

Infrastructure & Projects Renewals



C0179 Lisburn Area Renewals

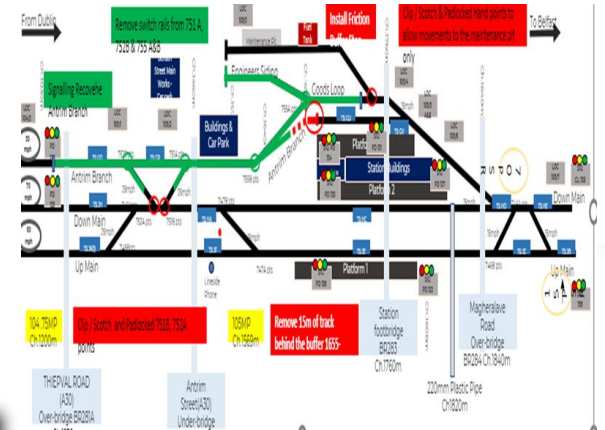


C0179 Lisburn Area Renewals – Nov '22

Purpose – enabling Platform 3 as Bay Platform and remove S&C to disconnect the Antrim Line.

Brief summary of the activities stage 1a 5th & 6th November 2022:

- **Possession** ROR T3 all lines over the evening of Saturday and Sunday night. Sunday maintained Platform 3 as T3 and gave up main lines to normal running.
- **Signalling** - Recover routes on and off the tracks Antrim Branch.
- **Signalling / Track - Track** –
 - Remove 15m of track Platform 3 Skim Dig
 - Install New Buffer Stop & introduction of OSS
 - Remove Switch rails on 752 B, 751 A & 755 A&B points
- **Civils** – Installation of 70mph PSR Down Main & 15mph PSR Up Main.
- **Telecoms** - Recover Telephones PD134, PD129, PD123.
- **E&P** - Isolate 751A and 752B points heating.



C0179 Lisburn Area Renewals – Feb ‘23

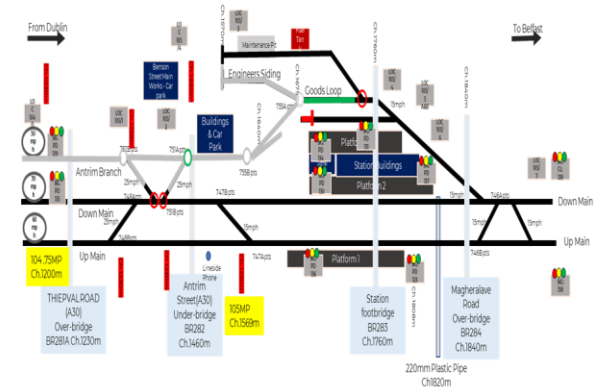
Stage 2 January 13th 54 hour Disruptive Possession

Brief summary of the activities stage 2:

- **Signalling** – Recover tracks for 747B Points, remove 5ft equipment within the track renewal area.
- **Signalling / Track** - Clip and Padlock 747A Up Main NORMAL position.
- **Track** – Down Main - Renewal and removal of 747B points.
- **Civils** – Installation Down Main UTX.
- **E&P** - Isolate 747A&B points heating - disconnect heating strips and supplies form both the PHCC.

Works involved:

- Removal of 191m of existing track on the Down Main/Platform, Removal of 747B points to excavate the existing track bed and install bottom ballast.
- Install 34 concrete sleepers. 20 x 18.288m 2 x 9.144m rails , 2 x 18.288m IBJ's rails & Install 1 x 18.288m Adjustment Switch.
- Top ballast will be installed and profiled.
- Track lifted/Slued and compacted by a Plain Line Tamper. Complete welds (30No) in total.



C0179 Lisburn Area Renewals – April '23

Stage 4 Saturday & Sunday Disruptive possession

Main purpose is enabling works.

- Removal of 221m of existing Plain Line track on the Up Main/Platform 1 with taking out of 747A points and excavation of the existing track bed. (1240ton)
- Installation of Bottom Ballast (720ton), 420 No. new concrete sleepers. 28 x 18.288m, 4 x 18.288m IBJ's rails & Instal 1 x 18.288m Adjustment Switch.
- Put in Top ballast (520ton) and profiled Track lifted/Slued and compacted by a Plain Line Tamper.
- This finished off with completing numerous welds and placing of a 50mph TSR.





XL122-126 Closure



XL122-126 Closure

Key Project Facts

- Formal Closure of 5 User Worked Crossings north of Ballymoney
- Only 1 remaining active User Worked Crossing between Ballymoney and Coleraine
- New bridge and laneway allow access to landowner and NIW to existing pumping station
- Reinforced Earth Walls – Contractor Designed
- Prestressed Beams placed in one single Saturday Tiii, no operational disruption throughout project
- Principal Contractor – FP McCann Ltd
- Design and NEC PM - Amey



XL122-126 Closure

The benefits listed are:

1. Reduce risk of injury/fatality to crossing user at XL122, XL123, XL124, XL125 and XL126
2. Reduce risk of injury/fatality to passengers/staff on trains crossing XL122, XL123, XL124, XL125 and XL126
3. Reduced disruption to passenger services on the Londonderry Line.





Disruptive Possessions & Agreed Access 2023

Disruptive Possessions 2023

Agreed Access 2023: Rail Operations and Infrastructure & Projects continue to meet and discuss disruptive possession access requirements on a regular basis.

Typical Possession Timings

Sunday 29hr- Typically runs from Last Train on Saturday to First Train on Monday

Weekend 54hr- Typically runs from Last Train on Friday to First Train on Monday

Benefits of the Process

- Agreed closure times to reduce impact to services
- Closures communicated in advance to other departments to maximise closure and reduce request for further closures and further disruption to services

Request for Disruptive Closure Process

TIMELINE

@Feasibility Stage

@Feasibility Stage

@Feasibility Stage

@Feasibility Stage



Closure
-16 weeks

Closure
-12 weeks

Closure
- 8 weeks

Closure

STAGES

1. Project Identifies Closure Request

Things to consider:
- Can the works be carried out ROR?
- Min duration of Works (29hr/ 54hr/72hr/days)
- Ideal timing of works (Halloween/ Christmas/ Easter/ Other)
-Extent of Worksite and Access Points

2. PM contact Disruptive Access Planner

PM & Access Planner to identify piggybacking opportunities or initiate 'New Closure Request' via Operations

3. Operations Meeting

Access Planner to arrange meet with Operations team and PM invited to present closure case to Operations (if required)

*Note: Several meetings may be required to work through any actions raised at the initial

4. Closure Agreement in Principle

Operations team to confirm closure request is agreeable (AIP) includes Bus Sub arrangements, operational requirements, timing of works, any restrictions or necessary works to facilitate the closure.

5. Closure Consultation

Request out to all Departments within TL to inform of upcoming planned closure

6. Operational Requirements

Finalise requirements including Bus Subs, Stabling and necessary Train Movements

7. Deconfliction Meetings

Coordination with other work sites intending to make use of the possession ahead of entry into the WON process

*Note: Entry to WON are Closure -3 weeks

8. Closure

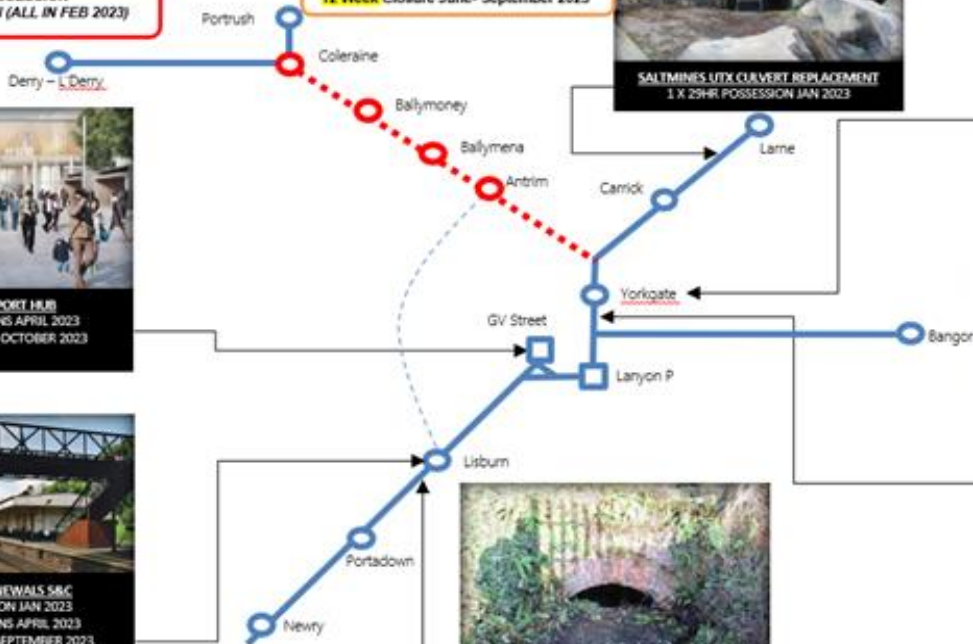
Calendar Year 2023

(1 of 3)

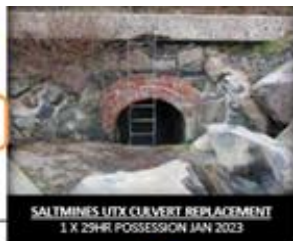
**SEE SEPARATE SHEET(2) FOR DISRUPTIVE POSSESSION REQUESTS FOR COLERAINE TO BLEACH GREEN (ALL IN FEB 2023)*

OPERATIONS AGREEMENT IN PRINCIPLE JUNE 2021

**University Platform
12 Week Closure June- September 2023**



BELFAST TRANSPORT HUB
2 X 54HR POSSESSIONS APRIL 2023
1 X 29HR POSSESSION OCTOBER 2023



SALTMINES LIX CULVERT REPLACEMENT
1 X 29HR POSSESSION JAN 2023



YORKGATE STATION
1 X 29HR POSSESSIONS SEPT 2023 TBC
(Replacement of pedestrian bridge)



LAGAN JCT'N TO YORKGATE TRACK RENEWALS
3 X 29HR POSSESSIONS JAN 2023
1X 29HR POSSESSION FEB 2023
(INCLUDES POSSESSION OF LOOP LINE ON DARGAN BRIDGE)



LISBURN AREA RENEWALS SBC
1 X 54HR POSSESSION JAN 2023
2 X 54HR POSSESSIONS APRIL 2023
1X 29HR POSSESSION SEPTEMBER 2023
1 X 29HR POSSESSION OCTOBER 2023
1 X 54HR POSSESSION OCTOBER 2023
8 DAYS POSSESSION CHRISTMAS 2023



M18PH1 REPLACE KNOCKMORE LIX CULVERT
1 X 54HR POSSESSION JAN 2023

**29hr Platform 3 ONLY Closure + Sidings
Sunday 29th January 2023**

Agreed Access 2023

Month	Date	Duration	Project(s)	Location/possession
January	Sunday 8 th January	29hr	C0984 Lagan Jct to Yorkgate Track Renewals C0902 MBPH1 Replace Saltmines UTX Culvert	Lagan Junction to Larne Harbour and Bleach Green to Antrim Bus Subs from Antrim to Belfast & Larne Harbour to Belfast NOTE: 8-month Loop Line possession from October '22 – End of Summer '23
	LT Friday 13 th to FT Monday 16 th January	54hr	C0179 Lisburn Area Renewals C0902 MBPH1 Replace Knockmore UTX Culvert	Adelaide to Portadown
	Sunday 15 th January	29hr	C0984 Lagan Jct to Yorkgate Track Renewals	Lagan Junction to Yorkgate Station *Yorkgate station remains operational*
	Sunday 29 th January	29hr	C0984 Lagan Jct to Yorkgate Track Renewals	Lagan Junction to Yorkgate Station *Yorkgate station remains operational*
February	Sunday 5 th February	29hr	C0984 Lagan Jct to Yorkgate Track Renewals	Lagan Junction to Yorkgate Station *Yorkgate station remains operational*
	LT Friday 10 th to FT Monday 20 th February	10 Days (9 op days)	C0503 Cullybackey LXs commissioning C0920 OB Track Renewals OB130, OB51, OB93, OB91 C0902 MBPH1 Replacement UB152 – Glenlough Antrim S&T WestCAD	Bleach Green to Coleraine from LT Friday 10 th February to FT Monday 13 th February Antrim to Coleraine from LT Friday 10 th February to FT Monday 20 th February
April	LT Friday 7 th April – FT Monday 10 th April	1 x 54hr	C0179 Lisburn Area Renewals BTH	GVS to Portadown
	LT Friday 21 st April – FT Monday 24 th April	1 x 54hr	C0179 Lisburn Area Renewals BTH	GVS to Portadown
September	Sunday 10 th September	1 x 29hr	C0179 Lisburn Area Renewals	GVS to Portadown
	Sunday (Date TBC)	1 x 29hr	Yorkgate Station Redevelopment	Lagan Junction to Yorkgate Station
October	Sunday 15 th October	1 x 29hr	C0179 Lisburn Area Renewals BTH (1x29hr power shortage)	GVS to Portadown
	LT Friday 27 th – FT Monday 30 th October	1 x 54hr	C0179 Lisburn Area Renewals	GVS to Portadown
December	LT Sunday 24 th December 2023 – FT Tuesday 2 nd January 2024	8 days	C0179 Lisburn Area Renewals	GVS to Portadown



Overbridge Track Renewal

Overbridge Track Renewals



Project Summary:

- Renewal of deteriorating track and ballast at 4 overbridge locations located between Antrim & Ballymoney
 - 1050m Of New Track
 - 1500m Of Associated Drainage
 - New cabling and ducting for S&T (at 2 locations)
 - Hand back speed - 50mph to ensure delay minutes kept to a minimum.
- **Stage 1** -Advanced Drainage Works October 22 – February 23. All bridges complete bar OB151 due to badgers.
- **Stage 2** - Blockade Works (February 10th 23.59 - 20th February first train).
- **Stage 3** - Track Monitoring for four weeks.
- **Stage 4** - Drainage works at OB151 when licence obtained from NIEA and outside of badger breeding season – late 2023
 - Blockade works fully completed and handed back in time
 - No health and safety accidents or incidents
 - 50mph hand-back successfully achieved

Overbridge Track Renewals

As part of NIR's inspection regime, annual inspections are carried out across the network to record the condition and identify maintenance requirements of the track. A historical problem with over bridges on the NIR network is that several have tight clearances and poor vertical track profiles. In addition, track drainage tends to be poor.



Pre Works



Removal of Rail and Sleepers



Track Dig Out Formation



Bottom Ballast Placed and Rolled



Placement of Sleepers and Rail



Tamper



Welding





Tree Management Project



Tree Management Project

Key Project Facts

- The main objective is managing trees alongside our railway for the safety of passengers, staff and contractors.
- This is year 3 of 5-year contract. To date, 2950 of the highest risk trees have been removed across the rail network which had the potential to cause train derailment.
- The majority of trees being removed are at night by a specialist sub contractor.
- This project has required extensive stakeholder negotiations with railway neighbours, statutory bodies and local representatives.
- Over 15,000 native trees have been planted this year to help increase biodiversity.
- Principal Contractor – McLaughlin and Harvey with their sub contractor Greentown
- NEC Project Management – Translink



19m tall tree which was hollow

C0902 Minor Bridges



C0902 Minor Bridges

- 12no. Structures at various locations throughout NIR network.
- Implement recommendations of NIR's inspection and maintenance regime.
- Advanced package of works consisting of 3no. structures to utilise blockades.
- Consultant: **Dorans**
- Contractor: **FP McCann**
- Advanced package completion: **August 2023**
- Current project risks/issues:
 - Delay to Value Engineering Proposal at Glenlough
 - Close consultation with businesses and residents at locations such as Adelaide, Cultra and Downhill Beach
- Main works ECC package due to go out to mini-competition: **June 2023**
- Main works package expected completion: **August 2025**



C0902 Minor Bridges

As part of Translink's inspection and examination regime, visual inspections and examinations are carried out on structures across the network to record the condition and identify maintenance requirements. As part of the Minor Bridge Works Phase 1, 12 structures have been identified as requiring repair, removal or replacement works. 3 of the 12 structures are currently nearing completion as part of an advanced works package.

The individual work sites are grouped into three main categories:

Group 1: Lining of culvert structures

Group 2: Repair and application of new protective coating to CSBS

Group 3: Footbridges



C0902 Minor Bridges

Benefits of the project include:

- Ensuring the ongoing safety of train passengers and staff while crossing these bridges
- Ensuring ongoing integrity of the bridges and therefore the ongoing integrity of the infrastructure and network.
- Prevent the need for speed restrictions and/or bridge closures
- Increase the economic life of the bridges.
- Ensuring compliance with RSSB, NIR and Network Rail Standards.



C1121 Kilmakee Emergency Works



C1121 Kilmakee Emergency Works

Project Background:

- Location: MP17.50 – MP17.75 on Bleach Green to Antrim line.
- Exposed to regular flooding (2-3 times per year).
- Project aim to eliminate flooding and reduce service delays by replacing 2no existing culverts in poor condition.
- Construction work undertaken in 2no. Blockades in November/December 2022.

Works Involved:

- Protection measures including the installation of bog mats and S&T protection beam.
- Excavation to formation, installation of geotextile, bedding material and installation of both a 750mm and 1200mm weholite pipe to ensure quick installation.
- Stringent checks on backfill and compaction to ensure limited settlement.
- Installation of void meters and track monitoring.
- Establishment of 50mph TSR boards in order to limit impact on Operations due to single 90mph line.
- Construction Completion: **March 2023**



C1121 Kilmakee Emergency Works

The benefits of the project included:

- Reduced likelihood of derailment at locations
- Eliminating services disruptions caused by flooding
- Ensuring the speed of passenger services meets the published requirement of NI Railways timetable
- Reducing the likelihood of requirements to impose Emergency Speed Restrictions or a reduction in permissible speed.
- Ensuring assets are fit for purpose, including the replacement of culvert C05.061
- Ensuring assets are improved to account for a 1 in 200 climate event.
- Ensuring track drainage and external drainage are separated to prevent flooding.



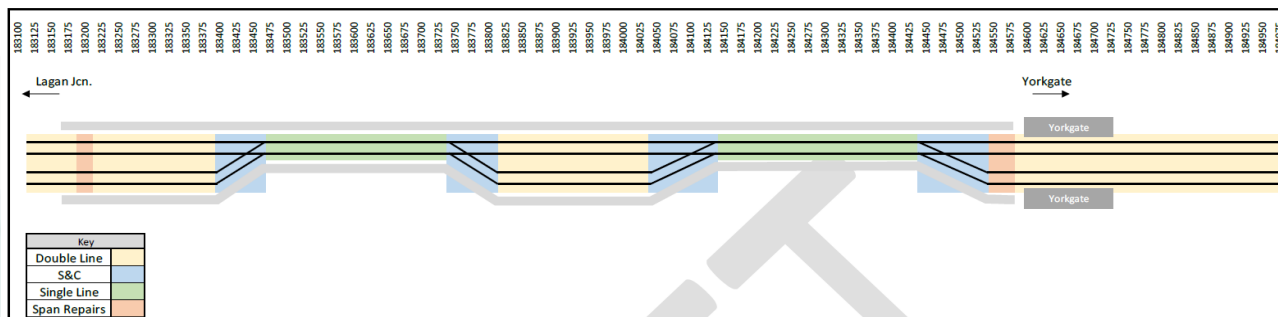
C0984 LG2YG



C0984 LG2YG

Renewal of Asset Overview

- 4No S&C turnouts – 600, 601, 601 and 603pts renewal
- 2500metres of track (dual and single)
 - 50mm Skim Dig Renewal - 1500 meters of track length
 - 300mm Full Depth Renewal – 1000 meters of track length
 - 220 meters new guard rail renewal
- Structural repairs – waterproofing, drainage
- Signalling scope – new signal heads, signage, new AWS, TPWS, E&P Works S&C enhancements



C0984 LG2YG - Programme and Key Dates

Enabling Works

- May 2022 - September 2022

Grip 6-8 - Construction Works

- September 2022 - June 2023

Key Programmed Dates :

- **72 Hour Blockade – October 2022 – Halloween Week – End**

- Renewal of 601 and 603 S&C's

- **9 Day Christmas Blockade – Sun 25.12.2022, 00.01hrs – Tues 02.01.2023 – 04.30hrs**

- 430 meters of full depth double track renewal – Total Track length = 860metres from 600 pts through Yorkgate Station
- 70 meters of full depth double track renewal – Total Track Length = 140metres – Lagan Junction End
- 212 meters of skim dig double track renewal - Total Track Renewal = 424 meters – lagan junction end

- **4 x 29 Hour Disruptive Possessions Jan 23 / Feb 23**

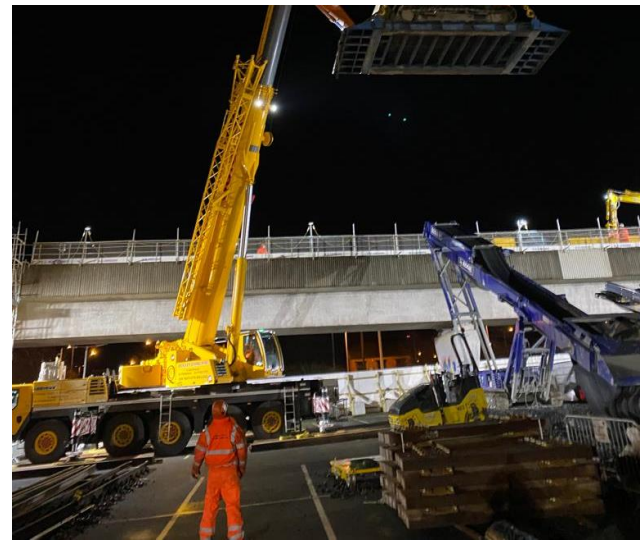
- Renewal of S&C's - 600 and 602 Pts
- Renewal of Single Line Track





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Lagan Junction to Yorkgate
Track Renewal Project



C0919 / C0968 AdStrExam



Advance Structures Examination and Assessment Project

DARGAN VIADUCT:

- Post Tensioned Special Inspection (PTSI) works are now complete
- Results have indicated the structure is in 'good health'
- Specialist survey works, including work at height, work over water, working in confined spaces and rope access.
- Enabling works included access improvement, cleaning, installation of pigeon netting, installation of anchor points and lock replacement



PTSI works on Dargan Viaduct & close up of exposed tendons/end anchorages



Advance Structures Examination and Assessment Project

BANN BRIDGE:

- Structural assessment is nearing completion



Photos of Bann Bridge being raised, vessel movement through bridge and existing fendering system



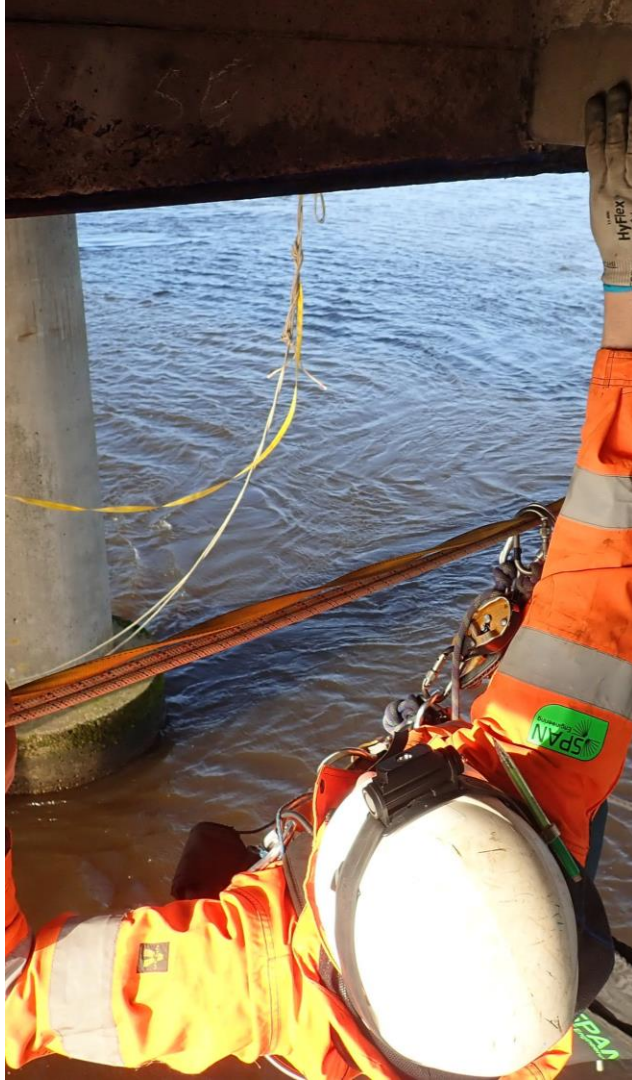
Advance Structures Examination and Assessment Project

Benefits:

- **PB1**
 - Safety – Reduce the risk of injury to staff and passengers as a result of a failure of a structure
- **PB2**
 - Compliance with NIR adopted standards and Network Rail Standards



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Cullybackey



For your safety & comfort

- No Smoking
- No Alcohol
- No Mobile Phone Use
- No Running
- No Pushing or Pulling
- No Horseplay
- No Drinking
- No Eating
- No Spitting
- No Profanity
- No Swearing
- No Fighting
- No Intimidation
- No Harassment
- No Stalking
- No Sexual Harassment
- No Discrimination
- No Abuse
- No Violence
- No Threats
- No Intimidation
- No Harassment
- No Stalking
- No Sexual Harassment
- No Discrimination
- No Abuse
- No Violence
- No Threats

Cullybackey Signalling & Level Crossing Renewals

Project Total: £31,1248,058 (LoO)

Project Scope:

- 3 x MCB-CCTV
- All new control equipment
- New Cullybackey Interlocking & Protecting Signals
- New Power Supply
- New Fibre Telecoms Network, TDMs for interlocking/level crossings, ASOC
- Modifications to South Workstation VDU at Coleraine
- CCTV monitors and LX control Unit provided for South Workstation
- Linespeed increase outside the station/crossing areas



Cullybackey Signalling & Level Crossing Renewals

Project-wide Scope

- All civils & structural works associated with the 3 new level crossings, Signals, locations cases, PSP, REBs etc
- New cable ducting route from Ballymena station through to 39 MP
- Platform extension & alterations to entrance at Cullybackey Station
- New Telecoms – Provision of new Fibre Optic and Copper Cables
- New power supply feeder from approx. 34 ½ MP to approx. 38 ½ MP
- Alterations to Galgorm AHB, Broughdone AHB, Burnside UWC, Glarryford AHB & Killgan AHB
- 3rd Party BT connection to Coleraine





Dark Arches





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SHORE ROAD (MARK ARCHES) TO WHITEABBEY TRACK RENEWAL PROJECT





Miscellaneous Images









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