Waterfall

Weirs

Weir

Existing Scottish Water rising main 90Ø HPPE

90Ø HPPE

EXISTING MH 3502
CL: 38.832
IL: 37.217
DEPTH: 1.615

EXISTING MH 4601
CL: 41.261
IL: 39.750
DEPTH: 1.511

Existing Scottish Water pumping station with combined sewer overflow

EXISTING MH 4502
CL: 41.014
IL: 40.625
DEPTH: 0.389

EXISTING MH 3401
CL: 41.400
IL: 41.000
DEPTH: 0.400

EXISTING MH 3402
CL: 44.818
IL: 43.515
DEPTH: 1.303

200Ø DUCTILE IRON

180mm HPPE Distribution Main (from Scottish Water Records)

EXISTING MH 2301
CL: 51.570
IL: 49.807
DEPTH: 1.763

EXISTING MH 1201
CL: 55.185
IL: 53.143
DEPTH: 1.743

EXISTING MH 0101
CL: 58.363
IL: 57.584
DEPTH: 0.779

Proposed Foul Network 2.7m From Existing Substation

EXISTING MH 1202
CL: 58.466
IL: 57.187
DEPTH: 1.279

300mm HPPE Trunk Main (from Scottish Water Records)

2in AC Abandoned Distribution Main (from Scottish Water Records)

FW10
CL:57.271
IL: 53.85
DEPTH: 3.421

FW09
CL: 56.196
IL: 54.657
DEPTH: 1.539

FW08
CL:57.585
IL: 55.347
DEPTH: 2.238

FW07
CL: 60.282
IL: 56.717
DEPTH: 3.565

180mm HPPE Distribution Main (from Scottish Water Records) for scouring

Existing MH 0001

90mm (HPPE) 2000

Ditch discharging into watercourse

Localised ground raising to protect pipe (Extent TBC)

New external foul water network

180mm HPPE Distribution Main (from Scottish Water Records)

Ø225mm (HPPE) 2000

LAYDOWN 2

LAYDOWN 3

AC SUBSTATION PLATFORM 55.5m AOD

HVDC CONVERTER STATION PLATFORM 55.5m AOD

New internal foul water network Ø225mm slope 1:175

FW06
CL: 55.500
IL: 54.300
DEPTH: 1.200

FW01
CL: 55.500
IL: 54.300
DEPTH: 1.200

FW02
CL: 55.500
IL: 53.908
DEPTH: 1.592

FW03
CL: 55.500
IL: 53.116
DEPTH: 2.384

FW04
CL: 55.500
IL: 52.323
DEPTH: 3.177

FW05
CL: 55.500
IL: 51.530
DEPTH: 3.970

NEW FOUL WATER PUMP SYSTEM WITH RISING MAIN LENGTH OF 642m
SEE NOTE 7
CL: 55.500
IL: 51.500
DEPTH: 4.000

EL: 57.02

40.00 45.00 50.00 55.00 60.00

1:2500 0 125m 250m

Notes

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6. Given the low sewage flows expected to be generated in the buildings, it is anticipated a flushing system may be required to reduce the risk of septicity occurring with the sewage pumping system.
7. Location and alignment of existing Scottish Water sewer shown indicatively as per Scottish Water asset records. Precise location of proposed connection point TBC at later stage of design.
8. Engagement with Scottish Water is required to obtain consent for connecting into the existing sewer.
9. The pumping station will include a high level alarm to the control room. There will be a minimum of two pumps (duty/assist) and a minimum of 24 hours emergency storage at average flow rates will be provided in the case of both pumps failing.
10. The site civils design has been completed in line with the requirements of the standardised HVDC converter station and AC substation compound design defined by SSEN. The site drainage and earthworks design, including the platform levels, may be optimised further following completion of the ground investigation and design development of the HVDC converter station and AC substation.

Key to symbols

- TEMPORARY LAYDOWN AREAS
- EXISTING SCOTTISH WATER FOUL WATER SEWER
- EXISTING SCOTTISH WATER RISING MAIN
- EXISTING SCOTTISH WATER COMBINED SEWER
- EXISTING MANHOLE
- EXISTING PUMPING STATION WITH COMBINED SEWER OVERFLOW
- NEW RISING MAIN
- NEW FOUL WATER PIPE
- NEW FOUL WATER PUMPING STATION
- NEW FOUL WATER MANHOLE
- ASSUMED WELFARE AREAS
- EXISTING WATERCOURSE WITH 10m BUFFER
- RED LINE BOUNDARY
- NEW STORNOWAY PORT AUTHORITY ROAD
- ATTENUATION BASIN
- TRACK FOR MAINTENANCE
- EXISTING SCOTTISH WATER DISTRIBUTION MAIN
- EXISTING SCOTTISH WATER TRUNK MAIN

Reference drawings

109647-MMD-ARNI-XX-DR-CE-0003 - PERMANENT DRAINAGE LAYOUT

Rev	Date	Drawn	Description	Ch'k'd	App'd
P06	14/02/2025	OGL	FOR PLANNING SUBMISSION	ARD	RMcG
P05	04/02/2025	OGL	FOR PLANNING SUBMISSION	ARD	RMcG
P04	11/11/2024	JT	CLIENT COMMENT UPDATE AND CHANGE IN LAYDOWN AREA 3 PLAN AREA	ARD	RMcG
P03	11/10/2024	OGL	SECOND ISSUE	ARD	RMcG
P02	16/09/2024	OGL	FIRST ISSUE	ARD	RMcG
P01	30/08/24	OGL	PRELIMINARY ISSUE	ARD	RMcG

Status Stamp: FOR PLANNING SUBMISSION

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Client: Scottish & Southern Electricity Networks

Project Name: LT14 Western Isles HVDC

Site Name: Arnish Moor

Title: Foul Water Layout Sheet 01 of 02

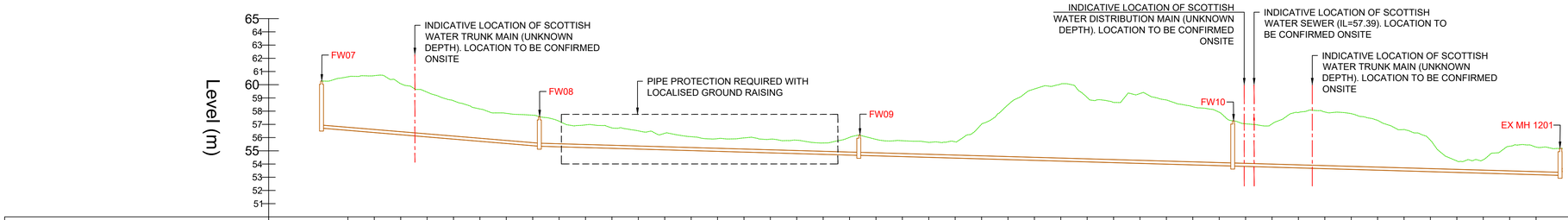
Designed	Euan Walker	EW	Eng check	Anabel Ruiz Diaz	ARD
Drawn	Oscar Gomez Lopez	OGL	Coordination	Anabel Ruiz Diaz	ARD
Dwg check	Anabel Ruiz Diaz	ARD	Approved	Richard McGowan	RMcG

MMD Project Number	Scale at A1	Security
109647	AS SHOWN	STD

MML Drawing Number: 109647-MMD-ARNI-XX-DR-CE-0001 — Revision: P06

SSEN Drawing Number: TBC

C:\Users\GOM106085\DC\ACCDocs\Mott MacDonald\100109647 - LT14 Western Isles HVDC\Project Files\MOTTMAC - ARNISH\CE_CIV_MMD\DR\109647-MMD-ARNI-XX-DR-CE-0001_Foul Water.dwg Feb 14, 2025 - 11:46AM GOM106085



Chainage	0	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	370.000	380.000	390.000	400.000	410.000	420.000	430.000	440.000	450.000	460.000
Existing Levels		60.597	60.686	60.075	59.437	58.786	58.164	57.836	57.694	57.238	56.960	56.732	56.509	56.322	56.069	55.920	55.974	55.879	55.801	55.590	56.016	55.866	55.763	55.638	55.682	57.012	58.479	59.677	60.053	59.034	58.664	59.332	58.847	58.337	57.919	57.042	57.033	57.898	57.938	57.809	57.304	56.607	55.800	54.233	54.321	55.344	55.284
Cover and Invert Levels	CL: 60.282m IL: 56.717m								CL: 57.585m IL: 55.347m												CL: 56.196m IL: 54.657m															CL: 57.271m IL: 53.850m													CL: 55.185m IL: 53.143m
Manhole Depth	3.57m								2.24m												1.54m															3.43m													2.04m
Pipe Dia and Slope		225mm∅ 1:60									225mm∅ 1:175												225mm∅ 1:175														225mm∅ 1:175													
Pipe Length		82.510m									120.988m												141.610m														123.984m													

FW07 - EX MH 1201
SCALE: H 1:1000,V 1:200. DATUM: 50.000

1:1000 0 50m 100m

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Client
Scottish & Southern Electricity Networks

Project Name
LT14 Western Isles HVDC

Site Name
Arnish Moor

Title
Foul Water Layout
Sheet 02 of 02

Designed	Euan Walker	EW	Eng check	Anabel Ruiz Diaz	ARD
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