Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order

Condition 16: Waste Drainage – Stage 4

Document reference: 151667-TSA-00-TRU-REP-W-EN-001352

Network Rail

June 2023

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Contents

Tables

Inserts

1. INTRODUCTION

1.1 Background

1.1.1 The Scheme is part of a wider programme of works under the Transpennine Route Upgrade (TRU) which will improve the Transpennine railway between Manchester, Huddersfield, Leeds and York and improve connections between key towns and cities across the north of England.

1.1.2 Planning Direction for the Huddersfield to Westtown (Dewsbury) section of the TRU was received from the Department for Transport, referenced TWA/21/APP/03, dated 13 October 2022.

1.1.3 This document sets out details in relation to Condition 16 of the Deemed Planning Permission.

2. STAGED APPROACH TO DISCHARGE AND STAGE DESCRIPTION

2.1.1 As set out in document ref: 151667-TSA-00-TRU-REP-W-EN-001189 version 3 (submitted in relation to Condition 3 of the Deemed Planning) a staged approach is proposed in relation to discharge of the deemed planning conditions.

2.1.2 This document sets out details in relation to Stage 4 of the works for the Huddersfield to Westtown (Dewsbury) Scheme.

2.1.3 Stage 4 comprises the main civils works at Huddersfield Station and Huddersfield Viaduct (Stage 4 limits are set as Westgate Overbridge and Hillhouse Lane Underbridge) and are set out in Table 2-1, as well as links to the relevant planning drawings. Figure 1 in Appendix A shows the geographical locations of the works. Route drawings relevant to Stage 4 are NR13 Planning Drawing - Route Drawing 3.pdf (windows.net) and NR13 Planning Drawing - Route Drawing 4.pdf (windows.net).

2.1.4 Works within the Huddersfield and Gledholt tunnels, to the west of the station, will be detailed in the Stage 5 submission.

2.1.5 The entire Scheme will be subject to electrification; details of the electrification works will be detailed in the Stage 5 submission.

2.1.6 At Huddersfield Station, remodelling works are required with alterations to platforms and roof structures required to facilitate the delivery of a four track railway. East of Huddersfield Station the four-track railway is reinstated across the viaduct.

2.1.7 There are existing earthworks throughout the Scheme area associated with the existing operational railway. Earthworks allow the track to stay relatively level through a varied topography and allows trains to operate more efficiently by reducing the need for additional acceleration and deceleration to climb and descend climbs.

2.1.8 As set out in Figure 2-1[1] in Volume 4 of the Environmental Statement (ES) and Table 2-4 in Chapter 2: Scheme Description (Route Section 1)[2] in Volume 2i of the ES, a 55m length retaining structure (0.5m high) was proposed along the eastern end of Huddersfield Viaduct (MVL3/92) near to Hillhouse Lane Underbridge (MVL3/94). This was proposed as either king post wall or soil nailing. Following design iteration, soil nailing is planned in this area of existing embankment to the south of the railway (E0).

2.1.9 Earthworks (new and where they have been reworked) will generally be covered in topsoil and landscaped as appropriate. Any exceptions to this will be detailed within the Landscape and Ecological Management Plan (LEMP) Stage 8.

2.1.10 The Scheme impacts on various existing transmission and distribution utility networks. Conflicts with utility services may occur in Stage 4 where the Scheme crosses highways and. Works within the highway will be carried out in compliance with the Highways Agreement and any impacts on the highways network will be discussed through the Highway Network Management Group.

[1] Ch02 Scheme Description - Fig 2-1 Scheme drawings.pdf (windows.net)
[2] Ch02 Huddersfield - Scheme Description.pdf (windows.net)

Table 2-1 Works description

Location	Structure/works	Summary description	Deemed Planning Drawing Title and Reference
Huddersfield Station	Passenger Footbridge	A covered footbridge (Huddersfield Station Footbridge (MVL3/91AA), with stairs and a lift, to be constructed to the eastern end of the station. This will provide step free access to the central platforms.	• Footbridge - Proposed Elevations - 151667-TSA-30-MVL3-DRG-T-LP-168053 • Footbridge - Proposed Plan Deck Level - 151667-TSA-30-MVL3-DRG-T-LP-168051 • Footbridge - Proposed General Arrangement Platform Level - 151667-TSA-30-MVL3-DRG-T-LP-168050 • Footbridge - Proposed Roof Level General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168052 • Footbridge - Proposed Sections - 151667-TSA-30- MVL3-DRG-T-LP-168054 • Existing and Proposed Long Sections (A-A) - 151667-TSA-30-MVL3-DRG-T-LP-168003 • Existing and Proposed Long Sections (B-B) - 151667-TSA-30-MVL3-DRG-T-LP-168005
Huddersfield Station	Passenger Subway	Extension to existing Subway (MVL3/91) (of 12.5m) required to service the new island platform to the north of the station.	• Existing Plan and Sections - 151667-TSA-30-MVL3-DRG-T-LP-168064 • Proposed Plan and Section - 151667-TSA-30-MVL3-DRG-T-LP-168065
Huddersfield Station	Parcel Subway (MVL3/91A)	Utilising existing subway for utilities ducting and signalling equipment. Concrete infill.	• Existing Plan and Sections - 151667-TSA-30-MVL3-DRG-T-LP-168067 • Proposed Plan and Section - 151667-TSA-30-MVL3-DRG-T-LP-168068
Huddersfield Station	Tearooms	Existing Tea Rooms - Timber structure to be carefully dismantled and relocated within island platform. To be dismantled and reconstructed.	• Existing Floor Plan and Elevations - 151667-TSA-30-MVL3-DRG-T-LP-168016 • Existing and Proposed Elevations - 151667-TSA-30-MVL3-DRG-T-LP-168015 • Proposed Floor Plan and Elevations - 151667-TSA-30-MVL3-DRG-T-LP-168017
Huddersfield Station	Proposed Platforms	Works to railway lines including provision of new platforms and removal of existing railway sidings.	• Existing Plan - 151667-TSA-30-MVL3-DRG-T-LP-168060 • Existing and Proposed Platform General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168001 • Proposed Plan and Section - 151667-TSA-30-MVL3-DRG-T-LP-168061 • Proposed Plan and Section - 151667-TSA-30-MVL3-DRG-T-LP-168062 • Proposed Plan and Section - 151667-TSA-30-MVL3-DRG-T-LP-168063

Location	Structure/works	Summary description	Deemed Planning Drawing Title and Reference
Huddersfield Station	Canopy A	Works to the main train shed within Huddersfield Station includes: • Structural works to maintain and strengthen; • Demolition of two canopy bays at Manchester end of the station; • Construction of two new bays at Leeds end; • Grit blasting of structure; and • Reinstatement of main train shed lantern.	• Existing and Proposed Roof General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-16800000 • Existing and Proposed Short Sections (A-A) - 151667-TSA-30-MVL3-DRG-T-LP-168002 • Existing and Proposed Short Sections (B-B) - 151667-TSA-30-MVL3-DRG-T-LP-168004 • Existing Roof A Structural Plan (Roof Level) - 151667-TSA-30-MVL3-DRG-T-LP-168010; • Existing Roof A Structural Sections Sheet (1) - 151667-TSA-30-MVL3-DRG-T-LP-168011 • Existing Roof A Structural Sections Sheet (2) - 151667-TSA-30-MVL3-DRG-T-LP-168012; • Existing Roof A OLE Support Details - 151667-TSA-30-MVL3-DRG-T-LP-168013
Huddersfield Station	Canopy B & C	Canopy B&C are to be demolished with new replacements to be constructed to cover platforms to north.	• Existing and Proposed Roof General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168000 • Existing and Proposed Short Sections (A-A) - 151667-TSA-30-MVL3-DRG-T-LP-168002 • Existing and Proposed Short Sections (B-B) - 151667-TSA-30-MVL3-DRG-T-LP-168004 • Proposed Roof B (Shed Roof) Structural Plan (Roof Level) - 151667-TSA-30-MVL3-DRG-T-LP-168020 • Proposed Roof B (Shed Roof) Structural Plan (Platform Level) - 151667-TSA-30-MVL3-DRG-T-LP-168021 • Proposed Roof B (Shed Roof) Structural Sections (1) - 151667-TSA-30-MVL3-DRG-T-LP-168022 • Proposed Roof B (Shed Roof) Structural Sections (2) - 151667-TSA-30-MVL3-DRG-T-LP-168023 • Proposed Roof B (Shed Roof) Structural Sections (3) - 151667-TSA-30-MVL3-DRG-T-LP-168024
Huddersfield Station	Platform free standing canopies	Free standing canopies to be constructed over island platforms to eastern end of station.	• Existing and Proposed Roof General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168000 • Proposed Platform General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168030

Location	Structure/works	Summary description	Deemed Planning Drawing Title and Reference
			• Proposed Platform Canopies Elevation (1) - 151667-TSA-30-MVL3-DRG-T-LP-168034 • Proposed Platform Canopies Elevation (2) - 151667-TSA-30-MVL3-DRG-T-LP-168035 • Proposed Platform Canopies Structural Plan (Platform Level) - 151667-TSA-30-MVL3-DRG-T-LP-168031 • Proposed Platform Canopies Structural Sections - 151667-TSA-30-MVL3-DRG-T-LP-168032 • Proposed Platform Canopies Structural Sections - 151667-TSA-30-MVL3-DRG-T-LP-168033
Huddersfield Station	Canopies – Penistone Line	Extension of Penistone Line canopies.	• Proposed Penistone Line Canopy Platform Level Plan General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168036 • Proposed Platform Penistone Canopies Structural Sections - 151667-TSA-30-MVL3-DRG-T-LP-168037 • Proposed Platform Penistone Canopies Proposed Roof Covering Plans - 151667-TSA-30-MVL3-DRG-T-LP-168038 • Proposed Platform Penistone Canopies Elevation (1) - 151667-TSA-30-MVL3-DRG-T-LP-168039
Huddersfield Station	Relay Room	Existing relay room to be demolished.	• Existing and Proposed Platform General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168001
Huddersfield Station	Drainage Works	Fitzwilliam Street sewer outfall (New) SE 1430 1707. Proposed new storm water drainage outfall for the re-modelled areas of Huddersfield Station. It will be a piped outfall from the drainage system, either directly into the sewer in the highway, or into an existing culvert within Network Rail land which connects into this sewer. A new manhole will be provided at the outfall.	• No relevant planning drawings

Location	Structure/works	Summary description	Deemed Planning Drawing Title and Reference
Huddersfield Viaduct (MVL3/92)		Works across Huddersfield Viaduct includes general strengthening works along the length of viaduct together with localised repairs to arches where necessary. These works include pinning and grouting, shear anchors and spandrel strengthening with tie bar and pattress plates.	• Existing and Proposed East Elevation (Sheet 1) - 151667-TSA-30-MVL3-DRG-T-LP-168075 • Existing and Proposed East Elevation (Sheet 2) - 151667-TSA-30-MVL3-DRG-T-LP-168076 • Existing and Proposed East Elevation (Sheet 3) - 151667-TSA-30-MVL3-DRG-T-LP-168077 • Existing and Proposed East Elevation (Sheet 4) - 151667-TSA-30-MVL3-DRG-T-LP-168078 • Existing and Proposed East Elevation (Sheet 5) - 151667-TSA-30-MVL3-DRG-T-LP-168079 • Existing Plan and Proposed Plan (Sheet 1) - 151667-TSA-30-MVL3-DRG-T-LP-168070 • Existing Plan and Proposed Plan (Sheet 2) - 151667-TSA-30-MVL3-DRG-T-LP-168071 • Existing Plan and Proposed Plan (Sheet 3) - 151667-TSA-30-MVL3-DRG-T-LP-168072 • Existing Plan and Proposed Plan (Sheet 4) - 151667-TSA-30-MVL3-DRG-T-LP-168073 • Existing Plan and Proposed Plan (Sheet 5) - 151667-TSA-30-MVL3-DRG-T-LP-168074 • John William Street Bridge - Existing Highways General Arrangement - 151667-TSA-30-MVL3-DRG-T-LP-168081 • John William Street Bridge - Proposed Highways General Arrangement - 1667-TSA-30-MVL3-DRG-T-LP-168082
Huddersfield Viaduct	Span 1 – John William Street Underbridge (MVL3/92(2))	The existing Span 1 bridge deck will be removed and replaced with a new single span bridge deck due to the current structural arrangement of the bridge clashing with the proposed track and platform works.	
Huddersfield Viaduct	Span 4 – Fitzwilliam Street Underbridge (MVL3/92(3))	Substructure repairs including removal and reinstatement of the pier to the south-western corner of the structure. Strengthening to cross girders. Removal and replacement of parapet.	
Huddersfield Viaduct	Span 29 Bradford Road Underbridge (MVL3/92(9))	Existing bridge deck to be removed and replaced. Additional masonry pilasters/buttresses will be formed at the corners of the new abutments into which the concrete parapet will join. New concrete abutments to be built with stone facing in front of existing sandstone at both ends and, on both elevations.	

3. RELEVANT PLANNING CONDITION

3.1.1 The wording of Condition 16 is reproduced as follows:

No Development (including preliminary works) must commence in respect of the re-located tea rooms on Huddersfield Station until a scheme to prevent fats, oils, and grease entering the drainage network serving commercial food preparation and dishwashing areas located within Huddersfield station has been submitted to and approved in writing by the local planning authority. The approved scheme must be implemented prior to first operation of the development in respect of the re-located tea rooms at Huddersfield station and shall be retained thereafter.

***Reason:** To prevent fats, oils, and grease entering the drainage network in the interests of environmental wellbeing and in accordance with Local Plan policy LP28.*

4. BACKGROUND TO TEA ROOM PROPOSALS

4.1.1 The timber boarded Tea Rooms building is located on the island platform at Huddersfield Station, between platforms 4 and 8, immediately south of platforms 5 and 6, as shown in Insert 4-1. The tea rooms house a customer assistance point, toilets, waiting room and the station buffet.

Insert 4-1 Tea rooms (eastern elevation), viewed from platform 1

4.1.2 As part of the station redevelopment the tea rooms will be retained but will be relocated on the central platform. This will involve the careful dismantling of the structure, storage of the elements and then reconstruction in its new location.

5. DRAINAGE PROPOSALS

5.1.1 A new foul drainage connection will be required from the relocated tea rooms to the existing foul drainage pipe within the cellar walkway of the principal station building (under the rear of the proposed platform 2).

5.1.2 It is proposed to reinstate the existing foul drainage provision as much as feasible. The existing foul drain, located on the wall of the parcel subway will remain over the extent to which no works are proposed to this structure. The western end of the subway will be filled with concrete. New ducting will be provided for utilities through the part of the parcel subway to be filled, such that it can retain its current function as a UTX. This will include a duct for a realigned foul drain.

5.1.3 New foul drainage pipework will be provided in the floor of the proposed tea rooms, coordinated with the foundations and other utilities. Internal inspection chambers will be located within the floor of the tea rooms to provide maintenance access. One of these chambers will provide the head of a ramped pipe, through which the drain will fall to subway level. Once beyond the filled subway section, the pipe will be connected into the existing pipe to retain the current outfall.

5.1.4 The tea rooms will contain a small food preparation area, serving counter and small waiting area of approximate plan area 35 m^2. The current drainage provision will include for 1No sink and 1No small dish washer. A small grease trap unit will be located within the food preparation area on the outfall pipe to guard against any significant build-up of grease in the downstream pipework. This pipework will then join the drainage from the toilets in the tea rooms building and continue down into the existing subway structure, replicating the existing drainage arrangement.

5.1.5 The toilet provision includes 7No WCs, 3No urinals and 4No sinks incorporating 8No taps, therefore there is expected to be a steady flow of water through the drainage during tea rooms serving counter operation hours.

5.1.6 The foul drainage system will remain a gravity system, there is no requirement for a pumping station.

5.1.7 Details of the drainage system are provided in drawing ref: 151667-TSA-30-MVL3-DRG-D-DR-060111 - Proposed Platform Drainage - Huddersfield Station in Appendix B.

Appendices

APPENDIX A – WORKS LOCATION PLAN

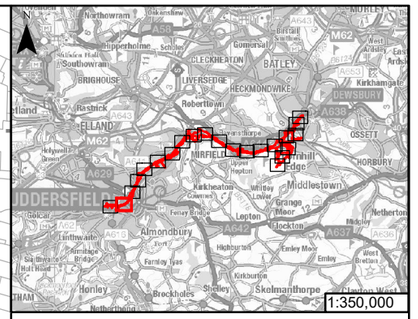
N

Westgate (MVL3/90)
➢ Implementation of anti-trespass measures

Penistone Line

Huddersfield Narrow Canal

Continued on Page 1



Scheme Boundary

Adjacent Map Sheet

0 10 20 40 60 80 100 Metres

SCALE 1:2,500

Rev	Date	Description of Revisions	Drwn	Chkd	Appr
P01	12/02/21	FIRST ISSUE	RB	PB	PB

Status: SHARED

Suitability:

NetworkRail

Project: TRANSPENNINE ROUTE UPGRADE

Contract No.: 151667

SchemeTitle: THE NETWORK RAIL (HUDDERSFIELD TO WESTTOWN (DEWSBURY) IMPROVEMENTS) ORDER

Drawing Title

Figure 1
Stage 4 works

Designed	R.Bowes	Signed Electronically	Date 12/02/2021
Drawn	R.Bowes	Signed Electronically	Date 12/02/2021
Checked	P.Butler	Signed Electronically	Date 12/02/2021
Approved	P.Butler	Signed Electronically	Date 12/02/2021

Scale(s): 1:2,500

ELR & Project Chainage: ---

Alternative Reference: ---

Sheet: 2 of 22

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001370

Revision: P01.1

Sheet Size A3 297 x 420

N

Railway works include
- 4 tracking
- Horizontal track realignment
- Relaying of ballast and tracks

Continued on Page 4

Halfords - access to business to be maintained

Huddersfield Viaduct – Span 4 – Fitzwilliam Street Underbridge
- Substructure repairs including removal and reinstatement of the pier to the south-western corner of the structure
- Strengthening to cross girders
- Removal of parapet and replacement with replica in cast iron

Huddersfield Viaduct (MVL3/92) Bradford Road
- Existing bridge deck to be removed and replaced
- Additional masonry pilasters/buttresses will be formed at the corners of the new abutments into which the concrete parapet will join.
- New concrete abutments to be built with stone facing in front of existing sandstone at both ends and, on both elevations.

Huddersfield Viaduct - general strengthening works along the length of viaduct together with localised repairs to arches where necessary. These works include pinning and grouting, shear anchors and spandrel strengthening with tie bar and pattress plates.

DNO - Fitzwilliam Street

Huddersfield Viaduct Span 1 (MVL3/929 (1)) - John William Street
- existing bridge deck will be removed and replaced with a new single span bridge deck

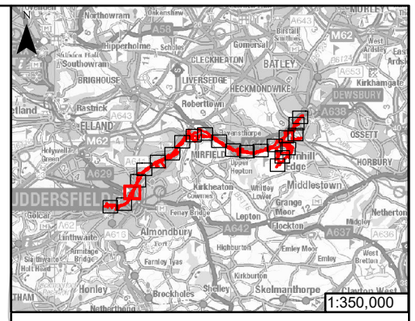
Fitzwilliam Street Construction Compound

Huddersfield Station - construction compound

Brian Jackson House

Huddersfield Station
- main train shed - structural works, two bays at Manchester end of canopy to be demolished, two new bays at Leeds end of platform 1;
- reinstatement of main train shed lantern;
- smaller train shed)canopies B&C) to be demolished, new roof to be constructed;
- free standing canopies over island platforms
- extension to canopy to service Penistone line;
- tea rooms to be deconstructed and relocated;
- a covered footbridge (with lift and stairs) to be constructed (step free access)
- concrete infill of existing parcel subway
- extension to existing passenger subway to service new island platform to north of station
- Grit blasting of main train shed
- Works to railway lines including provision of new platforms and removal of existing railway sidings
- Demoltion of existing relay room

Continued on Page 2



Scheme Boundary

Adjacent Map Sheet

0 10 20 40 60 80 100 Metres

SCALE 1:2,500

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Scale(s) 1:2,500		ELR & Project Chainage ---	
Alternative Reference ---			Sheet 3 of 22
Drawing Number 151667-TSA-00-REP-W-EN-001370			Revision P01.1

Sheet Size A3 297 x 420

N

Hillhouse Construction Compound subject to separate planning permission

Continued on Page 5

Railway works include
- 4 tracking
- Horizontal track realignment
- Relaying of ballast and tracks

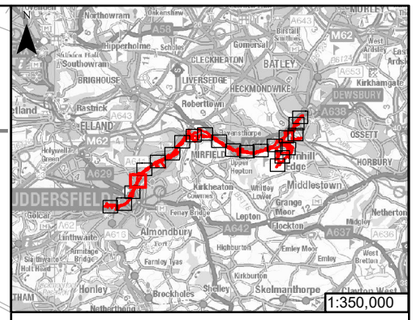
Hillhouse DNO

Hillhouse Lane (MVL3/94)

Earthworks - E0 - soil nailing

Huddersfield Viaduct - general strengthening works along the length of viaduct together with localised repairs to arches where necessary. These works include pinning and grouting, shear anchors and spandrel strengthening with tie bar and pattress plates.

Continued on Page 3



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Scale(s): 1:2,500

ELR & Project Chainage: ---

Alternative Reference: ---

Sheet: 4 of 22

Drawing Number: 151667-TSA-00-TRU-REP-W-EN-001370

Revision: P01.1

Sheet Size A3 297 x 420

APPENDIX B – DRAINAGE DRAWING 151667-TSA-30-MVL3-DRG-D-DR-060111 - PROPOSED PLATFORM DRAINAGE - HUDDERSFIELD STATION

Drawing Number 151667-TSA-30-MVL3-DRG-D-DR-060111 A01

Existing drainage, troughing, tracks and inside civils to be removed during construction have been omitted from this drawing for clarity

Proposed steps to passenger subway

Proposed Platform 6

Proposed Platform 5

Alignment of drainage to be coordinated with cable chamber, platform wall and tea rooms foundations. Some deviation in the alignment from straight may be required at this pinch-point

Down Huddersfield Slow

Down Huddersfield Fast

Drainage run suspended across existing subway

Proposed passenger subway

Under-track crossing 300 dia carrier pipe

Proposed steps to passenger subway

Proposed Platform 4

Proposed location for tea rooms

Proposed Platform 3

Foul pipe to be ducted through in-filled part of subway

Existing platform storm water drain to be re-used over length. new inspection chamber to be constructed at each end

No track drainage in this area to avoid clashes whit existing passenger subway and existing modified parcel subway

Up Huddersfield Slow

Up Huddersfield Fast

MP 25¾

Proposed Platform 2

Existing passenger subway

Existing drainage for platform 2, shed roof and principle building, comprising rainwater pipes down building elevation and into drains within cellar, to remain.

Foul pipe fixed to existing subway wall

Existing modified parcel subway

Existing steps to passenger subway

Assumed line of existing storm water culvert

Station entrance / exit

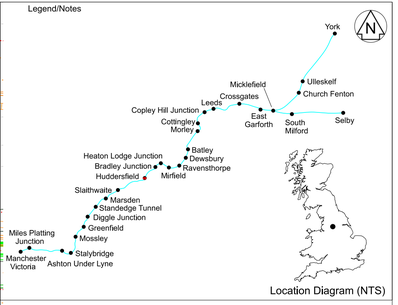
Principal station building

Continued on Drawing 151667-TSA-30-MVL3-DRG-D-DR-060112

Continued on Drawing 151667-TSA-30-MVL3-DRG-D-DR-060110

Plan View
Scale 1:200

Legend/Notes



Location Diagram (NTS)

Legend / Key:

- Proposed infrastructure
- Existing infrastructure
- Infrastructure to be removed
- Modified infrastructure
- Indicative Network Rail Boundary
- Temporary works
- Works by others

Drainage Legend - On-track drainage

- Railway track drainage to details 1 or 2 of drawing #-060500
- Railway track drainage UTX
- Dual track and carrier drain to detail 3 of drawing #-060500
- Standard track catchpit
- Narrow catchpit (for use in 6-foot)

Drainage Legend - Off-track drainage

- Storm water carrier drain to detail 4 of drawing #-060500
- Foul drain to detail 4 of drawing #-060500 unless noted otherwise
- Manhole Type 1A and 1B to details on drawing #-060501
- Manhole Type 2 to details on drawing #-060501
- Type 3 back inlet gully to detail on drawing #-060501
- Grated channel drain
- Existing drainage
- Indicative fall of track bed

WoL - XXX Significant Hazards (CDM / CSM)

WoL - XXX Attention (Design Related)

0 4 8 12 16 20m

SCALE 1:200

Rev	Date	Description of Revisions	Drawn	Chkd	Appr
P03	20/07/21	Design development of station drainage layout	JS	PS	PS
P04	06/10/21	Updated for Final IDR	JS	PS	PS
P05	23/12/21	Issued for Form 001/002	DW	PS	PS
A01	13/10/22	Issued for Form 001/002	DW	PS	PS

Status: Fit for Contractor Design

Suitability: D3

Upstream Chamber				Downstream Chamber				Pipe				
Ref	Cover Level (m AOD)	Invert level (m AOD)	Depth (mm)	Ref	Cover Level (m AOD)	Invert level (m AOD)	Depth (mm)	Length (m)	Gradient 1 in X	Diameter (mm)	Type	Material
CD1	88.999	88.139	860	CD2	89.158	87.976	1182	18.000	110	225	Filter	HDPE - PE100 - SDR11
CD2	89.158	87.951	1207	CD3	89.143	87.881	1262	26.000	371	225	Filter	HDPE - PE100 - SDR11
CD3	89.143	87.565	1578	MD4	89.141	87.552	1589	5.060	389	225	Carrier UTX	HDPE - PE100 - SDR11
CE1	89.095	88.136	959	CE2	89.081	88.064	1017	26.650	370	225	Filter	HDPE - PE100 - SDR11
CE2	89.081	88.039	1042	CE3	89.149	87.983	1166	21.000	375	225	Filter	HDPE - PE100 - SDR11
CF1	88.615	87.938	677	CF2	88.615	87.849	766	23.260	261	225	Filter	HDPE - PE100 - SDR11
CF6	88.814	88.135	679	CF7	88.685	88.065	620	17.960	257	225	Filter	HDPE - PE100 - SDR11
CF11	88.771	88.093	678	CF12	88.664	88.008	656	22.300	262	225	Filter	HDPE - PE100 - SDR11

Railway Track Drainage Schedule

Upstream Chamber				Downstream Chamber				Pipe				
Ref	Cover Level (m AOD)	Invert level (m AOD)	Depth (mm)	Ref	Cover Level (m AOD)	Invert level (m AOD)	Depth (mm)	Length (m)	Gradient 1 in X	Diameter (mm)	Type	Material
S6	90.132	89.321	811	S7	90.132	89.228	904	18.589	200	375	Carrier	HDPE - PE100 - SDR11
S7	90.132	89.228	904	S8	90.100	89.155	945	14.613	200	375	Carrier	HDPE - PE100 - SDR11
S8	90.100	89.155	945	S9	90.099	89.119	980	7.271	200	375	Carrier	HDPE - PE100 - SDR11
S9	90.099	89.119	980	S10	90.051	89.050	1001	13.709	200	375	Carrier	HDPE - PE100 - SDR11
S10	90.051	89.050	1001	S11	90.009	88.997	1012	10.688	203	375	Carrier	HDPE - PE100 - SDR11
S11	90.009	88.997	1012	S12	89.879	88.912	967	17.013	200	375	Carrier	HDPE - PE100 - SDR11
S12	89.879	88.912	967	S13	89.815	88.814	1001	19.663	200	375	Carrier	HDPE - PE100 - SDR11
S13	89.815	88.814	1001	S14	89.750	88.692	1058	24.433	200	375	Carrier	HDPE - PE100 - SDR11
S17	90.152	89.447	705	S18	90.100	89.336	764	22.489	160	225	Carrier	HDPE - PE100 - SDR11
S18	90.100	89.336	764	S19	90.105	89.296	809	6.515	160	225	Carrier	HDPE - PE100 - SDR11
S19	90.105	89.296	809	S20	90.054	89.202	852	14.919	160	225	Carrier	HDPE - PE100 - SDR11
S20	90.054	89.202	852	S21	90.000	89.122	878	12.856	160	225	Carrier	HDPE - PE100 - SDR11
S21	90.000	89.122	878	S22	89.952	89.040	912	13.156	160	225	Carrier	HDPE - PE100 - SDR11
S22	89.952	89.040	912	S23	89.857	88.889	968	24.190	160	225	Carrier	HDPE - PE100 - SDR11
S23	89.857	88.889	968	S24	89.769	88.750	1019	22.264	160	225	Carrier	HDPE - PE100 - SDR11

Platform Drainage Schedule

Notes

1. All dimensions are in millimetres unless stated otherwise.
2. Do not scale off this drawing.
3. In constructing or maintaining the works identified as Scheduled Works in Schedule 1 of the Network Rail (Huddersfield to Westtown (Dewsbury) Improvements) Order Network Rail may deviate from the dimension shown on this drawing to the extent permitted by the Order.
4. All existing services shall be identified on site prior to any excavation in line with HSE HGS47.
5. This drawing to be read in conjunction with the project details drawings, 151667-TSA-W3-MVL3-DRG-D-DR-060500, 606501, 060502 and any subsequent drawing in this series.
6. Survey information showing the location and level of existing drainage and culverts is limited at present. Further design development may be required as more survey data is obtained.
7. All track bed falls assumed to be 1 in 30.
8. Drainage currently designed assuming a ballast depth of 300mm minimum below the base of sleeper.
9. It may be feasible to reduce the amount of new drainage where the condition and performance of existing can be proven. Value engineering will be carried out as part of the next design stage.
10. All track drainage filter drains within the station area assumed to be 225mm diameter due to the limited storm water catchment areas and resulting low flow velocities.

Authorised: I.Fox — Signed: Electronically Signed — Date: 13/10/2022

Contractor(s): TRU West Alliance

Location

Type: CAD Drawing — Sub-type: Plan

Role: Drainage and Highways Engineer — Sub-Role: Drainage

Zone: Huddersfield

Phasing: Proposed — Grip Stage: GRIP 4

Project: Transpennine Route Upgrade

Contract No.: 151667

Contract Title: West of Leeds

Drawing Title: Project - W3A - Proposed Platform Drainage-Huddersfield Station - Sheet 3 of 3

Designed	G.McCaig	Signed	Date 23/12/21
Drawn	D.Willis	Signed Electronically Signed	Date 23/12/21
Checked	P.Swainson	Signed Electronically Signed	Date 23/12/21
Approved	P.Swainson	Signed Electronically Signed	Date 23/12/21

Scale(s): As Shown

ELR & Mileage: to 29.0957

Alternative Reference

Sheet: 2 of 3

Drawing Number: 151667-TSA-30-MVL3-DRG-D-DR-060111

Revision: A01

Sheet Size A1 594 x 841

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