

# A9 Dualling Dalwhinnie to Crubenmore Draft Orders Public Exhibition 17<sup>th</sup> January & 18<sup>th</sup> January 2018 Environmental Statement Environmental Mitigation Cross Sections





Slope into area containing wet habitats, woodland Northbound
planting on higher ground to
aid woodland connectivity with verge Cross Section A-A' (ch.22,500) Scale 1:500 Cross Section B-B' (ch.22,600) Scale 1:500 Existing ground level Cross Section C-C' (ch.23,550) Scale 1:500 Reproduced by permission of Ordnance Survey on behalf of Her Majesty's Stationery Office, © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence Number: 100046668.

# □ GENERAL NOTES

- 1. ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE.
- NATURAL STONE EFFECT TO RETAINING WALL FACING
   SUBJECT TO DETAILED DESIGN AS ADDITIONAL MITIGATION.

THE DETAILED LANDFORM SPECIFICATION COVERS TWO LEVELS OF TREATMENT.

- LEVEL 2 LANDFORM SPECIFICATION TO CONSIDER TOP AND TOE ROUNDING, TAPERING AND LONG SECTION VARIABILITY.
- LEVEL 3 INCLUDES SPECIFIC LOCATIONS WITHIN LANDFORM SENSITIVE AREAS THAT WILL REQUIRE A DETAILED SPECIFICATION OF SIGNIFICANT VARIATION FOR PARTICULARLY SENSITIVE, HIGHLY VISIBLE SLOPES.
- 5. STEEPENING OF SLOPES GENERALLY HAS BEEN UNDERTAKEN TO MINIMISE THE ENVIRONMENTAL FOOTPRINT OF THE PROPOSED SCHEME WITHIN PARTICULARLY SENSITIVE AREAS, THEREFORE REDUCING ANY ASSOCIATED IMPACTS AND HABITAT LOSS WHERE PRACTICABLE.
- OTTER / DEER / COMBINED (DEER / OTTER)
   ENVIRONMENTAL FENCING NOT SHOWN TO SCALE,
   ILLUSTRATIVE GRAPHIC ONLY.

1						
	P03	S3	30-11-17	FINAL REVISIONS	ST	JF
	P02	S3	04-09-17	DESIGN UPDATE	ST	JF
	P01	S3	03-08-17	DRAFT FOR COMMENT	ST	JF
	REV	SUIT	DATE	DESCRIPTION	BY	APP



CH2M HILL Fairhurst JV C/O: City Park 368 Alexandra Parade Glasgow G31 3AU Tel +44 (0)141 552 2000 Fax +44 (0)141 552 2525





PROJECT 8 - DALWHINNIE TO CRUBENMORE DMRB STAGE 3

DRAWING 6.9 MITIGATION CROSS SECTIONS

l	DESIGN:	DRAWN:	CHK:	APP:
l	SWG	AW	SWG	JF

SCALE 1:500 @ A1

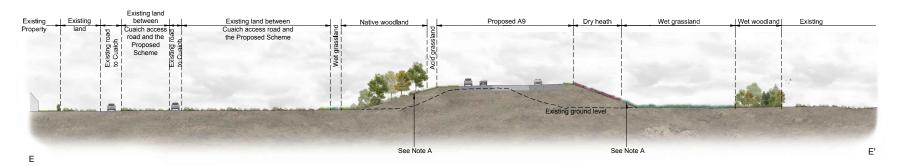
DATE: 01/08/17 PROJ: 495298

 DWG:
 A9P08-CFJ-EGN-Z\_ZZZZZ\_ZZ-DR-LA-0001

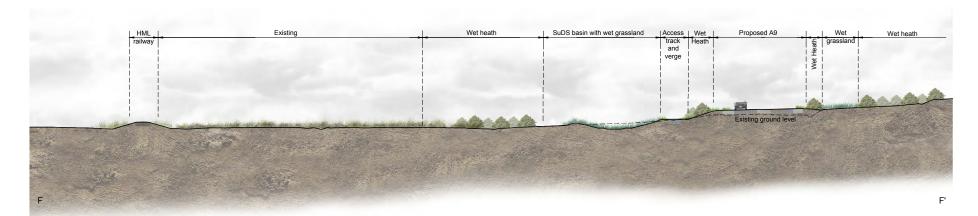
 SHEET:
 1 of 3 REVISION:
 C01 SUITABILITY:
 A3

Dry Heath Wet grassland / SuDS Basin

Cross Section D-D' (ch.25,800) Scale 1:500



Cross Section E-E' (ch.25,900) Scale 1:500



Note A:

Landform Sensitive Earthworks refined during detailed design stage to improve landscape fit by the following:

Variation from a uniform slope

Evenness of slope

Rounding top / bottom of slope

- Reproduced by permission of Ordnance Survey on behalf of Her Majesty's Stationery Office, © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence Number: 100046668.

**GENERAL NOTES** 

- 1. ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE.
- NATURAL STONE EFFECT TO RETAINING WALL FACING SUBJECT TO DETAILED DESIGN AS ADDITIONAL MITIGATION.

THE DETAILED LANDFORM SPECIFICATION COVERS TWO LEVELS OF TREATMENT.

- LEVEL 2 LANDFORM SPECIFICATION TO CONSIDER TOP AND TOE ROUNDING, TAPERING AND LONG SECTION VARIABILITY.
- LEVEL 3 INCLUDES SPECIFIC LOCATIONS WITHIN LANDFORM SENSITIVE AREAS THAT WILL REQUIRE A DETAILED SPECIFICATION OF SIGNIFICANT VARIATION FOR PARTICULARLY SENSITIVE, HIGHLY VISIBLE SLOPES.
- 5. STEEPENING OF SLOPES GENERALLY HAS BEEN UNDERTAKEN TO MINIMISE THE ENVIRONMENTAL FOOTPRINT OF THE PROPOSED SCHEME WITHIN PARTICULARLY SENSITIVE AREAS, THEREFORE REDUCING ANY ASSOCIATED IMPACTS AND HABITAT LOSS WHERE PRACTICABLE.
- OTTER / DEER / COMBINED (DEER / OTTER)
   ENVIRONMENTAL FENCING NOT SHOWN TO SCALE,
   ILLUSTRATIVE GRAPHIC ONLY.

P03	S3	30-11-17	FINAL REVISIONS	ST	JF
P02	S3	04-09-17	DESIGN UPDATE	ST	JF
P01	S3	03-08-17	DRAFT FOR COMMENT	ST	JF
REV	SUIT	DATE	DESCRIPTION	BY	APP



CH2M HILL Fairhurst JV

C/O: City Park 368 Alexandra Parade Glasgow G31 3AU Tel +44 (0)141 552 2000 Fax +44 (0)141 552 2525





PROJECT 8 - DALWHINNIE TO CRUBENMORE DMRB STAGE 3

DRAWING 6.10 MITIGATION CROSS SECTIONS

DESIGN:	DRAWN:	CHK:	APP:
SWG	AW	SWG	

SCALE 1:500 @ A1

DATE: 01/08/17 PROJ: 495298

DWG: A9P08-CFJ-EGN-Z\_ZZZZZZ\_ZZ-DR-LA-0002 SHEET: 2 of 3 REVISION: C01 SUITABILITY: A3

Access Wet grassland Wet grassland Otter Fencing

Shrub planting with scattered trees SuDS basin with wet | Shrub | HML

Cross Section H-H' (ch.30,650) Scale 1:500

Cross Section G-G' (ch.29,350) Scale 1:500

Note A:

Landform Sensitive Earthworks refined during detailed design stage to improve landscape fit by the following:

Variation from a uniform slope

Evenness of slope

Rounding top / bottom of slope

Reproduced by permission of Ordnance Survey on behalf of Her Majesty's Stationery Office, © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence Number: 100046668.

# **GENERAL NOTES**

- 1. ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE.
- NATURAL STONE EFFECT TO RETAINING WALL FACING SUBJECT TO DETAILED DESIGN AS ADDITIONAL MITIGATION.

THE DETAILED LANDFORM SPECIFICATION COVERS TWO LEVELS OF TREATMENT.

- LEVEL 2 LANDFORM SPECIFICATION TO CONSIDER TOP AND TOE ROUNDING, TAPERING AND LONG SECTION VARIABILITY.
- LEVEL 3 INCLUDES SPECIFIC LOCATIONS WITHIN LANDFORM SENSITIVE AREAS THAT WILL REQUIRE A DETAILED SPECIFICATION OF SIGNIFICANT VARIATION FOR PARTICULARLY SENSITIVE, HIGHLY VISIBLE SLOPES.
- 5. STEEPENING OF SLOPES GENERALLY HAS BEEN UNDERTAKEN TO MINIMISE THE ENVIRONMENTAL FOOTPRINT OF THE PROPOSED SCHEME WITHIN PARTICULARLY SENSITIVE AREAS, THEREFORE REDUCING ANY ASSOCIATED IMPACTS AND HABITAT LOSS WHERE PRACTICABLE.
- OTTER / DEER / COMBINED (DEER / OTTER)
   ENVIRONMENTAL FENCING NOT SHOWN TO SCALE,
   ILLUSTRATIVE GRAPHIC ONLY.

1						
	P03	S3	30-11-17	FINAL REVISIONS	ST	JF
	P02	S3	04-09-17	DESIGN UPDATE	ST	JF
	P01	S3	03-08-17	DRAFT FOR COMMENT	ST	JF
	REV	SUIT	DATE	DESCRIPTION	BY	APP



CH2M HILL Fairhurst JV

C/O: City Park 368 Alexandra Parade Glasgow G31 3AU Tel +44 (0)141 552 2000 Fax +44 (0)141 552 2525





PROJECT 8 - DALWHINNIE TO CRUBENMORE DMRB STAGE 3

DRAWING 6.11 MITIGATION CROSS SECTIONS

DESIGN:	DRAWN:	CHK:	APP:
SWG	AW	SWG	

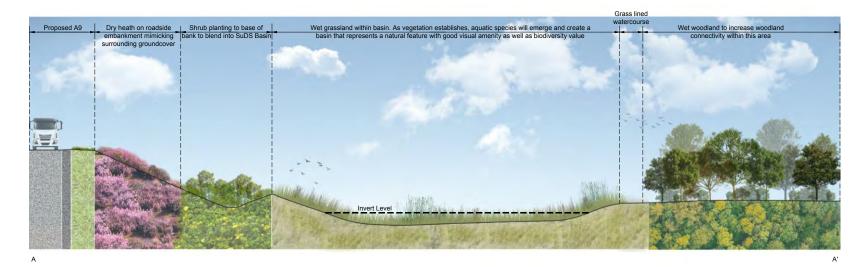
SCALE 1:500 @ A1

DATE: 01/08/17 PROJ: 495298

DWG: A9P08-CFJ-EGN-Z\_ZZZZZZ\_ZZ-DR-LA-0003 SHEET: 3 of 3 REVISION: C01 SUITABILITY: A3



Plan - SuDS 258 and 259 - Typical Design within a Woodland / Scrub Context Scale 1:500



Cross Section Section A-A' (SuDS 259) Scale 1:200

Reproduced by permission of Ordnance Survey on behalf of Her Majesty's Stationery Office, © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence Number: 100046668.

□ GENERAL NOTES

- 1. ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE.
- BASIN TO HAVE A NATURAL PLAN PROFILE, ALIGNED WITH EXISTING CONTOURS WHERE POSSIBLE AND RESEMBLING NATURAL GEOLOGICAL FEATURES THAT CAN BE FOUND IN THIS LANDSCAPE.
- BASIN TO HAVE A NATURAL SLOPE PROFILE WHERE BELOW
  EXISTING GROUND LEVEL, INTERNAL AND EXTERNAL SLOPES
  SHOULD ACHIEVE GRADIENTS OF 1:4 OR SHALLOWER
  WHERE SPACE ALLOWS.
- 4. INLETS AND OUTLETS SHOULD USE NATURAL ROCK TO CREATE CASCADES, WHICH HAVE A 'NATURAL' APPEARANCE
- 5. EXISTING SOILS AND HERB LAYER SHOULD BE STOCKPILED AND RE-USED DURING THE CONSTRUCTION OF THE BASIN, WHERE POSSIBLE. DETAILED DESIGN FOR SEEDING AND PLANTING SHOULD CONSIDER APPENDIX 6.1 AND THE CHAPTER 6 ENVIRONMENTAL MITIGATION DRAWINGS 6.1-6.8.

	P01	S3	30-11-17	FINAL REVISIONS	SDR	JF
	REV	SUIT	DATE	DESCRIPTION	BY	APP
- 1						



CH2M HILL Fairhurst JV

C/O: City Park 368 Alexandra Parade Glasgow G31 3AU Tel +44 (0)141 552 2000 Fax +44 (0)141 552 2525





PROJECT 8 - DALWHINNIE TO CRUBENMORE

DMRB STAGE 3

DRAWING 6.12 - INDICATIVE

SUDS MITIGATION

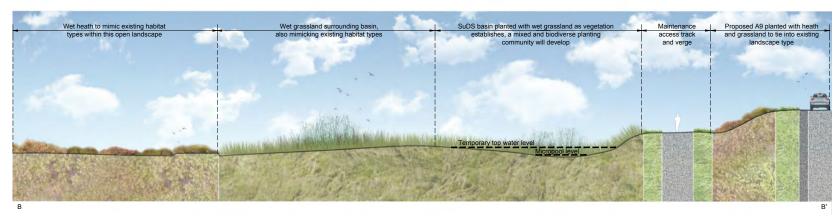
DESIGN:	DRAWN:	CHK:	APP:	
ER	NC	SWG	JF	

SCALE AS SHOWN

DATE: 07/11/17 PROJ: 495298

DWG: A9P08-CFJ-EGN-Z\_ZZZZZ\_ZZ-DR-LA-0004
SHEET: 1 of 3 REVISION: C01 SUITABILITY: A3

Plan - SuDS 282 - Typical Design within an Open Heath / Grassland Context Scale 1:500  $\,$ 



Cross Section Section B-B' (SuDS 282) Scale 1:200

Reproduced by permission of Ordnance Survey on behalf of Her Majesty's Stationery Office, © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence Number: 100046668.

**GENERAL NOTES** 

- 1. ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE.
- 2. BASIN TO HAVE A NATURAL PLAN PROFILE, ALIGNED WITH EXISTING CONTOURS WHERE POSSIBLE AND RESEMBLING NATURAL GEOLOGICAL FEATURES THAT CAN BE FOUND IN THIS LANDSCAPE.
- 3. BASIN TO HAVE A NATURAL SLOPE PROFILE WHERE BELOW EXISTING GROUND LEVEL, INTERNAL AND EXTERNAL SLOPES SHOULD ACHIEVE GRADIENTS OF 1:4 OR SHALLOWER WHERE SPACE ALLOWS.
- 4. INLETS AND OUTLETS SHOULD USE NATURAL ROCK TO CREATE CASCADES, WHICH HAVE A 'NATURAL' APPEARANCE
- 5. EXISTING SOILS AND HERB LAYER SHOULD BE STOCKPILED AND RE-USED DURING THE CONSTRUCTION OF THE BASIN, WHERE POSSIBLE. DETAILED DESIGN FOR SEEDING AND PLANTING SHOULD CONSIDER APPENDIX 6.1 AND THE CHAPTER 6 ENVIRONMENTAL MITIGATION DRAWINGS 6.1-6.8.

P01	S3	30-11-17	FINAL REVISIONS	SDR	JF
REV	SUIT	DATE	DESCRIPTION	BY	APP



CH2M HILL Fairhurst JV

C/O: City Park 368 Alexandra Parade Glasgow G31 3AU
Tel +44 (0)141 552 2000 Fax +44 (0)141 552 2525





PROJECT 8 - DALWHINNIE TO CRUBENMORE DMRB STAGE 3 DRAWING 6.13 - INDICATIVE **SUDS MITIGATION** 

DESIGN: DRAWN:		CHK:	APP:	
ER	NC	SWG	JF	

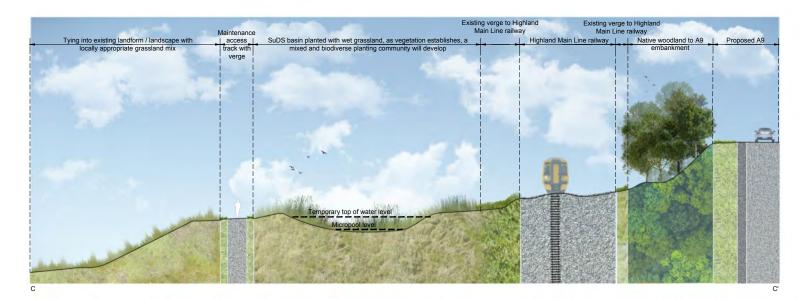
SCALE AS SHOWN

DATE: 07/11/17 PROJ: 495298

DWG: A9P08-CFJ-EGN-Z\_ZZZZZ\_ZZ-DR-LA-0005 SHEET: 2 of 3 REVISION: C01 SUITABILITY: A3

Authorized and the control of the co

Plan - SuDS 306 - Typical Design within Semi Open Woodland / Scrub Context Scale 1:500



Cross Section 306 - Section C-C' Scale 1:200

Reproduced by permission of Ordnance Survey on behalf of Her Majesty's Stationery Office, © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence Number: 100046668.

GENERAL NOTES

- 1. ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE.
- BASIN TO HAVE A NATURAL PLAN PROFILE, ALIGNED WITH EXISTING CONTOURS WHERE POSSIBLE AND RESEMBLING NATURAL GEOLOGICAL FEATURES THAT CAN BE FOUND IN THIS LANDSCAPE.
- BASIN TO HAVE A NATURAL SLOPE PROFILE WHERE BELOW EXISTING GROUND LEVEL, INTERNAL AND EXTERNAL SLOPES SHOULD ACHIEVE GRADIENTS OF 1:4 OR SHALLOWER WHERE SPACE ALLOWS.
- INLETS AND OUTLETS SHOULD USE NATURAL ROCK TO CREATE CASCADES, WHICH HAVE A 'NATURAL' APPEARANCE
- 5. EXISTING SOILS AND HERB LAYER SHOULD BE STOCKPILED AND RE-USED DURING THE CONSTRUCTION OF THE BASIN, WHERE POSSIBLE. DETAILED DESIGN FOR SEEDING AND PLANTING SHOULD CONSIDER APPENDIX 6.1 AND THE CHAPTER 6 ENVIRONMENTAL MITIGATION DRAWINGS 6.1-6.8.

P01	S3	30-11-17	FINAL REVISIONS	SDR	JF		
REV	SUIT	DATE	DESCRIPTION	BY	APP		



CH2M HILL Fairhurst JV

C/O: City Park 368 Alexandra Parade Glasgow G31 3AU
Tel +44 (0)141 552 2000 Fax +44 (0)141 552 2525





PROJECT 8 - DALWHINNIE TO CRUBENMORE

DMRB STAGE 3

DRAWING 6.14 - INDICATIVE

SUDS MITIGATION

	DESIGN:	DRAWN:	CHK:	APP:	
l	ER	NC	SWG	JF	

SCALE AS SHOWN

DATE: 07/11/17 PROJ: 495298

DWG: A9P08-CFJ-EGN-Z\_ZZZZZ\_ZZ-DR-LA-0006
SHEET: 3 of 3 REVISION: C01 SUITABILITY: A3