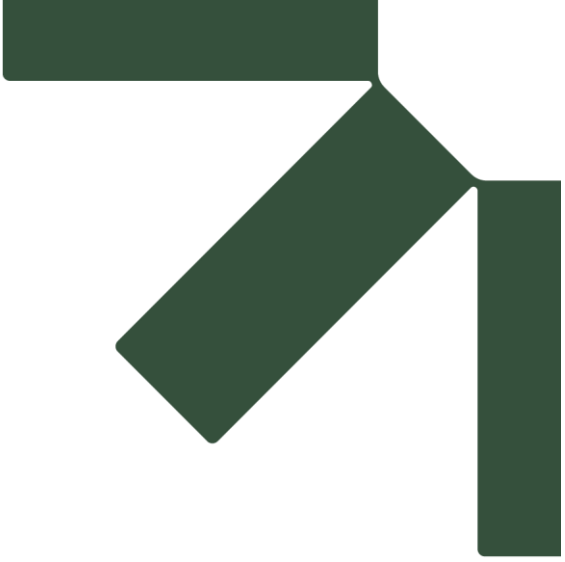




Appendix D Proposed Case Results

Hydraulic Modelling Report

Margam Moors – Substation Extension

BakerHicks Limited

SLR Project No.: 402.065496.00001

22 August 2025

278000 278500 279000 279500 280000 280500

187000

186500

186000

185500



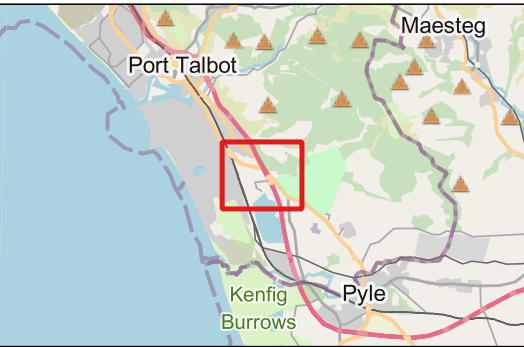
APPENDIX D-1

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet



BakerHicks



MARGAM SUBSTATION HYDRAULIC MODEL

PROPOSED DEVELOPMENT SCENARIO

1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

Scale 1:8000 @ A3

Date AUGUST 2025



278000 278500 279000 279500 280000 280500

187000

186500

186000

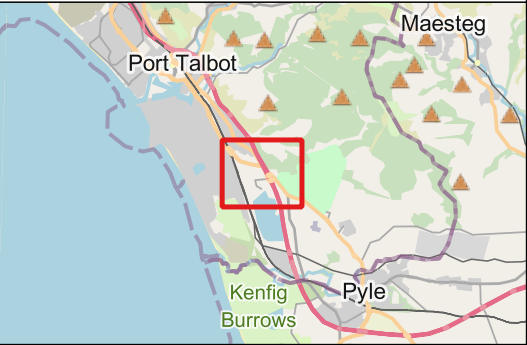
185500



APPENDIX D-2

Legend

-  Application Boundary
-  Substation and Access Road
-  Model Boundary



BakerHicks



MARGAM SUBSTATION HYDRAULIC MODEL

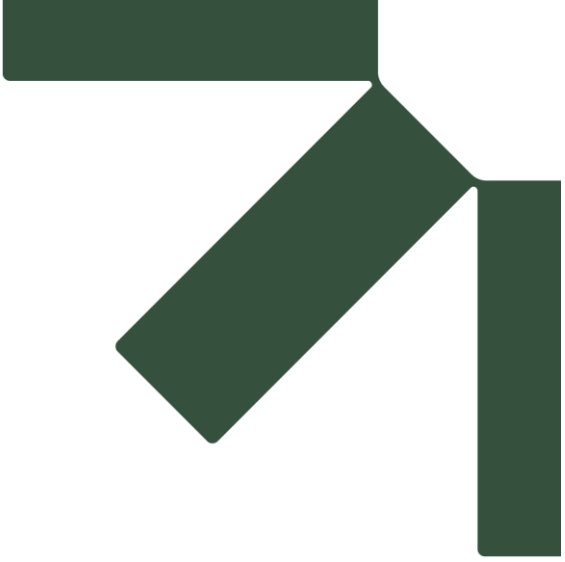
PROPOSED DEVELOPMENT SCENARIO

0.1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

Scale 1:8000 @ A3

Date AUGUST 2025





Appendix E Sensitivity Results

Hydraulic Modelling Report

Margam Moors – Substation Extension

BakerHicks Limited

SLR Project No.: 402.065496.00001

22 August 2025

278000 278500 279000 279500 280000 280500

187000

186500

186000

185500



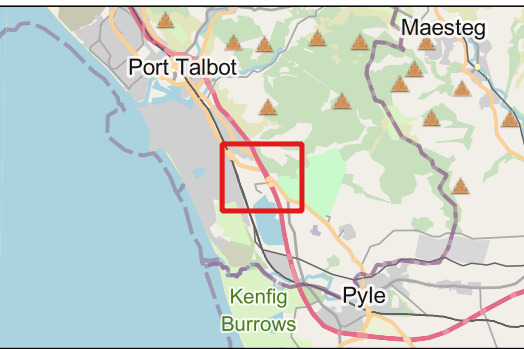
APPENDIX E-1

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet



MARGAM SUBSTATION HYDRAULIC MODEL

SENSITIVITY TEST 01: MARGAM DUCK POND IWL LOWERING (43.0 MAOD)

1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

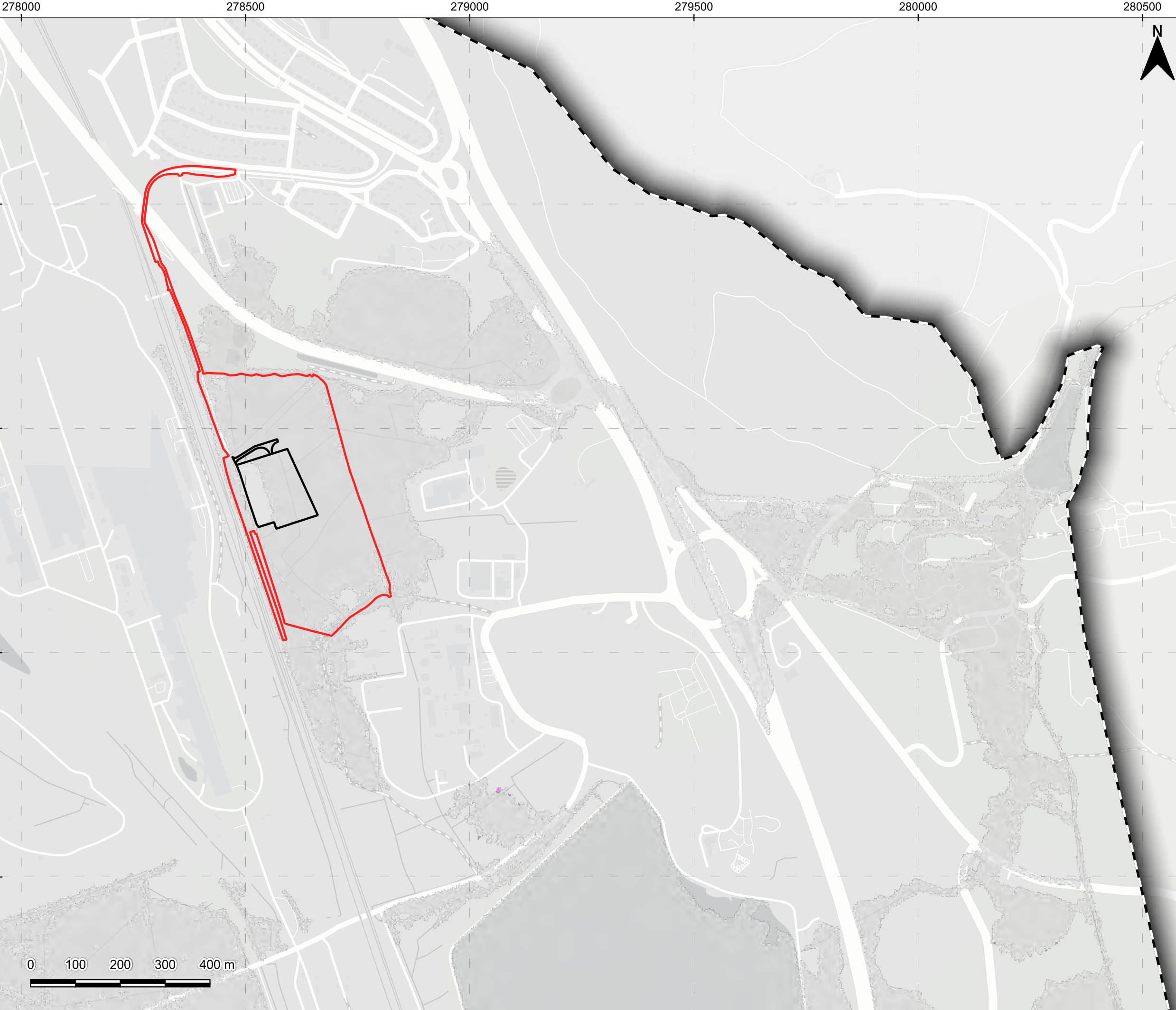
Scale

1:8000 @ A3

Date

AUGUST 2025





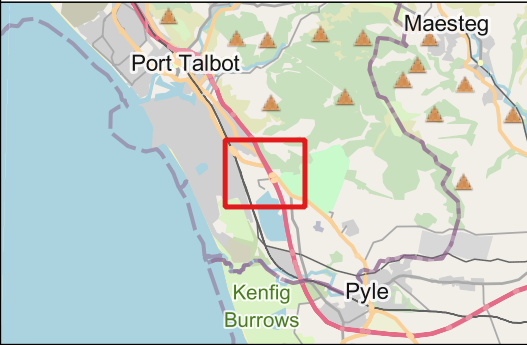
APPENDIX E-2

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet



BakerHicks

SLR
www.slrconsulting.com

MARGAM SUBSTATION HYDRAULIC MODEL

SENSITIVITY TEST 02: MARGAM DUCK POND IWL LOWERING (42.5 MAOD)

1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

Scale 1:8000 @ A3

Date AUGUST 2025

278000 278500 279000 279500 280000 280500

187000

186500

186000

185500



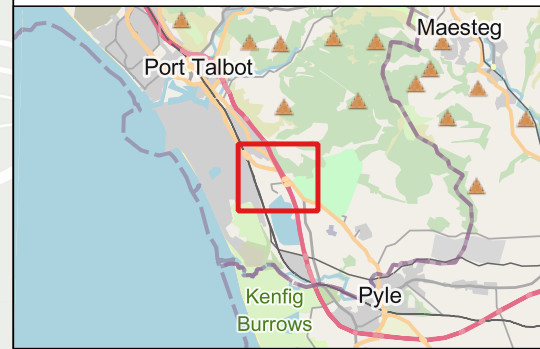
APPENDIX E-3

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet



BakerHicks

SLR
www.slrconsulting.com

MARGAM SUBSTATION HYDRAULIC MODEL

SENSITIVITY TEST 03: +30% MANNING'S ROUGHNESS

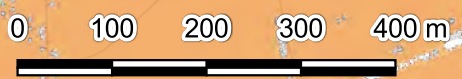
1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

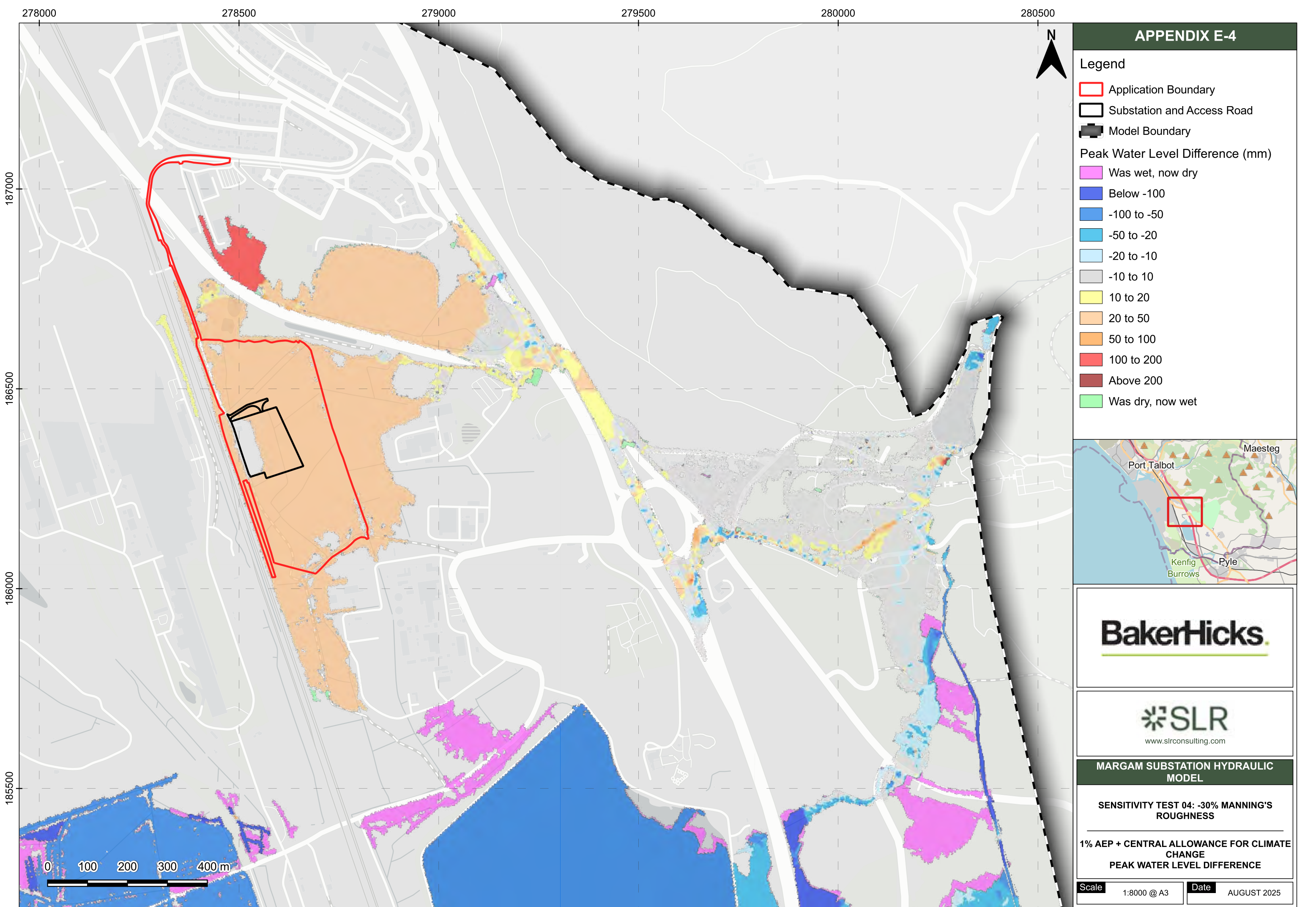
Scale

1:8000 @ A3

Date

AUGUST 2025





APPENDIX E-4

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet

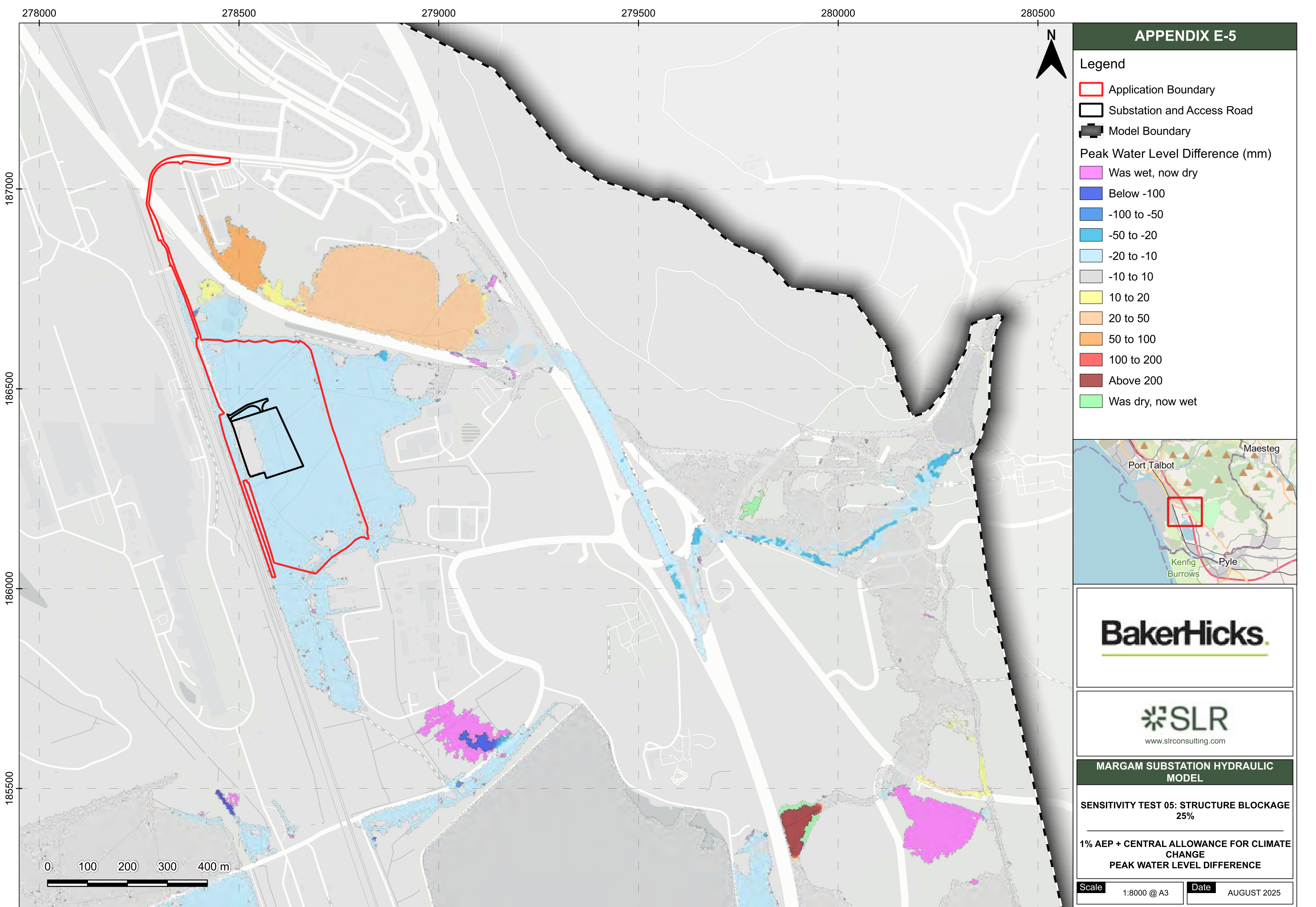
MARGAM SUBSTATION HYDRAULIC MODEL

SENSITIVITY TEST 04: -30% MANNING'S ROUGHNESS

1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

Scale 1:8000 @ A3

Date AUGUST 2025



APPENDIX E-5

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet

MARGAM SUBSTATION HYDRAULIC MODEL

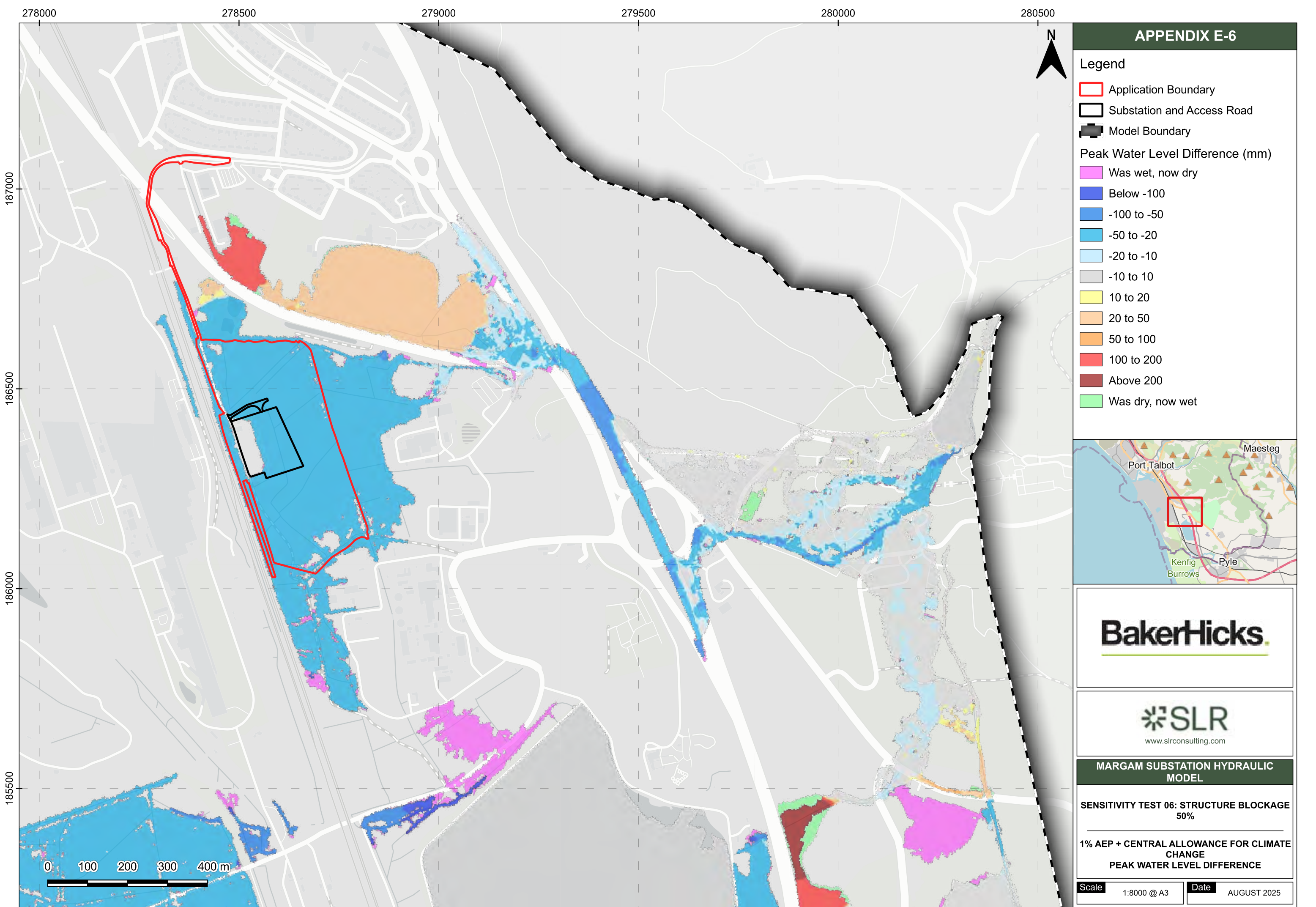
SENSITIVITY TEST 05: STRUCTURE BLOCKAGE 25%

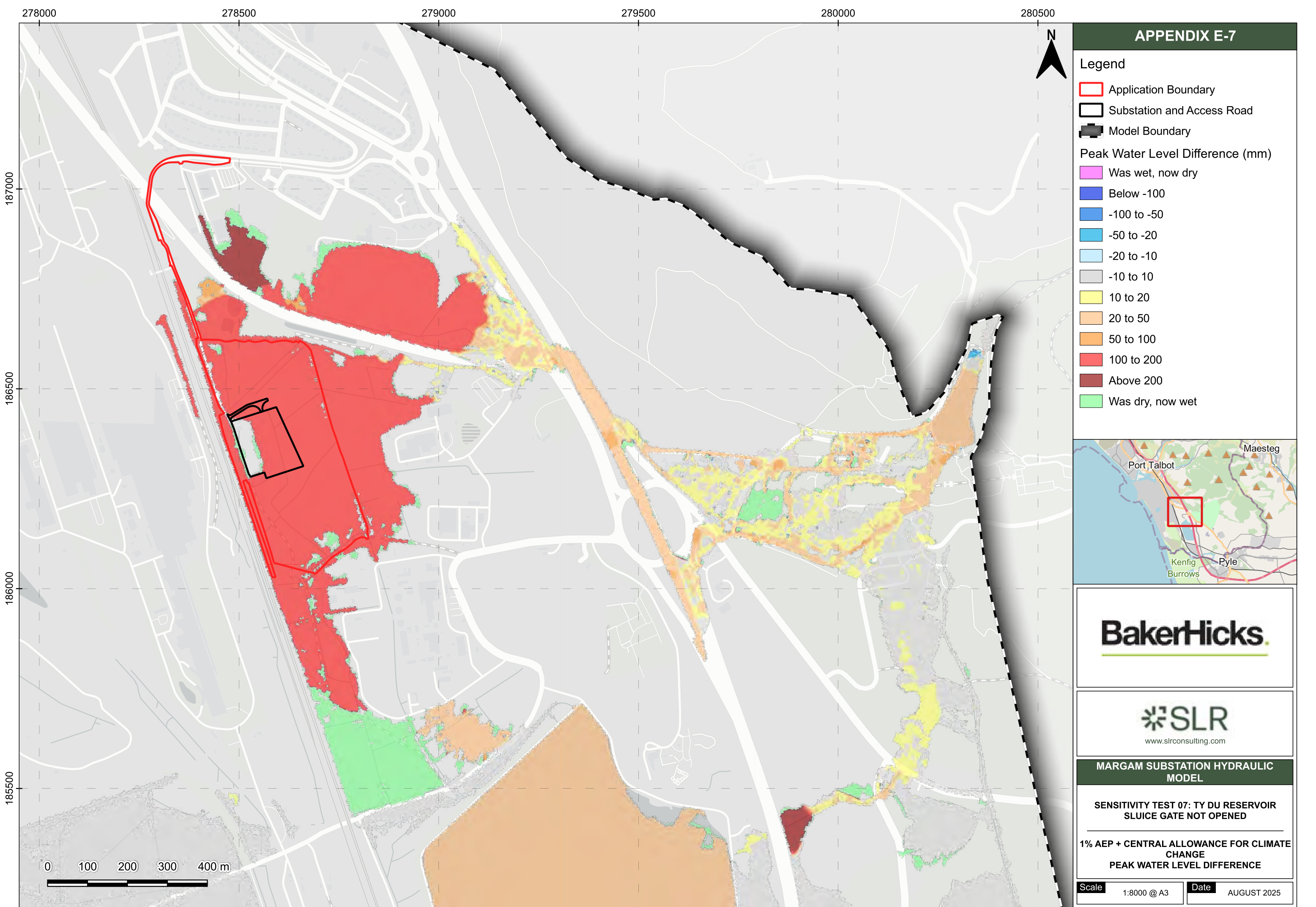
1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE

PEAK WATER LEVEL DIFFERENCE

Scale 1:8000 @ A3

Date AUGUST 2025





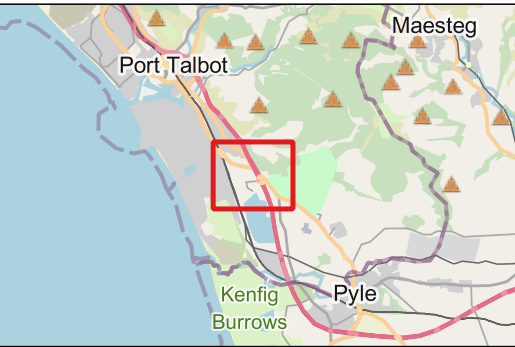
APPENDIX E-7

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet



BakerHicks

SLR
www.slrconsulting.com

MARGAM SUBSTATION HYDRAULIC MODEL

SENSITIVITY TEST 07: TY DU RESERVOIR
SLUICE GATE NOT OPENED

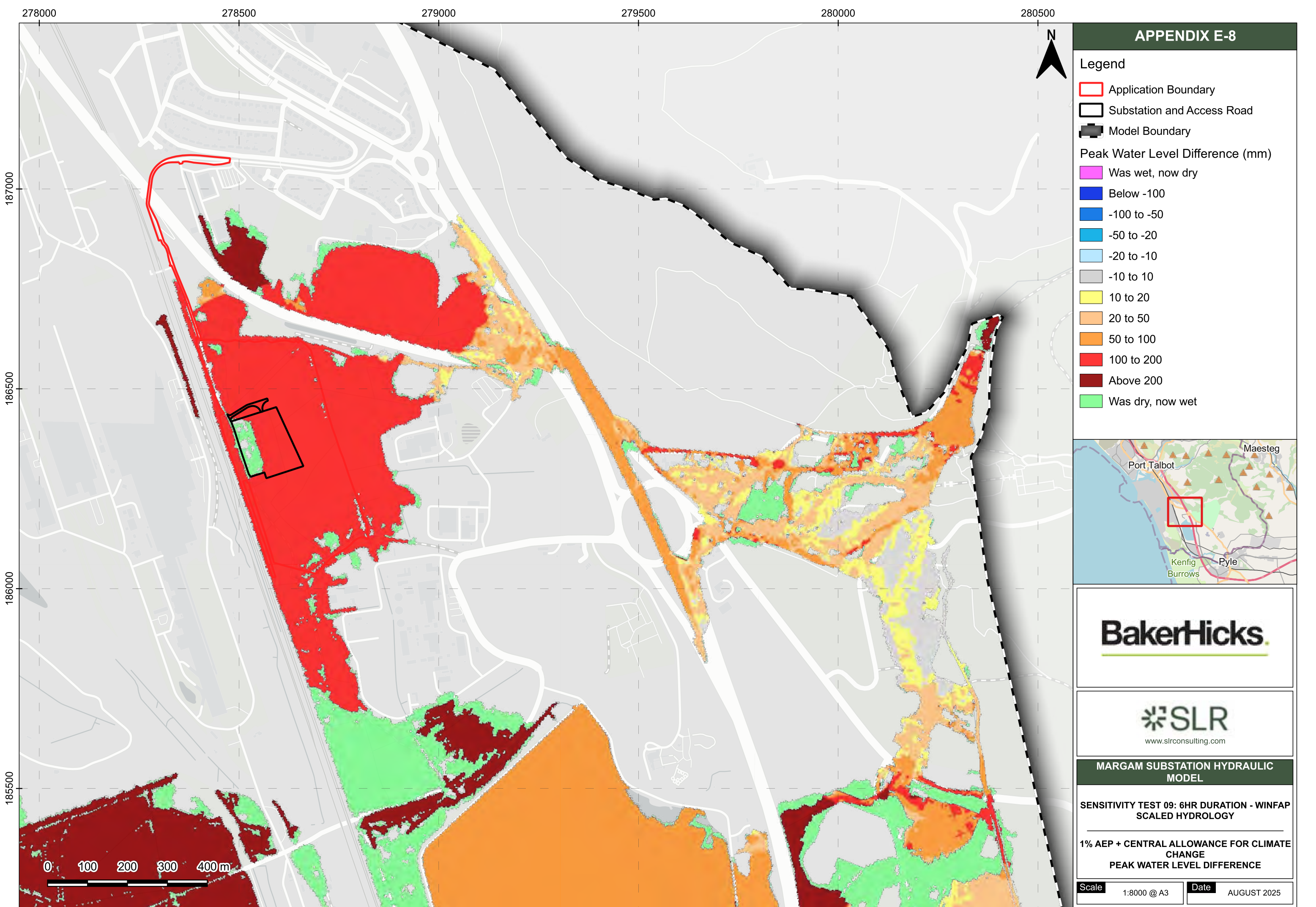
1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

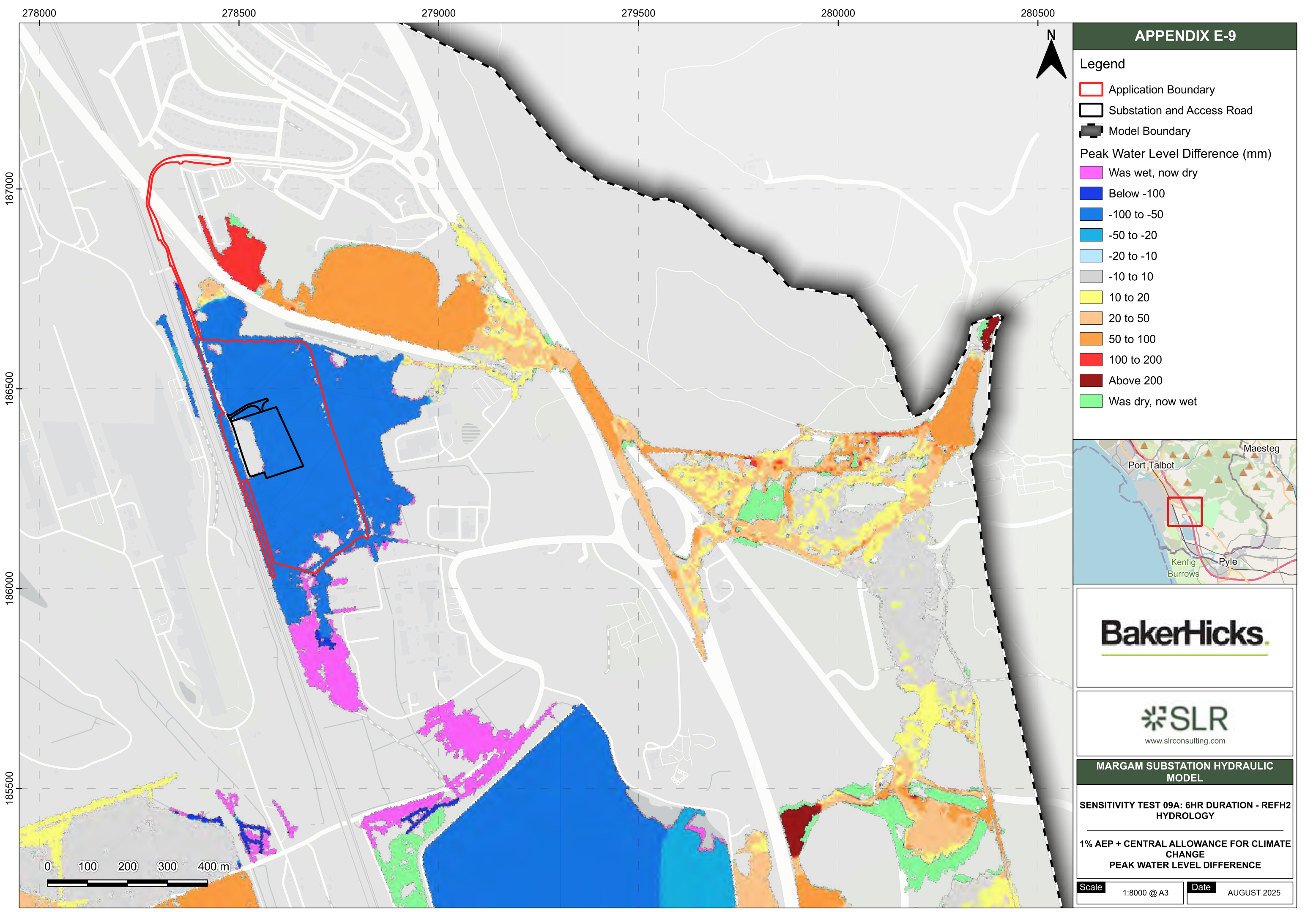
Scale

1:8000 @ A3

Date

AUGUST 2025





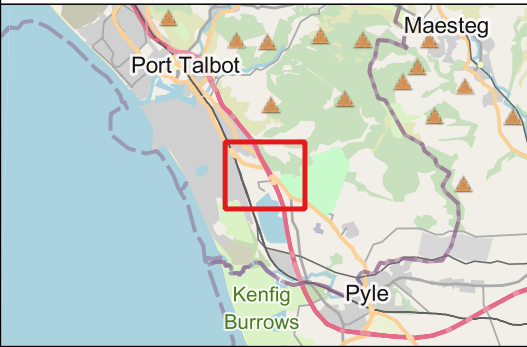
APPENDIX E-9

Legend

- Application Boundary
- Substation and Access Road
- Model Boundary

Peak Water Level Difference (mm)

- Was wet, now dry
- Below -100
- 100 to -50
- 50 to -20
- 20 to -10
- 10 to 10
- 10 to 20
- 20 to 50
- 50 to 100
- 100 to 200
- Above 200
- Was dry, now wet



BakerHicks

SLR
www.slrconsulting.com

MARGAM SUBSTATION HYDRAULIC MODEL

SENSITIVITY TEST 09A: 6HR DURATION - REFH2 HYDROLOGY

1% AEP + CENTRAL ALLOWANCE FOR CLIMATE CHANGE
PEAK WATER LEVEL DIFFERENCE

Scale

1:8000 @ A3

Date

AUGUST 2025