

McKEE BARRACKS BRIDGE (OBO3)

BLACKHORSE AVENUE BRIDGE (OBO4)

Modify existing Bridge parapets to provide a minimum height of 1.8m

Modify existing Bridge parapets to provide a minimum height of 1.8m

Construct new 3.6m high palisade gate integrated into the existing 3.6 m high railway corridor boundary to provide an emergency egress point to Marlborough Road from the proposed emergency egress stairway at McKee Barracks Bridge (adjacent).

Modify existing Tunnel parapet to provide a minimum height of 1.8m

Construct new 3.6m high palisade fence within An Garda Síochána lands, located back of kerbline of their access road off North Road. Forming a segregated emergency egress walkway. 3no. sets of double opening pedestrian gates will be provided 1) connecting the CIE rail corridor to An Garda Síochána lands 2) providing access to a restricted parking area immediately adjacent the emergency walkway 3) at the north Road connection connection to the new fenced walkway.

Raising of the Conyngham Road Bridge parapet, includes masonry works and fitting of IPX2 rated mesh to achieve overall 1.8m high parapet.

Raising of the Riverwalk Apartments underground carpark access ramp parapet to achieve a minimum height of 1.8m.

**LEGEND:**

- EXISTING CIE PROPERTY OWNERSHIP BOUNDARY
- PROPOSED ATTENUATION TANK
- EXISTING TRACK TO BE RETAINED
- PROPOSED SLAB TRACK & ELECTRIFICATION
- PROPOSED TRACK WORKS & ELECTRIFICATION
- PROPOSED TRACK WORKS, NOT ELECTRIFIED
- PROPOSED RAILWAY ELECTRIFICATION
- PROPOSED PARAPET MODIFICATIONS (INFIL PANELS AND/OR RAISING)
- PROPOSED CANTILEVER RETAINING WALL
- PROPOSED PILED RETAINING WALL
- PROPOSED 'KING POST' RETAINING WALLS
- PROPOSED GABION RETAINING WALLS
- PROPOSED BOUNDARY WALLS
- PROPOSED BOUNDARY FENCING

**NOTES**

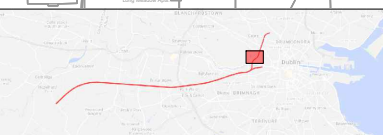
The boundary treatment drawings should be read in conjunction with the Boundary Treatment Schedule (DP-04-23-REP-ST-TTA-26905) which is appended to the Boundary Treatment Preliminary Design Report (DP-04-23-REP-ST-TTA-26904). Additional clarification of retaining wall details below certain boundary treatment can be found in the Geotechnical Design Report (DP-04-23-REP-CV-TTA-01276) and drawings.

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All elevations are in metres and relate to OSi Geoid Model (OSG2002) Mean Head as defined by existing Project Control. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLG).



Rev	Date	Dm	Chkd	App'd	Description
V01	10.11.22	RG	JX	JX	PLANNING ISSUE

Client: **Irish Rail**

Date: 05.07.22 Scale: 1:1250 @ A0 N.T.S. @ A3

Project Code: 1199586 Issuer: TTA

Engineering Designer: **ATKINS**

Drawn: RG Checked: JX Approved: JX

QMS Code: 1199586

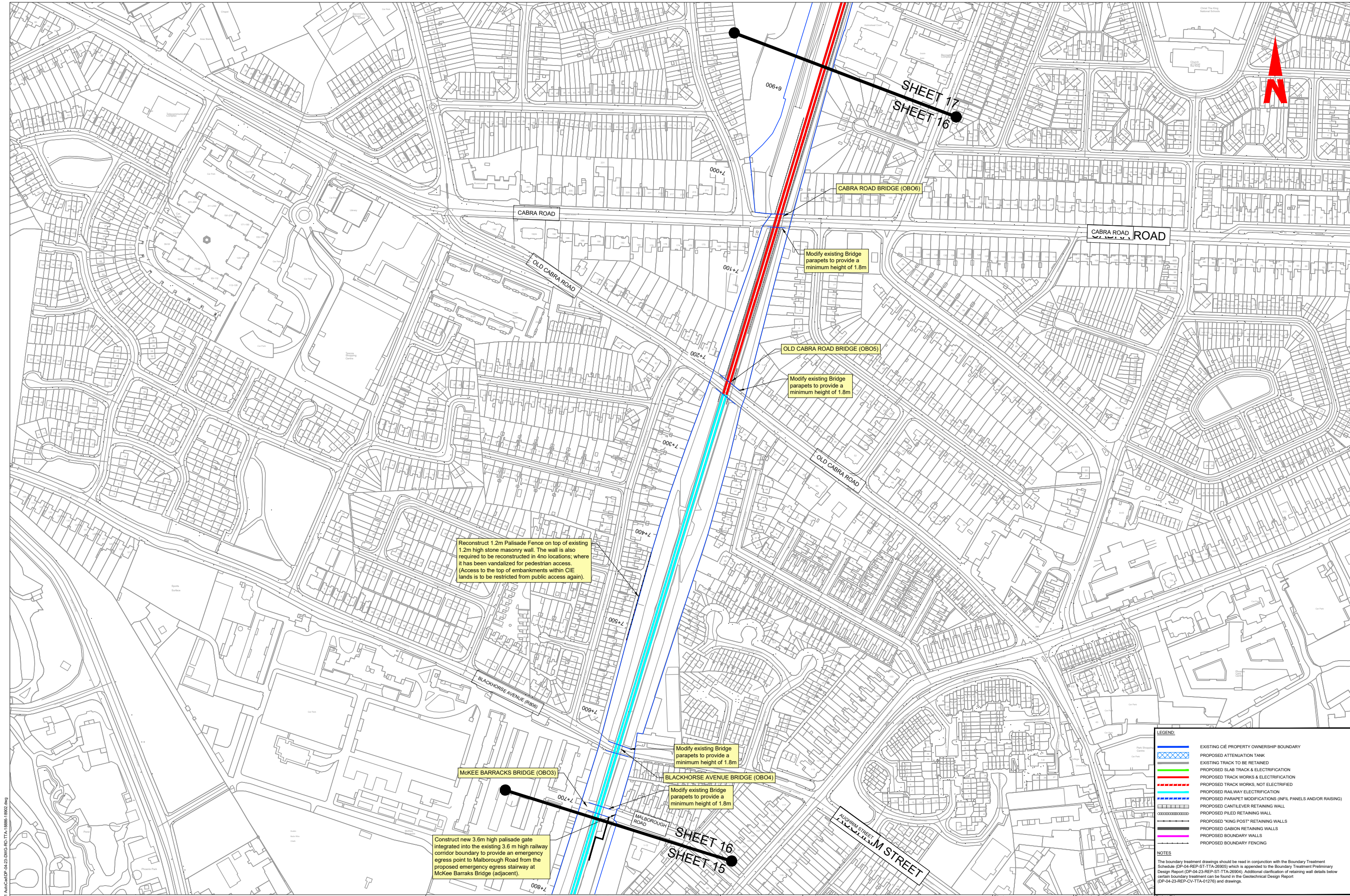
Project Title: **DART+ SOUTH WEST**

Drawing Title: **BOUNDARY TREATMENT PHOENIX PARK TO MCKEE BARRACKS BRIDGE SHEET 15 OF 17**

Drawing File Name: DP-04-23-DWG-RO-TTA-18900

Version: V01 Status: S3

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



SHEET 17  
SHEET 16

CABRA ROAD BRIDGE (OB06)

Modify existing Bridge parapets to provide a minimum height of 1.8m

OLD CABRA ROAD BRIDGE (OB05)

Modify existing Bridge parapets to provide a minimum height of 1.8m

Reconstruct 1.2m Palisade Fence on top of existing 1.2m high stone masonry wall. The wall is also required to be reconstructed in 4no locations, where it has been vandalized for pedestrian access. (Access to the top of embankments within CIE lands is to be restricted from public access again).

McKee Barracks Bridge (OB03)

Modify existing Bridge parapets to provide a minimum height of 1.8m

BLACKHORSE AVENUE BRIDGE (OB04)

Modify existing Bridge parapets to provide a minimum height of 1.8m

Construct new 3.6m high palisade gate integrated into the existing 3.6 m high railway corridor boundary to provide an emergency egress point to Malborough Road from the proposed emergency egress stairway at McKee Barracks Bridge (adjacent).

SHEET 16  
SHEET 15

**LEGEND:**

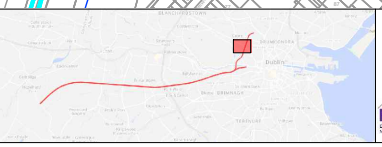
- EXISTING CIE PROPERTY OWNERSHIP BOUNDARY
- PROPOSED ATTENUATION TANK
- EXISTING TRACK TO BE RETAINED
- PROPOSED SLAB TRACK & ELECTRIFICATION
- PROPOSED TRACK WORKS & ELECTRIFICATION
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- PROPOSED "KING POST" RETAINING WALLS
- PROPOSED GABION RETAINING WALLS
- PROPOSED BOUNDARY WALLS
- PROPOSED BOUNDARY FENCING

**NOTES**

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Rev	Date	Dm	Chkd	App'd	Description
V01	10.11.22	RG	JX	JX	PLANNING ISSUE

Client: **Iarnród Éireann Irish Rail**

Date: 05.07.22 Scale: 1:1250 @ A0 N.T.S. @ A3

Project Code: 1199586 Issuer: TTA

Engineering Designer: **ATKINS**

Drawn: RG Checked: JX Approved: JX

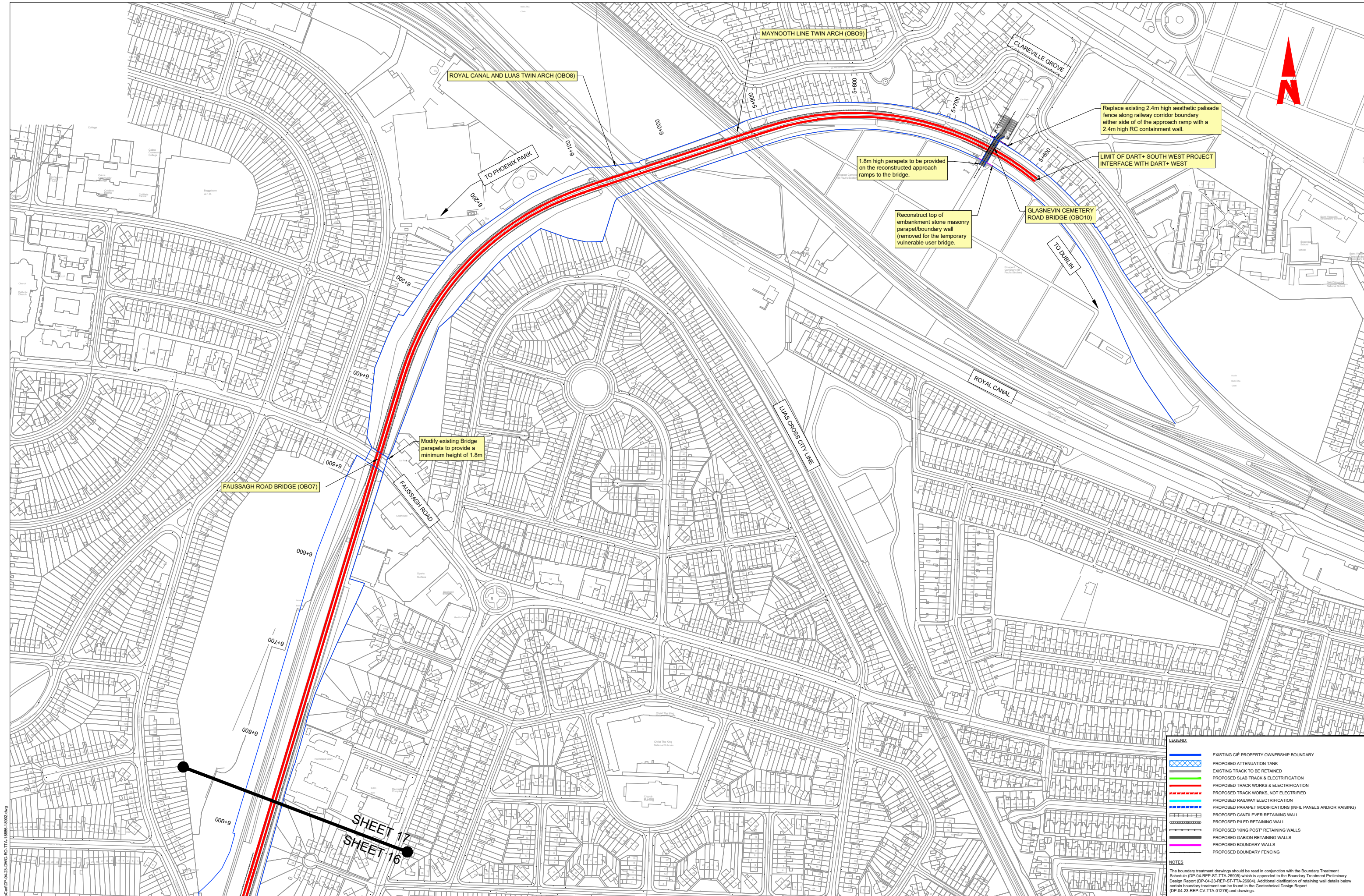
Project Title: **DART+ SOUTH WEST**

Drawing Title: **BOUNDARY TREATMENT BLACKHORSE AVENUE TO CABRA ROAD SHEET 16 OF 17**

Drawing File Name: DP-04-23-DWG-RO-TTA-18901

Version: V01 Status: S3

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



SHEET 17  
SHEET 16

**LEGEND:**

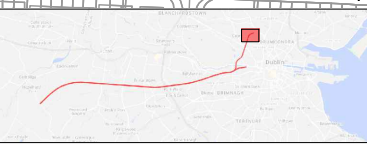
- EXISTING CIE PROPERTY OWNERSHIP BOUNDARY
- PROPOSED ATTENUATION TANK
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**NOTES**

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Rev	Date	Drn	Chkd	App'd	Description
V01	10.11.22	RG	JX	JX	PLANNING ISSUE

Client: **Iarnród Éireann Irish Rail**

Engineering Designer: **ATKINS**

Supported by: **rps**

Date: 05.07.22 Scale: 1:1250 @ A0  
N.T.S. @ A3

Project Code: 1199586 Issuer: TTA QMS Code

Drawn: RG Checked: JX Approved: JX

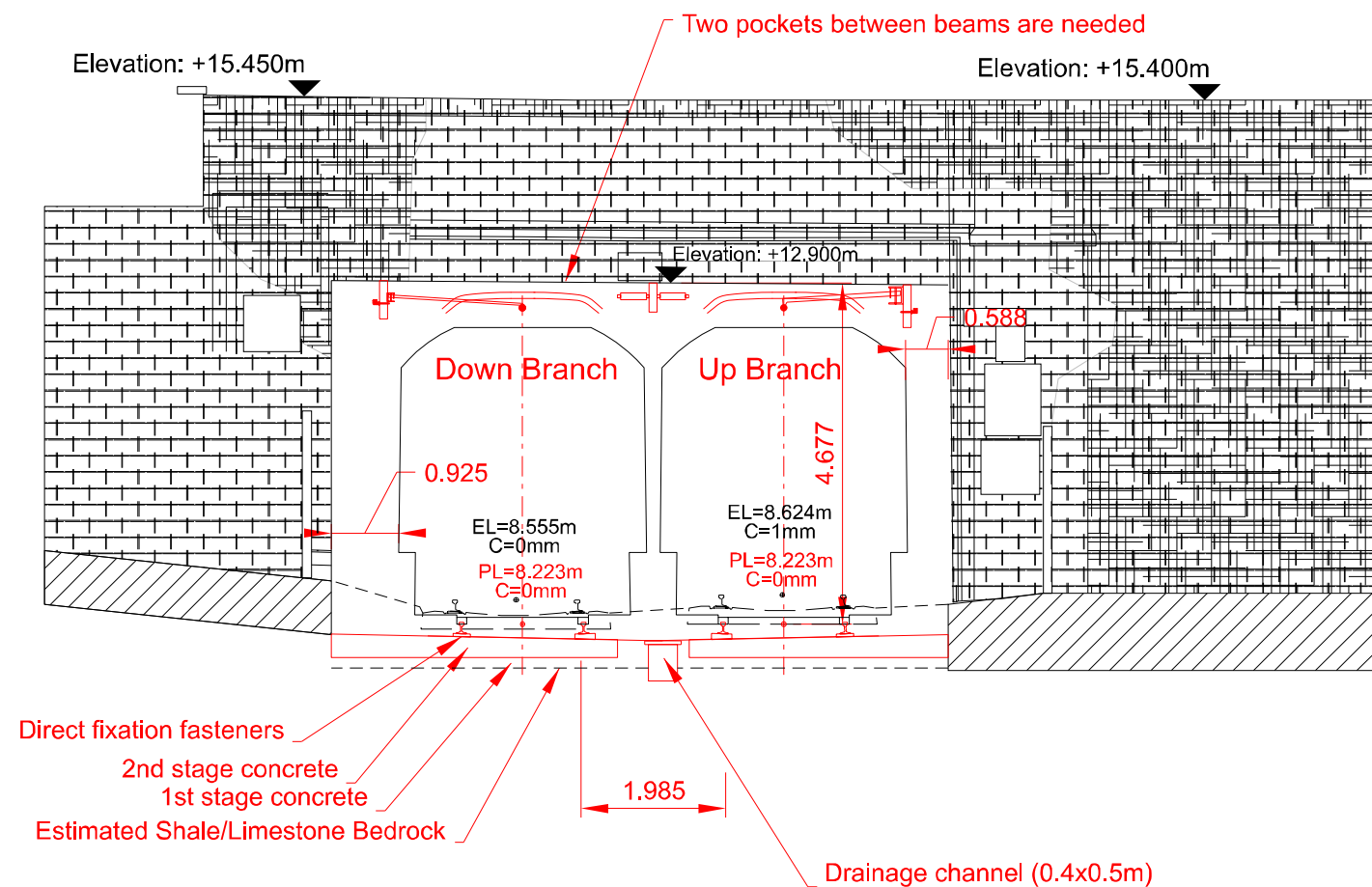
Project Title: **DART+ SOUTH WEST**

Drawing Title: **BOUNDARY TREATMENT CABRA TO GLASNEVIN JUNCTION SHEET 17 OF 17**

Drawing File Name: DP-04-23-DWG-RO-TTA-18902 Version: V01 Status: S3

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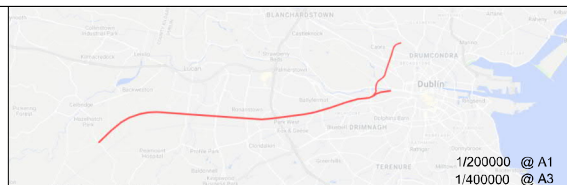
- LEGEND:**
- CROSS SECTION**
- PROPOSED ELEMENTS
  - EXISTING ELEMENTS TO BE RETAINED
  - EXISTING ELEMENTS TO BE REMOVED
  - - - IÉ PROPERTY BOUNDARY
  - BALLAST
  - ▭ PRESTRESSED CONCRETE SLEEPER
  - ⊥ VIGNOL RAIL 54E1
  - ⊗ DRAINAGE
  - ▭ COMBINED WALKWAY / CABLE MANAGEMENT SYSTEM
  - EL= EXISTING LEVEL (ELEVATION)
  - PL= PROPOSED LEVEL (ELEVATION)
  - C= CANT
  - R= RADIUS
  - STR= STRAIGHT LINE



- NOTES**
1. CHAINAGES, LEVELS AND COORDINATES ARE SHOWN IN METRES. ALL OTHER DIMENSIONS ARE SHOWN IN MILLIMETRES, UNLESS OTHERWISE STATED. ALL CLEARANCE AND SIX-FOOT INTERVALS ARE QUOTED TO RUNNING EDGES (RE).
  2. THIS DESIGN IS BASED UPON A TOPOGRAPHICAL SURVEY DATED SEPTEMBER 2021, COMPLETED BY MURPHY GEOSPATIAL LTD.
  3. CHAINAGE DATUM 9+906.707 IS LOCATED IN THE DOWN SLOW LINE AT 1 MILEPOST (CORK LINE). DOWN LINE CHAINAGE DATUM IS SHOWN ON THIS DRAWING.
  4. NEGATIVE SLUES ARE TO THE LEFT. POSITIVE SLUES ARE TO THE RIGHT. CANT SHOWN AS POSITIVE THROUGHOUT, EXCEPT WHERE ADVERSE TO THE DIRECTION OF CURVATURE. ALL IN THE DIRECTION OF INCREASING CHAINAGE.
  5. TRACK GAUGE TO BE NOMINAL 1602MM FOR PLAIN LINE AND 1600MM FOR P&C.
  6. RADII QUOTED ARE FROM TRACK CENTRELINE, UNLESS OTHERWISE STATED.
  7. RAIL LEVELS ARE QUOTED FOR THE LOW RAIL.
  8. REFER TO INDIVIDUAL ENGINEERING DISCIPLINES' DESIGN SUBMISSION FOR THEIR RESPECTIVE DETAILS.
  9. REFER TO TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE DRAWINGS FOR FURTHER DETAILS.
  10. MINIMUM DEPTH OF BALLAST (WHERE SHOWN) TO BE 300mm BENEATH SLEEPER IN ACCORDANCE WITH PROPOSED TRACK CATEGORY 1 REQUIREMENTS.
  11. THE DRAINAGE SHOWN IS BASED ON PRELIMINARY DESIGN.
  12. CLEARANCES ASSESSED USING IRL2A ON SLOW & BRANCH LINES, IRL1 ON FAST LINES.

VIEW FROM GLASNEVIN JUNCTION TO HEUSTON STATION

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Rev	Date	Drn	Chk'd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

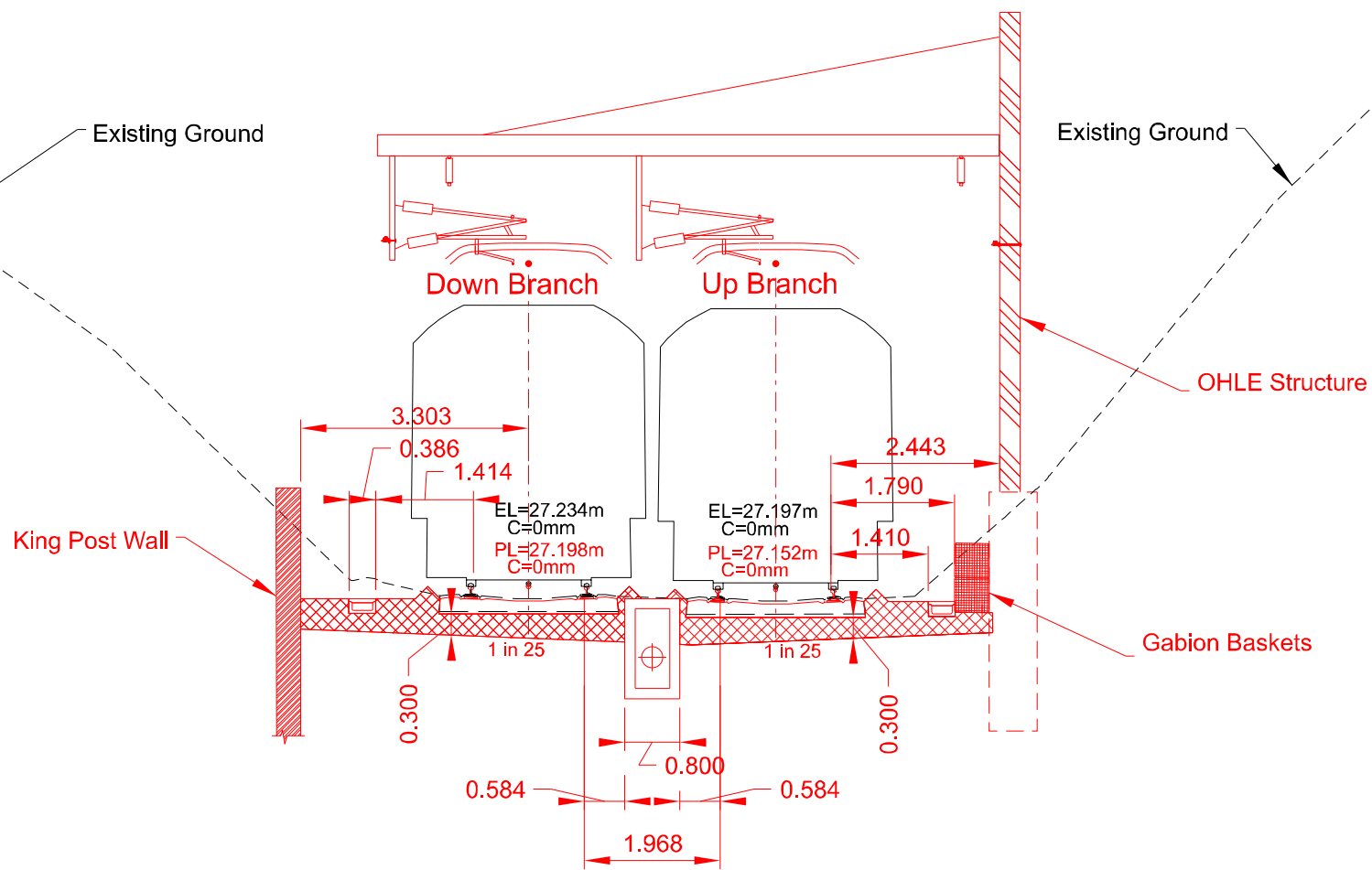
Client <b>Iarnród Éireann Irish Rail</b>		Engineering Designer <b>ATKINS</b> Supported by: <b>TYPSA</b> Member of the SNC-Lavalin Group <b>rps</b>	
Date 23/11/2022	Scale 1/50 @ A1 1/100 @ A3	Drawn CMS	Checked JYM
Project Code 5199586	Issuer TTA	Approved PR	OMS Code

Project Title <b>DART + SOUTH WEST</b>		Version v01	Status S3
Drawing Title CONYNGHAM ROAD (O302) CROSS SECTION Ch 8+771		Drawing File Name DP-04-23-DWG-RO-TTA-19002	

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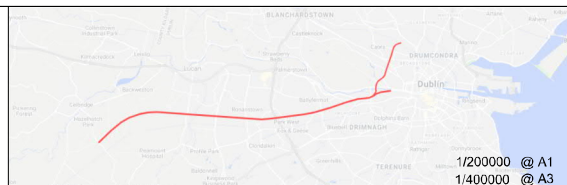
- LEGEND:**
- CROSS SECTION**
- PROPOSED ELEMENTS
  - EXISTING ELEMENTS TO BE RETAINED
  - EXISTING ELEMENTS TO BE REMOVED
  - - - IÉ PROPERTY BOUNDARY
  - ▨ BALLAST
  - ▭ PRESTRESSED CONCRETE SLEEPER
  - ⊥ VIGNOL RAIL 54E1
  - ⊕ DRAINAGE
  - ▭ COMBINED WALKWAY / CABLE MANAGEMENT SYSTEM
  - EL= EXISTING LEVEL (ELEVATION)
  - PL= PROPOSED LEVEL (ELEVATION)
  - C= CANT
  - R= RADIUS
  - STR= STRAIGHT LINE



- NOTES**
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  2. THIS DESIGN IS BASED UPON A TOPOGRAPHICAL SURVEY DATED SEPTEMBER 2021, COMPLETED BY MURPHY GEOSPATIAL LTD.
  3. CHAINAGE DATUM 9+906.707 IS LOCATED IN THE DOWN SLOW LINE AT 1 MILEPOST (CORK LINE). DOWN LINE CHAINAGE DATUM IS SHOWN ON THIS DRAWING.
  4. NEGATIVE SLUES ARE TO THE LEFT. POSITIVE SLUES ARE TO THE RIGHT. CANT SHOWN AS POSITIVE THROUGHOUT, EXCEPT WHERE ADVERSE TO THE DIRECTION OF CURVATURE. ALL IN THE DIRECTION OF INCREASING CHAINAGE.
  5. TRACK GAUGE TO BE NOMINAL 1602MM FOR PLAIN LINE AND 1600MM FOR P&C.
  6. RADII QUOTED ARE FROM TRACK CENTRELINE, UNLESS OTHERWISE STATED.
  7. RAIL LEVELS ARE QUOTED FOR THE LOW RAIL.
  8. REFER TO INDIVIDUAL ENGINEERING DISCIPLINES' DESIGN SUBMISSION FOR THEIR RESPECTIVE DETAILS.
  9. REFER TO TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE DRAWINGS FOR FURTHER DETAILS.
  10. MINIMUM DEPTH OF BALLAST (WHERE SHOWN) TO BE 300mm BENEATH SLEEPER IN ACCORDANCE WITH PROPOSED TRACK CATEGORY 1 REQUIREMENTS.
  11. THE DRAINAGE SHOWN IS BASED ON PRELIMINARY DESIGN.
  12. CLEARANCES ASSESSED USING IRL2A ON SLOW & BRANCH LINES, IRL1 ON FAST LINES.

VIEW FROM HEUSTON STATION TO PARKWEST STATION

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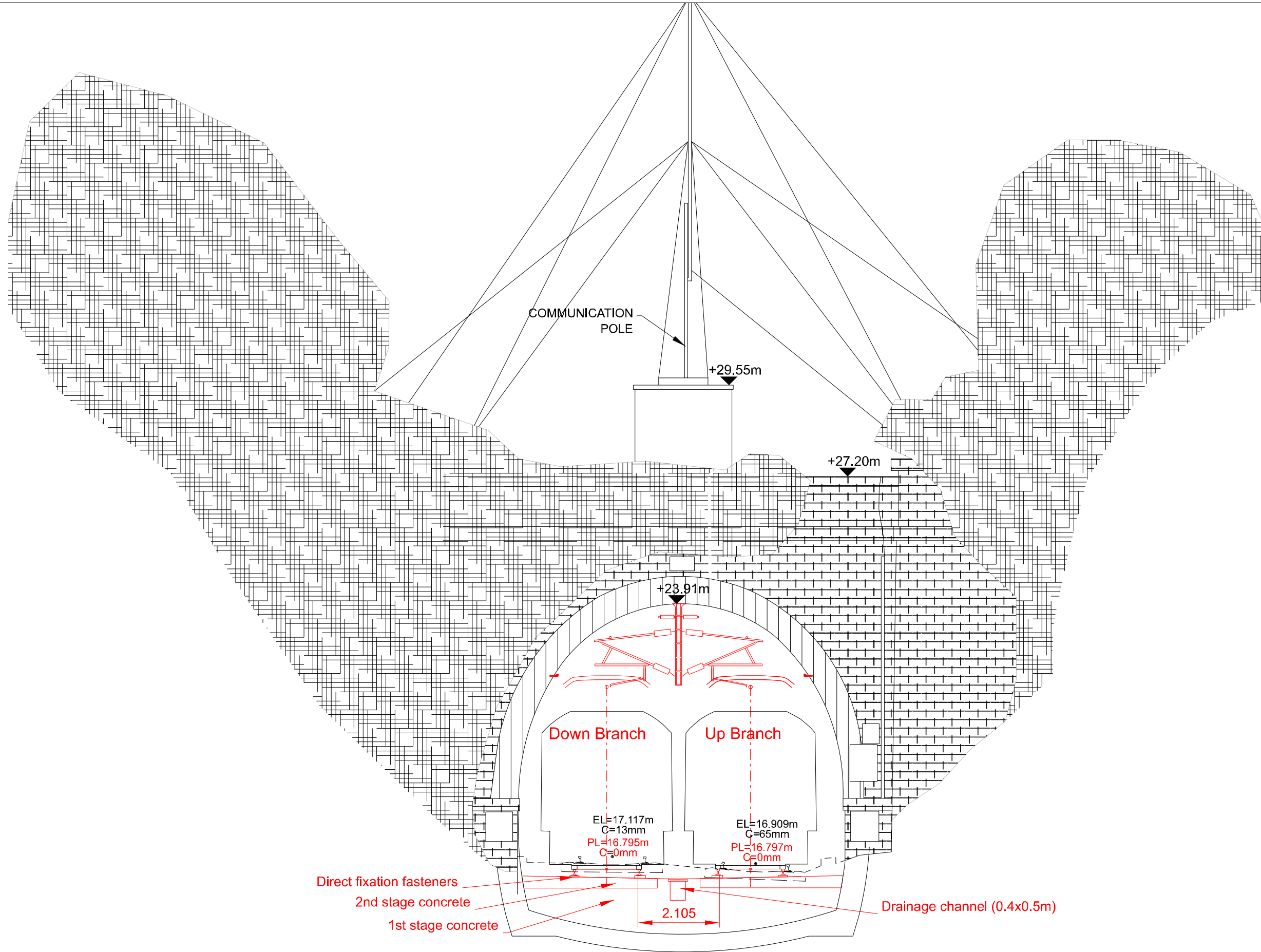
Rev	Date	Drn	Chk'd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

Client		Engineering Designer	
Iarnród Éireann Irish Rail		ATKINS Supported by: TYPESA, rps	
Date	Scale	Drawn	Checked
23/11/2022	1/50 @ A1 1/100 @ A3	CMS	JYM
Project Code	Issuer	Approved	PR
5199586	TTA		

Project Title		Drawing Title	
DART + SOUTH WEST		OBO3 TO OBO10 CROSS SECTION Ch 7*200	
Drawing File Name		Version	Status
DP-04-23-DWG-RO-TTA-18996		v01	S3

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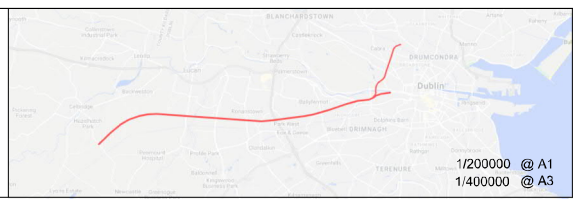
- LEGEND:**
- CROSS SECTION**
- PROPOSED ELEMENTS
  - EXISTING ELEMENTS TO BE RETAINED
  - EXISTING ELEMENTS TO BE REMOVED
  - - - IÉ PROPERTY BOUNDARY
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  2. THIS DESIGN IS BASED UPON A TOPOGRAPHICAL SURVEY DATED SEPTEMBER 2021, COMPLETED BY MURPHY GEOSPATIAL LTD.
  3. CHAINAGE DATUM 9+906.707 IS LOCATED IN THE DOWN SLOW LINE AT 1 MILEPOST (CORK LINE). DOWN LINE CHAINAGE DATUM IS SHOWN ON THIS DRAWING.
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  5. TRACK GAUGE TO BE NOMINAL 1602MM FOR PLAIN LINE AND 1600MM FOR P&C.
  6. RADII QUOTED ARE FROM TRACK CENTRELINE, UNLESS OTHERWISE STATED.
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VIEW FROM GLASNEVIN JUNCTION TO HEUSTON STATION

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Rev	Date	Drn	Chkd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

Client <b>Iarnród Éireann Irish Rail</b>		Engineering Designer <b>ATKINS</b> Supported by: <b>TYPESA</b> Member of the SNC-Lavalin Group <b>rps</b>	
Date 23/11/2022	Scale 1/50 @ A1 1/100 @ A3	Drawn CMS	Checked JYM
Project Code 5199586	Issuer TTA	Approved PR	OMS Code

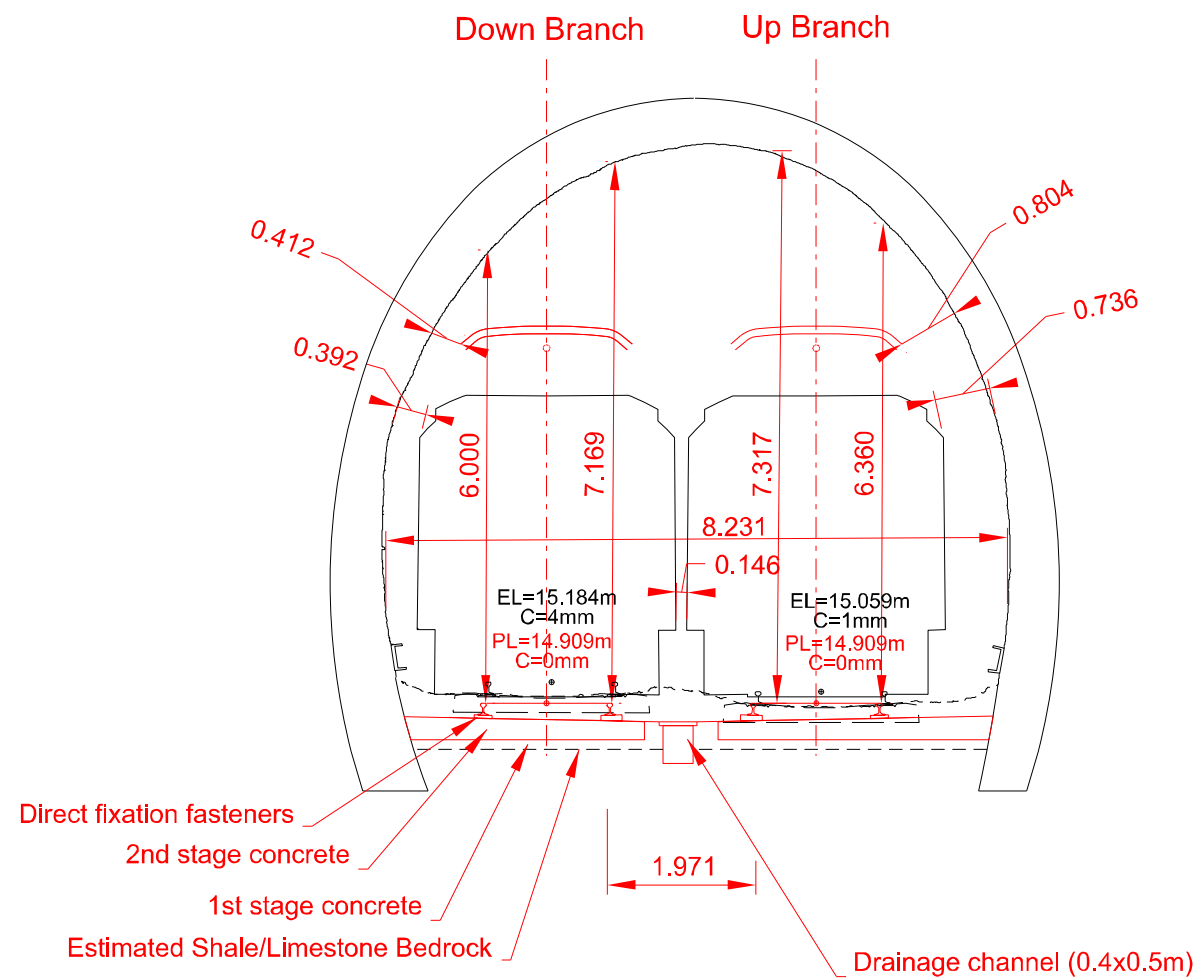
Project Title <b>DART + SOUTH WEST</b>		Version v01	Status S3
Drawing Title PHOENIX PARK TUNNEL CROSS SECTION Ch 8+056		Drawing File Name DP-04-23-DWG-RO-TTA-18997	

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

LEGEND:

CROSS SECTION

- PROPOSED ELEMENTS
- EXISTING ELEMENTS TO BE RETAINED
- EXISTING ELEMENTS TO BE REMOVED
- - - IE PROPERTY BOUNDARY
- BALLAST
- ▭ PRESTRESSED CONCRETE SLEEPER
- ⊥ VIGNOL RAIL 54E1
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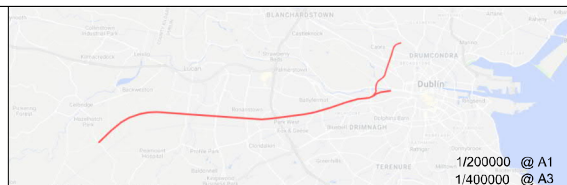
VIEW FROM GLASNEVIN JUNCTION TO HEUSTON STATION

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6. RADII QUOTED ARE FROM TRACK CENTRELINE, UNLESS OTHERWISE STATED.
7. RAIL LEVELS ARE QUOTED FOR THE LOW RAIL.
8. REFER TO INDIVIDUAL ENGINEERING DISCIPLINES' DESIGN SUBMISSION FOR THEIR RESPECTIVE DETAILS.
9. REFER TO TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE DRAWINGS FOR FURTHER DETAILS.
10. MINIMUM DEPTH OF BALLAST (WHERE SHOWN) TO BE 300mm BENEATH SLEEPER IN ACCORDANCE WITH PROPOSED TRACK CATEGORY 1 REQUIREMENTS.
11. THE DRAINAGE SHOWN IS BASED ON PRELIMINARY DESIGN.
12. CLEARANCES ASSESSED USING IRL2A ON SLOW & BRANCH LINES, IRL1 ON FAST LINES.

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 All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLLG).



Rev	Date	Drn	Chkd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

Client <b>Iarnród Éireann Irish Rail</b>		Engineering Designer <b>ATKINS</b> Supported by: <b>rps</b>	
Date 23/11/2022	Scale 1/50 @ A1 1/100 @ A3	Drawn CMS	Checked JYM
Project Code 5199586	Issuer TTA	Approved PR	OMS Code

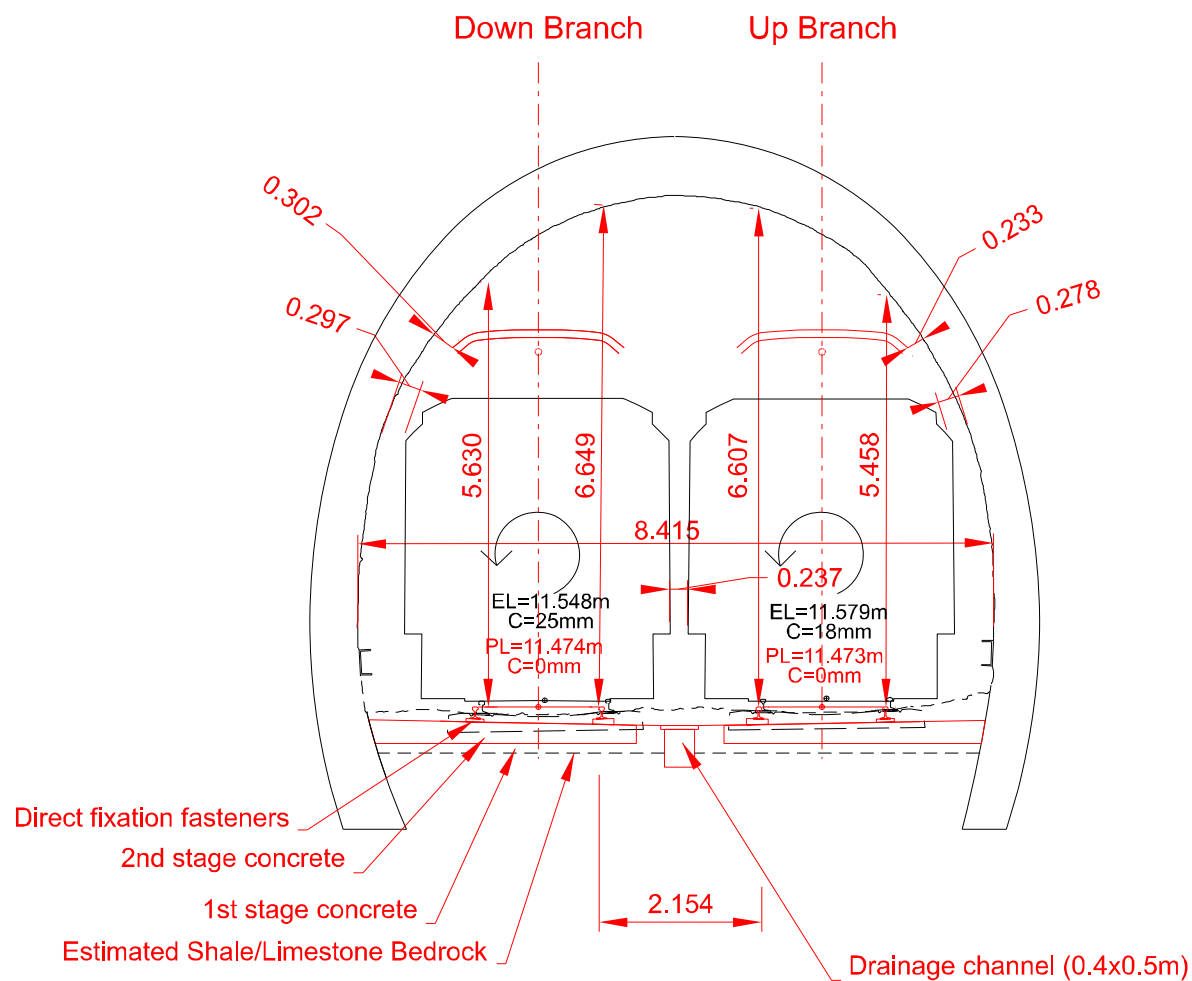
Project Title <b>DART + SOUTH WEST</b>	Drawing Title PHOENIX PARK TUNNEL CROSS SECTION Ch 8+205
Drawing File Name DP-04-23-DWG-RO-TTA-18998	Version v01
Status S3	

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

LEGEND:

CROSS SECTION

- PROPOSED ELEMENTS
- EXISTING ELEMENTS TO BE RETAINED
- EXISTING ELEMENTS TO BE REMOVED
- - - IE PROPERTY BOUNDARY
- ▨ BALLAST
- ▭ PRESTRESSED CONCRETE SLEEPER
- I VIGNOL RAIL 54E1
- DRAINAGE
- ▭ COMBINED WALKWAY / CABLE MANAGEMENT SYSTEM
- EL= EXISTING LEVEL (ELEVATION)
- PL= PROPOSED LEVEL (ELEVATION)
- C= CANT
- R= RADIUS
- STR= STRAIGHT LINE

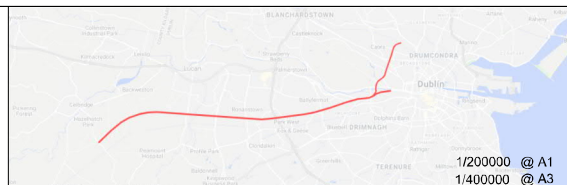


NOTES

1. CHAINAGES, LEVELS AND COORDINATES ARE SHOWN IN METRES. ALL OTHER DIMENSIONS ARE SHOWN IN MILLIMETRES, UNLESS OTHERWISE STATED. ALL CLEARANCE AND SIX-FOOT INTERVALS ARE QUOTED TO RUNNING EDGES (RE).
2. THIS DESIGN IS BASED UPON A TOPOGRAPHICAL SURVEY DATED SEPTEMBER 2021, COMPLETED BY MURPHY GEOSPATIAL LTD.
3. CHAINAGE DATUM 9+906.707 IS LOCATED IN THE DOWN SLOW LINE AT 1 MILEPOST (CORK LINE). DOWN LINE CHAINAGE DATUM IS SHOWN ON THIS DRAWING.
4. NEGATIVE SLUES ARE TO THE LEFT. POSITIVE SLUES ARE TO THE RIGHT. CANT SHOWN AS POSITIVE THROUGHOUT, EXCEPT WHERE ADVERSE TO THE DIRECTION OF CURVATURE. ALL IN THE DIRECTION OF INCREASING CHAINAGE.
5. TRACK GAUGE TO BE NOMINAL 1602MM FOR PLAIN LINE AND 1600MM FOR P&C.
6. RADII QUOTED ARE FROM TRACK CENTRELINE, UNLESS OTHERWISE STATED.
7. RAIL LEVELS ARE QUOTED FOR THE LOW RAIL.
8. REFER TO INDIVIDUAL ENGINEERING DISCIPLINES' DESIGN SUBMISSION FOR THEIR RESPECTIVE DETAILS.
9. REFER TO TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE DRAWINGS FOR FURTHER DETAILS.
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11. THE DRAINAGE SHOWN IS BASED ON PRELIMINARY DESIGN.
12. CLEARANCES ASSESSED USING IRL2A ON SLOW & BRANCH LINES, IRL1 ON FAST LINES.

VIEW FROM GLASNEVIN JUNCTION TO HEUSTON STATION

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 All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLLG).



Rev	Date	Drn	Chk'd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

Client <b>Iarnród Éireann Irish Rail</b>		Engineering Designer <b>ATKINS</b> Supported by: <b>TPYSA</b> Member of the SNC-Lavalin Group <b>rps</b>	
Date 23/11/2022	Scale 1/50 @ A1 1/100 @ A3	Drawn CMS	Checked JYM
Project Code 5199586	Issuer TTA	Approved PR	OMS Code

Project Title <b>DART + SOUTH WEST</b>		Version v01	Status S3
Drawing Title PHOENIX PARK TUNNEL CROSS SECTION Ch 8+503			
Drawing File Name DP-04-23-DWG-RO-TTA-18999			

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

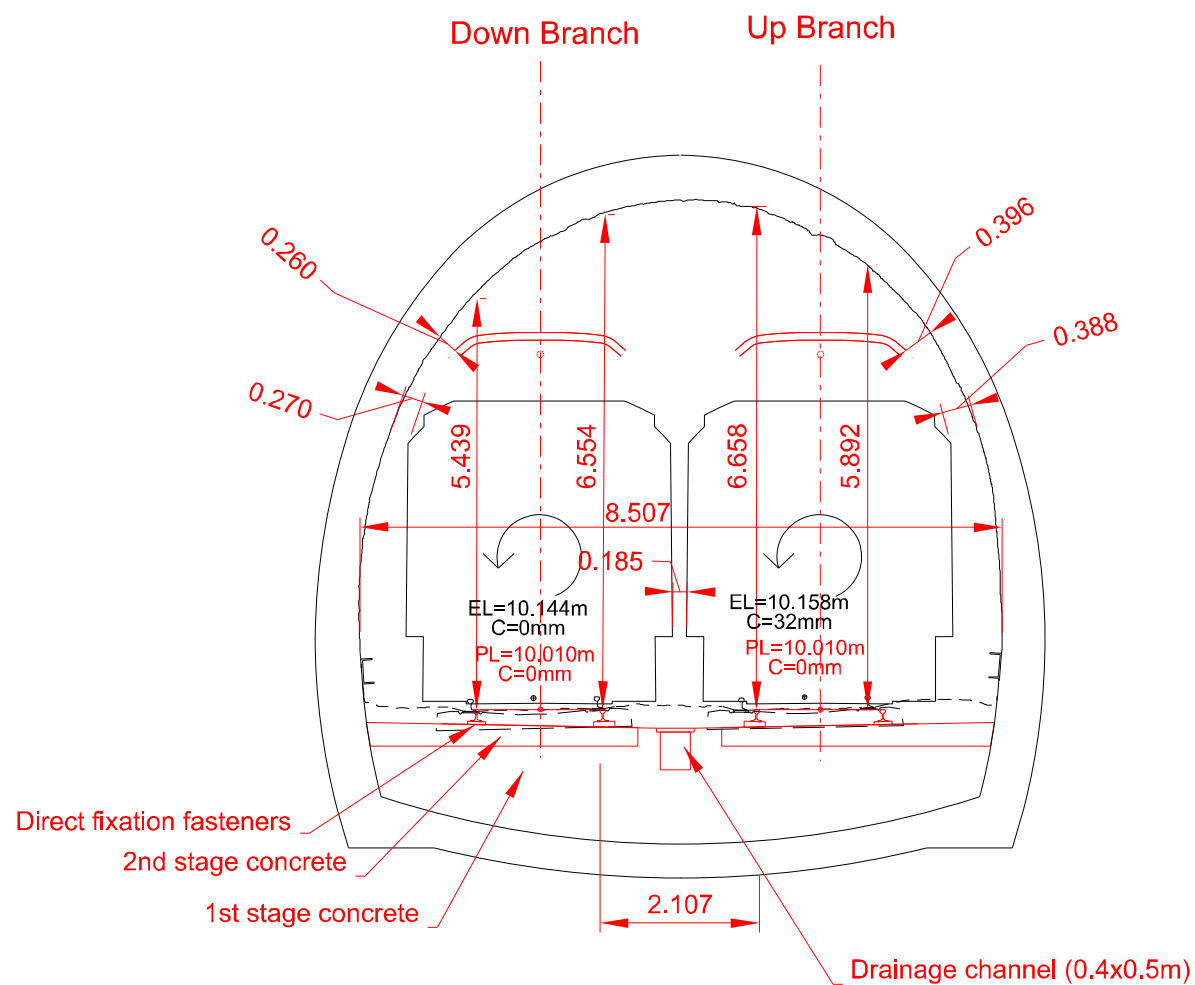
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LEGEND:

CROSS SECTION

- PROPOSED ELEMENTS
- EXISTING ELEMENTS TO BE RETAINED
- EXISTING ELEMENTS TO BE REMOVED
- - - IE PROPERTY BOUNDARY
- ▨ BALLAST
- ▭ PRESTRESSED CONCRETE SLEEPER
- ⊥ VIGNOL RAIL 54E1
- ⊠ DRAINAGE
- ▭ COMBINED WALKWAY / CABLE MANAGEMENT SYSTEM
- EL= EXISTING LEVEL (ELEVATION)
- PL= PROPOSED LEVEL (ELEVATION)
- C= CANT
- R= RADIUS
- STR= STRAIGHT LINE

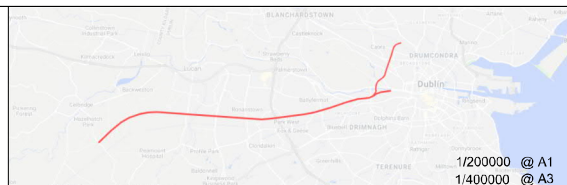


NOTES

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2. THIS DESIGN IS BASED UPON A TOPOGRAPHICAL SURVEY DATED SEPTEMBER 2021, COMPLETED BY MURPHY GEOSPATIAL LTD.
3. CHAINAGE DATUM 9+906.707 IS LOCATED IN THE DOWN SLOW LINE AT 1 MILEPOST (CORK LINE). DOWN LINE CHAINAGE DATUM IS SHOWN ON THIS DRAWING.
4. NEGATIVE SLUES ARE TO THE LEFT. POSITIVE SLUES ARE TO THE RIGHT. CANT SHOWN AS POSITIVE THROUGHOUT, EXCEPT WHERE ADVERSE TO THE DIRECTION OF CURVATURE. ALL IN THE DIRECTION OF INCREASING CHAINAGE.
5. TRACK GAUGE TO BE NOMINAL 1602MM FOR PLAIN LINE AND 1600MM FOR P&C.
6. RADII QUOTED ARE FROM TRACK CENTRELINE, UNLESS OTHERWISE STATED.
7. RAIL LEVELS ARE QUOTED FOR THE LOW RAIL.
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11. THE DRAINAGE SHOWN IS BASED ON PRELIMINARY DESIGN.
12. CLEARANCES ASSESSED USING IRL2A ON SLOW & BRANCH LINES, IRL1 ON FAST LINES.

VIEW FROM GLASNEVIN JUNCTION TO HEUSTON STATION

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Rev	Date	Drn	Chk'd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

Client <b>Iarnród Éireann</b> Irish Rail		Engineering Designer <b>ATKINS</b> TYPSA Member of the SNC-Lavalin Group Supported by <b>rps</b>	
Date 23/11/2022	Scale 1/50 @ A1 1/100 @ A3	Drawn CMS	Checked JYM
Project Code 5199586	Issuer TTA	Approved PR	OMS Code

Project Title <b>DART + SOUTH WEST</b>	
Drawing Title PHOENIX PARK TUNNEL CROSS SECTION Ch 8+627	
Drawing File Name DP-04-23-DWG-RO-TTA-19000	Status S3

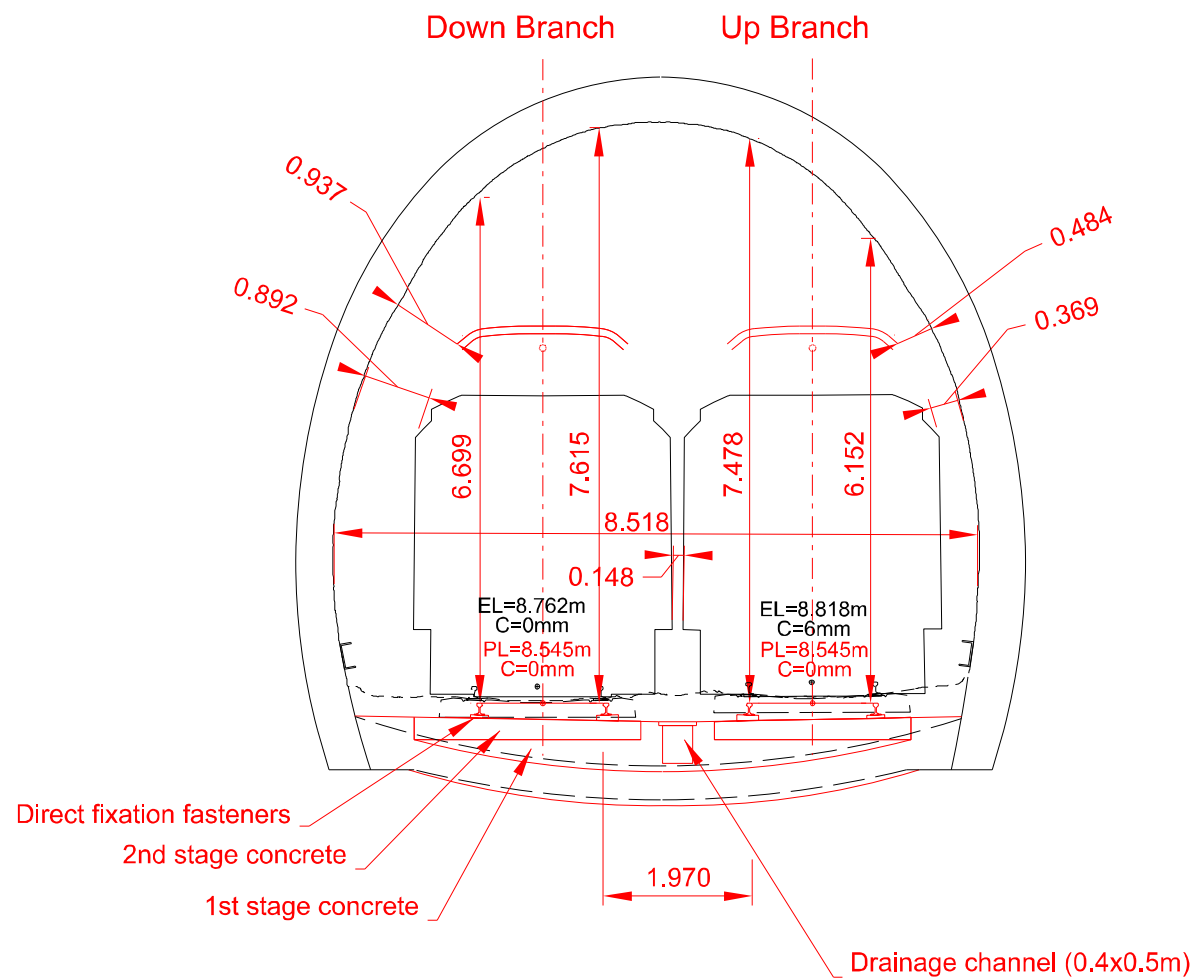
DO NOT SCALE USE FIGURED DIMENSIONS ONLY

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LEGEND:

CROSS SECTION

- PROPOSED ELEMENTS
- EXISTING ELEMENTS TO BE RETAINED
- EXISTING ELEMENTS TO BE REMOVED
- - - IE PROPERTY BOUNDARY
- ▨ BALLAST
- ▭ PRESTRESSED CONCRETE SLEEPER
- I VIGNOL RAIL 54E1
- ⊠ DRAINAGE
- ▭ COMBINED WALKWAY / CABLE MANAGEMENT SYSTEM
- EL= EXISTING LEVEL (ELEVATION)
- PL= PROPOSED LEVEL (ELEVATION)
- C= CANT
- R= RADIUS
- STR= STRAIGHT LINE



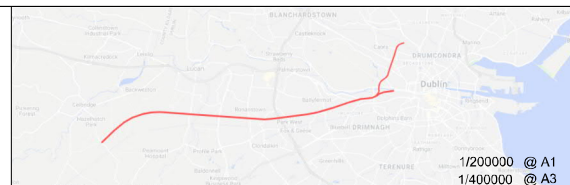
VIEW FROM GLASNEVIN JUNCTION TO HEUSTON STATION

NOTES

1. CHAINAGES, LEVELS AND COORDINATES ARE SHOWN IN METRES. ALL OTHER DIMENSIONS ARE SHOWN IN MILLIMETRES, UNLESS OTHERWISE STATED. ALL CLEARANCE AND SIX-FOOT INTERVALS ARE QUOTED TO RUNNING EDGES (RE).
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5. TRACK GAUGE TO BE NOMINAL 1602MM FOR PLAIN LINE AND 1600MM FOR P&C.
6. RADII QUOTED ARE FROM TRACK CENTRELINE, UNLESS OTHERWISE STATED.
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11. THE DRAINAGE SHOWN IS BASED ON PRELIMINARY DESIGN.
12. CLEARANCES ASSESSED USING IRL2A ON SLOW & BRANCH LINES, IRL1 ON FAST LINES.

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 All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLLG).



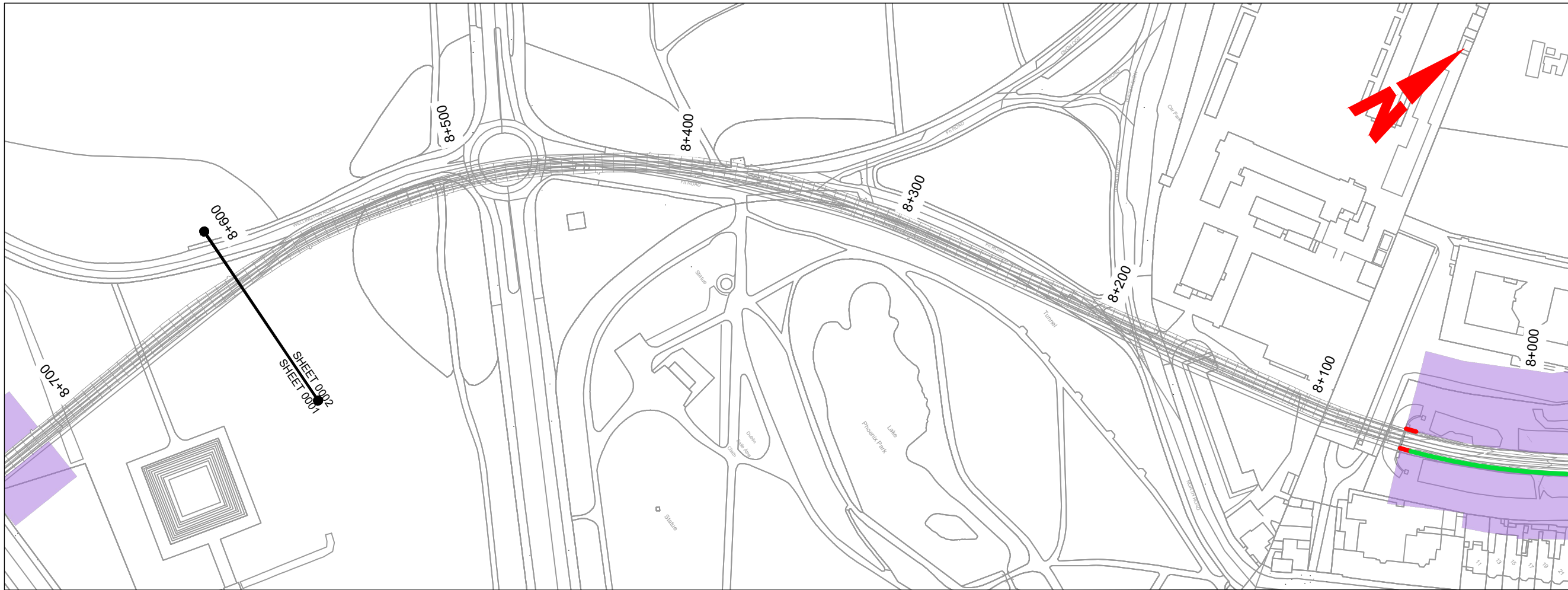
Rev	Date	Drn	Chk'd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

Client <b>Iarnród Éireann Irish Rail</b>		Engineering Designer <b>ATKINS</b> TYPSA Member of the SNC-Lavalin Group Supported by <b>rps</b>	
Date 23/11/2022	Scale 1/50 @ A1 1/100 @ A3	Drawn CMS	Checked JYM
Project Code 5198586	Issuer TTA	Approved PR	OMS Code

Project Title <b>DART + SOUTH WEST</b>		Drawing Title PHOENIX PARK TUNNEL CROSS SECTION Ch 8+727	
Drawing File Name DP-04-23-DWG-RO-TTA-19001		Version v01	Status S3

DO NOT SCALE USE FIGURED DIMENSIONS ONLY





**LEGEND:**

- PROPOSED SECANT PILE WALL
- PROPOSED SECANT PILE WALL ANCHORS
- PROPOSED KING POST WALL
- PROPOSED ANCHOR SUBSTANTUM WAYLEAVE
- APPROACH TO EXISTING OVERBRIDGE / TUNNEL (EXTENTS ARE APPROXIMATE AND DESIGN TO BE DEVELOPED AT DETAILED DESIGN)
- PROPOSED GABION WALL
- PROPOSED CANTILEVER WALL
- INDICATIVE EXTENTS OF ADDITIONAL SOIL NAILING AS SLOPE REMEDIATION BEHIND WALL
- INDICATIVE EXTENTS OF SLOPE REGRADING / PROVISION OF GRANULAR SHOULDER AS SLOPE REMEDIATION BEHIND WALL
- END OF SECTION
- ← CONTINUATION OF SECTION
- ▲ EARTHWORK SLOPE
- H INDICATIVE BANK HEIGHT / CUTTING DEPTH

**NOTES:**

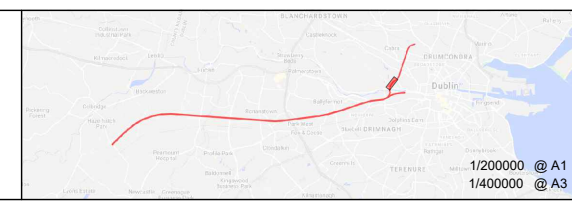
- FOR EARTHWORKS STANDARD DETAILS REFER TO DRAWINGS DP-04-23-DWG-RO-TTA-18960 TO DP-04-23-DWG-RO-TTA-18964.
- WALL ANCHOR LOCATIONS INDICATE ANTICIPATED TEMPORARY OR PERMANENT ANCHORS.
- TRACKBED TREATMENTS MARKED (✱) SPECIFIED FOR GREENFIELD SITES. PRELIMINARY ALTERNATIVE TREATMENTS TO BE FURTHER CONSIDERED, FOLLOWING APPROVAL FROM IE, ARE PRESENTED IN TABLE BELOW:

PROPOSED TRACK TREATMENTS	ALTERNATIVE TRACK TREATMENTS
T350g	T150R2g
T350Rg	T300R2g
T450g	T350R2g
T450Rg	
T525g	
T525Rg	

	W1	← →	WALL REFERENCE (W)
			EARTHWORKS STANDARD DETAILS (W)
			H (m) (W)
			WALL REFERENCE (E)
			EARTHWORKS STANDARD DETAILS (E)
			H (m) (E)
			TRACKBED TREATMENT (UP SLOW)
			TRACKBED TREATMENT (DOWN SLOW)
			TRACKBED TREATMENT (UP FAST)
			TRACKBED TREATMENT (DOWN FAST)
			TURNBACK DART
8+600	8+500	8+400	8+300
8+200	8+100	8+000	CHAINAGE (m)

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Rev	Date	Drn	Chk'd	App'd	Description
v01	10.11.22	KH	PC	PC	PLANNING ISSUE

Client: **Iarnród Éireann Irish Rail**

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

Supported by: **rps**

Date: 29.11.21 | Scale: 1:1000 @ A1, 1:2000 @ A3

Drawn: RG | Checked: PC | Approved: PC

Project Code: 5199586 | Issuer: TTA | QMS Code:

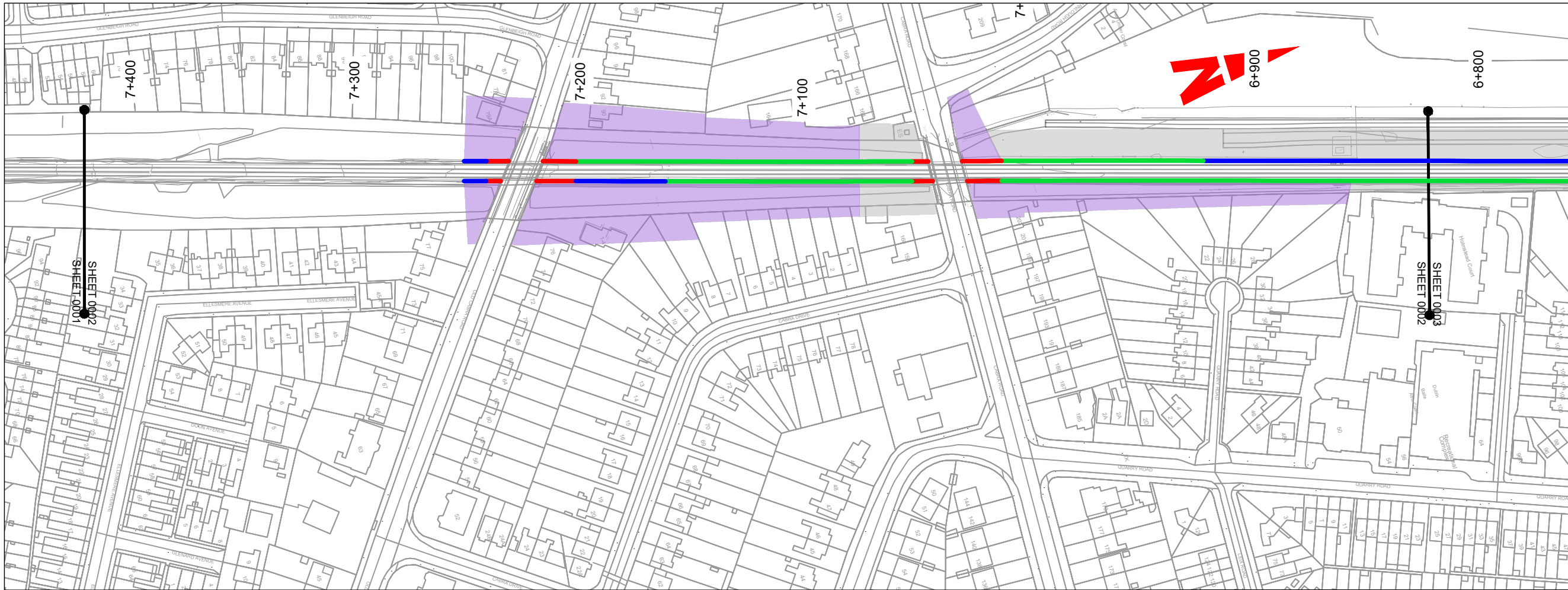
Project Title: **DART + SOUTH WEST**

Drawing Title: **PHOENIX PARK TUNNEL EARTHWORKS SHEET 2**

Drawing File Name: DP-04-23-DWG-RO-TTA-18946 | Version: v01 | Status: S3

DO NOT SCALE USE FIGURED DIMENSIONS ONLY





**LEGEND:**

- PROPOSED SECANT PILE WALL
- PROPOSED SECANT PILE WALL ANCHORS
- PROPOSED KING POST WALL
- PROPOSED ANCHOR SUBSTANTUM WAYLEAVE
- APPROACH TO EXISTING OVERBRIDGE / TUNNEL (EXTENTS ARE APPROXIMATE AND DESIGN TO BE DEVELOPED AT DETAILED DESIGN)
- PROPOSED GABION WALL
- PROPOSED CANTLIEVER WALL
- INDICATIVE EXTENTS OF ADDITIONAL SOIL NAILING AS SLOPE REMEDIATION BEHIND WALL
- INDICATIVE EXTENTS OF SLOPE REGRADING / PROVISION OF GRANULAR SHOULDER AS SLOPE REMEDIATION BEHIND WALL
- END OF SECTION
- CONTINUATION OF SECTION
- EARTHWORK SLOPE
- H INDICATIVE BANK HEIGHT / CUTTING DEPTH

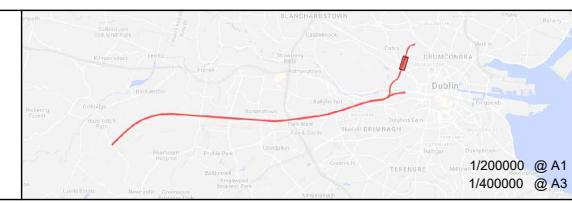
**NOTES:**

- FOR EARTHWORKS STANDARD DETAILS REFER TO DRAWINGS DP-04-23-DWG-RO-TTA-18960 TO DP-04-23-DWG-RO-TTA-18964.
- WALL ANCHOR LOCATIONS INDICATE ANTICIPATED TEMPORARY OR PERMANENT ANCHORS.
- TRACKBED TREATMENTS MARKED (✱) SPECIFIED FOR GREENFIELD SITES. PRELIMINARY ALTERNATIVE TREATMENTS TO BE FURTHER CONSIDERED, FOLLOWING APPROVAL FROM IE, ARE PRESENTED IN TABLE BELOW:

PROPOSED TRACK TREATMENTS	ALTERNATIVE TRACK TREATMENTS
T350g	T1150R2g
T350Rg	
T450g	T300R2g
T450Rg	
T525g	
T525Rg	T350R2g

EXISTING ALIGNMENT/TRACKS REMAIN INTACT AND REQUIRE NO WIDENING OR RETAINING WALL SOLUTION	W2	EXISTING OVERBRIDGE OB05 (OLD CABRA ROAD)	W3	EXISTING OVERBRIDGE OB06 (CABRA ROAD)	W4	W5	WALL REFERENCE IN GDR (W)
	GABION WALL	RETAINING SOLUTIONS FOR BRIDGE APPROACHES TO BE DEVELOPED AT DETAILED DESIGN	KING POST WALL	RETAINING SOLUTIONS FOR BRIDGE APPROACHES TO BE DEVELOPED AT DETAILED DESIGN	KING POST WALL	GABION WALL	EARTHWORKS STANDARD DETAILS (W)
	0.5		RETAINED HEIGHT SUBJECT TO DETAILED DESIGN OF SLOPE REMEDIATION		RETAINED HEIGHT SUBJECT TO DETAILED DESIGN OF SLOPE REMEDIATION	RETAINED HEIGHT SUBJECT TO DETAILED DESIGN OF SLOPE REMEDIATION	H (m) (W)
EXISTING ALIGNMENT/TRACKS REMAIN INTACT AND REQUIRE NO WIDENING OR RETAINING WALL SOLUTION	E3		E4	E5		E6	WALL REFERENCE IN GDR (E)
	GABION WALL		GABION WALL	KING POST WALL		KING POST WALL	EARTHWORKS STANDARD DETAILS (E)
	0.4		0.5	RETAINED HEIGHT SUBJECT TO DETAILED DESIGN OF SLOPE REMEDIATION		RETAINED HEIGHT SUBJECT TO DETAILED DESIGN OF SLOPE REMEDIATION	H (m) (E)
NO SLOPE REMEDIATION	ADDITIONAL SOIL NAILING	SLOPE REMEDIATION FOR BRIDGE APPROACHES TO BE DEVELOPED AT DETAILED DESIGN	ADDITIONAL SOIL NAILING	SLOPE REGRADING	SLOPE REMEDIATION FOR BRIDGE APPROACHES TO BE DEVELOPED AT DETAILED DESIGN	ADDITIONAL SOIL NAILING	SLOPE REMEDIATION (W)
NO SLOPE REMEDIATION	ADDITIONAL SOIL NAILING		ADDITIONAL SOIL NAILING	SLOPE REGRADING		ADDITIONAL SOIL NAILING	SLOPE REMEDIATION (E)
				T30-15Rg			TRACKBED TREATMENT (UP SLOW)
				T30-15Rg			TRACKBED TREATMENT (DOWN SLOW)
							TRACKBED TREATMENT (UP FAST)
							TRACKBED TREATMENT (DOWN FAST)
							TURNBACK DART
							CHAINAGE (m)

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Rev	Date	Drn	Chk'd	App'd	Description
v01	10.11.22	KH	PC	PC	PLANNING ISSUE

Client: **Iarnród Éireann Irish Rail**

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

Supported by: **rps**

Date: 29.11.21 | Scale: 1:1000 @ A1, 1:2000 @ A3 | Drawn: RG | Checked: PC | Approved: PC

Project Code: 5199586 | Issuer: TTA | QMS Code: \_\_\_\_\_

Project Title: **DART + SOUTH WEST**

Drawing Title: **PHOENIX PARK TUNNEL TO GLASNEVIN EARTHWORKS SHEET 2**

Drawing File Name: DP-04-23-DWG-RO-TTA-18948 | Version: v01 | Status: S3

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

U:\15 189586\6 Dvgs\Graphics\1 AutoCad\DP-04-23-DWG-RO-TTA-18947-18950.dwg



**LEGEND:**

- PROPOSED SECANT PILE WALL
- PROPOSED SECANT PILE WALL ANCHORS
- PROPOSED KING POST WALL
- PROPOSED ANCHOR SUBSTANTUM WAYLEAVE
- APPROACH TO EXISTING OVERBRIDGE / TUNNEL (EXTENTS ARE APPROXIMATE AND DESIGN TO BE DEVELOPED AT DETAILED DESIGN)
- PROPOSED GABION WALL
- PROPOSED CANTILEVER WALL
- INDICATIVE EXTENTS OF ADDITIONAL SOIL NAILING AS SLOPE REMEDIATION BEHIND WALL
- INDICATIVE EXTENTS OF SLOPE REGRADING / PROVISION OF GRANULAR SHOULDER AS SLOPE REMEDIATION BEHIND WALL
- END OF SECTION
- CONTINUATION OF SECTION
- EARTHWORKS SLOPE
- INDICATIVE BANK HEIGHT / CUTTING DEPTH

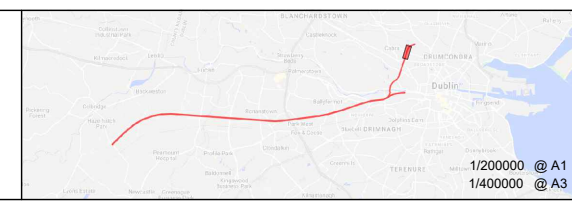
**NOTES:**

- FOR EARTHWORKS STANDARD DETAILS REFER TO DRAWINGS DP-04-23-DWG-RO-TTA-18960 TO DP-04-23-DWG-RO-TTA-18964.
- WALL ANCHOR LOCATIONS INDICATE ANTICIPATED TEMPORARY OR PERMANENT ANCHORS.
- TRACKBED TREATMENTS MARKED (✱) SPECIFIED FOR GREENFIELD SITES. PRELIMINARY ALTERNATIVE TREATMENTS TO BE FURTHER CONSIDERED, FOLLOWING APPROVAL FROM IE, ARE PRESENTED IN TABLE BELOW:

PROPOSED TRACK TREATMENTS	ALTERNATIVE TRACK TREATMENTS
T350g	T150R2g
T350Rg	
T450g	T300R2g
T450Rg	
T525g	
T525Rg	T350R2g

W5	EXISTING OVERBRIDGE OB07 (FAUSSAGH AVENUE)	W6	WALL REFERENCE IN GDR (W)
GABION WALL	RETAINING SOLUTIONS FOR BRIDGE APPROACHES TO BE DEVELOPED AT DETAILED DESIGN	KING POST WALL	EARTHWORKS STANDARD DETAILS (W)
0.5		1.5	H (m) (W)
E7	SLOPE REMEDIATION FOR BRIDGE APPROACHES TO BE DEVELOPED AT DETAILED DESIGN	E9	WALL REFERENCE IN GDR (E)
KING POST WALL		KING POST WALL	EARTHWORKS STANDARD DETAILS (E)
RETAINED HEIGHT SUBJECT TO DETAILED DESIGN OF SLOPE REMEDIATION	ADDITIONAL SOIL NAILING	1.5	H (m) (E)
SLOPE REGRADING	SLOPE REMEDIATION FOR BRIDGE APPROACHES TO BE DEVELOPED AT DETAILED DESIGN	ADDITIONAL SOIL NAILING	SLOPE REMEDIATION (W)
SLOPE REGRADING		ADDITIONAL SOIL NAILING	SLOPE REMEDIATION (E)
T30-15Rg	T30-15Rg	T30-15Rg	TRACKBED TREATMENT (UP SLOW)
T30-15Rg		T30-15Rg	TRACKBED TREATMENT (DOWN SLOW)
			TRACKBED TREATMENT (UP FAST)
			TRACKBED TREATMENT (DOWN FAST)
			TURNBACK DART
			CHAINAGE (m)

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Rev	Date	Drn	Chk'd	App'd	Description
v01	10.11.22	KH	PC	PC	PLANNING ISSUE

Client: **Iarnród Éireann Irish Rail**

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

Supported by: **rps**

Date: 29.11.21 | Scale: 1:1000 @ A1, 1:2000 @ A3

Drawn: RG | Checked: PC | Approved: PC

Project Code: 5199586 | Issuer: TTA

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

Project Title: **DART + SOUTH WEST**

Drawing Title: **PHOENIX PARK TUNNEL TO GLASNEVIN EARTHWORKS SHEET 3**

Drawing File Name: DP-04-23-DWG-RO-TTA-18949

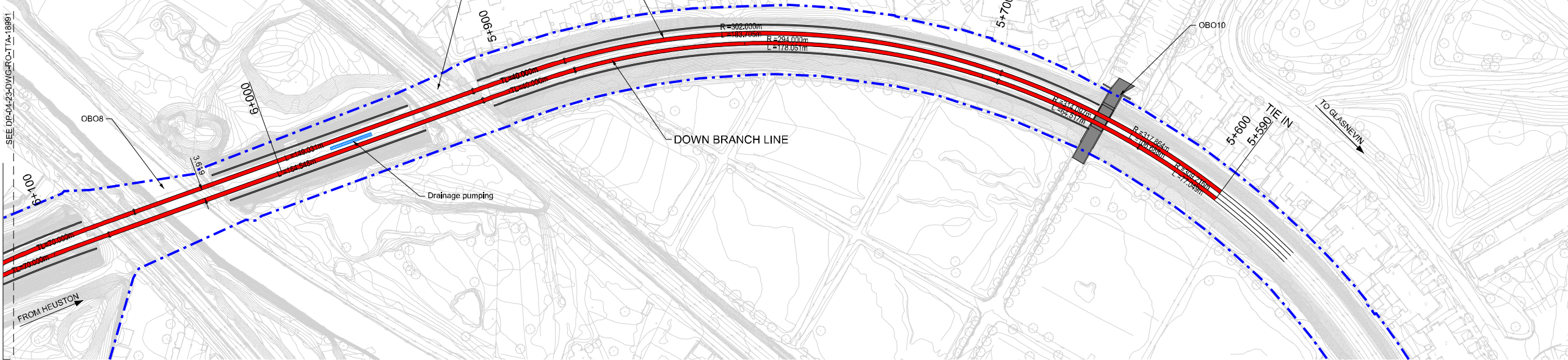
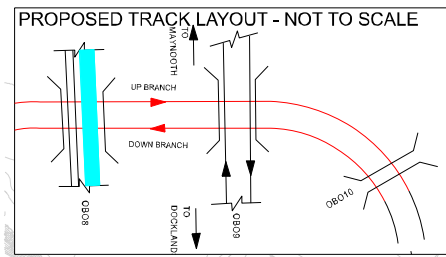
Version: v01 | Status: S3

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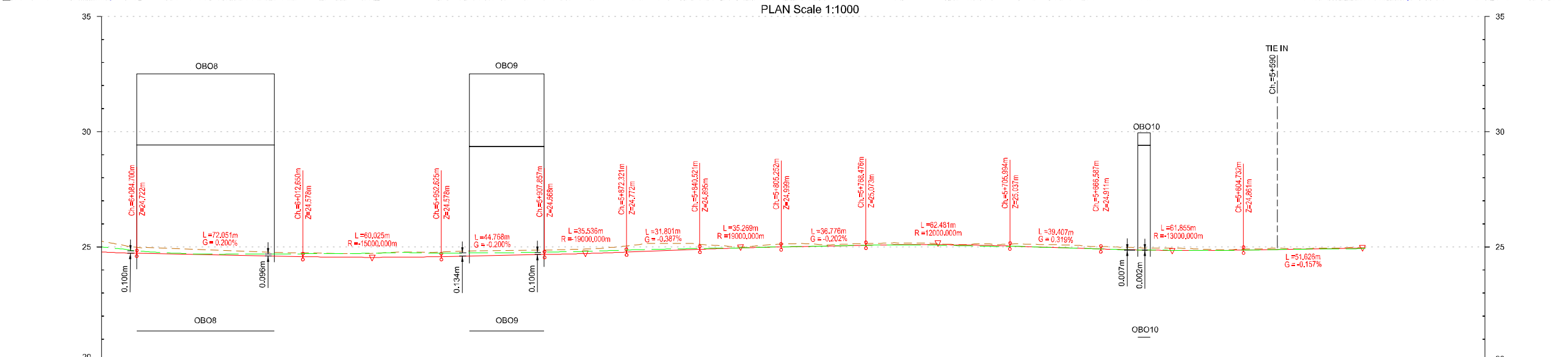
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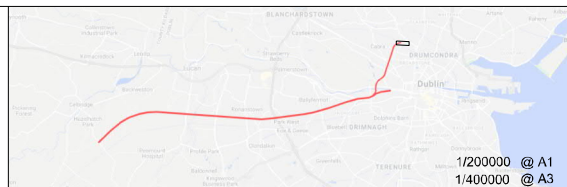
- LEGEND:**
- PROPOSED TRACK LAYOUT**
- RENEWED TRACK / SLUED TRACK
  - EXISTING TRACK TO BE RETAINED
  - EXISTING TRACK TO BE REMOVED
- PLAN**
- RENEWED TRACK / SLUED TRACK
  - EXISTING TRACK TO BE RETAINED (MAIN LINES)
  - EXISTING TRACK TO BE RETAINED (NOT MAIN LINES)
  - EXISTING TRACK TO BE REMOVED
  - IE PROPERTY BOUNDARY
  - PROPOSED RETAINING WALL
  - P8/8 TYPE OF TURNOUT
  - ATTENUATION TANK
  - PROPOSED TRACK DRAINAGE
  - LOW VOLTAGE/TELECOMMUNICATIONS/SIGNALLING CABINETS
  - PROPOSED TANGENT POINT
  - FOULING POINT
  - LLB LAST LONG BEARER
  - MILEPOST
- LONGITUDINAL PROFILE**
- PROPOSED VERTICAL ALIGNMENT
  - EXISTING VERTICAL ALIGNMENT
  - EXISTING GROUND
  - PROPOSED TANGENT POINT
  - LLB LAST LONG BEARER



Chainage	6+100	6+050	6+000	5+950	5+900	5+850	5+800	5+750	5+700	5+650	5+600	5+550	5+500
Existing Level (m)	25.007	24.980	24.792	24.736	24.700	24.683	24.682	24.686	24.686	24.685	24.687	24.687	24.687
Proposed Level (m)	24.782	24.737	24.713	24.693	24.673	24.653	24.652	24.651	24.651	24.651	24.651	24.651	24.651
Horizontal Slue (m)	0.061	0.046	0.029	0.017	0.009	0.003	0.004	0.005	0.007	0.007	0.007	0.007	0.007
Lift (+) / Lower (-) (m)	-0.219	-0.144	-0.079	-0.043	-0.027	-0.030	-0.059	-0.085	-0.105	-0.130	-0.147	-0.162	-0.183
Horizontal Alignment (m)	STR L=164.548 TL=40,000 R=294,000 L=178,061 R=314,097 L=64,517 R=309,216 L=77,049												
Vertical Alignment (m)	L=42,179 R=4000,000 G=0.200% L=72,051 R=15000,000 G=0.200% L=60,025 R=15000,000 G=0.200% L=44,768 R=19000,000 G=-0.202% L=35,536 R=19000,000 G=-0.202% L=31,801 R=19000,000 G=-0.387% L=36,776 R=12000,000 G=-0.202% L=62,481 R=12000,000 G=-0.319% L=39,407 R=13000,000 G=-0.157% L=61,855 R=13000,000 G=-0.157%												
Cant Proposed (mm)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cant Alignment / Speed	RoCC=0mm/s RoCD=13mm/s C=0mm D=0mm V=40km/h												

- NOTES**
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Rev	Date	Drn	Chkd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

**Client**  
Iarnród Éireann  
Irish Rail

**Engineering Designer**  
TYPASA  
ATKINS  
Supported by:  
rps

**Project Title**  
DART + SOUTH WEST

**Drawing Title**  
TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE  
FROM CH 5+500 TO CH 6+100

**Drawing File Name**  
DP-04-23-DWG-RO-TTA-18990

**Version**  
v01

**Status**  
S3

**Date**  
23/11/2022

**Scale**  
AS SHOWN @ A1 @ A3

**Drawn**  
CDM

**Checked**  
JYM

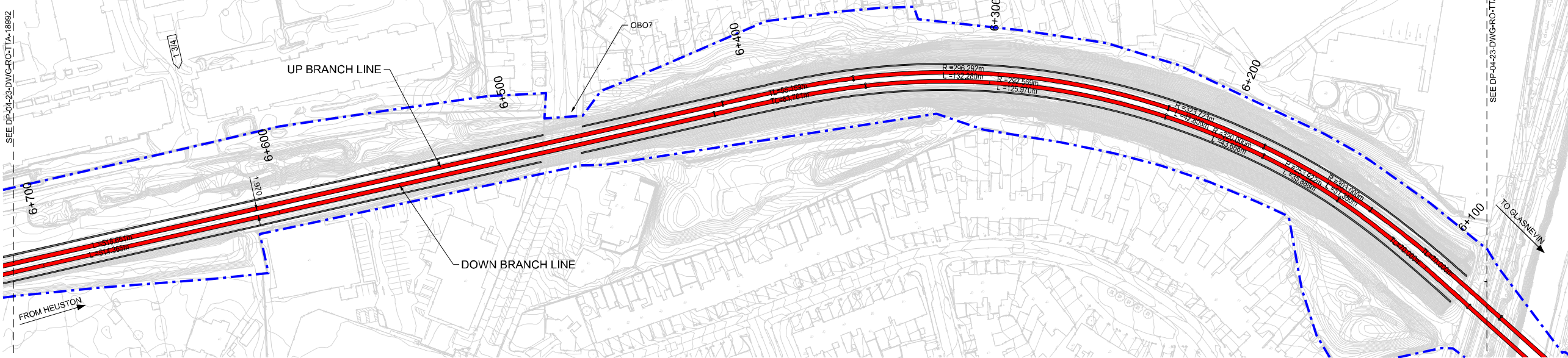
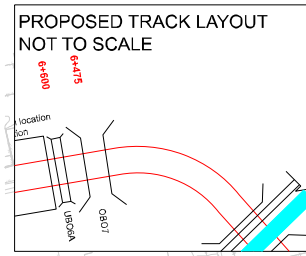
**Approved**  
PR

**Project Code**  
5199586

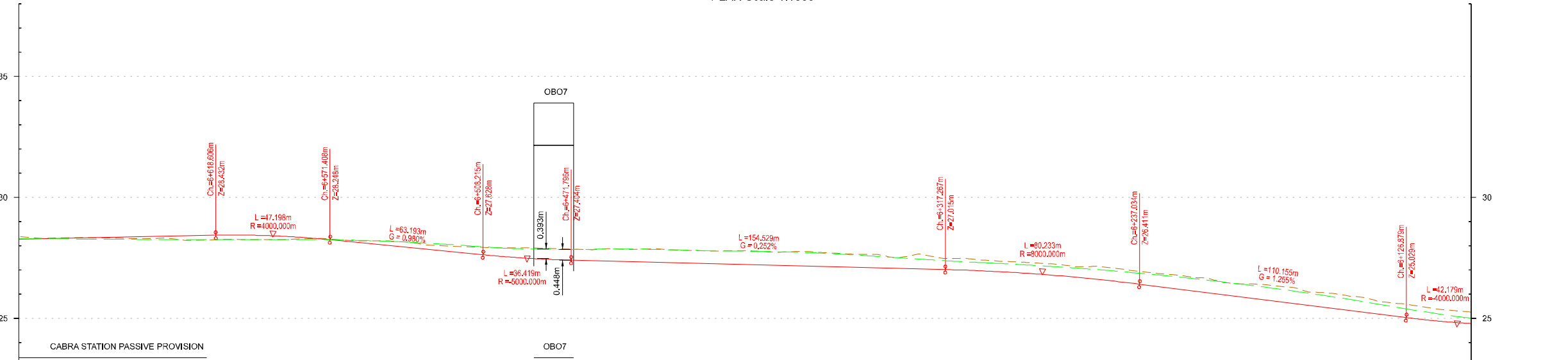
**Issuer**  
TTA

**QMS Code**

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- LEGEND:**
- PROPOSED TRACK LAYOUT**
- RENEWED TRACK / SLUED TRACK
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  - FOULING POINT
  - LLB LAST LONG BEARER
  - MILEPOST
- LONGITUDINAL PROFILE**
- PROPOSED VERTICAL ALIGNMENT
  - EXISTING VERTICAL ALIGNMENT
  - EXISTING GROUND
  - PROPOSED TANGENT POINT
  - LLB LAST LONG BEARER



Chainage	Existing Level (m)	Proposed Level (m)	Horizontal Slue (m)	Lift (+) / Lower (-) (m)	Horizontal Alignment (m)	Vertical Alignment (m)	Cant Proposed (mm)	Cant Alignment / Speed
6+700	28.290	28.289	0.264	-0.021	STR L=514,365	L=554,681 G=-0.200%	0	C=0mm D=8mm V=40km/h
6+650	28.283	28.309	0.251	0.006		L=47,198 R=4000,000	0	
6+600	28.276	28.329	0.239	0.031		L=63,193 G=0.980%	0	
6+550	28.268	28.349	0.228	0.063		L=36,419 R=5000,000	0	
6+500	28.259	28.369	0.217	0.081		TL=63,761	0	
6+450	28.255	28.389	0.210	0.109		R=292,569 L=125,970	0	
6+400	28.253	28.409	0.187	0.134		R=320,000 L=43,666	0	
6+350	28.252	28.429	0.170	0.156		R=263,922 L=35,888	0	
6+300	28.251	28.449	0.152	0.177		TL=70,000	0	
6+250	28.244	28.469	0.134	0.187		L=42,179 R=4000,000	0	
6+200	28.222	28.489	0.117	0.171			0	
6+150	28.255	28.509	0.104	0.130			0	
6+100	28.256	28.529	0.089	0.072			0	
	28.251	28.549	0.079	0.007			0	
	28.244	28.569	0.079	-0.007			0	
	28.222	28.589	0.065	-0.087			0	
	28.192	28.609	0.050	-0.324			0	
	28.160	28.629	0.035	-0.154			0	
	28.086	28.649	0.019	-0.210			0	
	28.036	28.669	0.007	-0.254			0	
	27.970	28.689	0.007	-0.282			0	
	27.863	28.709	0.005	-0.324			0	
	27.863	28.729	0.005	-0.346			0	
	27.863	28.749	0.005	-0.376			0	
	27.863	28.769	0.005	-0.422			0	
	27.863	28.789	0.005	-0.450			0	
	27.863	28.809	0.005	-0.481			0	
	27.863	28.829	0.005	-0.513			0	
	27.863	28.849	0.005	-0.529			0	
	27.863	28.869	0.005	-0.530			0	
	27.863	28.889	0.005	-0.531			0	
	27.863	28.909	0.005	-0.536			0	
	27.863	28.929	0.005	-0.546			0	
	27.863	28.949	0.005	-0.558			0	
	27.863	28.969	0.005	-0.562			0	
	27.863	28.989	0.005	-0.551			0	
	27.863	28.994	0.005	-0.526			0	
	27.863	28.994	0.005	-0.491			0	
	27.863	28.994	0.005	-0.453			0	
	27.863	28.994	0.005	-0.413			0	
	27.863	28.994	0.005	-0.375			0	
	27.863	28.994	0.005	-0.340			0	
	27.863	28.994	0.005	-0.337			0	
	27.863	28.994	0.005	-0.341			0	
	27.863	28.994	0.005	-0.348			0	
	27.863	28.994	0.005	-0.366			0	
	27.863	28.994	0.005	-0.387			0	
	27.863	28.994	0.005	-0.412			0	
	27.863	28.994	0.005	-0.441			0	
	27.863	28.994	0.005	-0.474			0	
	27.863	28.994	0.005	-0.500			0	
	27.863	28.994	0.005	-0.515			0	
	27.863	28.994	0.005	-0.523			0	
	27.863	28.994	0.005	-0.528			0	
	27.863	28.994	0.005	-0.521			0	
	27.863	28.994	0.005	-0.506			0	
	27.863	28.994	0.005	-0.486			0	
	27.863	28.994	0.005	-0.455			0	
	27.863	28.994	0.005	-0.421			0	
	27.863	28.994	0.005	-0.378			0	
	27.863	28.994	0.005	-0.331			0	
	27.863	28.994	0.005	-0.280			0	
	27.863	28.994	0.005	-0.219			0	

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Rev	Date	Drn	Chkd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

**Client**  
Iarnród Éireann  
Irish Rail

**Engineering Designer**  
TYPASA  
ATKINS  
Supported by: rps

**Project Title**  
DART + SOUTH WEST

**Drawing Title**  
TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE  
FROM CH 6+100 TO CH 6+700

**Drawing File Name**  
DP-04-23-DWG-RO-TTA-18991

**Version**  
v01

**Status**  
S3

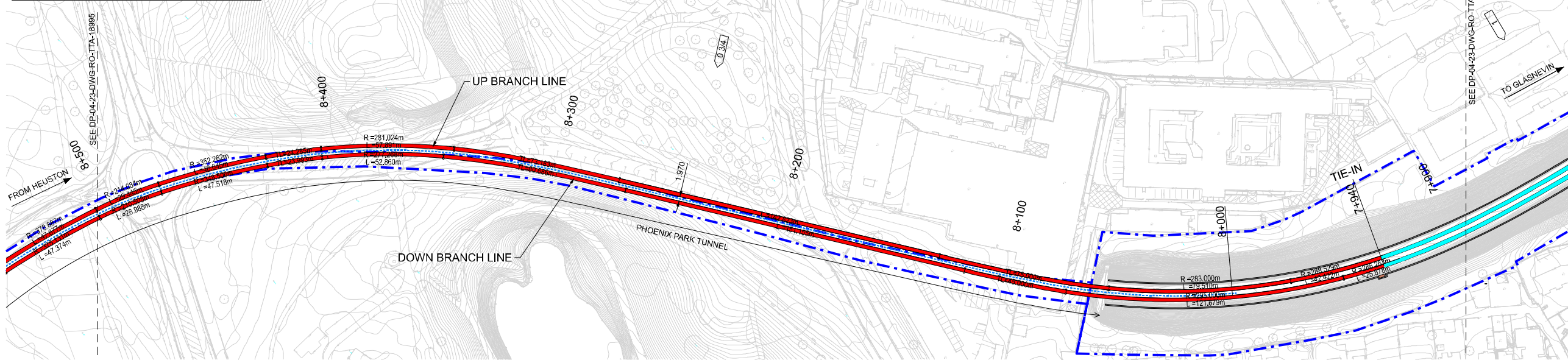
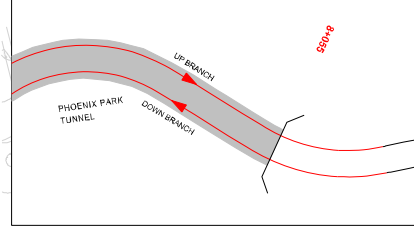
Date	Scale	Drawn	Checked	Approved
23/11/2022	AS SHOWN @ A1 @ A3	CDM	JYM	PR

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

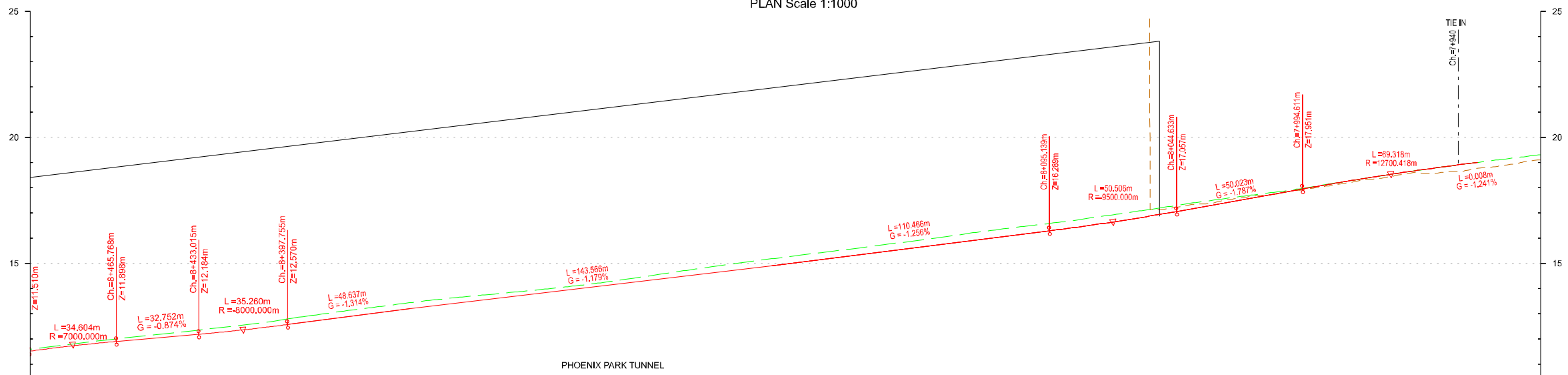




PROPOSED TRACK LAYOUT - NOT TO SCALE



PLAN Scale 1:1000



PHOENIX PARK TUNNEL

Chainage	8+500	8+450	8+400	8+350	8+300	8+250	8+200	8+150	8+100	8+050	8+000	7+950	7+900	
Existing Level (m)	11.986	11.700	11.630	11.950	12.060	12.166	12.270	12.380	12.493	12.612	12.757	12.902	13.039	
Proposed Level (m)	11.515	11.645	11.759	11.869	11.949	12.036	12.123	12.211	12.309	12.418	12.541	12.673	12.804	
Horizontal Slue (m)	-0.072	-0.070	-0.001	-0.019	0.008	0.038	0.077	0.111	0.091	0.134	0.126	0.111	0.089	
Lift (+) / Lower (-) (m)	-0.072	-0.064	-0.070	-0.089	-0.111	-0.130	-0.147	-0.169	-0.185	-0.193	-0.216	-0.229	-0.234	
Horizontal Alignment (m)	R=210.508 L=28.988		R=348.506 L=47.518		TL=23.993		R=277.268 L=52.860		STR L=151.155			TL=45.000		
Vertical Alignment (m)	L=34.604 R=7000.000		L=32.752 G=-0.874%		L=35.260 R=8000.000		L=48.637 G=-1.314%		L=143.566 G=-1.179%			L=50.506 R=9500.000		
Cant Proposed (mm)	0		0		0		0		0			0		
Cant Alignment / Speed	RoCC=0mm/s C=0mm D=100mm V=40km/h		C=0mm RoCC=1mm/s D=60mm V=40km/h		RoCC=0mm/s C=0mm D=76mm V=40km/h		RoCC=0mm/s C=0mm D=10mm V=40km/h			RoCC=20mm/s C=80mm D=9mm V=40km/h			RoCC=0mm/s C=80mm D=7mm V=40km/h	

PROFILE Scale H=1:1000 V=1:100

**LEGEND:**

**PROPOSED TRACK LAYOUT**

- RENEWED TRACK / SLUED TRACK
- EXISTING TRACK TO BE RETAINED
- EXISTING TRACK TO BE REMOVED

**PLAN**

- RENEWED TRACK / SLUED TRACK
- EXISTING TRACK TO BE RETAINED (MAIN LINES)
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- EXISTING TRACK TO BE REMOVED
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- LOW VOLTAGE/TELECOMMUNICATIONS/SIGNALLING CABINETS
- PROPOSED TANGENT POINT
- FOULING POINT
- LLB LAST LONG BEARER
- MILEPOST

**LONGITUDINAL PROFILE**

- PROPOSED VERTICAL ALIGNMENT
- EXISTING VERTICAL ALIGNMENT
- EXISTING GROUND
- PROPOSED TANGENT POINT
- LLB LAST LONG BEARER

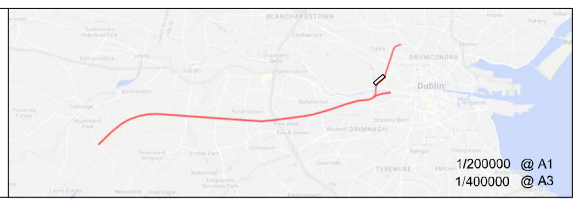
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  - RAIL LEVELS ARE QUOTED FOR THE LOW RAIL.
  - REFER TO INDIVIDUAL ENGINEERING DISCIPLINES' DESIGN SUBMISSION FOR THEIR RESPECTIVE DETAILS. SEE BIM MODELS FOR INTEGRATION.
  - VERTICAL PROFILE IS SHOWN FOR THE DOWN BRANCH. DATA OF THE EXISTING TRACK IS REFERRED TO DOWN BRANCH.

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All elevations are in metres and relate to OSi Geoid Model (OSGM02) Mean Head as defined by existing Project Control.

All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSi active GPS station Tallaght College (TLLG).



Rev	Date	Drn	Chkd	App'd	Description
v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

**Client**  
Iarnród Éireann  
Irish Rail

**Engineering Designer**  
TYPASA  
ATKINS  
Supported by: rps

**Project Title**  
DART + SOUTH WEST

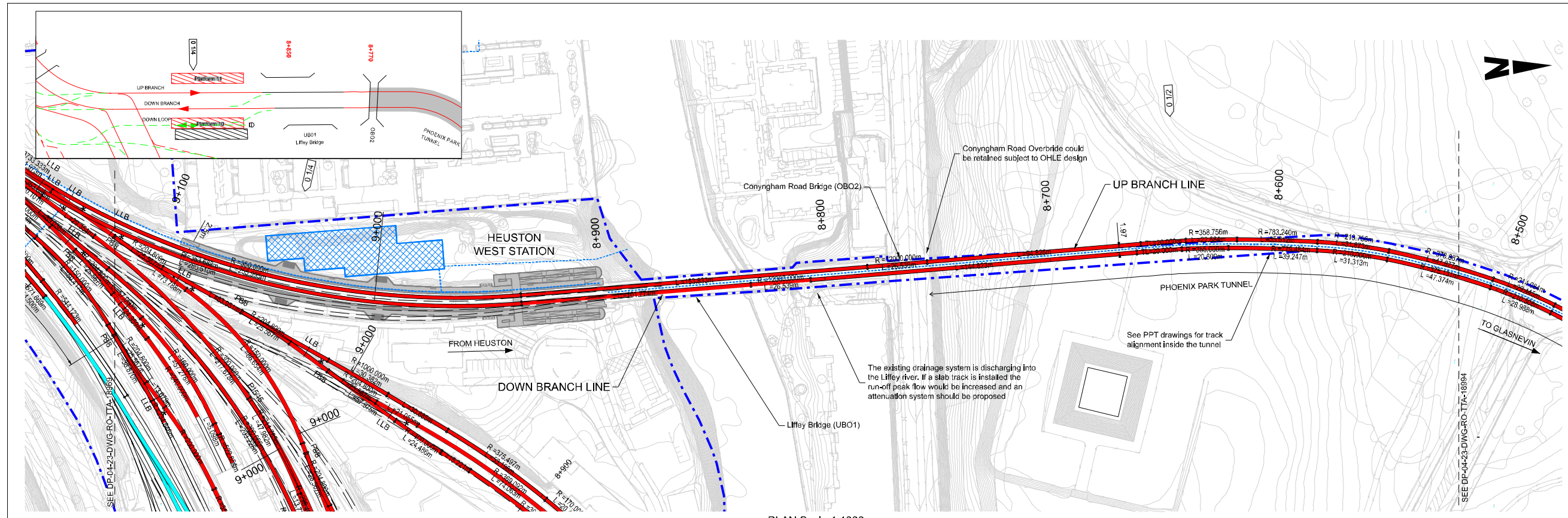
**Drawing Title**  
TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE  
FROM Ch 7+900 TO Ch 8+500

**Date** 23/11/2022  
**Scale** AS SHOWN @ A1 @ A3  
**Project Code** 5199586  
**Issuer** TTA

**Drawn** CDM  
**Checked** JYM  
**Approved** PR

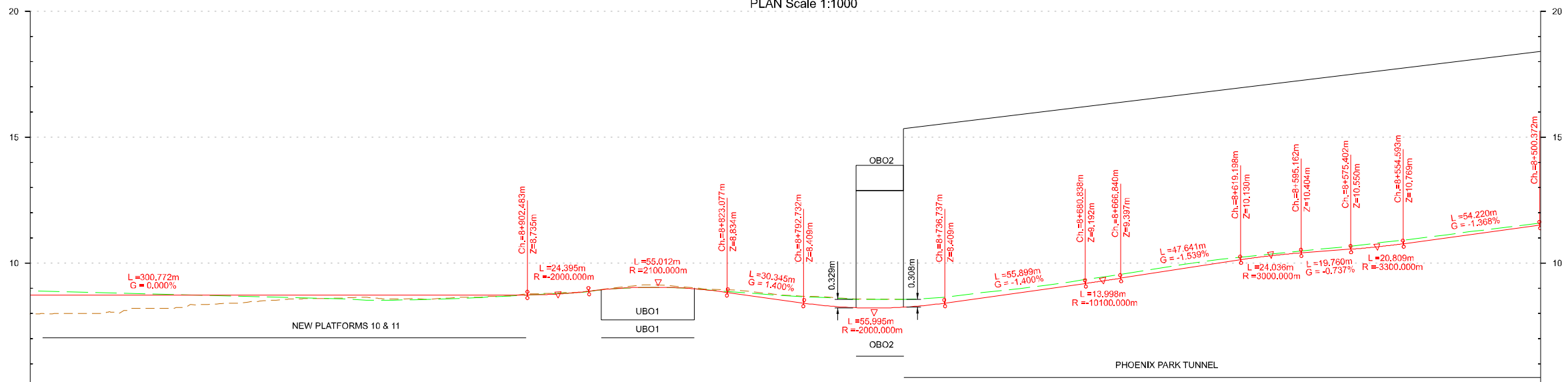
**Drawing File Name** DP-04-23-DWG-RO-TTA-18994  
**Version** v01  
**Status** S3

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



PLAN Scale 1:1000

- LEGEND:**
- PROPOSED TRACK LAYOUT**
- RENEWED TRACK / SLUED TRACK
  - EXISTING TRACK TO BE RETAINED
  - EXISTING TRACK TO BE REMOVED
- PLAN**
- RENEWED TRACK / SLUED TRACK
  - EXISTING TRACK TO BE RETAINED (MAIN LINES)
  - EXISTING TRACK TO BE RETAINED (NOT MAIN LINES)
  - EXISTING TRACK TO BE REMOVED
  - IE PROPERTY BOUNDARY
  - PROPOSED RETAINING WALL
  - P8/8 TYPE OF TURNOUT
  - ATTENUATION TANK
  - PROPOSED TRACK DRAINAGE
  - LOW VOLTAGE/TELECOMMUNICATIONS/SIGNALLING CABINETS
  - PROPOSED TANGENT POINT
  - FOULING POINT
  - LLB LAST LONG BEARER
  - MILEPOST
- LONGITUDINAL PROFILE**
- PROPOSED VERTICAL ALIGNMENT
  - EXISTING VERTICAL ALIGNMENT
  - EXISTING GROUND
  - PROPOSED TANGENT POINT
  - LLB LAST LONG BEARER



PROFILE Scale H=1:1000 V=1:100

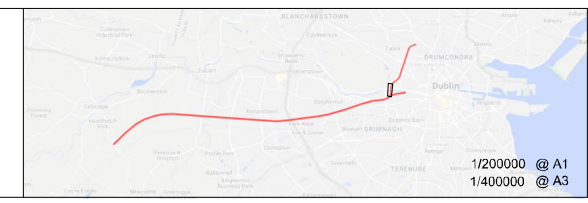
Chainage	Existing Level (m)	Proposed Level (m)	Horizontal Slue (m)	Lift (+) / Lower (-) (m)	Horizontal Alignment (m)	Vertical Alignment (m)	Cant Proposed (mm)	Cant Alignment / Speed
9+100	8.803	8.735	-0.067	-0.169	R=353.688 L=280.510	L=300.772 G=0.000%	0	C=0mm D=59mm V=40km/h
9+050	8.877	8.735	-0.142	-0.116			0	
9+000	8.851	8.735	-0.116	-0.089			0	
8+950	8.825	8.735	-0.090	-0.064			0	
8+900	8.799	8.735	-0.064	-0.038			0	
8+850	8.773	8.735	-0.038	-0.012			0	
8+800	8.747	8.735	-0.012	0.014			0	
8+750	8.720	8.735	0.014	0.040			0	
8+700	8.694	8.735	0.040	0.067			0	
8+650	8.668	8.735	0.067	0.083			0	
8+600	8.642	8.735	0.083	0.119			0	
8+550	8.616	8.735	0.119	0.145			0	
8+500	8.590	8.735	0.145	0.187			0	
	8.564	8.735	0.187	0.217			0	
	8.537	8.735	0.217	0.199			0	
	8.511	8.735	0.199	0.173			0	
	8.485	8.735	0.173	0.143			0	
	8.459	8.735	0.143	0.087			0	
	8.433	8.735	0.087	0.044			0	
	8.407	8.735	0.044	-0.010			0	
	8.381	8.735	-0.010	-0.025			0	
	8.355	8.735	-0.025	0.015			0	
	8.329	8.735	0.015	0.000			0	
	8.303	8.735	0.000	0.004			0	
	8.277	8.735	0.004	0.001			0	
	8.251	8.735	0.001	-0.001			0	
	8.225	8.735	-0.001	-0.006			0	
	8.200	8.735	-0.006	-0.056			0	
	8.174	8.735	-0.056	-0.121			0	
	8.148	8.735	-0.121	-0.191			0	
	8.122	8.735	-0.191	-0.273			0	
	8.096	8.735	-0.273	-0.330			0	
	8.070	8.735	-0.330	-0.334			0	
	8.044	8.735	-0.334	-0.343			0	
	8.018	8.735	-0.343	-0.292			0	
	8.000	8.735	-0.292	-0.251			0	
	7+982	8.735	-0.251	-0.221			0	
	7+964	8.735	-0.221	-0.200			0	
	7+946	8.735	-0.200	-0.168			0	
	7+928	8.735	-0.168	-0.154			0	
	7+910	8.735	-0.154	-0.150			0	
	7+892	8.735	-0.150	-0.152			0	
	7+874	8.735	-0.152	-0.153			0	
	7+856	8.735	-0.153	-0.161			0	
	7+838	8.735	-0.161	-0.163			0	
	7+820	8.735	-0.163	-0.161			0	
	7+802	8.735	-0.161	-0.142			0	
	7+784	8.735	-0.142	-0.107			0	
	7+766	8.735	-0.107	-0.107			0	
	7+748	8.735	-0.107	-0.073			0	
	7+730	8.735	-0.073	-0.061			0	
	7+712	8.735	-0.061	-0.087			0	
	7+694	8.735	-0.087	-0.112			0	
	7+676	8.735	-0.112	-0.146			0	
	7+658	8.735	-0.146	-0.161			0	
	7+640	8.735	-0.161	-0.138			0	
	7+622	8.735	-0.138	-0.125			0	
	7+604	8.735	-0.125	-0.114			0	
	7+586	8.735	-0.114	-0.089			0	
	7+568	8.735	-0.089	-0.083			0	
	7+550	8.735	-0.083	-0.072			0	
	7+532	8.735	-0.072	-0.072			0	
	7+514	8.735	-0.072	-0.072			0	
	7+496	8.735	-0.072	-0.072			0	
	7+478	8.735	-0.072	-0.072			0	
	7+460	8.735	-0.072	-0.072			0	
	7+442	8.735	-0.072	-0.072			0	
	7+424	8.735	-0.072	-0.072			0	
	7+406	8.735	-0.072	-0.072			0	
	7+388	8.735	-0.072	-0.072			0	
	7+370	8.735	-0.072	-0.072			0	
	7+352	8.735	-0.072	-0.072			0	
	7+334	8.735	-0.072	-0.072			0	
	7+316	8.735	-0.072	-0.072			0	
	7+298	8.735	-0.072	-0.072			0	
	7+280	8.735	-0.072	-0.072			0	
	7+262	8.735	-0.072	-0.072			0	
	7+244	8.735	-0.072	-0.072			0	
	7+226	8.735	-0.072	-0.072			0	
	7+208	8.735	-0.072	-0.072			0	
	7+190	8.735	-0.072	-0.072			0	
	7+172	8.735	-0.072	-0.072			0	
	7+154	8.735	-0.072	-0.072			0	
	7+136	8.735	-0.072	-0.072			0	
	7+118	8.735	-0.072	-0.072			0	
	7+100	8.735	-0.072	-0.072			0	

- NOTES**
- CHAINAGES, LEVELS AND COORDINATES ARE SHOWN IN METRES. ALL OTHER DIMENSIONS ARE SHOWN IN MILLIMETRES, UNLESS OTHERWISE STATED. ALL CLEARANCE AND SIX-FOOT INTERVALS ARE QUOTED TO RUNNING EDGES (RE).
  - THIS DESIGN IS BASED UPON A TOPOGRAPHICAL SURVEY DATED SEPTEMBER 2021, COMPLETED BY MURPHY GEOSPATIAL LTD.
  - CHAINAGE DATUM 9+906.707 IS LOCATED IN THE DOWN SLOW LINE AT 1 MILEPOST (CORK LINE), DOWN LINE CHAINAGE DATUM IS SHOWN ON THIS DRAWING.
  - NEGATIVE SLUES ARE TO THE LEFT, POSITIVE SLUES ARE TO THE RIGHT, CANT SHOWN AS POSITIVE THROUGHOUT, EXCEPT WHERE ADVERSE TO THE DIRECTION OF CURVATURE, ALL IN THE DIRECTION OF INCREASING CHAINAGE.
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v01	23/11/22	CDM	JYM	PR	PLANNING ISSUE

**Client**  
Iarnród Éireann  
Irish Rail

**Engineering Designer**  
TYPESA  
ATKINS  
Supported by: rps

**Project Title**  
DART + SOUTH WEST

**Drawing Title**  
TRACK PLAN LAYOUT AND LONGITUDINAL PROFILE  
FROM CH 8+500 TO CH 9+100

**Date**  
23/11/2022

**Scale**  
AS SHOWN @ A1 @ A3

**Drawn**  
CDM

**Checked**  
JYM

**Approved**  
PR

**Project Code**  
5199586

**Issuer**  
TTA

**Drawing File Name**  
DP-04-23-DWG-RO-TTA-18995

**Version**  
v01

**Status**  
S3

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