-0060-0000-859136 **Indexation** All contributions agreed through a Section 75 Legal Agreement will be linked to the RICS Building Cost Information Service building Index.

	Accounting Procedures Contributions from individual sites will be accountable through separate accounts and a public record will be kept to identify how each contribution is spent. Contributions will be recorded by the applicant's name, the site address and planning application reference number to ensure the individual commuted sums can be accounted for.
Date comments returned	20 September 2018

SUPPORT

RECEIVED
28 SEP 2018

Fishers

27TH September 2018

John Williamson
Planning Officer
Development Management
Perth and Kinross Council
Pullar House
35 Kinnoull Street
Perth
PH1 5GD

ENTERED IN COMPUTER
28 SEP 2018

Re Planning Application: **18/01662/FLL**

Dear Mr Williamson

I am writing with regards to the site at Home Street, Aberfeldy, which was used as a laundry by my company for over 100 years.

Following on from the decision to close the site we marketed the site nationally with a respected agent. Having exhausted all efforts to sell the site and buildings as a commercial concern we agreed to sell to the current owners. I see good sense in the proposed mixed use of the site and am supportive of the new owners and their planning application.

Yours sincerely

[redacted]

Michael Jones
Managing Director
Fishers Services

18/01662/FLL

SUPPORT.

From Bruce Duguid

[redacted]

01/10/2018

RECEIVED
03 OCT 2018

Dear Mr Williamson

It is my understanding that planning permission is being sought for a housing /business development on a site previously owned by Fishers Laundry Services at home street Aberfeldy. I would like to take the opportunity to express my support towards the development proposal being pursued by Lomond Group. I think this will be a welcomed venture and beneficial to a neglected area of the town and would aid housing pressures in Perthshire. Thank you for your consideration.

Yours sincerely
Bruce Duguid

ENTERED IN COMPUTER
03 OCT 2018

Comments to the Development Quality Manager on a Planning Application

Planning Application ref.	18/01662/FLL	**Comments provided by**	Katrina Walker
Service/Section	TES: Development Plans	**Contact Details**	Planning Officer [redacted]
Description of Proposal	Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works		
Address of site	Land 60 metres North of Burnside Joiners, Home Street, Aberfeldy		
Comments on the proposal	The site is wholly within an area designated in the adopted LDP as an existing employment area. Policy ED1 Employment and Mixed Use Areas therefore applies, specifically part A of that policy which requires that areas identified for employment uses should be retained for such uses. In a change from the adopted LDP, the proposals maps in Proposed LDP2 now distinguish between 'core' and 'general' business and industrial areas. Core areas should be retained for Class 4, 5 and 6. The purpose of differentiating between core and general areas was to enable the Council to protect the most important areas for Class 4, 5 and 6 uses, and conversely to identify those areas where there may be potential for a wider mix of uses. The site of the former Fishers Laundry is within the Aberfeldy Business Park. Aberfeldy is one of the largest settlements in the Highland area and plays an important role in the economy of this area. The consolidation and expansion of employment land within the eastern edge of Aberfeldy is important to provide opportunities for sustainable economic growth within an accessible location. The Business Park is therefore identified in the LDP as an Employment Safeguarding (Core) Area. There is also an allocated site (E10) which is identified as Area of Proposed Employment (Core) but until such time as this allocated site is delivered the Business Park is the only area in Aberfeldy which is specifically identified in the LDP for safeguarding for employment uses under Policy 7A. LDP2 is currently at Examination. The applicant submitted a representation on the Proposed Plan requesting that the site of the former Fisher's Laundry be allocated so that Policy 7B: Mixed Use Areas applies rather than part A of the Policy. The issue will therefore be subject to the Examination process and the final decision will be made by the Reporter. At their meeting on 29 August the Council agreed the responses to the issues raised in the representations. The following is an extract from that agreed response to the representation from the applicant: 'The removal of a sizeable part of the Business Park from the Employment Safeguarding (Core) designation will impact on local availability of serviced land and buildings for business, industry or storage and distribution uses in Aberfeldy. It is acknowledged, however, that a marketing exercise has been undertaken and that this concluded that at that time there was '…no commercial demand for the continued use / operation of this site for solely		

	business / industrial purposes' (Representation 0191/01/001). Whilst the delivery of employment land is important the Council recognises that the viability of redeveloping this site wholly for employment uses is marginal at best as, in addition to the demolition and development costs, the former use suggests a high likelihood of contamination on site. There would therefore be merit in considering a mixed use site if limited residential units could cross subsidise the delivery of small business units. The support from the Community Council for allowing the site to be redeveloped for a mix of residential and commercial / business uses is acknowledged. Changing the designation of this site to mixed use under Policy 7B may enhance the viability of the site, subject to safeguards to ensure the delivery of business units prior to the occupation of the first house. No modification is proposed to the Plan. However if the Reporter is minded to accept the modification the Council would wish that the following specific developer requirements are included: ' • Class 4 units compatible with neighbouring residential uses will be delivered in advance of the occupation of the first residential unit. • Residential uses to comprise no more than 50% of the site • A contamination study and remediation if required • Flood risk assessment • Suitable vehicular access and road layout through the site • Noise attenuations measures may be required' In their response the Council acknowledge the potential difficulties in redeveloping the whole site for employment uses. The fact remains, however, that this site is now subject to the examination process and it will therefore be for the Examination Reporter to determine whether the site should be reallocated to allow for non-employment uses.
Recommended planning condition(s)	None
Recommended informative(s) for applicant	None
Date comments returned	2/10/18

Chair: Victor Clements
Vice Chair:

Aberfeldy Community Council
[redacted]

4th October 2018

Perth and Kinross Council
Development Control
Pullar House,
35 Kinnoull Street,
Perth
PH1 5GD

Dear Sir/ madam,

DEVELOPMENT OF FORMER FISHERS LAUNDRY SITE, 18/01662/FLL

Aberfeldy Community Council Comments

Aberfeldy Community Council discussed this application at our meeting on 3rd October 2018, and as per our submission to the previous application in November 2017, we write to inform you that we unanimously support this application.

Since the initial application, we believe that the zoning of the area has been modified from industrial use only under the Local Development Plan, and we feel that the current mixture of light industrial units and housing is the right mix for this area. The letter of refusal to the previous application suggested that the type of housing envisaged was not in keeping with the area, but we would contend that what is proposed is ABSOLUTELY what is in keeping in that area of Aberfeldy, evidenced by what is already present on adjacent ground.

Allowing that council officers will be able to make a judgement on the fine detail of the application, we very much support the principle, scale and mix of houses and small business space that is proposed, and hope that you can see fit to granting planning permission. We believe that there is unanimous support in Aberfeldy for seeing this site developed along the lines suggested.

As before, it may be outwith the scope of this application, but the right angled corner in the road beside the development is narrow and prone to flooding. If this development provided any reasonable opportunity to address either of these matters, then we would encourage you to look at that, but our priority is to see this site developed and making a contribution to the town once again.

Yours sincerely,

Victor Clements
Chair, Aberfeldy Community Council

M e m o r a n d u m

To	Development Quality Manager	From	Regulatory Service Manager
Your ref	18/01662/FLL	Our ref	LA
Date	16 October 2018	Tel No	[redacted]

Housing & Environment **Pullar House, 35 Kinnoull Street, Perth PH1 5GD**

Consultation on an Application for Planning Permission
RE: Change of Use of Office to Dwellinghouse, Erection of 2 Units (Class 4), Erection of 7 Dwellinghouses, 8 Flats and Associated Works, Land 60 Metres North of Burnside Joiners, Home Street, Aberfeldy for Lomond Group

I refer to your letter dated 17 September 2018 in connection with the above application and have the following comments to make.

Recommendation

I do not believe that sufficient information has been provided to demonstrate that this is a suitable location for the proposed development.

Comments

This application is for a mixed use site and will consist of fifteen new built residential units and five light industrial units. The site is situated in the village of Aberfeldy on the former Fishers laundry site and is situated adjacent to an existing industrial estate to the east and residential properties to the west.

Environmental Health previously raised concerns that this development would be introducing residential properties in close proximity to industrial uses and that this could lead to poor residential amenity to future occupants and requested that a noise impact assessment be undertaken to assess the suitability of the site for the proposed use.

A noise impact assessment has been submitted with this application to assess the likely impact of noise from the adjacent industrial estate and additional industrial (class 4) units on the proposed residential use and I have the following comments to make;

Scope of Assessment and Environmental Noise Criteria

I would advise that it was agreed with Environmental Health that noise from industrial sources would be assessed in terms of BS4142:2014 and also have regard, where appropriate, to WHO guidance and Technical Advice Note (TAN) which forms part of the Scottish Governments Planning Advice Note Advice 2011/1 – Planning and Noise.

The report states that the assessment considers the potential impacts from existing and proposed commercial and industrial activity on residential amenity.

No information appears to have been provided about the 5 proposed/refurbished light industrial units. I note from the submitted plans that Unit E will be located in very close proximity to proposed residential units and that the access road to the light industrial units will be via the road for the proposed residential properties off Home Street.

Baseline Sound Survey

A baseline survey was undertaken on the 7 & 8 March 2018 to assess the existing ambient and background sound levels. Additional measurements were also obtained at source from the wastewater treatment works, vehicle repair shop and adjacent mineral processing site to quantify source sound levels to be used in the noise model to predict levels at the proposed residential properties.

In relation to the baseline survey, I note that noise levels were measured at 4 locations around the proposed site between 06:30 – 15:35. Locations 1, 2 and 4 were on the boundary of the where the development site meets the industrial estate and location 3 was next to an existing residential property at Rose Cottage. It appears that these measurements have been undertaken when industrial noise sources were operational.

Based on these measurements, assumptions have been made about the existing background noise levels for both the daytime period 07:00-23:00 and the night time period 23:00 – 07:00 to inform an assessment in terms of BS4142:2014 and unfortunately, I do not agree with the approach adopted or the periods of day/night covered in the assessment.

I would advise that when assessing noise in accordance with BS4142:2014 for new residential properties, background noise levels need to be undertaken in the absence of industrial noise and this needs to be reliable and suitably represent both the particular circumstances and periods of interest. The purpose is to determine a background sound level in the absence of a specific sound that is under consideration (Section 8.2 - 8.5 BS4142:2014). It is therefore necessary to measure the background sound level for example during shut down, at times when the specific sound is absent or measure the background at a location which is not subject to the specific sound and where the residual sound is considered to be comparable to that of the assessment location. I would therefore consider measuring the background noise levels on the boundary of an industrial estate to be inappropriate, however, some consideration would be given to a location where existing houses are located and that industrial sound forms a component of the acoustic environment but this would need to be justified and measured over a suitable time period of the daytime and night time to be representative.

I understand that both the waste water treatment works and the gritting operations (though seasonal) will operate over a 24 hour period and no assessment of night time noise levels at critical times when people will be most sleep disturbed have been assessed. Also, I understand that other industrial uses on the site will operate to 19:00 and no daytime noise levels beyond 15:30hours has been assessed.

Methodology and Calculation of Rating Level

In accordance with BS4142:2014 it is necessary to determine corrections to be added to the specific level in order to calculate the rating level as certain acoustic features can increase the significance of impact. There are 3 different methods that can be applied for character corrections, namely, the subjective method, objective method (for tonality) and the reference method.

It appears that no assessment of acoustic features has been undertaken in the assessment to calculate the rating level and taking into account the types of industrial uses on the adjacent site this is likely to require appropriate corrections to be added.

Using the subjective method is generally applied where a new noise source cannot be measured because it is only proposed at the time, but the characteristic of similar sources can be subjectively assessed. However, as the industrial noise sources are in operation, direct measurement could be undertaken to make the appropriate assessment and I understand that as part of the baseline noise survey additional measurements were obtained at source from the wastewater treatment works, vehicle repair shop and adjacent mineral processing site. I would therefore request that this be reviewed and appropriate corrections applied to calculate a rating level in accordance with BS4142:2014. This should then be assessed against the background noise levels to demonstrate the likely impact on proposed residential properties.

Mitigation

I understand that is has been suggested in the report that windows closed and double glazing with acoustically attenuated trickle ventilation could be provided to mitigate night time noise from the industrial estate. I would advise that only in exceptional circumstances should satisfactory internal noise levels be achievable with windows closed and other means of ventilation provided. This approach may be accepted in certain circumstances for example road traffic noise, because road traffic noise is a more constant noise source and whilst road traffic noise is important and can potentially affect future residents of the houses, anyone moving in will be fully aware of this and it cannot be a future statutory nuisance.

Industrial noise sources are in their very nature more irregular and contain differing types of noise source components and result in more of an impact type of noise disturbance. Closing windows to mitigate against this type of noise is contradictory to the approach adopted when assessing statutory nuisance noise complaints, where it is accepted practice and seen as reasonable in law to assess noise and its impact on the enjoyment of a subject's property with windows open.

I would therefore advise that this service would not accept satisfactory internal noise levels being achieved with windows closed to mitigate industrial noise sources.

I understand that it has been suggested as part of the mitigation measures that the 5 proposed and refurbished light industrial units will be controlled by the applicant to restrict the hours of operation and to require that no noisy operations are conducted inside or outside the units. I would therefore request that information be submitted on the likely use of these units and proposed hours of operation and how the applicant intends to control noise from their use.

Conclusions

Environmental Health have a number of concerns about how the noise assessment has been undertaken. I would therefore request that additional information is provided to address these concerns and that a revised noise impact assessment be submitted.

Based on the information submitted to date, I would have no option but to object to this application as it has not been demonstrated that noise from the industrial estate will not adversely impact on the residential amenity of future occupants of the development.

Comments to the Development Quality Manager on a Planning Application

Planning Application ref.	18/01662/FLL	**Comments provided by**	Gavin Bissett
Service/Section	HE/Flooding	**Contact Details**	[redacted]
Description of Proposal	Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works		
Address of site	Land 60 Metres North Of Burnside Joiners Home Street Aberfeldy		

Comments on the proposal	As previous indicated in my response to a previous application for the site (17/01864/FLL), the Council is undertaking a flood protection study for Aberfeldy. This is ongoing and not yet complete/publicly available – anticipated early 2019
	
	I have reviewed the FRA submitted with this application (McGregor McMahon – Rev B, Oct 2018) and the 1:200 year flood outline varies from the outputs of our ongoing flood study.
	
	My concerns are:
	• Design flows in the FRA are lower than those used for the Tay in our flood study.
	• The flood study has various hydrologic assessment points to check flows and the most suitable one to use for flows at this site is located at approx NN8569049744. Flows are below:
	  ○ Qmed – 382.432 m3/s
	  ○ 1:200 – 1015.36 m3/s
	• The consultant should use the above flows and re-run their model, including a run for 1:200 plus climate change flow.
	• New buildings are being located within the functional floodplain (albeit not residential) – this is not acceptable.
	• It was unclear whether there will be landraising associated with the development – no landraising permitted within the 1:200 year floodplain, which should be identified using the revised flows above.
	
	Therefore we would maintain our objection on grounds of flood risk.		

Recommended planning condition(s)			
Recommended informative(s) for applicant	PKC Flooding and Flood Risk Guidance Document (June 2014)		
Date comments returned	19/10/18		

M e m o r a n d u m

To:	Head of Development Management	From:	Regulatory Services Manager
Your ref:	18/01662/FLL	Our ref:	RMC
Date:	24 October 2018	Tel No:	([redacted]

The Environment Service **Pullar House, 35 Kinnoull Street, Perth PH1 5GD**

The Town and Country Planning (Scotland) Act 1997 as amended by Planning etc (Scotland) Act 2006

Consultation on an application.

RE: Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works Land 60 Metres North Of Burnside Joiners Home Street Aberfeldy for Lomond Group

I refer to your letter dated 27 September 2018 in connection with the above application and have the following comments to make.

Contaminated Land (assessment date – 8 October 2018)

This redevelopment site has not been consulted prior to this consultation:

Recommendation

The proposed application area was formerly a laundry. The specific activities conducted are unknown. There is the possibility that the site has become affected with several types of contaminant associated with this type of industry. The demolition process may also give rise to the release of contaminants which may also affect the amenity of the land for any planning use that is sought in the future such as housing. Assessments should be made in advance of demolition to establish any possible release of substances such as asbestos, bitumen, solvents etc into the environment. The Department of the Environment published guidance on the types of contaminant commonly found in such sites. In view of the historical use of the site and the time in existence, I would recommend the following condition on any granted consent.

Condition

Development shall not begin until a scheme to deal with contamination on the site has been submitted to and approved in writing by the planning authority. The scheme shall contain details of proposals to deal with contamination to include:

I. the nature, extent and type(s) of contamination on the site
II. measures to treat/remove contamination to ensure the site is fit for the use proposed
III. measures to deal with contamination during construction works
IV. condition of the site on completion of decontamination measures

Before any unit is occupied the measures to decontaminate the site shall be fully implemented as approved by the planning authority.

Comments to the Development Quality Manager on a Planning Application

Planning Application ref.	18/01662/FLL	**Comments provided by**	Mike Lee Transport Planning Officer
Service/Section	Transport Planning	**Contact Details**	[redacted]
Description of Proposal	Change of use of office to dwellinghouse, erection of 2 units (Class 4), erection of 7 dwellinghouses, 8 flats and associated works		
Address of site	Land 60 Metres North Of Burnside Joiners Home Street Aberfeldy		
Comments on the proposal	Insofar as the Roads matters are concerned I have no objection to this proposal. A suitable turning area is required at the end of the extents of the adoptable road. Prior to occupation and use, Street lighting will be required for this development with the layout, design and specification to the satisfaction of Perth & Kinross Council as road authority.		
Recommended planning condition(s)			
Recommended informative(s) for applicant	The applicant is advised to contact Perth & Kinross Council's Street Lighting Partnership 01738 476476 to agree requirements.		
Date comments returned	26/10/18		

CHX Planning Local Review Body - Generic Email Account

From: Victor Clements [redacted]
Sent: 22 January 2019 21:18
To: CHX Planning Local Review Body - Generic Email Account
Subject: Re: TCP/11/16(583)

Dear sir/ madam,

Aberfeldy Community Council would like to re-iterate the points that we have already made about this application, namely that the developer consulted with us before initial submission and that we and all those members of the public present considered it to be a good project proposal and gave it our unanimous endorsement.

The site is not suitable for a employment- only zone, and the near certainty is that the area will simply lie dormant and deteriorate if this is the only option allowed. We must not allow that to happen in the heart of Aberfeldy, close to other housing areas and near to important facilities such as the football club, church and hotel. The demand for work spaces in this area is for small flexible units, a number of which are being provided for in the application. The developer undoubtedly wants to build some housing to reduce the overall risk and make the project work financially, which we understand.

I dont fully understand the mechanics of this review process, but we would like to see the current classification of this site changed to allow such a project to take place here. The former Fishers Laundry site in Aberfeldy is historic and we do not want it to deteriorate and affect the amenity of that part of the town. There are current options for additional small units elsewhere.

The points regarding noise pollution and flooding both appear to be secondary in nature to the problem listed above, and we would consider both of them to be low risk. We trust that you can work with the developer to resolve these. The noise issue in particular seems to be difficult to substantiate and justify as a reason for refusing the development.

I would be grateful if you would confirm receipt of this email.

Regards,

Victor Clements
Chair, Aberfeldy Community Council

CHX Planning Local Review Body - Generic Email Account

From: Andrew Bennie [redacted]
Sent: 13 February 2019 09:16
To: CHX Planning Local Review Body - Generic Email Account
Subject: Re: TCP/11/16(583)

Dear Audrey

Many thanks for your e-mail and please accept my apologies for the delay in replying.

Having reviewed the matters raised within the terms of the representation from Aberfeldy Community Council, I would, on behalf of my client, both note and welcome the continued support that the Community Council have voiced in respect of the application and would advise that their support for the proposed development of this site has been reflected consistently during the course of all of those meetings and discussions that have taken place to date between my client and the Community Council.

Picking up on the point raised by the Community Council as regards the "secondary nature" of the potential flood risk which relates to the site, I should be grateful if you could bring to the attention of the Local Review Body that since the refusal of the application which forms the basis of this Request to Review, my client has carried out further work to establish, or otherwise, the extent of the potential flood risk which relates to the site and has been in ongoing discussion with the Council's Flood Officer during the course of this ongoing work.

The Council themselves have been carrying out their own flood studies of the wider River Tay catchment and based upon the Council's figures, the FRA which was prepared in support of the application has been re-run, with the output of this exercise confirming that that portion of the application site which is proposed for residential purposes remains free from any potential risk of flooding.

These results have been reported back to the Council's Flood Officer, who indicated by e-mail dated 23rd January 2019 that it "Appears that we might be able to remove objection" (to the application).

In light of the matters set out above, I would wish to reiterate my client's position that potential flood risk considerations do not present an impediment to the proposed development of this site.

I should be grateful if you could bring the above noted matters to the attention of the Local Review Body.

I thank you for your attention and assistance in this regard and look forward to hearing from you further in due course.

With best wishes.

Andrew Bennie, BA (Hons), MRTPI
Director