

- LEGEND**
- RAILWAY STATIONS
 - DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - SUBGLACIAL STRIAE (GSI)
 - SUBGLACIAL LINEATIONS (GSI)**
 - CRAG-AND-TAIL
 - DRUMLIN
 - MEGA SCALE GLACIAL LINEATION
 - STREAMLINED BEDROCK
 - SUBGLACIAL MORAINES (GSI)**
 - COMPOSITE THRUST BLOCK MORAINE
 - RIBBED MORAINE
 - MELT WATER LANDFORMS (GSI)**
 - ESKER RIDGE
 - MELT WATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)**
 - GLACIOFLUVIAL TERRACE
 - HUMMOCKY SAND AND GRAVEL

0 2 4 8 Km

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Notes



Rev	Date	Dn	Chkd	App'd	Description
P02	31/05/2024	DM	MF	GS	PLANNING ISSUE

Client: **Irish Rail**

Engineering Designer: **ARUP**

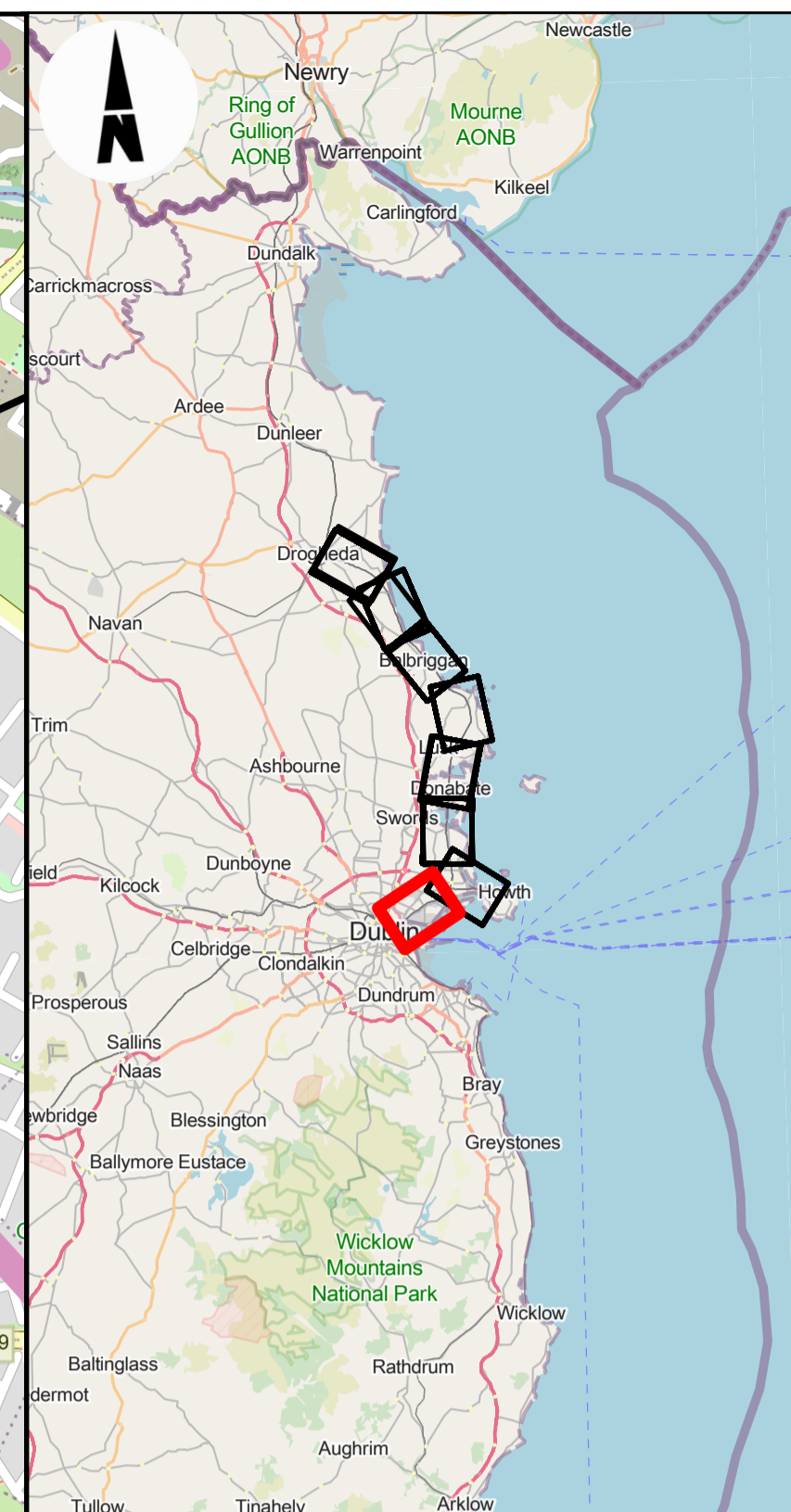
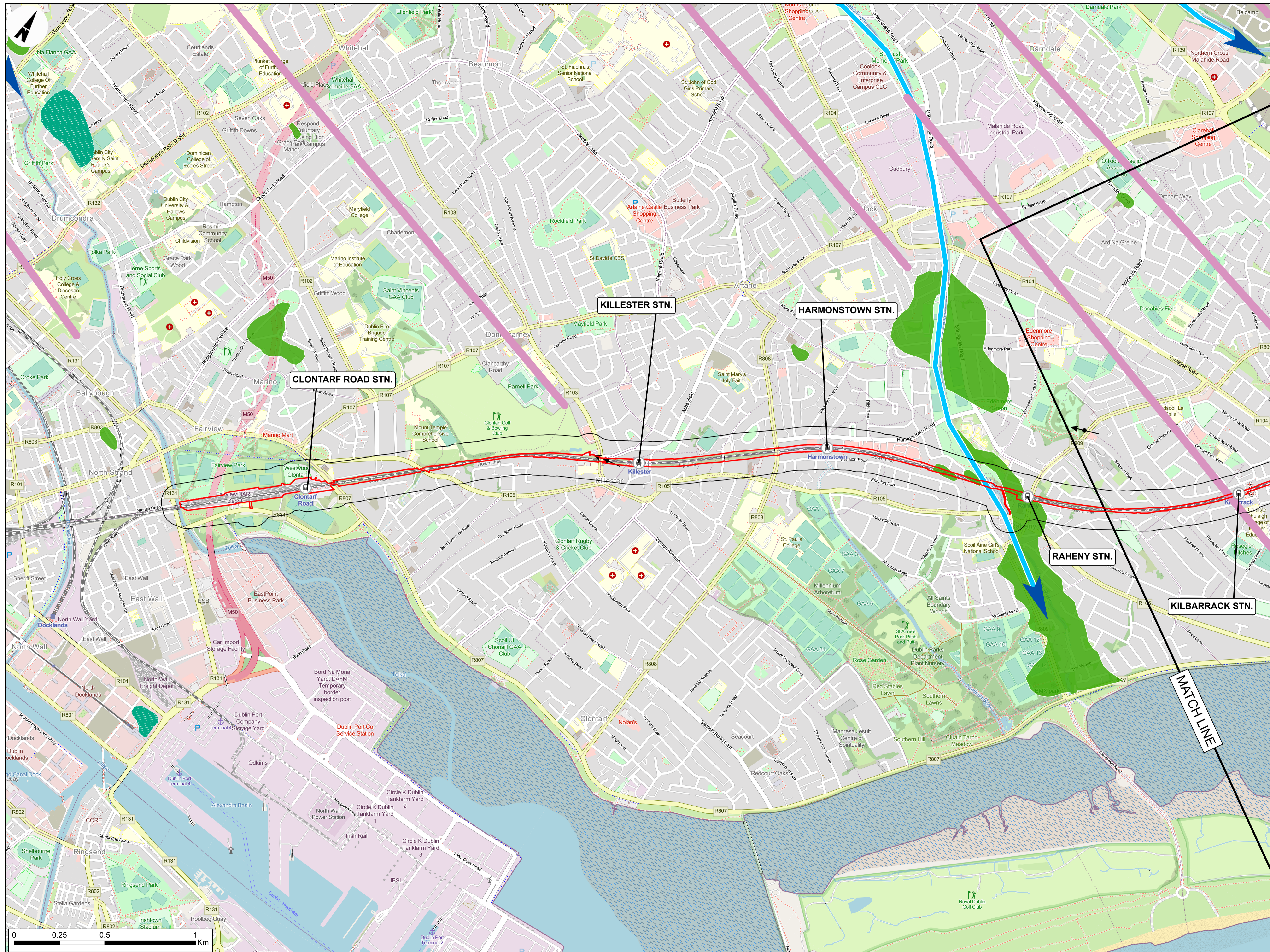
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Project Code: D+WP56 Originator Code: ARP

Drawn: DM Checked: MF Approved: GS

QMS Code: 279933-00

Project Title: DART+ COASTAL NORTH	
Drawing Title: LAND AND SOIL GEOMORPHOLOGY OVERVIEW	
Drawing File Name: D+WP56-ARP-ZZ-NL-DR-EVGT-100001	Sheet Number: 1 of 9
Status: S4	Rev: P02



- LEGEND**
- RAILWAY STATIONS
 - DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - SUBGLACIAL STRIAE (GSI)
 - SUBGLACIAL LINEATIONS (GSI)
 - MEGA SCALE GLACIAL LINEATION
 - MELTWATER CHANNEL
 - MELTWATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)
 - GLACIOFLUVIAL TERRACE
 - HUMMOCKY SAND AND GRAVEL

0 0.25 0.5 1 Km

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DART+ Coastal North

NTA
National Transport Authority

Tionscail Éireann 2040

Rev	Date	Dn	Chkd	App'd	Description
P02	31/05/2024	DM	MF	GS	PLANNING ISSUE

Client
Iarnród Éireann
Irish Rail

Engineering Designer
ARUP

Date: 07/09/2023
Scale: 1:10000 @ A1
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Project Code: D+WP56
Originator Code: ARP

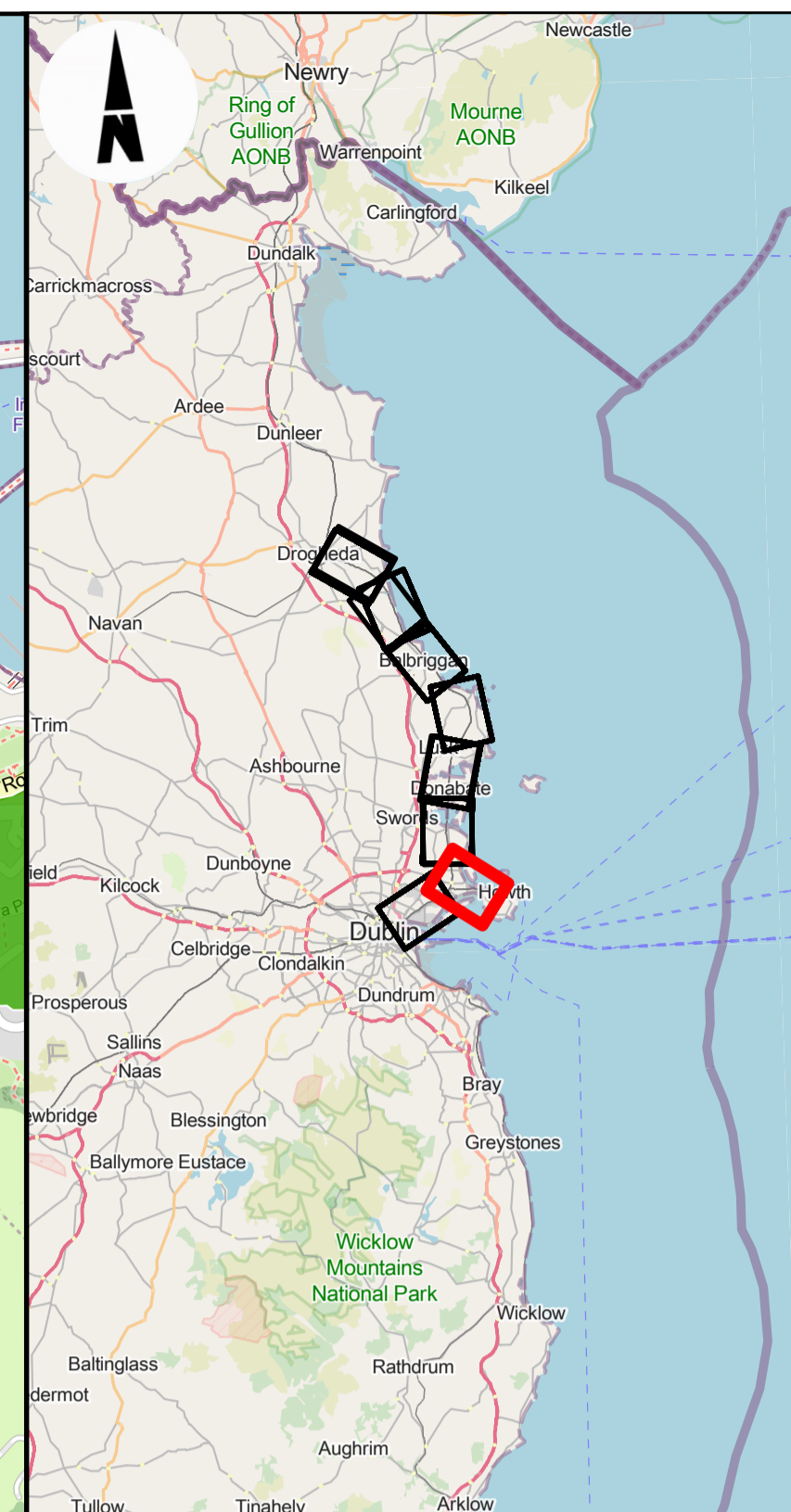
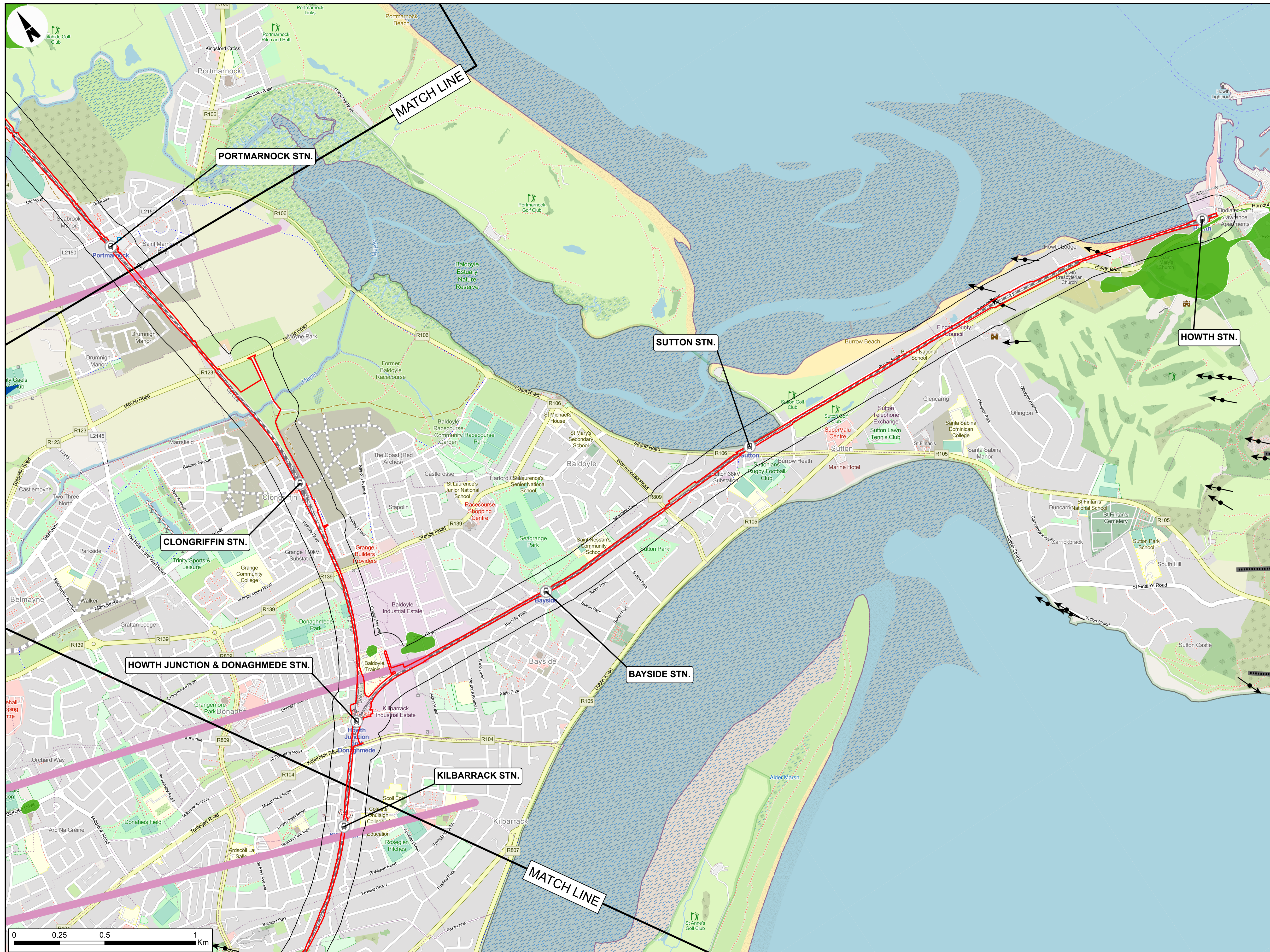
Drawn: DM
Checked: MF
Approved: GS

OMS Code: 279933-00

Project Title
DART+ COASTAL NORTH

Drawing Title
LAND AND SOIL
FIGURE 9.1: QUATERNARY GEOMORPHOLOGY

Drawing File Name: D+WP56-ARP-ZZ-NL-DR-EVGT-100002
Sheet Number: 2 of 9
Status: S4
Rev: P02



- LEGEND**
- RAILWAY STATIONS
 - DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - SUBGLACIAL STRIAE (GSI)
 - SUBGLACIAL LINEATIONS (GSI)
 - MEGA SCALE GLACIAL LINEATION
 - STREAMLINED BEDROCK
 - MELTWATER CHANNEL
 - MELTWATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)
 - HUMMOCKY SAND AND GRAVEL

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Rev	Date	Dn	Ch'd	App'd	Description
P02	31/05/2024	DM	MF	GS	PLANNING ISSUE

Client:

Engineering Designer:

Date: 07/09/2023 Scale: 1:10000 @ A1 1:20000 @ A3

Project Code: D+WP56 Originator Code: ARP

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DM	MF	GS

QMS Code: 279933-00

Project Title: **DART+ COASTAL NORTH**

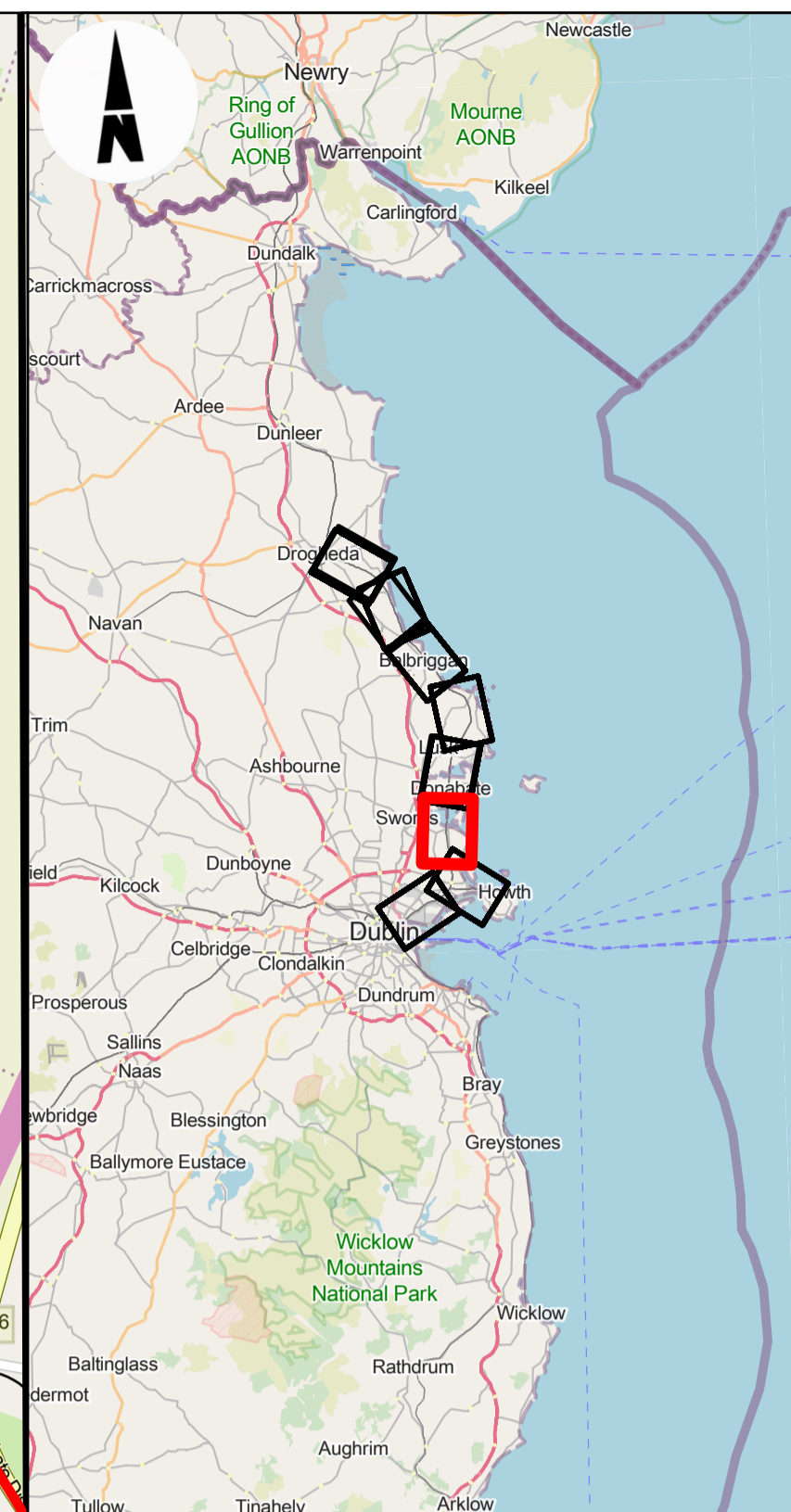
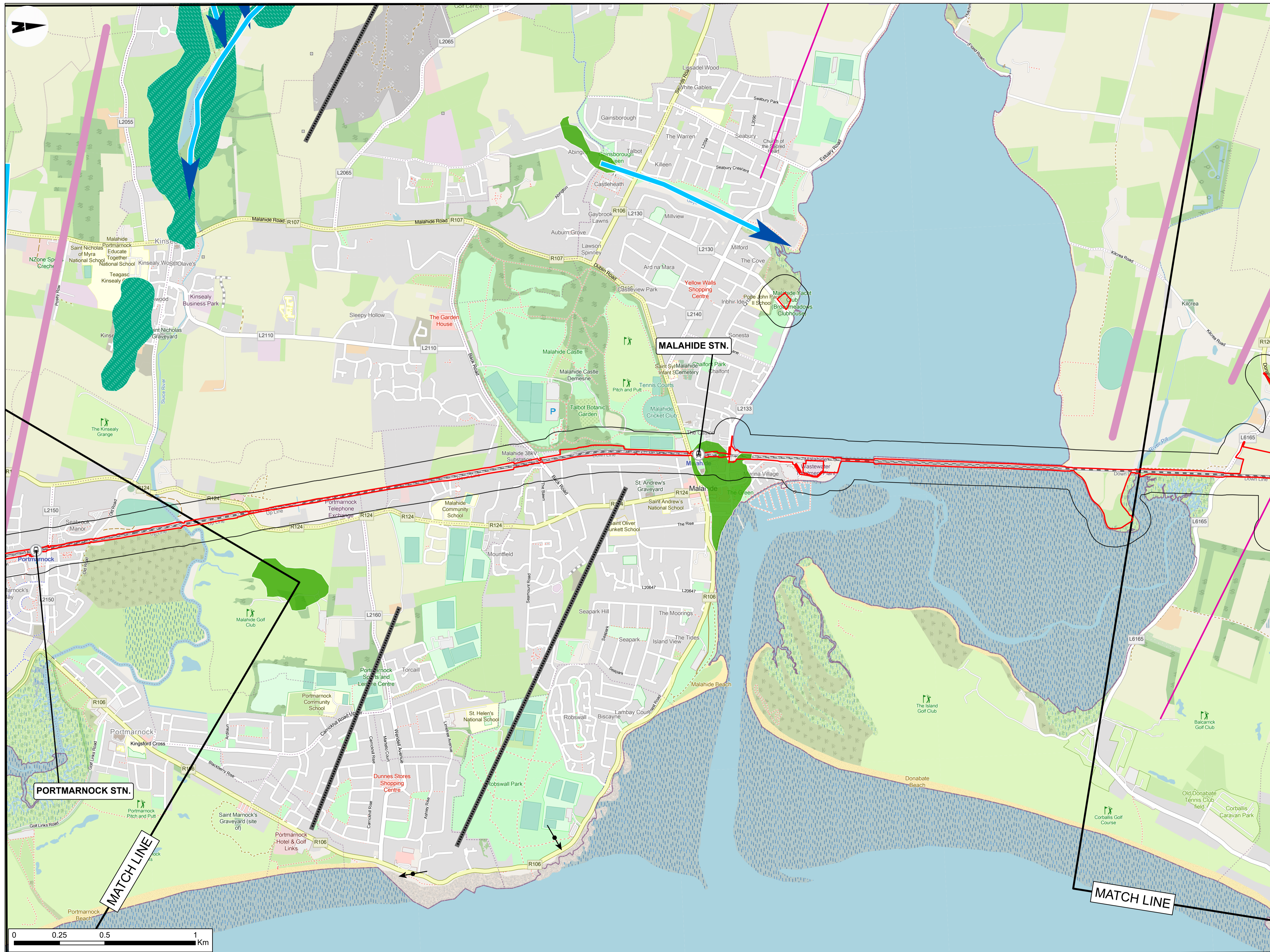
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FIGURE 9.1: QUATERNARY GEOMORPHOLOGY

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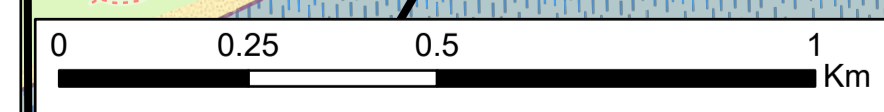
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Status: S4

Rev: P02



- LEGEND**
- 🚉 RAILWAY STATIONS
 - 🔴 DEVELOPMENT BOUNDARY
 - 📏 100M BUFFER
 - ➡️ SUBGLACIAL STRIAE (GSI)
 - SUBGLACIAL LINEATIONS (GSI)**
 - DRUMLIN
 - MEGA SCALE GLACIAL LINEATION
 - ▬ STREAMLINED BEDROCK
 - MELTWATER LANDFORMS (GSI)**
 - ➡️ MELTWATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)**
 - ▨ GLACIOFLUVIAL TERRACE
 - HUMMOCKY SAND AND GRAVEL



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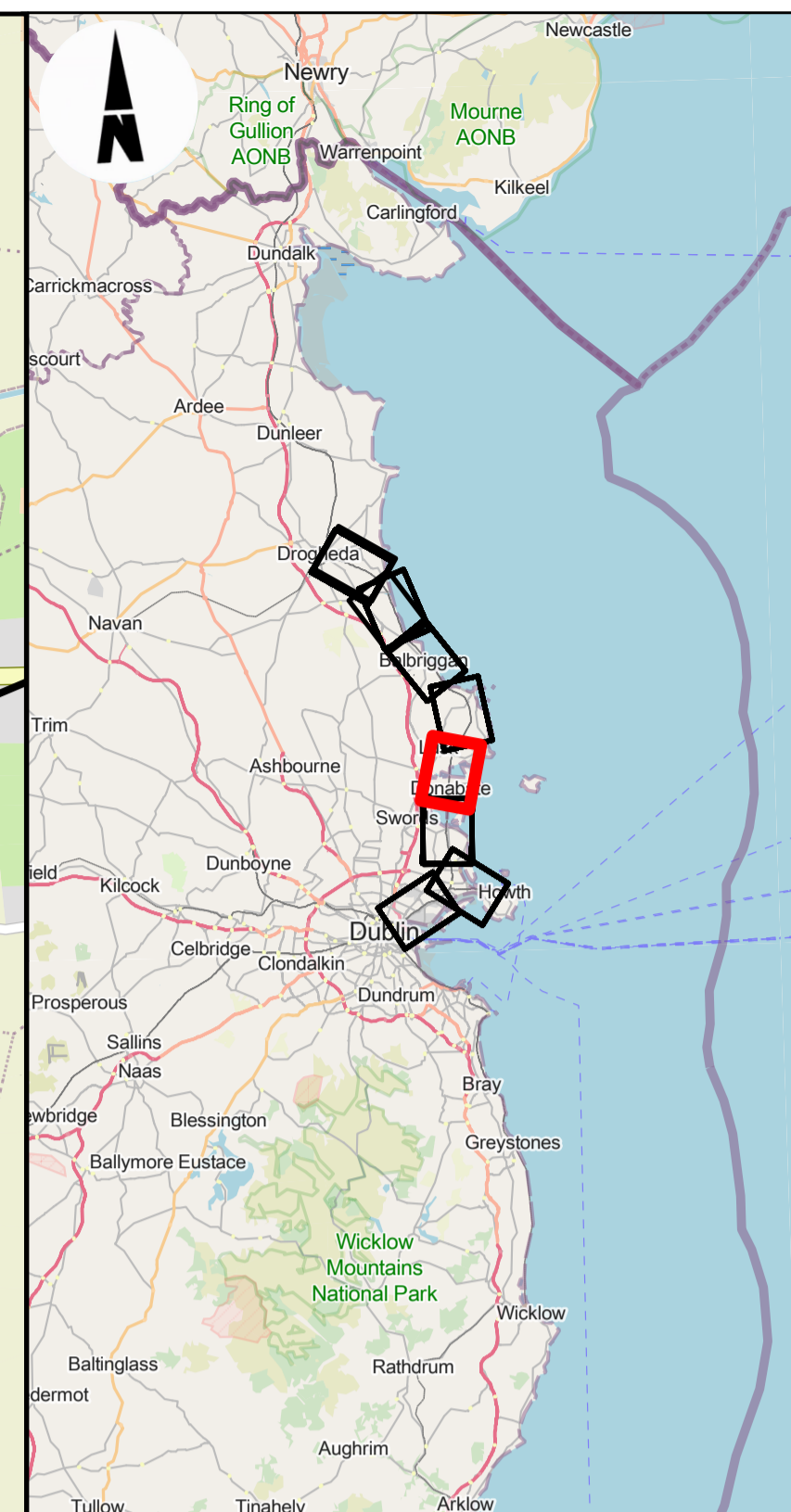
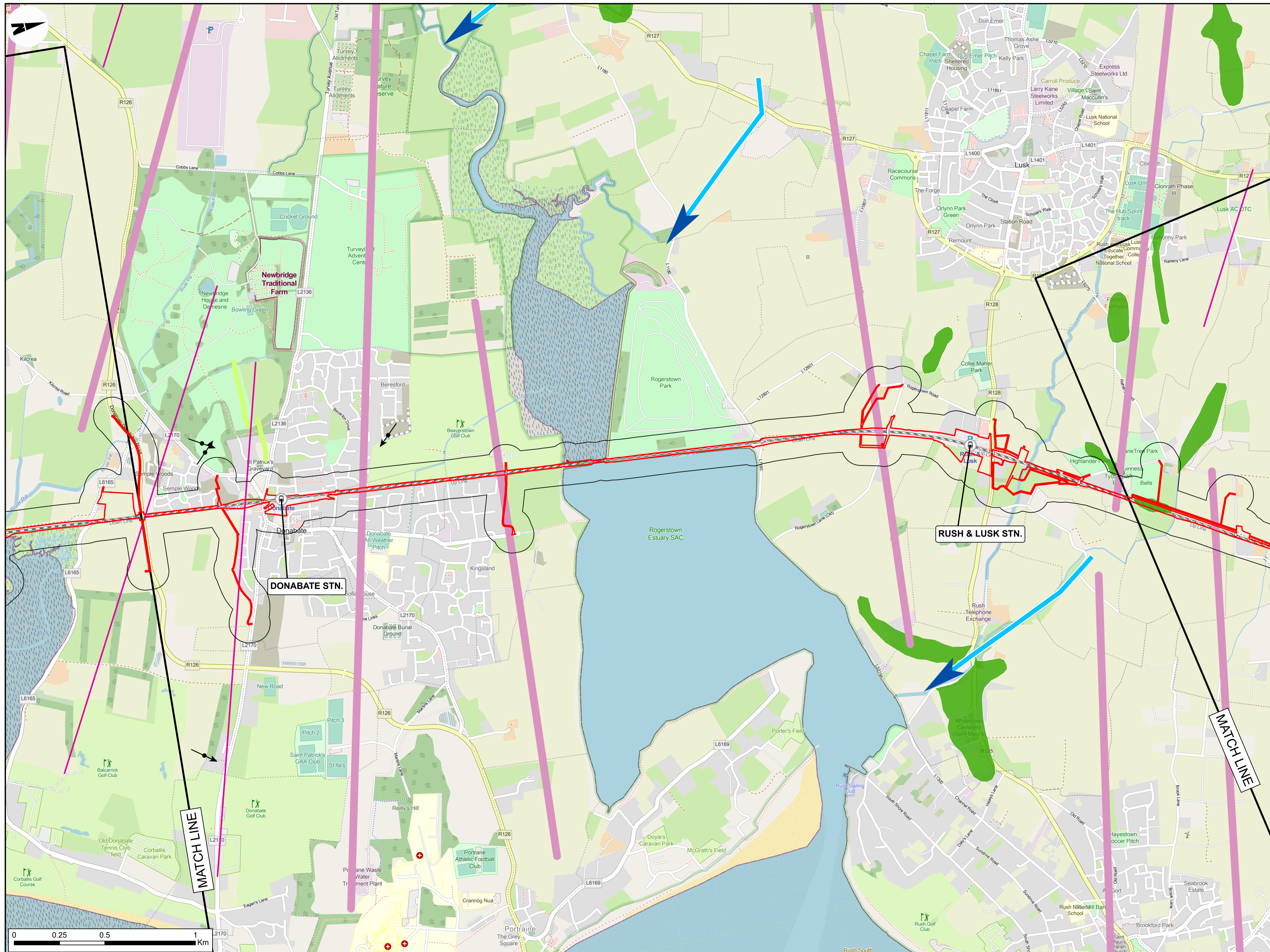
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Rev	Date	Dn	Chkd	App'd	Description
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Client		Engineering Designer	
Iarnród Éireann Irish Rail		ARUP	
Date	Scale	Drawn	Checked
07/09/2023	1:10000 @ A1 1:20000 @ A3	DM	MF
Project Code	Originator Code	QMS Code	Approved
D+WP56	ARP		GS

Project Title	
DART+ COASTAL NORTH	
Drawing Title	
LAND AND SOIL FIGURE 9.1: QUATERNARY GEOMORPHOLOGY	
Drawing File Name	Sheet Number
D+WP56-ARP-ZZ-NL-DR-EVGT-100004	4 of 9
Status	Rev
S4	P02

Client		Engineering Designer	
Iarnród Éireann Irish Rail		ARUP	
Date	Scale	Drawn	Checked
07/09/2023	1:10000 @ A1 1:20000 @ A3	DM	MF
Project Code	Originator Code	QMS Code	Approved
D+WP56	ARP		GS



- LEGEND**
- ⊙ RAILWAY STATIONS
 - ▭ DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - ← SUBGLACIAL STRIAE (GSI)
 - SUBGLACIAL LINEATIONS (GSI)**
 - DRUMLIN
 - MEGA SCALE GLACIAL LINEATION
 - MELT WATER LANDFORMS (GSI)**
 - ESKER RIDGE
 - MELT WATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)**
 - HUMMOCKY SAND AND GRAVEL

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Notes

DART+ Coastal North

NTA
 Údarás Náisiúnta Iompartha
 National Transport Authority

Tionscadal Éireann Project Ireland 2040

Rev	Date	Dn	Ch'd	App'd	Description
P02	31/05/2024	DM	MF	GS	PLANNING ISSUE

Client: **Irish Rail**

Engineering Designer: **ARUP**

Date: 07/09/2023 | Scale: 1:10000 @ A1 | 1:20000 @ A3

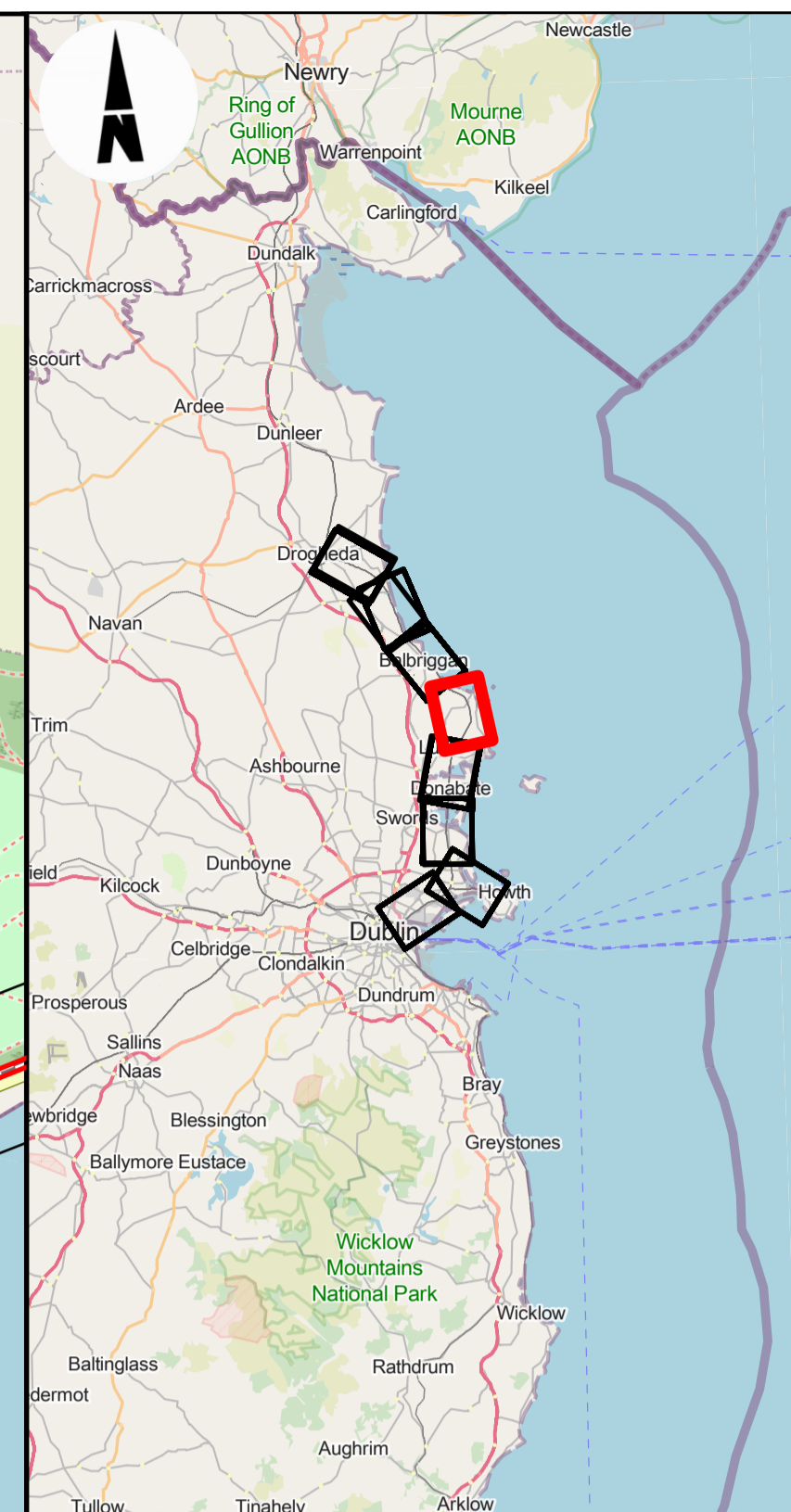
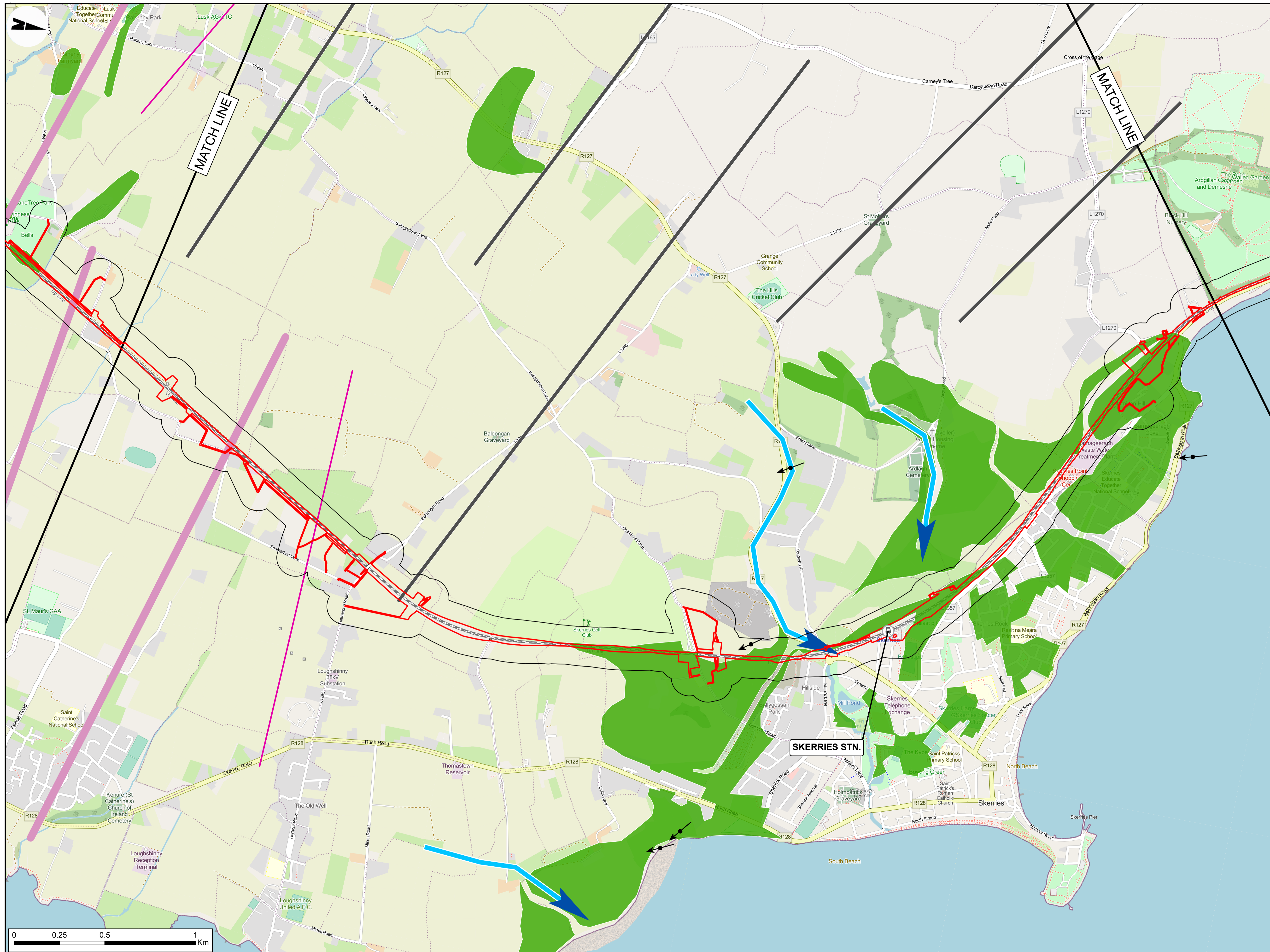
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Drawn: DM | Checked: MF | Approved: GS

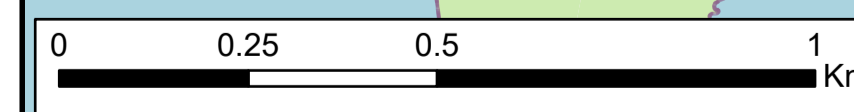
Project Title: **DART+ COASTAL NORTH**

Drawing Title: **LAND AND SOIL**
FIGURE 9.1: QUATERNARY GEOMORPHOLOGY

Drawing File Name: D+WP56-ARP-ZZ-NL-DR-EVGT-100005 | Sheet Number: 6 of 9 | Status: S4 | Rev: P02



- LEGEND**
- ⊙ RAILWAY STATIONS
 - ▭ DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - ← SUBGLACIAL STRIAE (GSI)
 - ➡ SUBGLACIAL LINEATIONS (GSI)
 - CRAG-AND-TAIL
 - DRUMLIN
 - MEGA SCALE GLACIAL LINEATION
 - ➡ MELTWATER LANDFORMS (GSI)
 - ➡ MELTWATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)
 - HUMMOCKY SAND AND GRAVEL



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P02	31/05/2024	DM	MF	GS	PLANNING ISSUE

Client: **Irish Rail**

Engineering Designer: **ARUP**

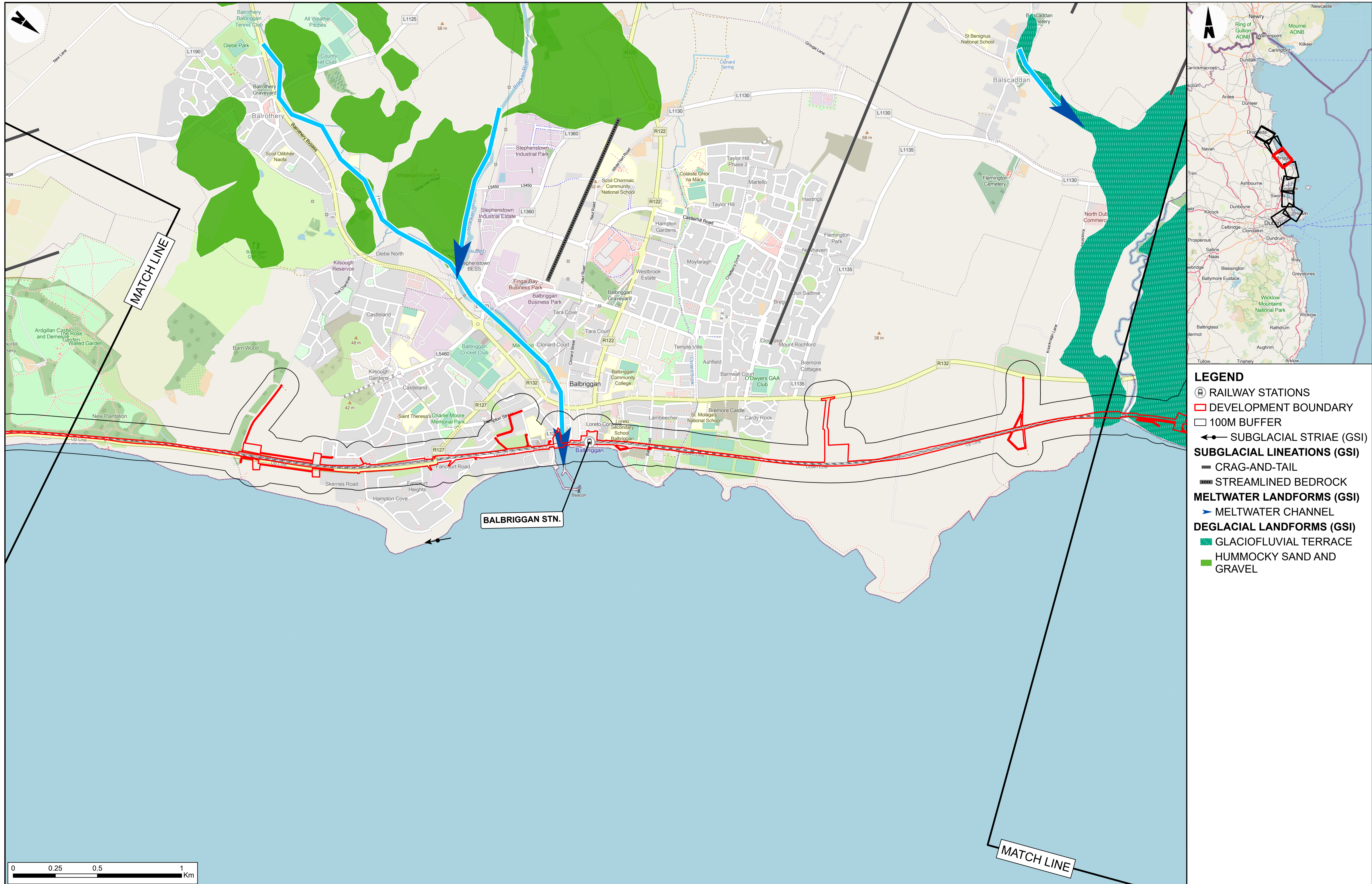
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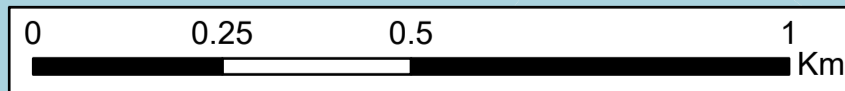
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OMS Code: 279933-00

Project Title: DART+ COASTAL NORTH	
Drawing Title: LAND AND SOIL	
Figure 9.1: QUATERNARY GEOMORPHOLOGY	
Drawing File Name: D+WP56-ARP-ZZ-NL-DR-EVGT-100006	Sheet Number: 6 of 9
Status: S4	Rev: P02



- LEGEND**
- ⊙ RAILWAY STATIONS
 - ▭ DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - ← SUBGLACIAL STRIAE (GSI)
 - SUBGLACIAL LINEATIONS (GSI)
 - CRAG-AND-TAIL
 - STREAMLINED BEDROCK
 - MELTWATER LANDFORMS (GSI)
 - MELTWATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)
 - ▨ GLACIOFLUVIAL TERRACE
 - HUMMOCKY SAND AND GRAVEL



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DART+ Coastal North

NTA
 Údair Náisiúnta Iompartha
 National Transport Authority

Tionscadal Éireann 2040

Rev	Date	Dn	Ch'd	App'd	Description
P02	31/05/2024	DM	MF	GS	PLANNING ISSUE

Client
Irish Rail

Engineering Designer
ARUP

Date: 07/09/2023
 Scale: 1:10000 @ A1
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Project Code: D+WP56
 Originator Code: ARP

Drawn: DM
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 Approved: GS

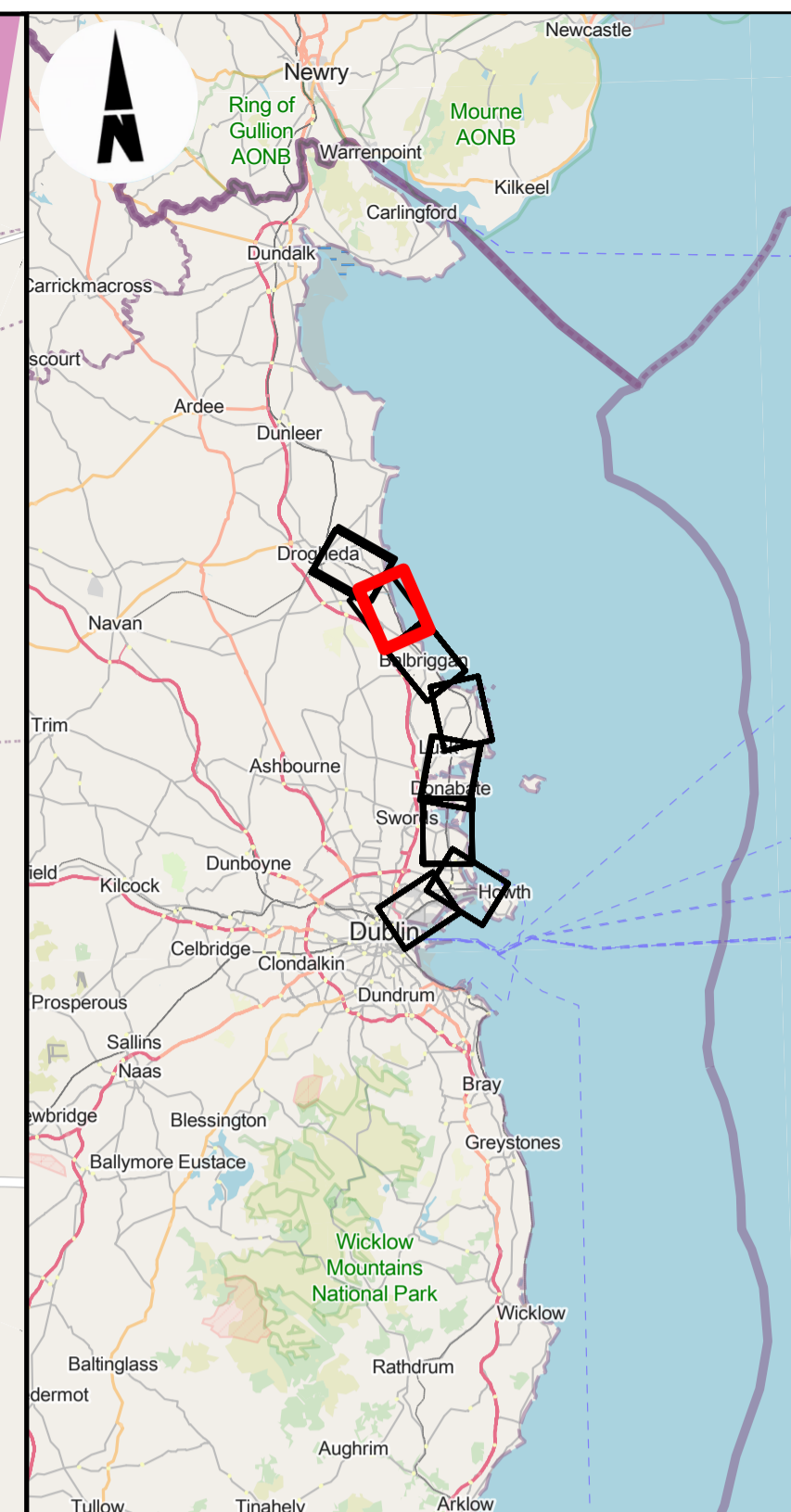
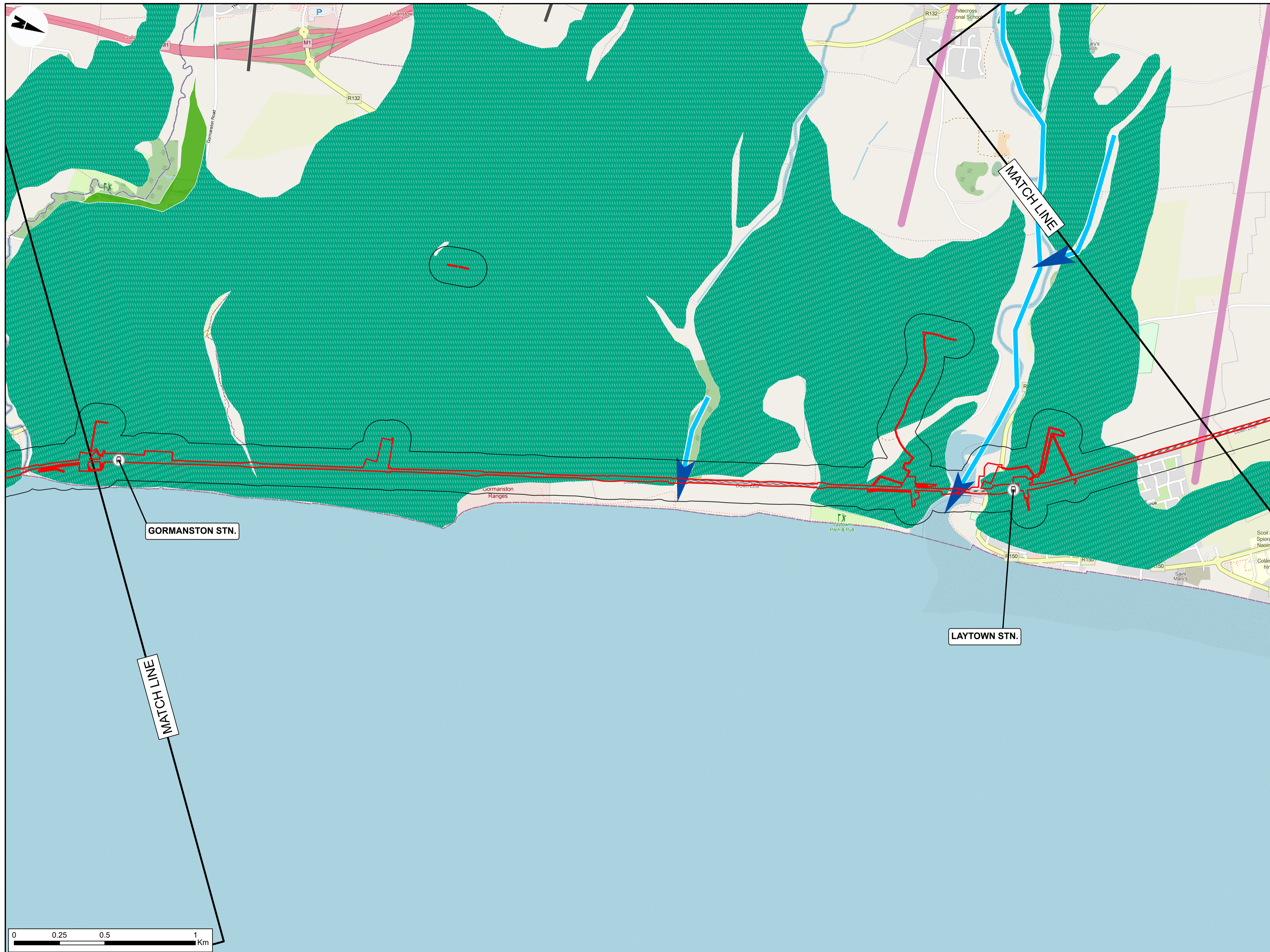
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Project Title
 DART+ COASTAL NORTH

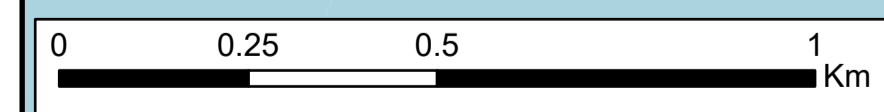
Drawing Title
 LAND AND SOIL
 FIGURE 9.1: QUATERNARY GEOMORPHOLOGY

Drawing File Name
 D+WP56-ARP-ZZ-NL-DR-EVGT-100007

Sheet Number: 7 of 9
 Status: S4
 Rev: P02



- LEGEND**
- Ⓜ RAILWAY STATIONS
 - ▭ DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - SUBGLACIAL LINEATIONS (GSI)**
 - ▬ CRAG-AND-TAIL
 - ▬ MEGA SCALE GLACIAL LINEATION
 - MELTwater LANDFORMS (GSI)**
 - MELTwater CHANNEL
 - DEGLACIAL LANDFORMS (GSI)**
 - ▨ GLACIOFLUVIAL TERRACE
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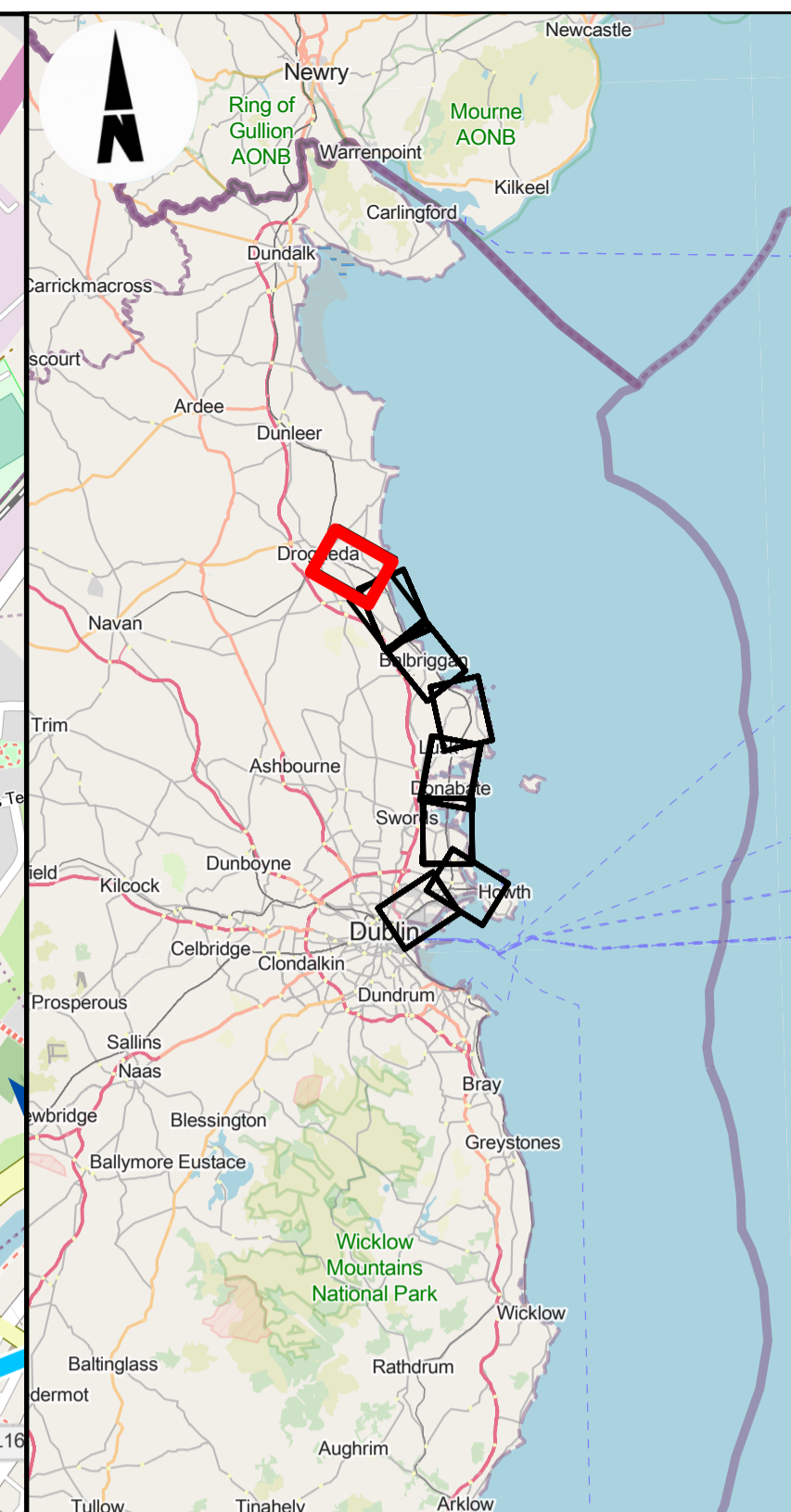
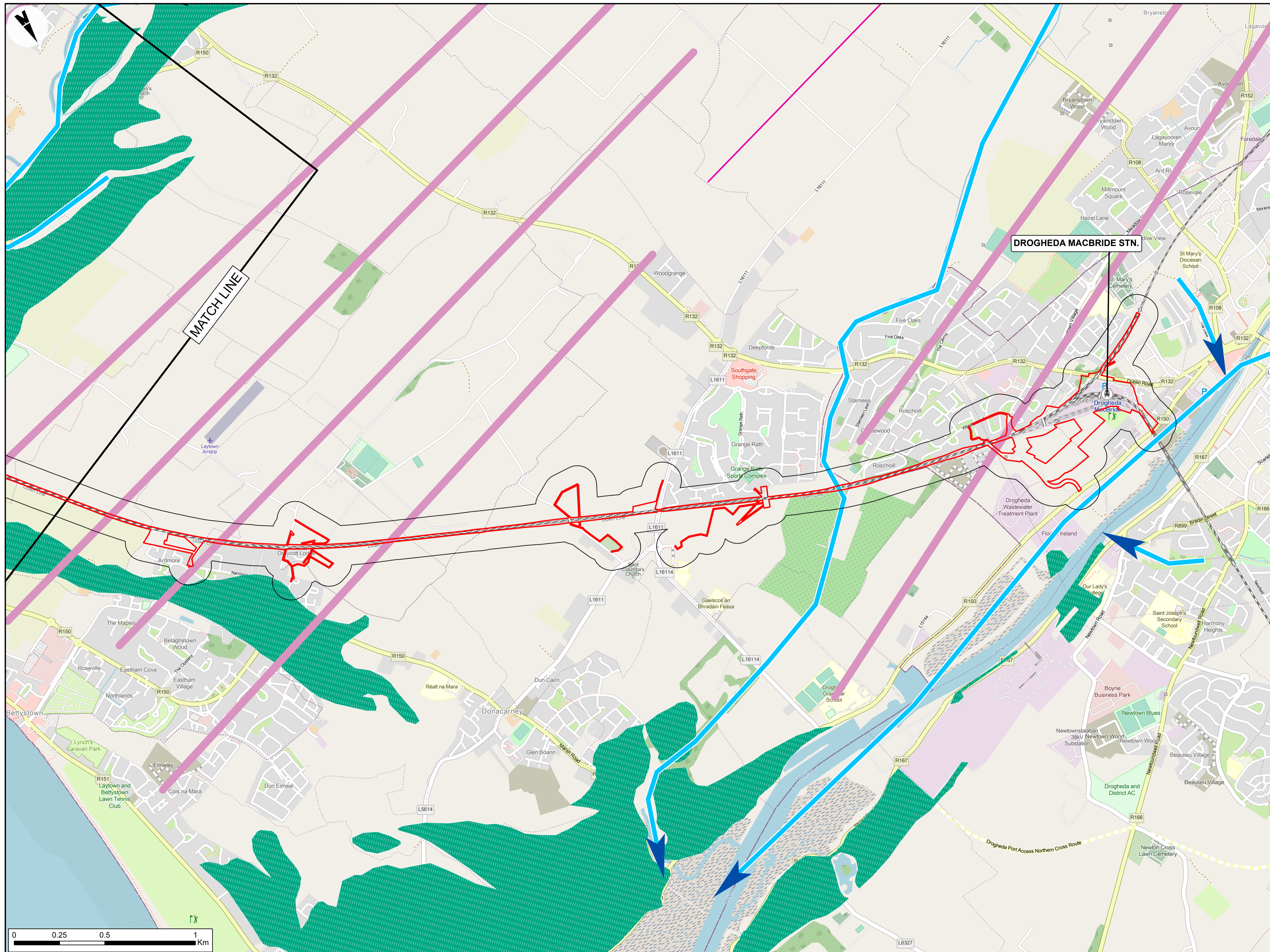
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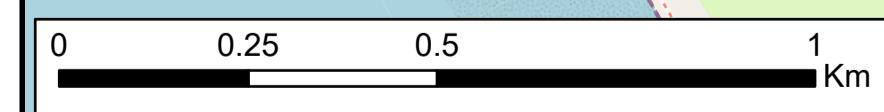
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Client Irish Rail		Engineering Designer ARUP		
Date 07/09/2023	Scale 1:10000 @ A1 1:20000 @ A3	Drawn DM	Checked MF	Approved GS
Project Code D+WP56	Originator Code ARP	QMS Code 279933-00		

Project Title DART+ COASTAL NORTH			
Drawing Title LAND AND SOIL FIGURE 9.1: QUATERNARY GEOMORPHOLOGY			
Drawing File Name D+WP56-ARP-ZZ-NL-DR-EVGT-100008	Sheet Number 8 of 9	Status S4	Rev P02



- LEGEND**
- ⊙ RAILWAY STATIONS
 - ▭ DEVELOPMENT BOUNDARY
 - 100M BUFFER
 - ← SUBGLACIAL STRIAE (GSI)
 - SUBGLACIAL LINEATIONS (GSI)
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 - MELTWATER CHANNEL
 - DEGLACIAL LANDFORMS (GSI)
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Rev	Date	Dn	Chkd	App'd	Description
P02	31/05/2024	DM	MF	GS	PLANNING ISSUE

Client: **larnród Éireann Irish Rail**

Engineering Designer: **ARUP**

Date: 07/09/2023 | Scale: 1:10000 @ A1 | 1:20000 @ A3

Project Code: D+WP56 | Originator Code: ARP

QMS Code: 279933-00

Drawn: DM | Checked: MF | Approved: GS

Project Title: **DART+ COASTAL NORTH**

Drawing Title: **LAND AND SOIL**
FIGURE 9.1: QUATERNARY GEOMORPHOLOGY

Drawing File Name: D+WP56-ARP-ZZ-NL-DR-EVGT-100009

Sheet Number: 9 of 9 | Status: S4 | Rev: P02