

- ### Legend
- Development Boundary
  - Study Area
  - Watercourses
  - Railway
  - Canals
  - County Boundaries
- ### Catchments
- Hazelhatch Stream
  - Shinkeen Stream
  - Camac River
  - Lucan Stream
  - Griffeen River
  - River Liffey

**River Liffey**



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Rev	Date	Drn	Chkd	App'd	Description
v02	11/11/2022	NR	UM	CR	Water (including Hydrology & Flood Risk)
v01	08/09/2022	NR	UM	CR	Water (including Hydrology & Flood Risk)

Client: **Iarnród Éireann Irish Rail**

Date: 11/11/2022 | Scale: 1:90,000 @ A4

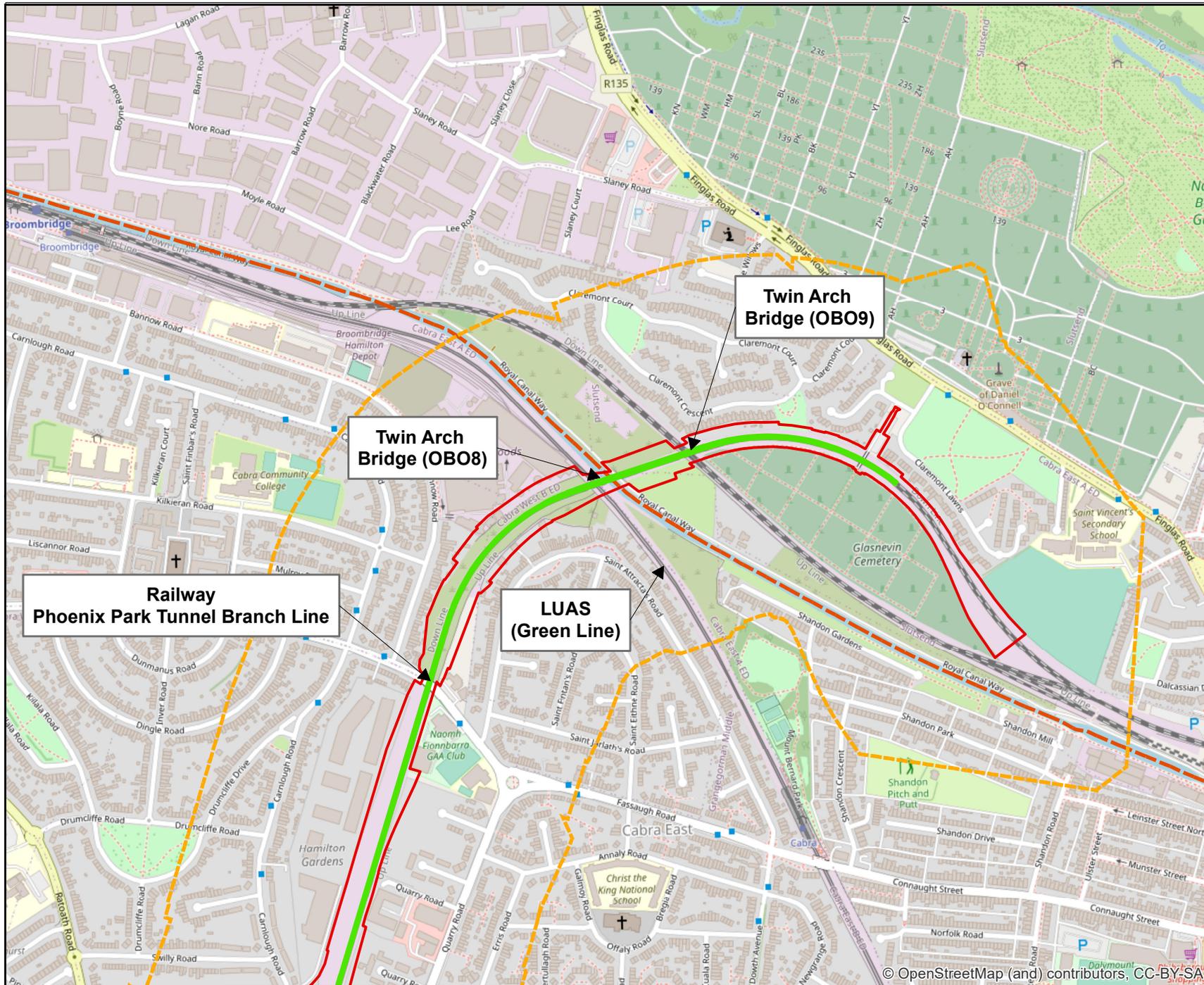
Project Code: 6195886 | Issuer: TTA

Engineering Designer: **ATKINS** (TVPSA) | Supported by: **RPS**

Drawn: NR | Checked: UM | Approved: CR

Project Title	<b>DART + SOUTH WEST</b>		
Drawing Title	<b>Figure 10-1: Study Area</b>		
Drawing File Name	<b>DP-04-23-DWG-EV-TTA-23783</b>	Version	v02
Status	S3		

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### Legend

- Development Boundary
- Study Area
- Royal Canal
- Proposed Track Works & Electrification



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Rev	Date	Dm	Chkd	App'd	Description
v02	11/11/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)
v01	08/09/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)

Client: **Iarnród Éireann Irish Rail**

Date: 16/11/2022 Scale: 1:8,000 @ A4

Project Code: 5195886 Issuer: TTA

Engineering Designer: **ATKINS** (Member of the SNC-Lavalin Group)

Supported by: **RPS**

Drawn: NR Checked: UM Approved: CR

QMS Code: \_\_\_\_\_

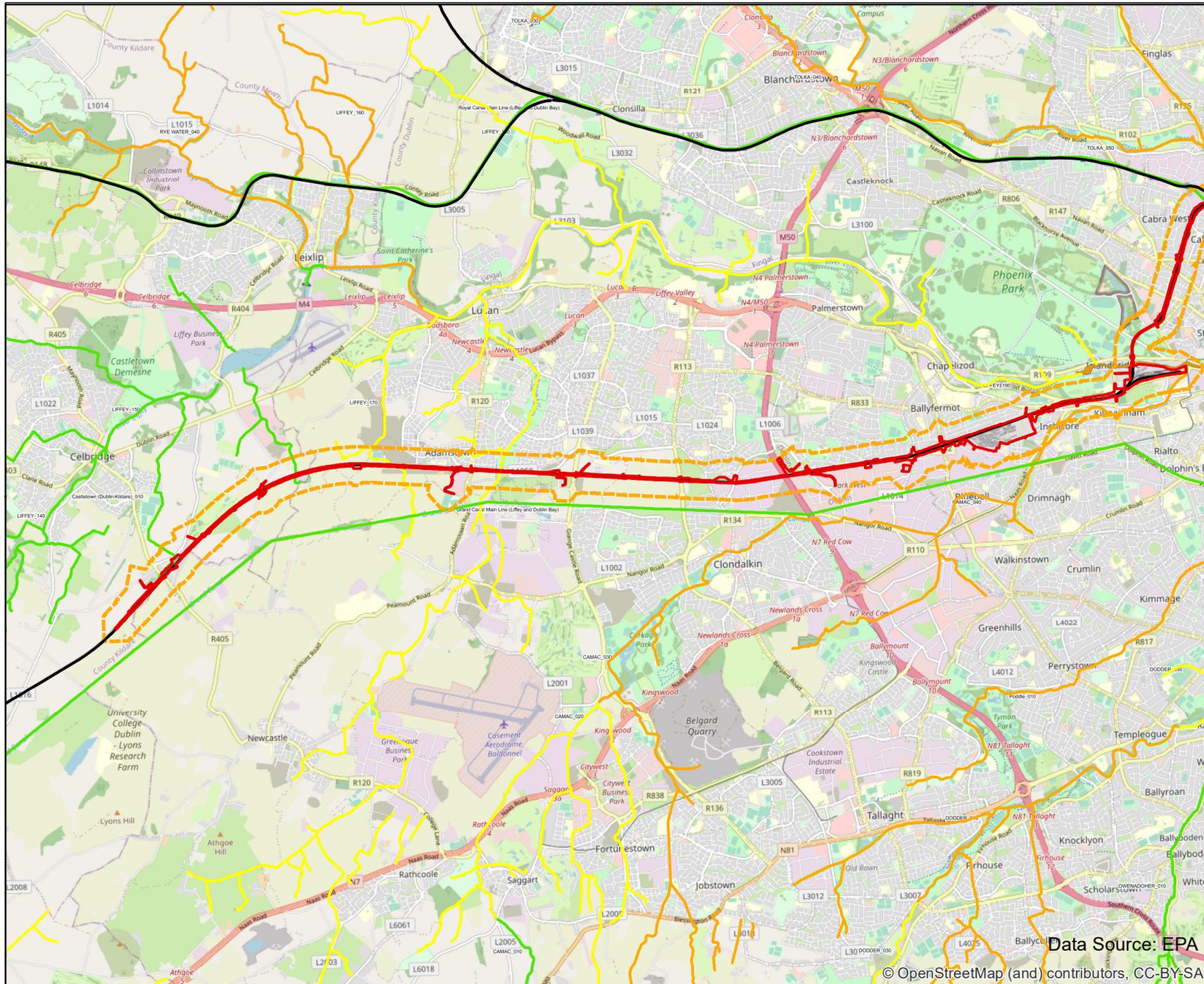
Project Title: **DART + SOUTH WEST**

Drawing Title: **Figure 10-2: Location of Royal Canal (Zone D) in the Study Area**

Drawing File Name: **DP-04-23-DWG-EV-TTA-23784**

Version: v02 Status: S3

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### Legend

- Development Boundary
- Study Area
- Railway
- Transitional Waterbodies Risk**
- At risk
- Not at risk
- Review
- Unassigned
- River Waterbody WFD Latest Status**
- High
- Good
- Moderate
- Poor
- Bad
- Unassigned

Data Source: EPA

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Rev	Date	Drn	Chkd	App'd	Description
v02	11/11/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)
v01	08/09/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)

Client: **Iarnród Éireann Irish Rail**

Engineering Designer: **ATKINS** (Member of the BSC-Link Group), supported by **RPS**

Date: 11/11/2022 | Scale: 1:80,000 @ A4

Project Code: 5195886 | Issuer: TTA | OMS Code: [ ]

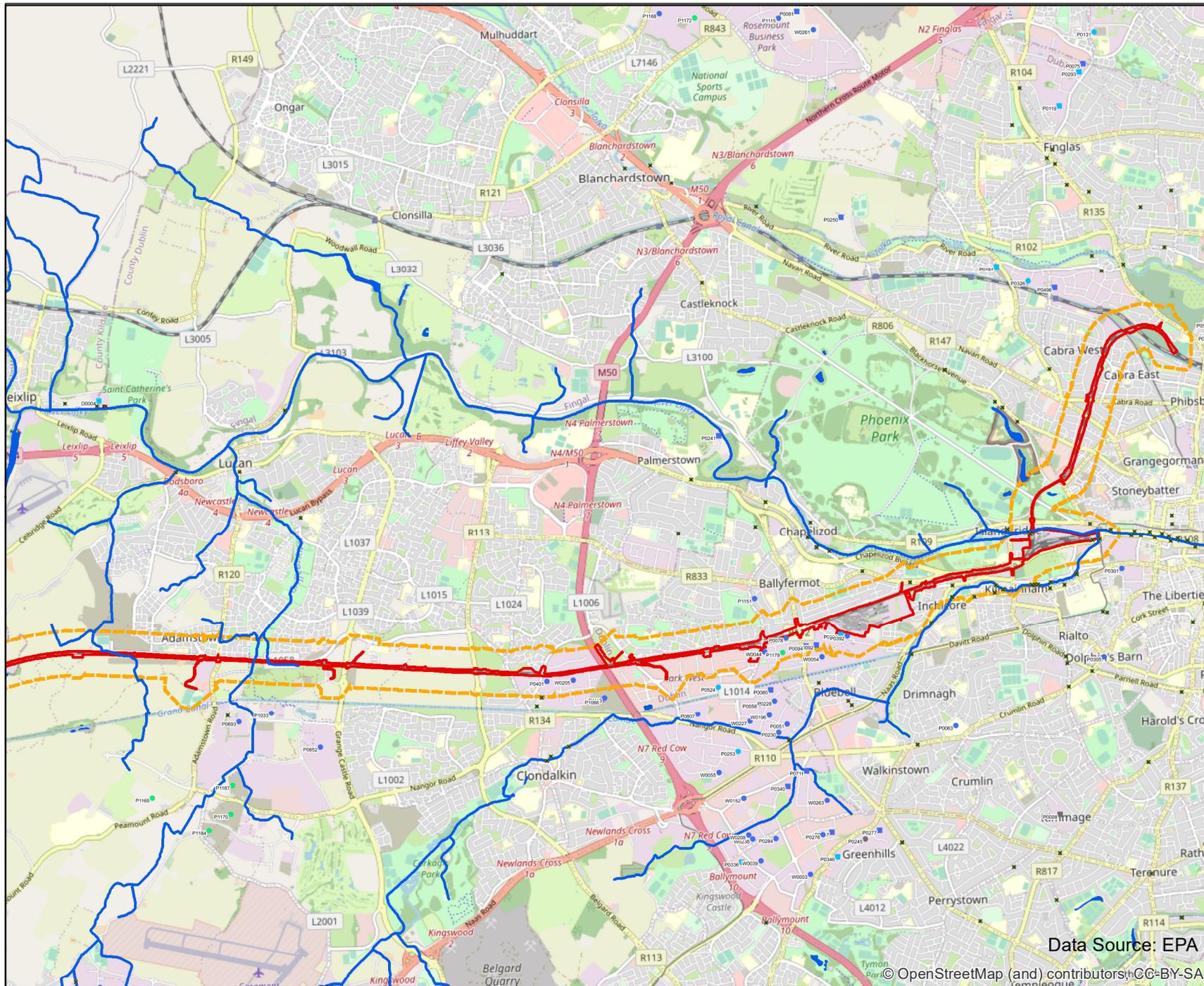
Drawn: NR | Checked: UM | Approved: CR

Project Title: **DART + SOUTH WEST**

Drawing Title: **Figure 10-10: Waterbody WFD Risk**

Drawing File Name: **DP-04-23-DWG-EV-TTA-23788** | Version: v02 | Status: S3

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### Legend

- Development Boundary
- Study
- Lakes
- Watercourses

### Wastewater Discharge Points

- X Primary Discharge Point
- X Secondary Discharge Point
- X Storm Water Overflow

### Industrial Emissions Licensing

- Licensed
- Applied
- Surrendered
- Other

### Integrated Pollution Control Facility

- Licensed
- Applied
- Surrendered
- Other

### Wastewater Treatment Plant

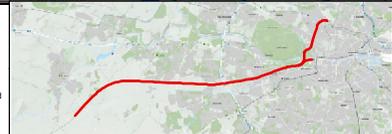
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Data Source: EPA



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Rev	Date	Drn	Chkd	App'd	Description
v02	11/11/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)
v01	08/09/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)

Client: **Irish Rail**

Engineering Designer: **ATKINS** (Member of the SNC-Lavalin Group) supported by **RPS**

Date: 11/11/2022 Scale: 1:65,000 @ A4

Project Code: 6195886 Issuer: TTA

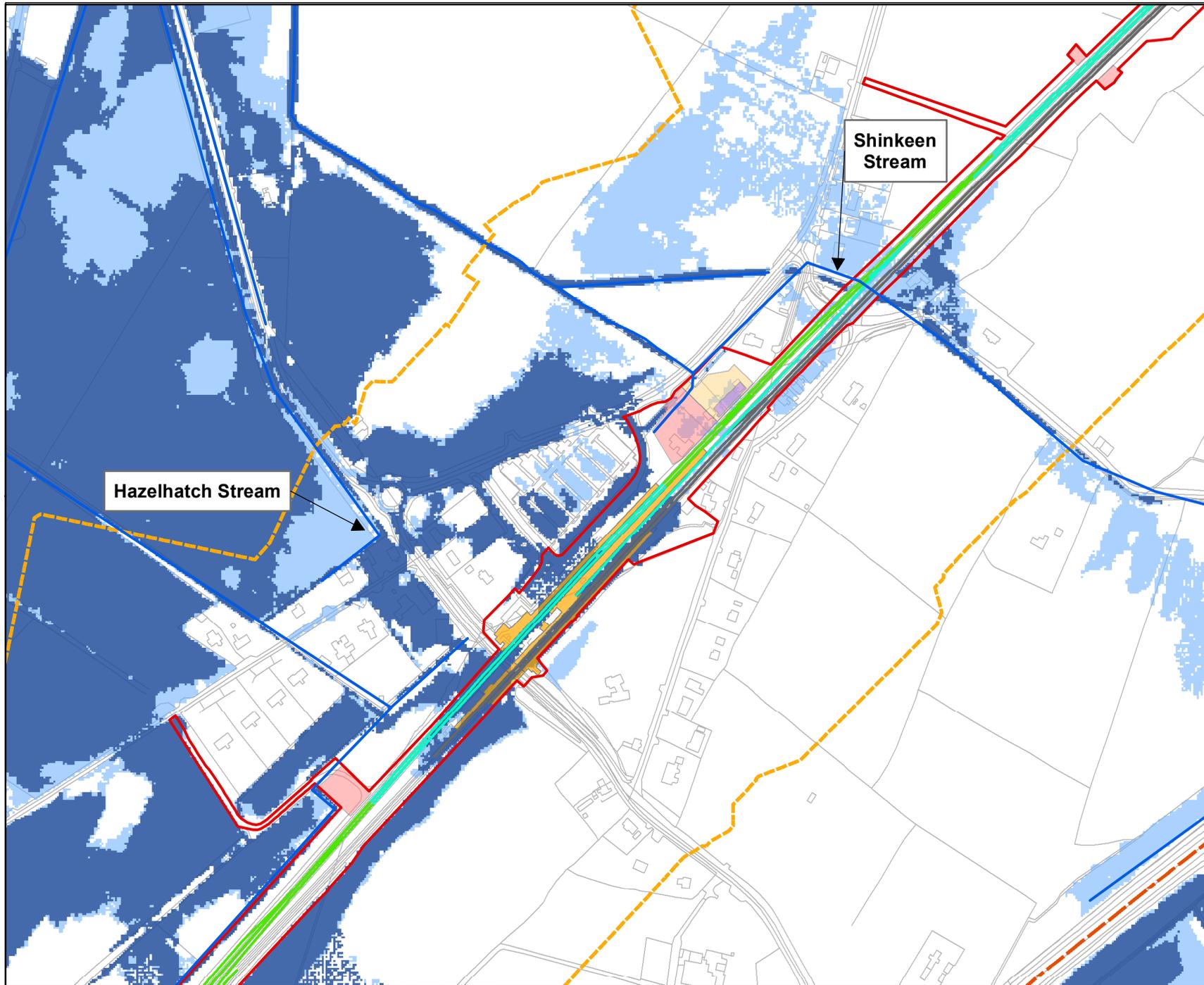
Drawn: NR Checked: UM Approved: CR

Supported by: **RPS**

OSMS Code: \_\_\_\_\_

Project Title	<b>DART + SOUTH WEST</b>		
Drawing Title	<b>Figure 10-12: Storm Water Overflows within or nearby the Study Area</b>		
Drawing File Name	<b>DP-04-23-DWG-EV-TTA-23790</b>	Version	<b>v02</b>
Status	<b>S3</b>		

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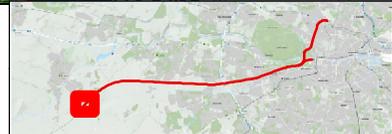


- ### Legend
- Development Boundary
  - Study Area
  - Watercourses
  - Royal Canal
  - Flood Zone A
  - Flood Zone B
  - Existing Track to be Retained
  - Proposed Railway Electrification
  - Proposed Track Works & Electrification
  - Proposed Parapet Modifications
  - Proposed Temporary Compound
  - Proposed Permanent Compounds
  - Proposed Electrical Substation
  - Existing Railway Station



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Rev	Date	Drn	Chk'd	App'd	Description
v02	11/11/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)
v01	08/09/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)

Client: **Iarnród Éireann Irish Rail**

Date: 11/11/2022 Scale: 1:5,500 @ A4

Project Code: 5195886 Issuer: TTA

Engineering Designer: **ATKINS** (TYPSA, RPS)

Drawn: NR Checked: UM Approved: CR

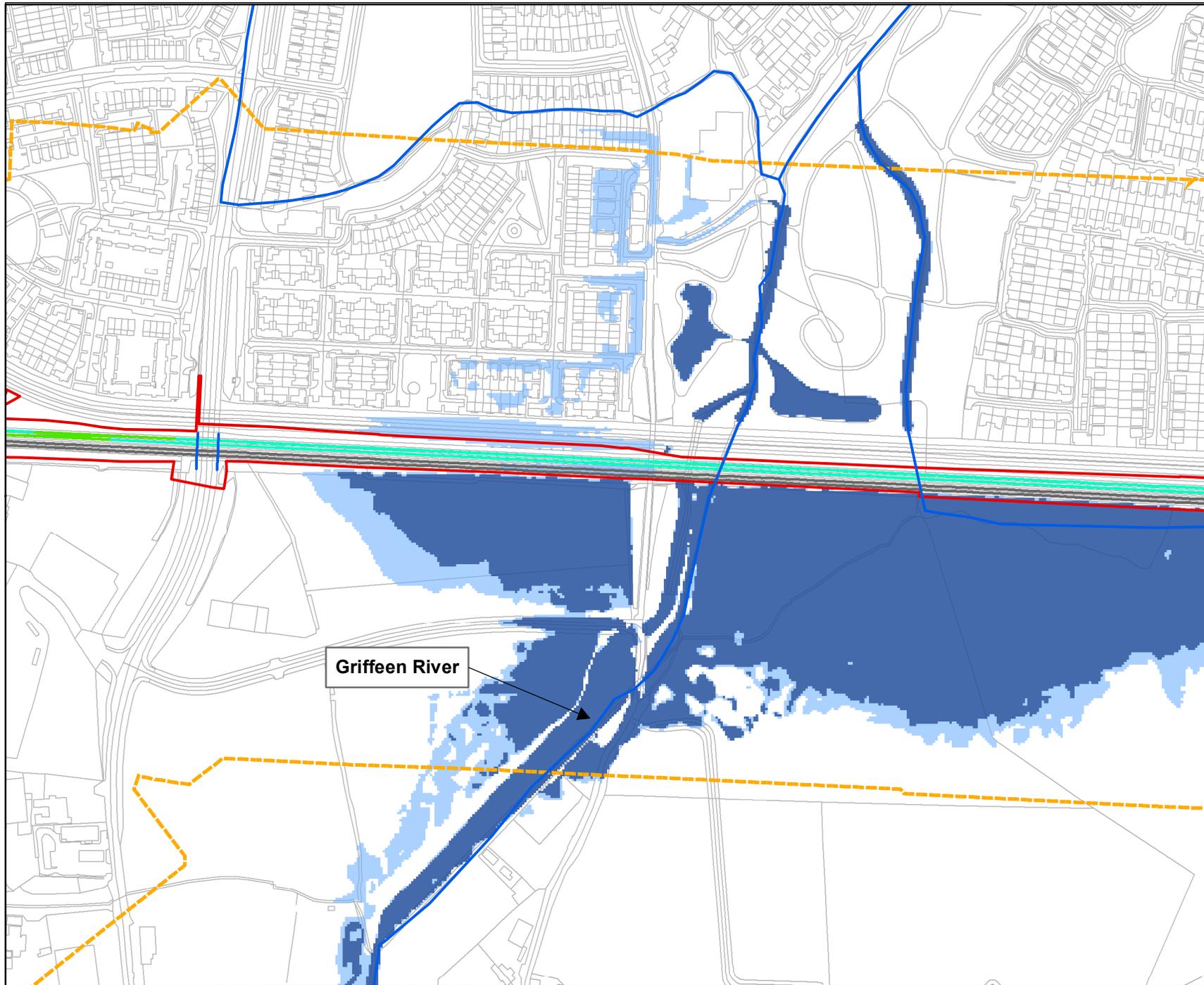
QMS Code: \_\_\_\_\_

Project Title: **DART + SOUTH WEST**

Drawing Title: **Figure 10-3: Flood Zones in Hazelhatch**

Drawing File Name: **DP-04-23-DWG-EV-TTA-23785** Version: v02 Status: S3

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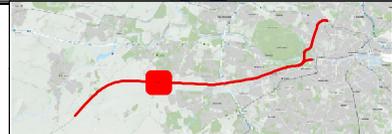
- ### Legend
- Development Boundary
  - Study Area
  - Watercourses
  - 1% AEP HEFS
  - 0.1% AEP HEFS
  - Existing Track to be Retained
  - Proposed Railway Electrification
  - Proposed Track Works & Electrification
  - Proposed Parapet Modifications

Griffen River



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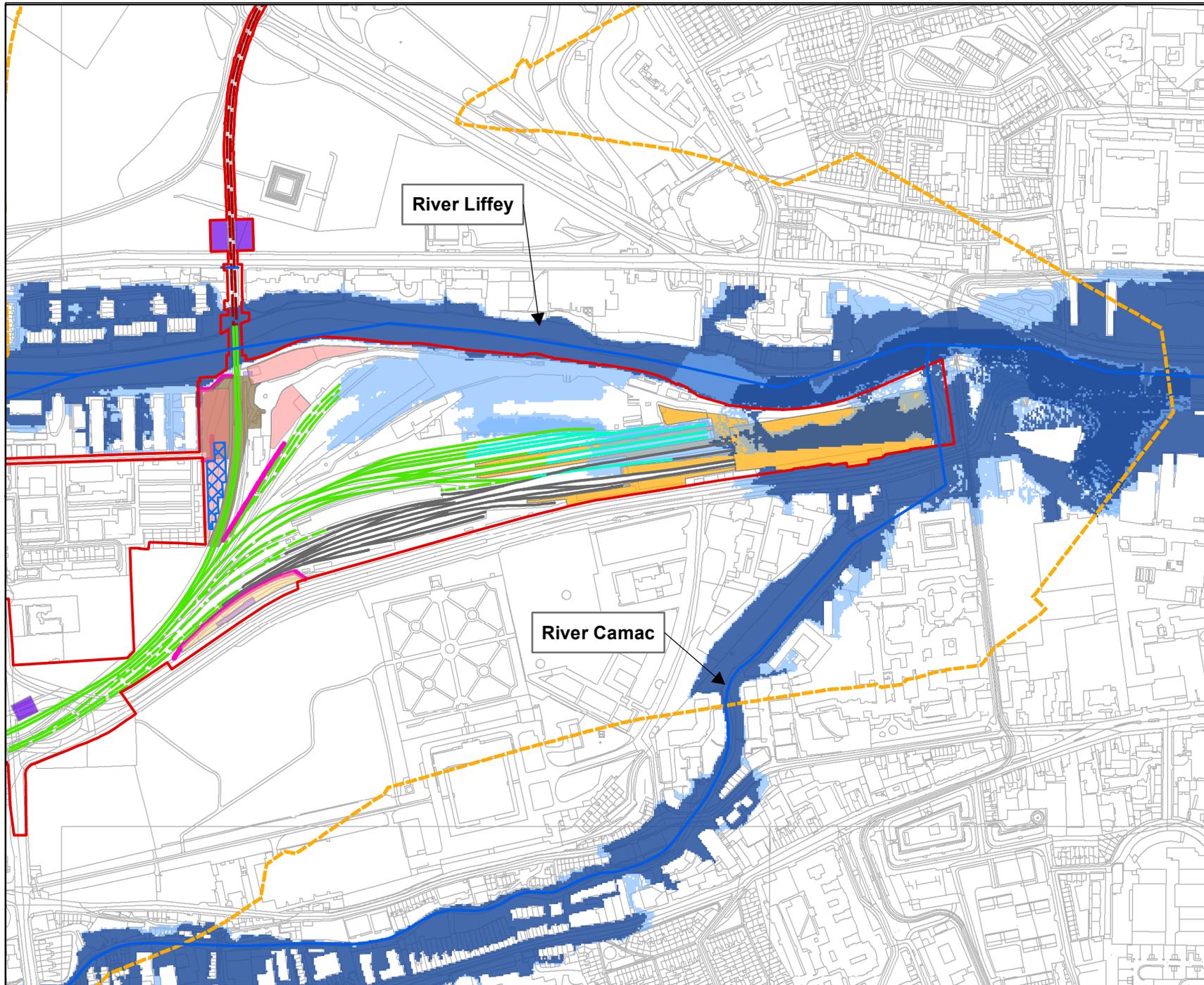


Rev	Date	Dwn	Chkd	App'd	Description
v02	11/11/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)
v01	08/09/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)

Client		Engineering Designer		
Iarnród Éireann Irish Rail		ATKINS TYPSA Supported by: RPS		
Date	Scale	Drawn	Checked	Approved
11/11/2022	1:4,500 @ A4	NR	UM	CR
Project Code	Issuer	QMS Code		
5195886	TTA			

Project Title	DART + SOUTH WEST		
Drawing Title	Figure 10-4: HEFS Flood Extents in Adamstown		
Drawing File Name	DP-04-23-DWG-EV-TTA-23786	Version	Status
		v02	S3

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### Legend

- Development Boundary
- Study Area
- Watercourses
- 1% AEP HEFS
- 0.1% AEP HEFS
- Proposed Attenuation Tanks
- Proposed Concrete Slab Track and Electrification
- Existing Track to be Retained
- Proposed Railway Electrification
- Proposed Track Works and Electrification
- Proposed Track Works, Not Electrified
- Proposed Parapet Modifications
- Proposed Boundary Wall
- Proposed Temporary Compound
- Proposed Retaining Wall Anchors / Soil Nailing
- Proposed Permanent Compounds
- Proposed Electrical Substation
- Existing Railway Station
- Hueston West



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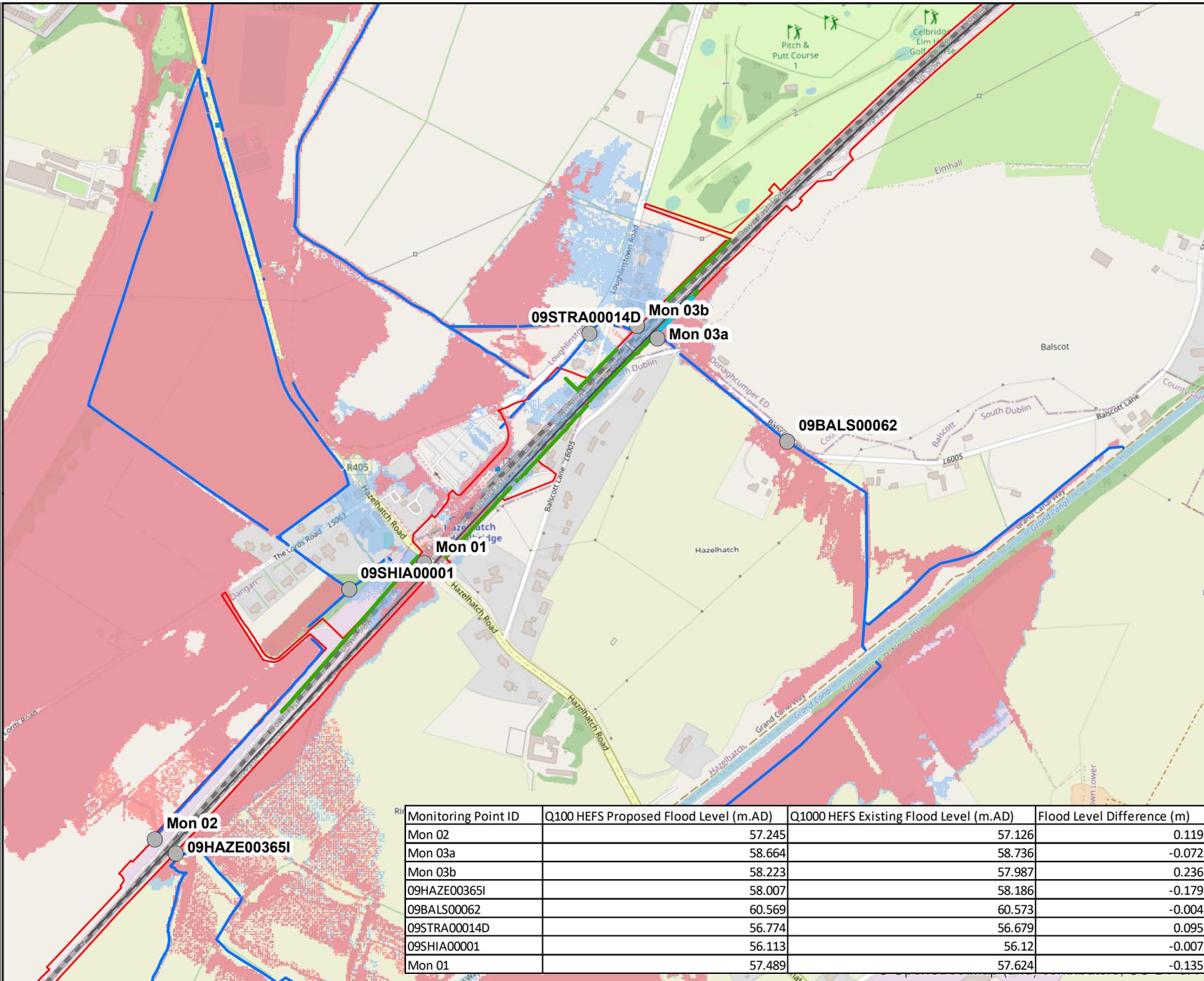
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Rev	Date	Drn	Chk'd	App'd	Description
v02	11/11/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)
v01	08/09/2022	NR	UM	CR	Water (Including Hydrology & Flood Risk)

Date	11/11/2022	Scale	1:6,000 @ A4	Drawn	NR
Project Code	6195886	Issuer	TTA	Checked	UM
				Approved	CR

Project Title	DART + SOUTH WEST		
Drawing Title	Figure 10-6: HEFS Flood Extents at Heuston Station		
Drawing File Name	DP-04-23-DWG-EV-TTA-23787	Version	v02
Status	S3		



### Legend

- Redline Development Boundary
- Monitoring Points
- River Reach
- Proposed 2m Wide Channel
- Proposed Noise Barriers
- Q1000 HEFS Proposed
- Q1000 HEFS Existing

Note:  
Proposed - includes for mitigation measures proposed in FRA Report & Proposed Noise Barriers

Monitoring Point ID	Q100 HEFS Proposed Flood Level (m.AD)	Q1000 HEFS Existing Flood Level (m.AD)	Flood Level Difference (m)
Mon 02	57.245	57.126	0.119
Mon 03a	58.664	58.736	-0.072
Mon 03b	58.223	57.987	0.236
09HAZE00365I	58.007	58.186	-0.179
09BALS00062	60.569	60.573	-0.004
09STRA00014D	56.774	56.679	0.095
09SHIA00001	56.113	56.12	-0.007
Mon 01	57.489	57.624	-0.135



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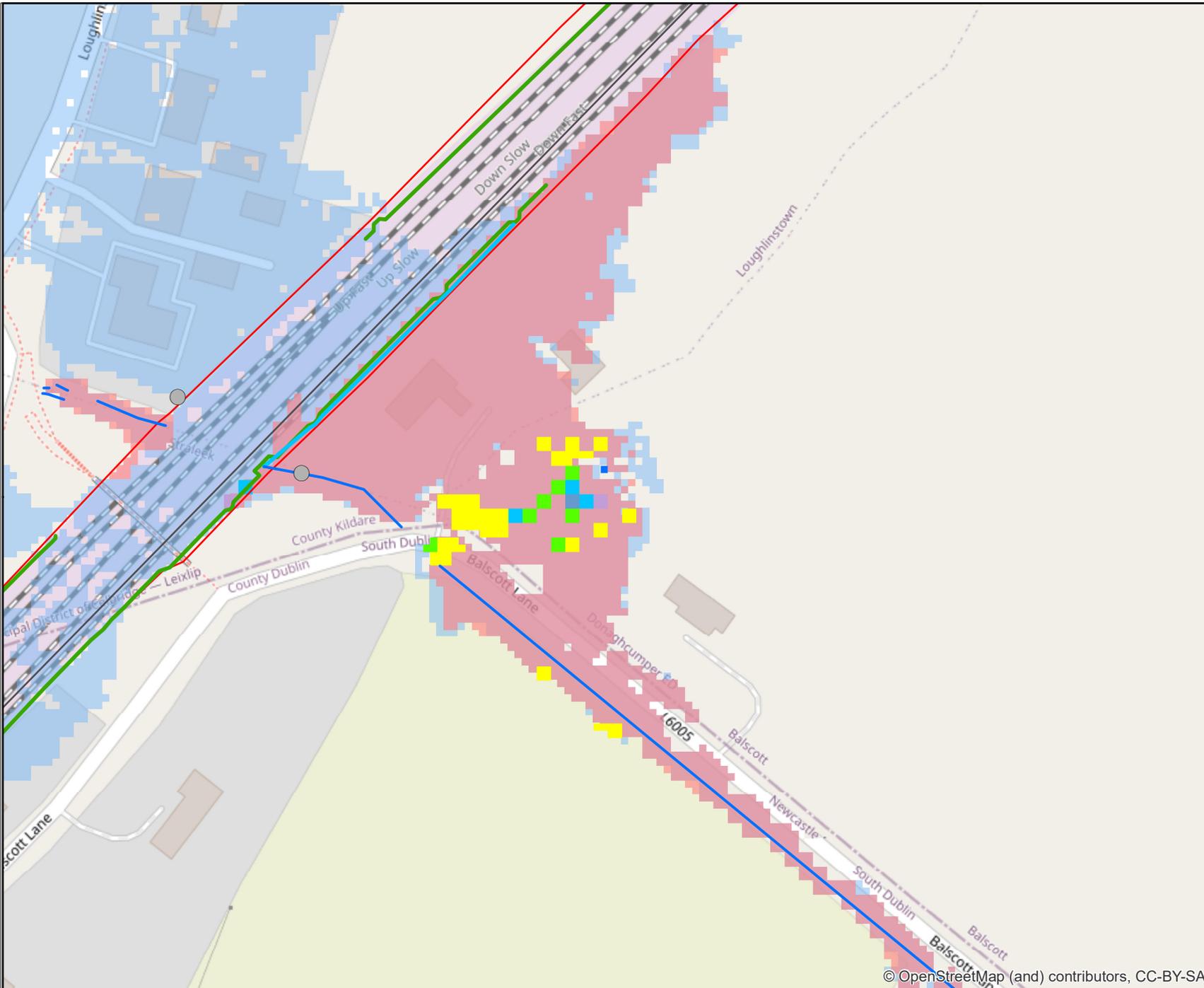


Rev	Date	Dm	Chk'd	App'd	Description
v01	26/01/2023	IP	EH	CR	0.1% AEP HEFS Predicted Flood Extents

Date	26/01/2023	Scale	1:9,000 @ A4	Drawn	NR	Checked	UM	Approved	CR
Project Code	5195886	Issuer	TTA	QMS Code					

Project Title	<b>DART + SOUTH WEST</b>		
Drawing Title	<b>0.1% AEP HEFS Predicted Flood Extents</b>		
Drawing File Name	DP-04-23-DWG-EV-TTA-23898	Version	v01
Status	S3		

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### Legend

- Redline Development Boundary
- Monitoring Points
- Proposed 2m Wide Channel
- River Reach
- Proposed Noise Barriers
- Q1000 HEFS Proposed
- Q1000 HEFS Existing

### Q1000 HEFS Proposed Flood Depth Increase (m)

- 0.0001 - 0.010 m
- 0.010 - 0.020 m
- 0.020 - 0.030 m
- 0.030 - 0.040 m
- 0.040 - 0.050 m
- 0.050 - 0.075 m
- 0.075 - 0.100 m
- > 0.100 m



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		Rev	Date	Dm	Chk'd	App'd	Description
		v01	26/01/2023	IP	EH	CR	0.1% AEP HEFS Predicted Flood Extents

		<b>Engineering Designer</b> 							
Date	26/01/2023	Scale	1:1,500 @ A4	Drawn	NR	Checked	UM	Approved	CR
Project Code	5195886	Issuer	TTA	QMS Code					

Project Title	<b>DART + SOUTH WEST</b>				
Drawing Title	<b>0.1% AEP HEFS Predicted Flood Depth Increase</b>				
Drawing File Name	<b>DP-04-23-DWG-EV-TTA-23897</b>	Version	v01	Status	S3

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