



Appendix III
Proposed Surface Water
Drainage Works Drawings



BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS

RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME

PROPOSED SURFACE WATER DRAINAGE WORKS

DRAWING SERIES NUMBER(S)

BCIDD-ROT-DNG_IX-0016_XX_00-DR-CD-0001
 BCIDD-ROT-DNG_KP-0016_XX_00-DR-CD-0001
 BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001 to 0012
 BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-1001

DRAWING SERIES DESCRIPTION

RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. COVER SHEET
 RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. KEY PLAN
 RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. PROPOSED SURFACE WATER DRAINAGE WORKS. DRAWINGS.
 RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME. OVERALL CATCHMENT AREAS. DRAWINGS.

\\wddubhp1\U201919\17\117-02_WIP\08 MODELS\01 CAD\01 DWG\03 STG 3 - STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\Cover_Sheets\BCIDD-ROT-DNG_IX-0016_XX_00-DR-CD-0001.dwg

Disclaimer
 a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.
 b. This drawing is to be used for the design element identified in the titleblock. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.
 c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Mean Head. All Co-ordinates are in Irish

Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.
 d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superceded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

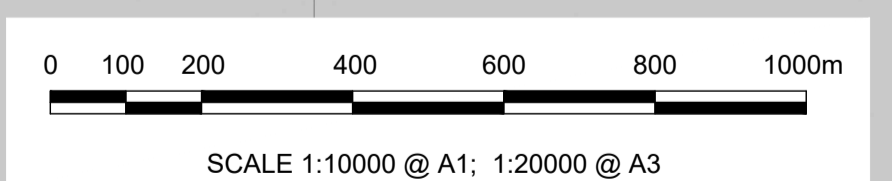
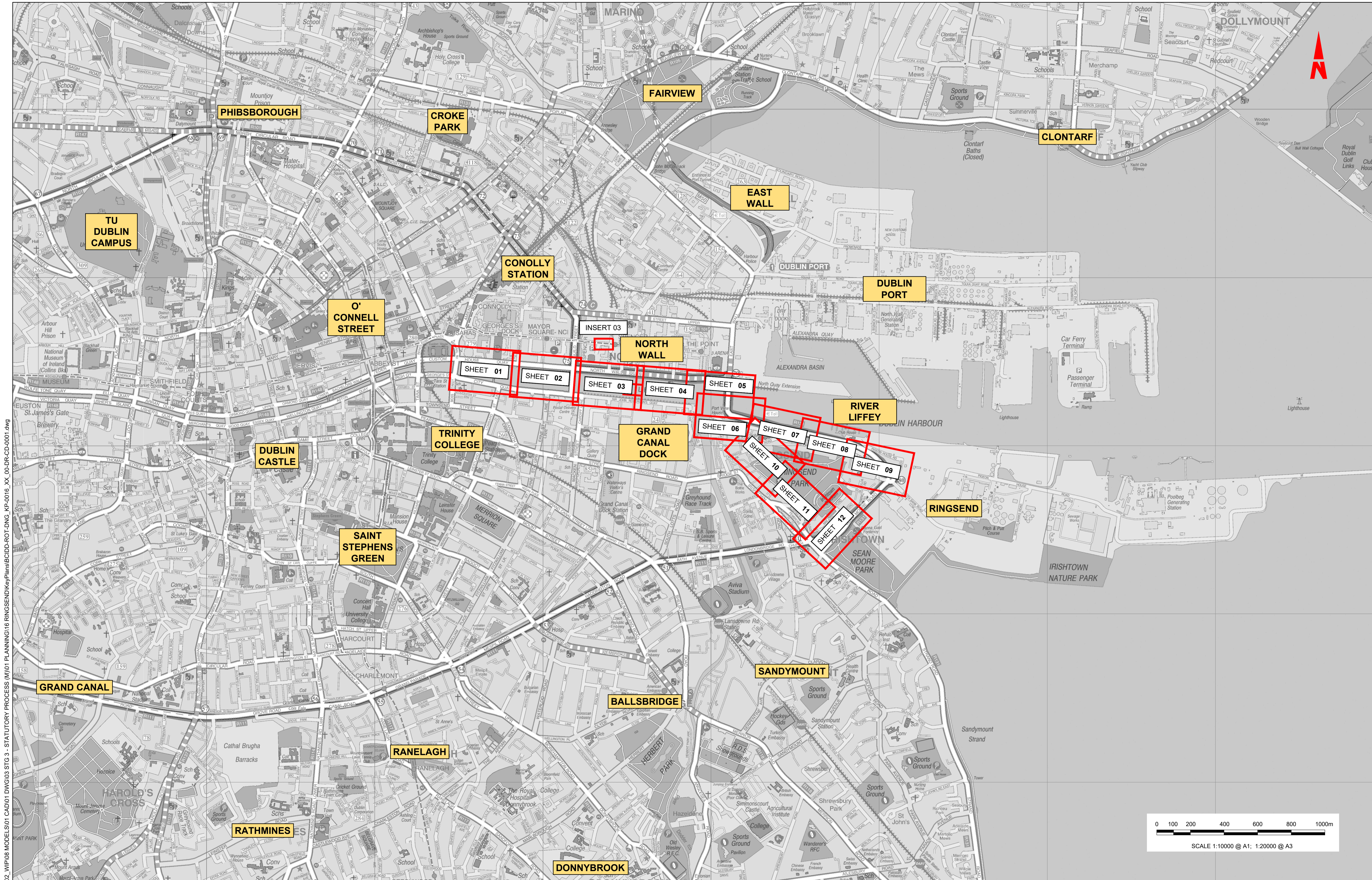


Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client NTA Údarás Náisiúnta Iompair National Transport Authority		Engineering Designer IROD RUGHAN & O'DONOVAN TYP SA		
Date MAR 2023	Scale NTS @ A1 NTS @ A3	Drawn DS	Checked EOC	Approved SMG
Programme Code BCIDD	Originator Code ROT	QMS Code		

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS COVER SHEET			
Drawing File Name BCIDD-ROT-DNG_IX-0016_XX_00-DR-CD-0001	Sheet Number 01 of 01	Status A	Rev M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



W:\000000\19117117-02_WIP\08 MODELS\01 CAD\01 PLANNING\16 RINGSEND\KeyPlans\BCIDD-ROT-DNG_KP-0016_XX_00-DR-CD-0001.dwg
 W:\000000\19117117-02_STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\KeyPlans\BCIDD-ROT-DNG_KP-0016_XX_00-DR-CD-0001.dwg

Disclaimer
 a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.
 b. This drawing is to be used for the design element identified in the title block. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.
 c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSi Geoid Model (OSGM15) Mean Head. All Co-ordinates are in Irish

Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.
 d. Information concerning the position of apparatus shown on this drawing is based on information supplied by the utility owners, agents and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are provided for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.



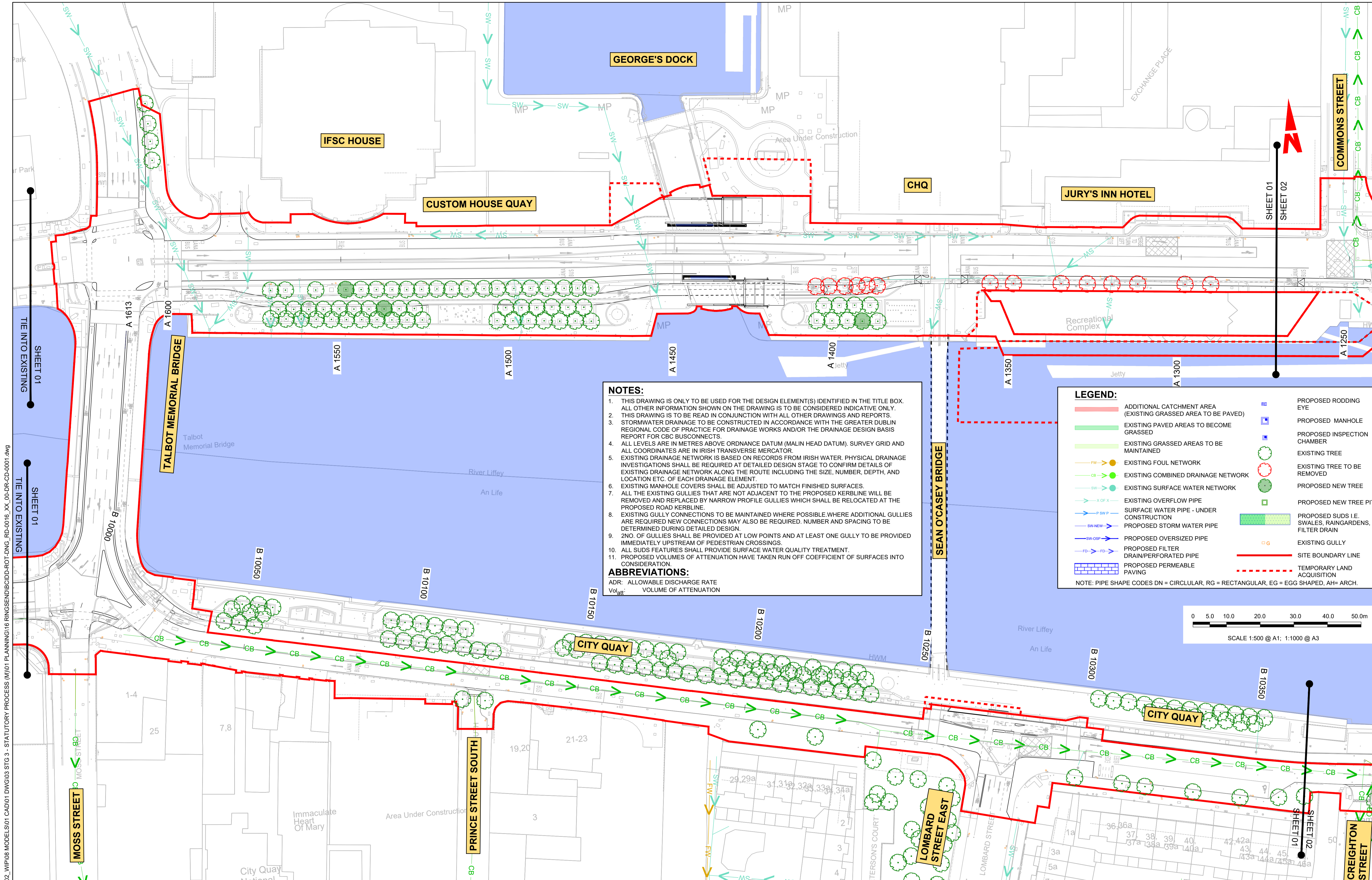
Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client
NTA
 Údarás Náisiúnta Iompair
 National Transport Authority

Engineering Designer
CIROD
 TYPSA

Programme Title		Drawing Title		Drawing File Name		Sheet Number		Status		Rev	
BUSCONNECTS DUBLIN		RINGSEND TO CITY CENTRE SCHEME CORE BUS CORRIDOR SCHEME		BCIDD-ROT-DNG_KP-0016_XX_00-DR-CD-0001		01 of 01		A		M01	
CORE BUS CORRIDORS INFRASTRUCTURE WORKS		PROPOSED SURFACE WATER DRAINAGE WORKS		KEYPLAN							

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



NOTES:

1. THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

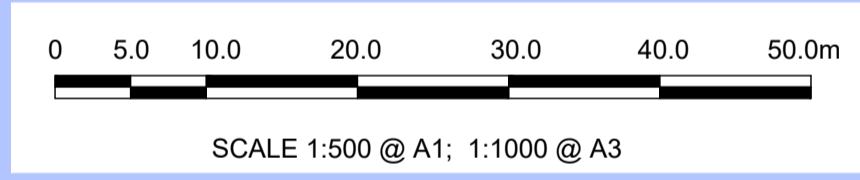
ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION

LEGEND:

	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE
	EXISTING GRASSED AREAS TO BE MAINTAINED		PROPOSED INSPECTION CHAMBER
	EXISTING FOUL NETWORK		EXISTING TREE
	EXISTING COMBINED DRAINAGE NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE
	EXISTING OVERFLOW PIPE		PROPOSED NEW TREE PIT
	SURFACE WATER PIPE - UNDER CONSTRUCTION		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	PROPOSED STORM WATER PIPE		EXISTING GULLY
	PROPOSED OVERSIZED PIPE		SITE BOUNDARY LINE
	PROPOSED FILTER DRAIN/PERFORATED PIPE		TEMPORARY LAND ACQUISITION
	PROPOSED PERMEABLE PAVING		

NOTE: PIPE SHAPE CODES DN = CIRCULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.



W:\000000\17117-02_WIP\08 MODELS\01 CAD\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg

Disclaimer:

a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.

b. This drawing is to be used for the design element identified in the title box. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.

c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.

d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superceded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.



Rev	Date	Dwn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
Udaráis Náisiúnta Iompair
National Transport Authority

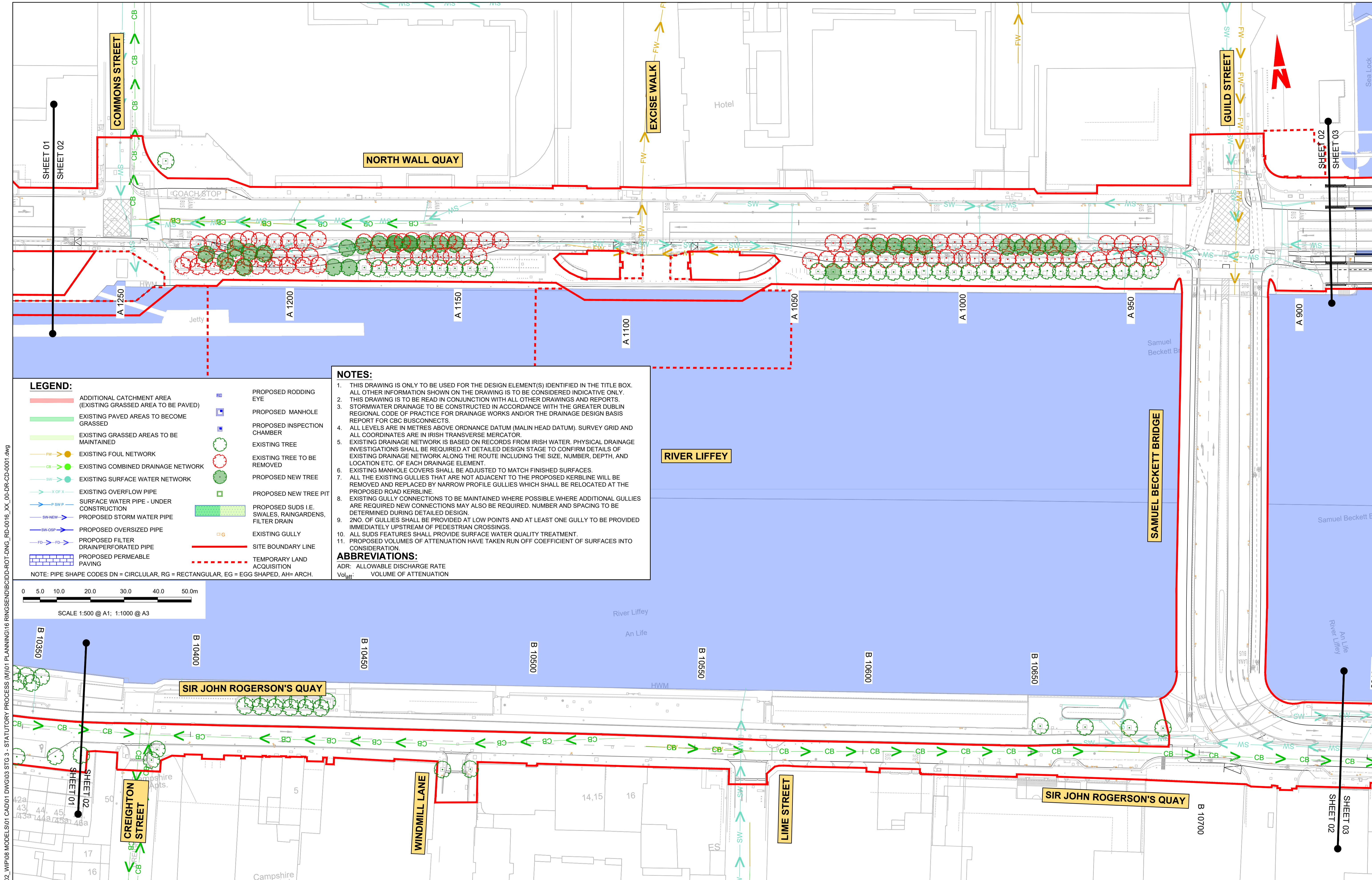
Engineering Designer: **CIROD**
TYPSA

Date: MAR 2023 | Scale: 1:500 @ A1, 1:1000 @ A3 | Drawn: DS | Checked: EOC | Approved: SMG

Programme Code: BCIDD | Originator Code: ROT | QMS Code:

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001	Sheet Number: 01 of 12	Status: A	Rev: M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

SCALE 1:500 @ A1; 1:1000 @ A3

NOTES:

1. THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

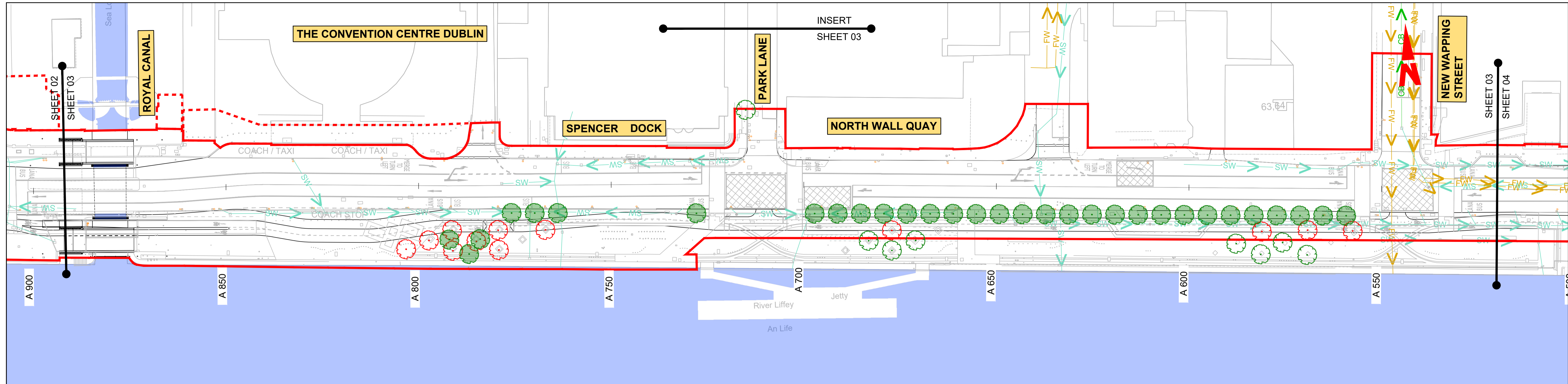
ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION

\\wddubhp1u201919171717-02_WIP008 MODELS01 CAD01 DWG003 STG 3 - STATUTORY PROCESS (M)01 PLANNING16 RINGSEND/BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg

<p>Disclaimer</p> <p>a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.</p> <p>b. This drawing is to be used for the design element identified in the title box. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.</p> <p>c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.</p> <p>d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this information. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superceded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.</p> <p>e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.</p>		Rev	Date	Drm	Chk'd	App'd	Description	Client	Engineering Designer			Programme Title			
		M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING	NTA Údarás Náisiúnta Iompair National Transport Authority	 TYPSA	BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS		
		Date	Scale	Drawn	Checked	Approved			Programme Code	Originator Code	QMS Code	Drawing File Name	Sheet Number	Status	Rev
		MAR 2023	1:500 @ A1 1:1000 @ A3	DS	EOC	SMG			BCIDD	ROT		BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0002	02 of 12	A	M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE
- PROPOSED INSPECTION CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

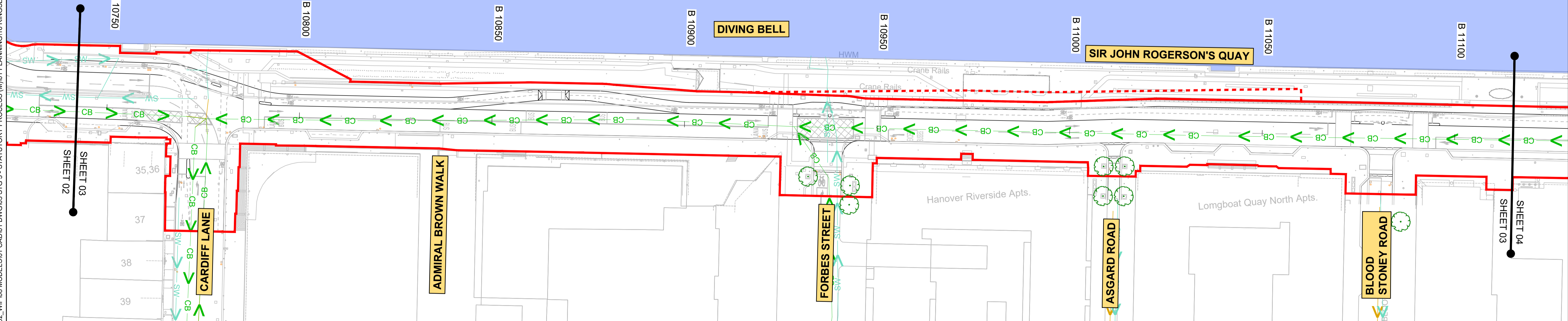
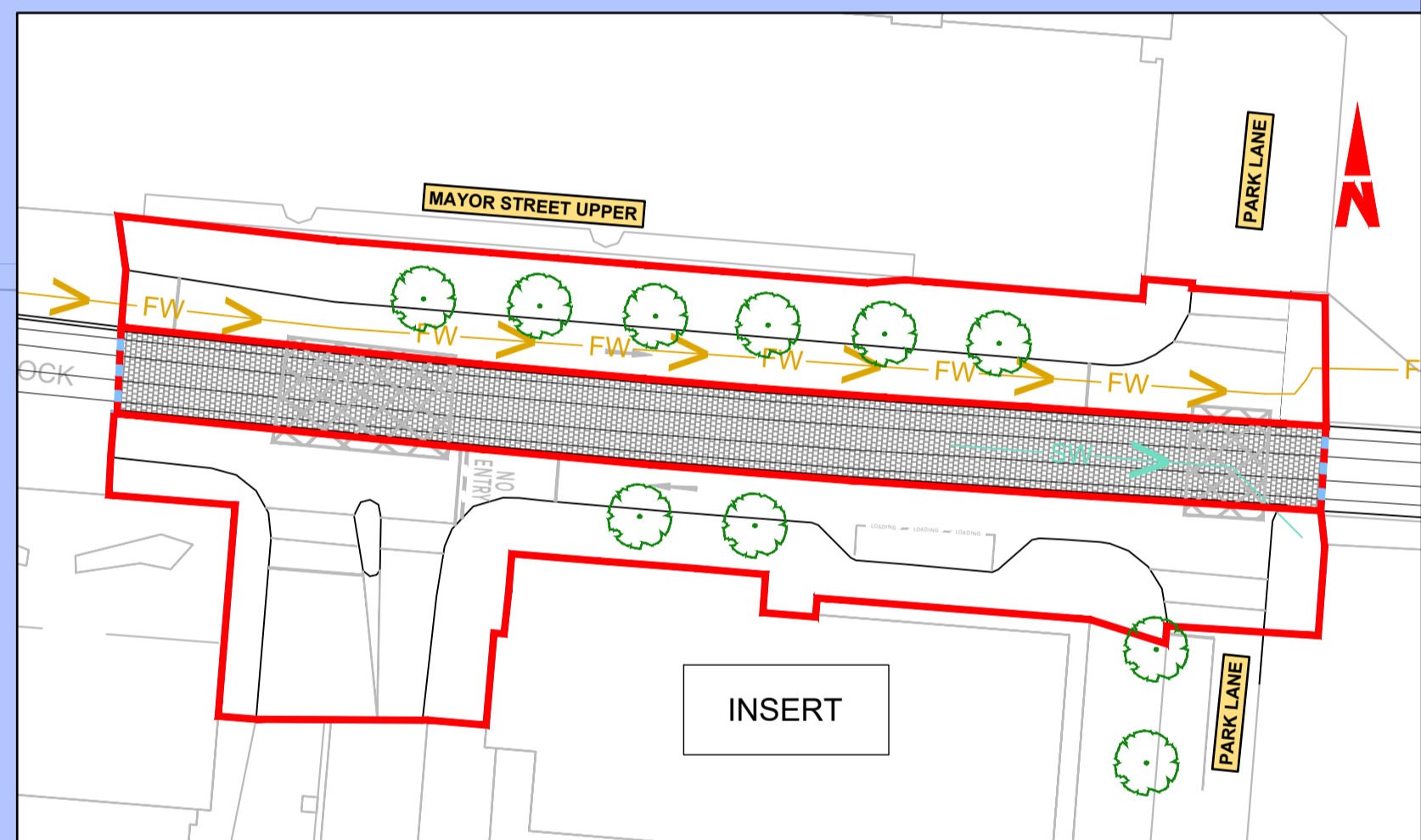
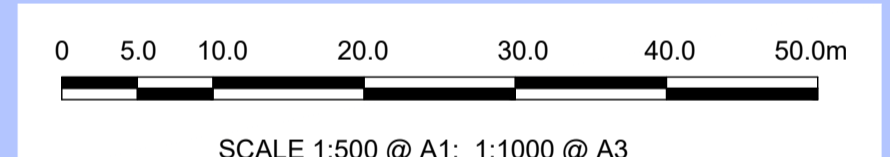
NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

NOTES:

- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
- STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
- ALL LEVELS ARE IN METRES ABOVE ORDINANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
- EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
- EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
- ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
- EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
- ZNO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
- ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
- PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION



Disclaimer:

a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.

b. This drawing is to be used for the design element identified in the title box. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.

c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.

d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

Project Ireland 2040
Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

NTA
Údarás Náisiúnta Iompair
National Transport Authority

Engineering Designer
CIROD
TYPSA

Date: MAR 2023
Scale: 1:500 @ A1, 1:1000 @ A3
Programme Code: BCIDD
Originator Code: ROT

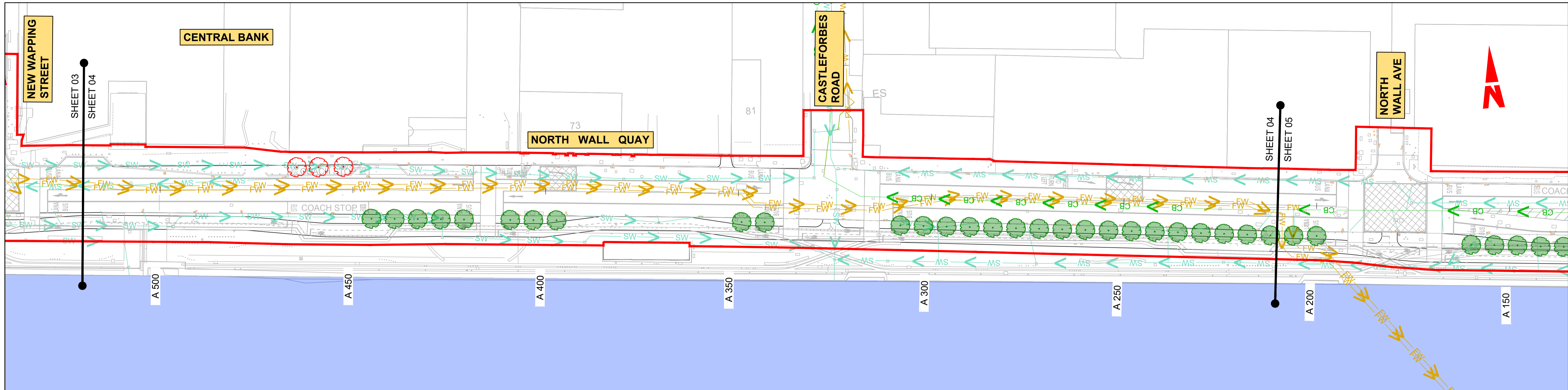
Drawn: DS
Checked: EOC
Approved: SMG

Programme Title
BUSCONNECTS DUBLIN
CORE BUS CORRIDORS INFRASTRUCTURE WORKS

Drawing Title
RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME
PROPOSED SURFACE WATER DRAINAGE WORKS

Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0003
Sheet Number: 03 of 12
Status: A
Rev: M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



LEGEND:

	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE
	EXISTING GRASSED AREAS TO BE MAINTAINED		PROPOSED INSPECTION CHAMBER
	EXISTING FOUL NETWORK		EXISTING TREE
	EXISTING COMBINED DRAINAGE NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE
	EXISTING OVERFLOW PIPE		PROPOSED NEW TREE PIT
	SURFACE WATER PIPE - UNDER CONSTRUCTION		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	PROPOSED STORM WATER PIPE		EXISTING GULLY
	PROPOSED OVERSIZED PIPE		SITE BOUNDARY LINE
	PROPOSED FILTER DRAIN/PERFORATED PIPE		TEMPORARY LAND ACQUISITION
	PROPOSED PERMEABLE PAVING		

NOTE: PIPE SHAPE CODES DN = CIRCULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

NOTES:

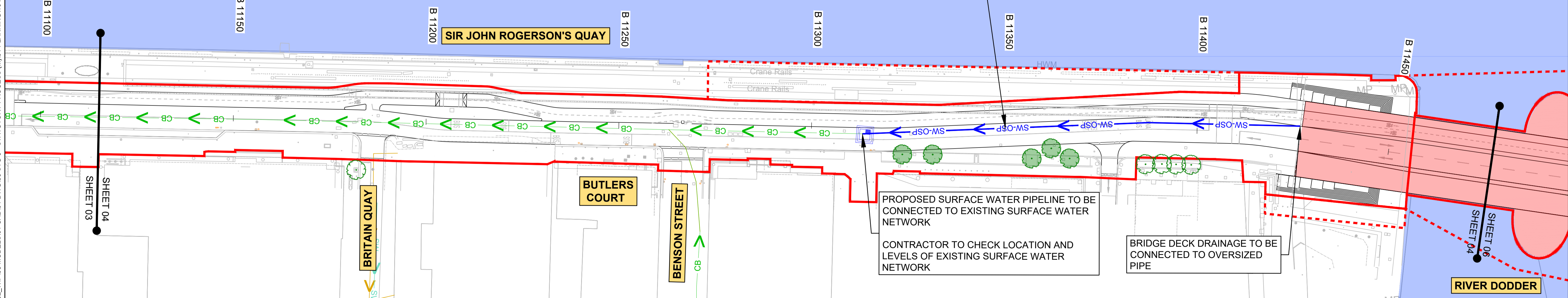
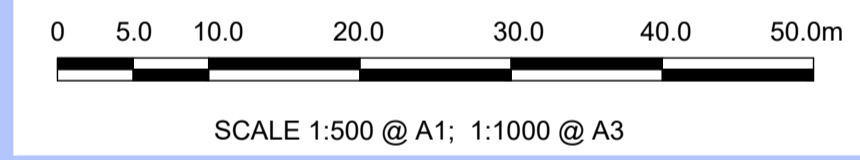
- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
- STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
- ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
- EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
- EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
- ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
- EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
- 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
- ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
- PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION

OVERSIZED PIPE
100m of DN750mm pipe for attenuation purposes
Assumed pipe slope: 1 in 100
Storage required: 33.7m³

Controlled discharge to existing network.
Flow restricted using Hydro-Brake:
Hydro-Brake ref: MD-SHE-0066-2000-1100-2000
Design Flow: 2.0 l/s
Design Head: 1.1 m



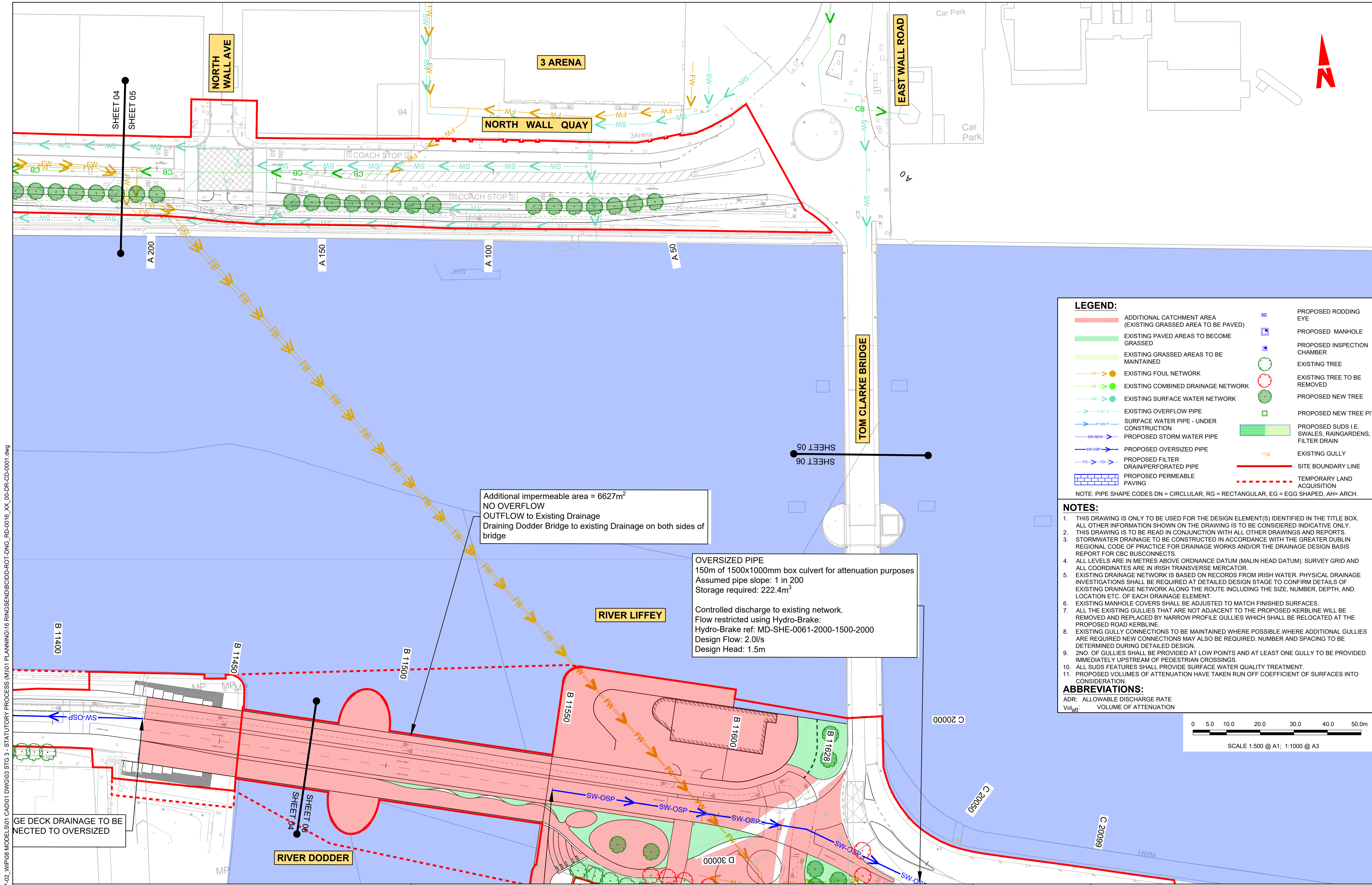
PROPOSED SURFACE WATER PIPELINE TO BE CONNECTED TO EXISTING SURFACE WATER NETWORK

CONTRACTOR TO CHECK LOCATION AND LEVELS OF EXISTING SURFACE WATER NETWORK

BRIDGE DECK DRAINAGE TO BE CONNECTED TO OVERSIZED PIPE

<p><small>Disclaimer</small></p> <p>a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.</p> <p>b. This drawing is to be used for the design element identified in the titlebox. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.</p> <p>c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.</p> <p>d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.</p> <p>e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.</p>		<table border="1"> <tr> <th>Rev</th> <th>Date</th> <th>Drn</th> <th>Chk'd</th> <th>App'd</th> <th>Description</th> </tr> <tr> <td>M01</td> <td>MAR 2023</td> <td>DS</td> <td>EOC</td> <td>SMG</td> <td>ISSUE FOR PHASE 4: PLANNING</td> </tr> </table>	Rev	Date	Drn	Chk'd	App'd	Description	M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING	<p>Client</p> <p>Udarás Náisiúnta Iompair National Transport Authority</p>	<p>Engineering Designer</p>	<p>Programme Title</p> <p>BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS</p>
		Rev	Date	Drn	Chk'd	App'd	Description										
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING												
<p>Date</p> <p>MAR 2023</p> <p>Scale</p> <p>1:500 @ A1 1:1000 @ A3</p> <p>Programme Code</p> <p>BCIDD</p>	<p>Drawn</p> <p>DS</p> <p>Checked</p> <p>EOC</p> <p>Approved</p> <p>SMG</p>	<p>Originator Code</p> <p>ROT</p> <p>QMS Code</p>	<p>Drawing File Name</p> <p>BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0004</p>	<p>Sheet Number</p> <p>04 of 12</p> <p>Status</p> <p>A</p> <p>Rev</p> <p>M01</p>													

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

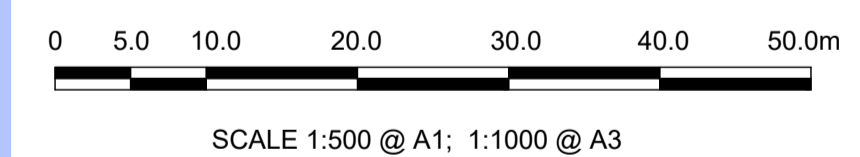


LEGEND:

	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE
	EXISTING GRASSED AREAS TO BE MAINTAINED		PROPOSED INSPECTION CHAMBER
	EXISTING FOUL NETWORK		EXISTING TREE
	EXISTING COMBINED DRAINAGE NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE
	EXISTING OVERFLOW PIPE		PROPOSED NEW TREE PIT
	SURFACE WATER PIPE - UNDER CONSTRUCTION		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	PROPOSED STORM WATER PIPE		EXISTING GULLY
	PROPOSED OVERSIZED PIPE		SITE BOUNDARY LINE
	PROPOSED FILTER DRAIN/PERFORATED PIPE		TEMPORARY LAND ACQUISITION
	PROPOSED PERMEABLE PAVING		

NOTE: PIPE SHAPE CODES DN = CIRCULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

- NOTES:**
- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
 - STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
 - ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
 - EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
 - EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
 - ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
 - EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
 - 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
 - ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
 - PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.
- ABBREVIATIONS:**
 ADR: ALLOWABLE DISCHARGE RATE
 Vol_{att}: VOLUME OF ATTENUATION



Additional impermeable area = 6627m²
 NO OVERFLOW
 OUTFLOW to Existing Drainage
 Draining Dodder Bridge to existing Drainage on both sides of bridge

OVERSIZED PIPE
 150m of 1500x1000mm box culvert for attenuation purposes
 Assumed pipe slope: 1 in 200
 Storage required: 222.4m³
 Controlled discharge to existing network.
 Flow restricted using Hydro-Brake:
 Hydro-Brake ref: MD-SHE-0061-2000-1500-2000
 Design Flow: 2.0l/s
 Design Head: 1.5m

GE DECK DRAINAGE TO BE CONNECTED TO OVERSIZED

\\nodubp1u2019171717-02 - STATUTORY PROCESS (M)01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg

Disclaimer:

a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.

b. This drawing is to be used for the design element identified in the titlebox. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.

c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.

d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.



Rev	Date	Dwn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
 Údarás Náisiúnta Iompair
 National Transport Authority

Engineering Designer: **CIROD**
 TYPSA

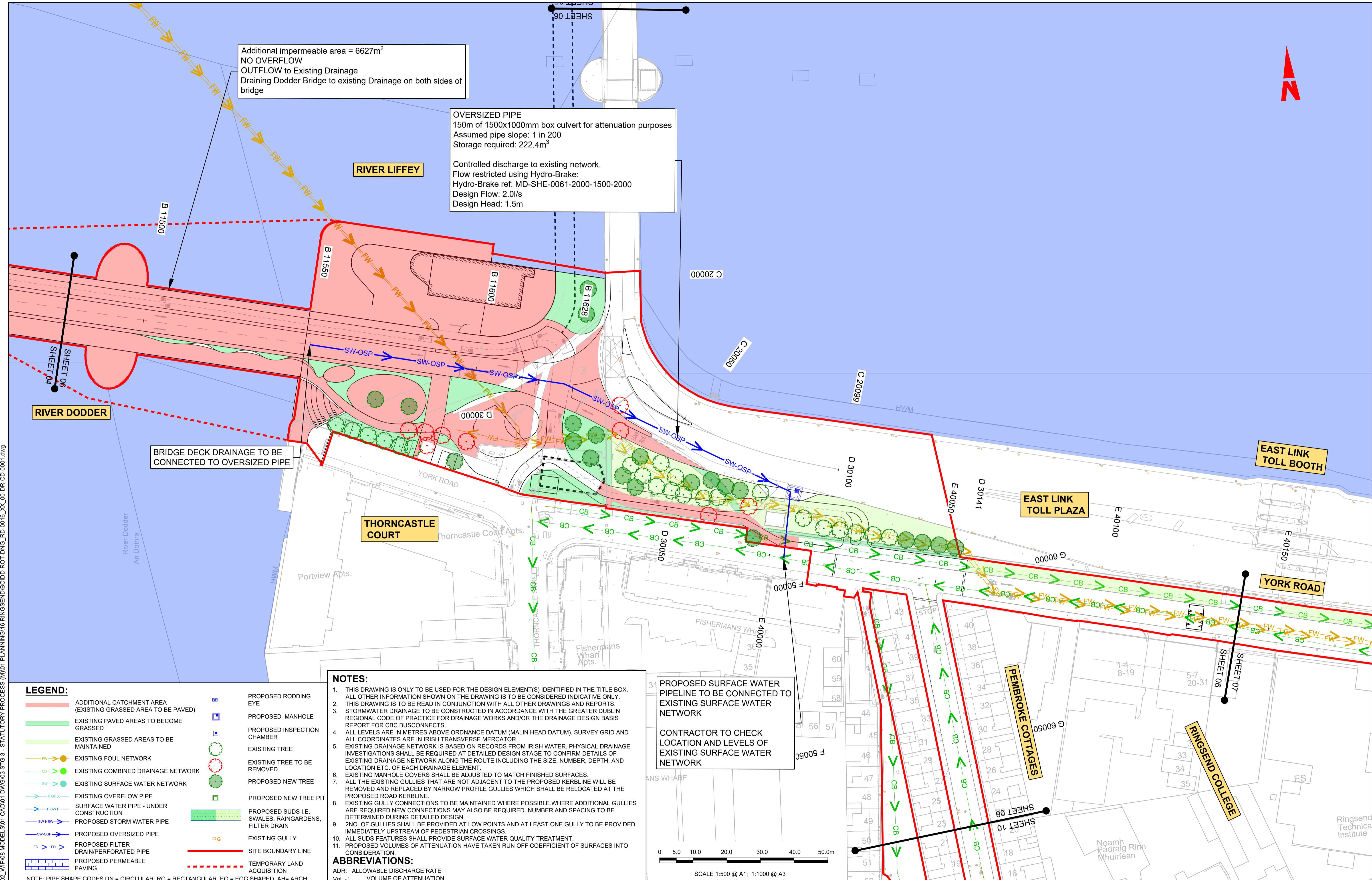
Date: MAR 2023
 Scale: 1:500 @ A1
 1:1000 @ A3

Drawn: DS
 Checked: EOC
 Approved: SMG

Programme Code: BCIDD
 Originator Code: ROT

Programme Title: BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0005	Sheet Number: 05 of 12	Status: A	Rev: M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



\\nodub\p1\2019\1717117-02_WIP\08 MODELS\01 CAD\01 DWG\03 STG 3 - STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg

Disclaimer

a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.

b. This drawing is to be used for the design element identified in the title box. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.

c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.

d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance on recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

Project Ireland 2040
 Building Ireland's Future

Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

NTA
 Údarás Náisiúnta Iompair
 National Transport Authority

Engineering Designer

PROD
 TYPSA

Date: MAR 2023
 Scale: 1:500 @ A1, 1:1000 @ A3
 Programme Code: BCIDD
 Originator Code: ROT

Drawn: DS
 Checked: EOC
 Approved: SMG

Programme Title			
BUSCONNECTS DUBLIN			
CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title			
RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME			
PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name		Sheet Number	Status
BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0006		06 of 12	A
Rev		M01	

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



RIVER LIFFEY

EAST LINK TOLL BOOTH

YORK ROAD

EAST LINK ROAD

PIGEON HOUSE ROAD

RINGSEND PARK

RINGSEND COLLEGE

NOTES:

- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
- STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
- ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
- EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
- EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
- ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
- EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
- 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
- ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
- PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

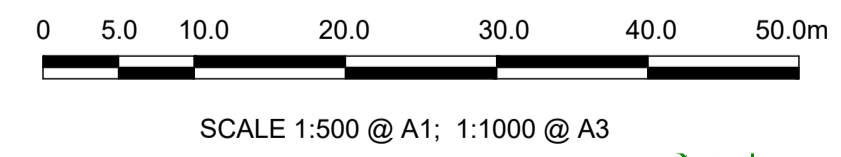
ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION

LEGEND:

	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE CHAMBER
	EXISTING GRASSED AREAS TO BE MAINTAINED		EXISTING TREE
	EXISTING FOUL NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING COMBINED DRAINAGE NETWORK		PROPOSED NEW TREE
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE PIT
	EXISTING OVERFLOW PIPE		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	SURFACE WATER PIPE - UNDER CONSTRUCTION		EXISTING GULLY
	PROPOSED STORM WATER PIPE		SITE BOUNDARY LINE
	PROPOSED OVERSIZED PIPE		TEMPORARY LAND ACQUISITION
	PROPOSED FILTER DRAIN/PERFORATED PIPE		
	PROPOSED PERMEABLE PAVING		

NOTE: PIPE SHAPE CODES DN = CIRCULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.



Disclaimer
 a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.
 b. This drawing is to be used for the design element identified in the titlebox. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.
 c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish

Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.
 d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

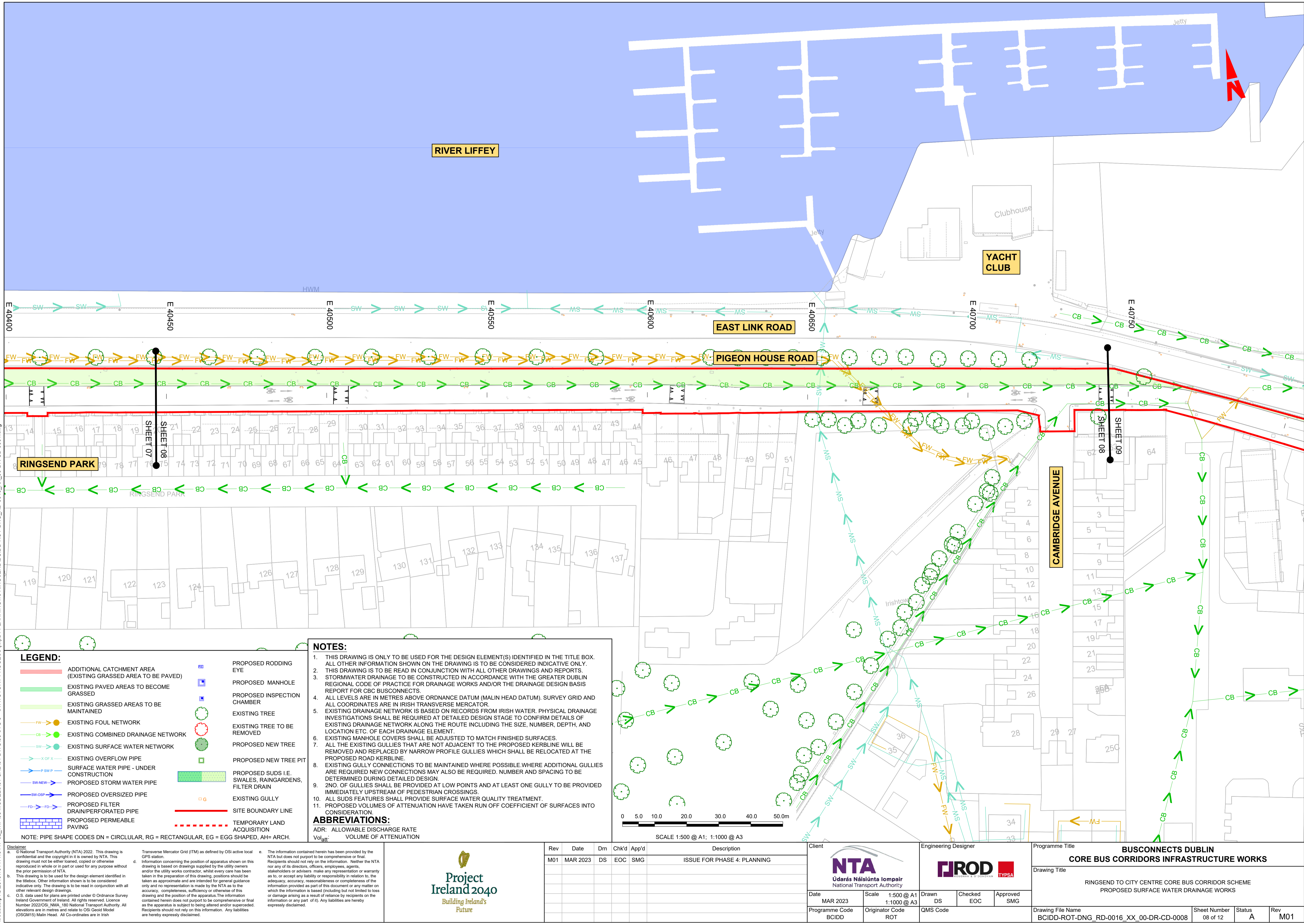


Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

 Údarás Náisiúnta Iompair National Transport Authority		Engineering Designer CIROD TYPSA		
Date	Scale	Drawn	Checked	Approved
MAR 2023	1:500 @ A1 1:1000 @ A3	DS	EOC	SMG
Programme Code	Originator Code	QMS Code		
BCIDD	ROT			

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name	Sheet Number	Status	Rev
BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0007	07 of 12	A	M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

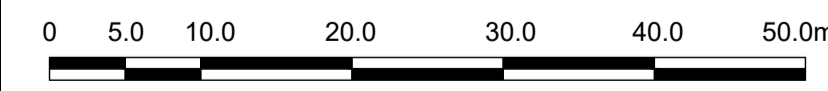
NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

NOTES:

1. THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
3. STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
4. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM). SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
5. EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
6. EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
7. ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
8. EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
9. 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
10. ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
11. PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:

ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION



SCALE 1:500 @ A1; 1:1000 @ A3

Disclaimer:
 a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.
 b. This drawing is to be used for the design element identified in the titlebox. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.
 c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.
 d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superseded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.
 e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

Rev	Date	Drm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
 Údarás Náisiúnta Iompair
 National Transport Authority

Engineering Designer: **CIROD**
 TYPSA

Date: MAR 2023
 Scale: 1:500 @ A1, 1:1000 @ A3
 Drawn: DS, Checked: EOC, Approved: SMG

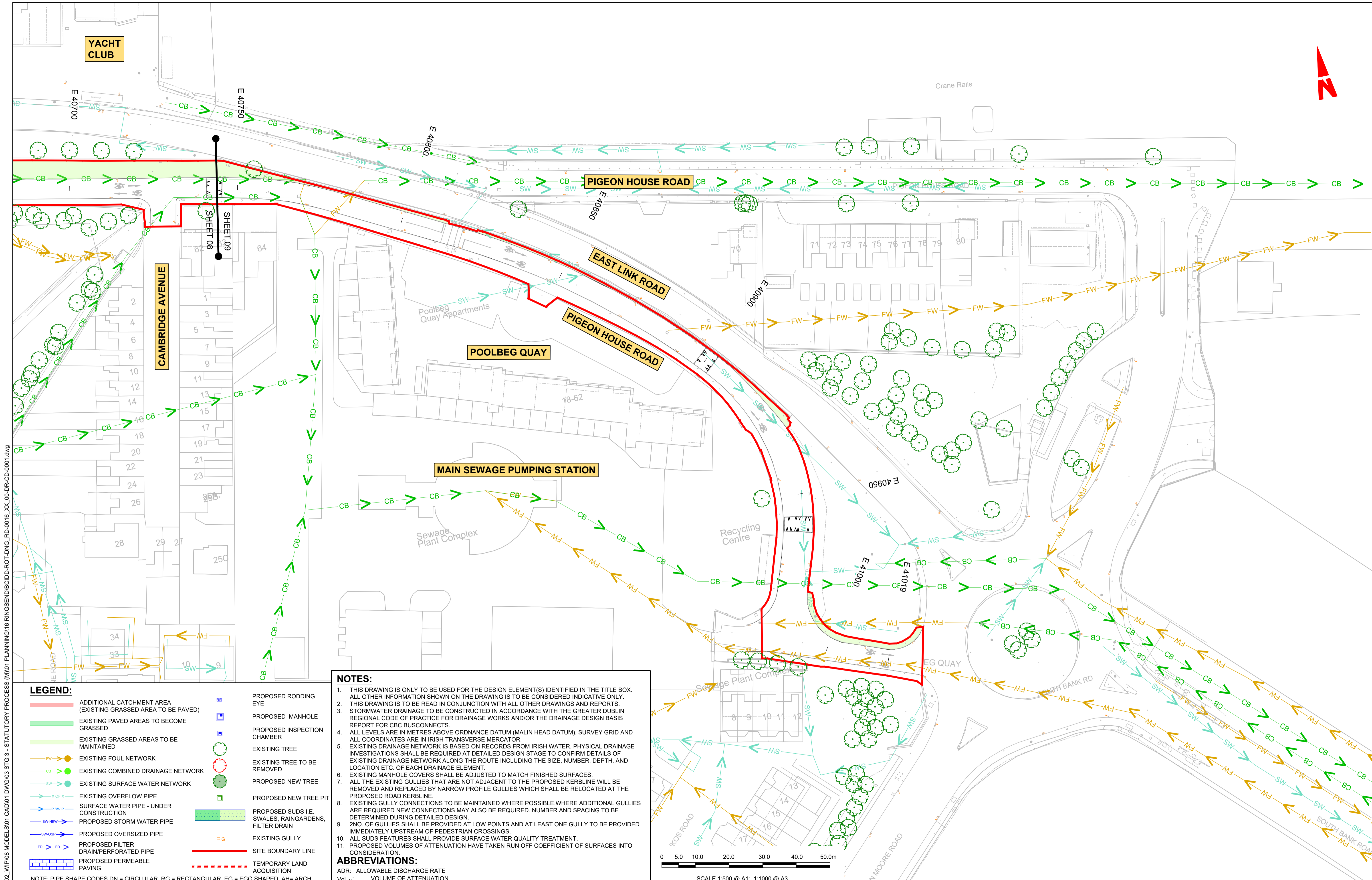
Programme Code: BCIDD, Originator Code: ROT, QMS Code: [blank]

Rev	Date	Drm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Programme Title: **BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS**

Drawing Title: **RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS**

Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0008, Sheet Number: 08 of 12, Status: A, Rev: M01



W:\000000\117-02_WIP\08 MODELS\01 CAD\01 DWG\03 STG 3 - STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg
 2023/03/19 11:17:02 WIP\08 MODELS\01 CAD\01 DWG\03 STG 3 - STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg

LEGEND:

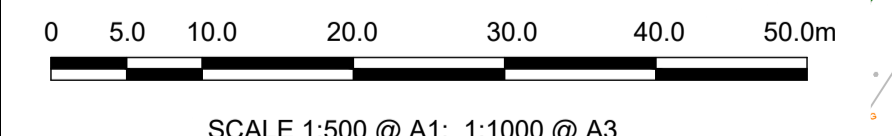
	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE CHAMBER
	EXISTING GRASSED AREAS TO BE MAINTAINED		EXISTING TREE
	EXISTING FOUL NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING COMBINED DRAINAGE NETWORK		PROPOSED NEW TREE
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE PIT
	EXISTING OVERFLOW PIPE		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	SURFACE WATER PIPE - UNDER CONSTRUCTION		EXISTING GULLY
	PROPOSED STORM WATER PIPE		SITE BOUNDARY LINE
	PROPOSED OVERSIZED PIPE		TEMPORARY LAND ACQUISITION
	PROPOSED FILTER DRAIN/PERFORATED PIPE		
	PROPOSED PERMEABLE PAVING		

NOTE: PIPE SHAPE CODES DN = CIRCLULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

NOTES:

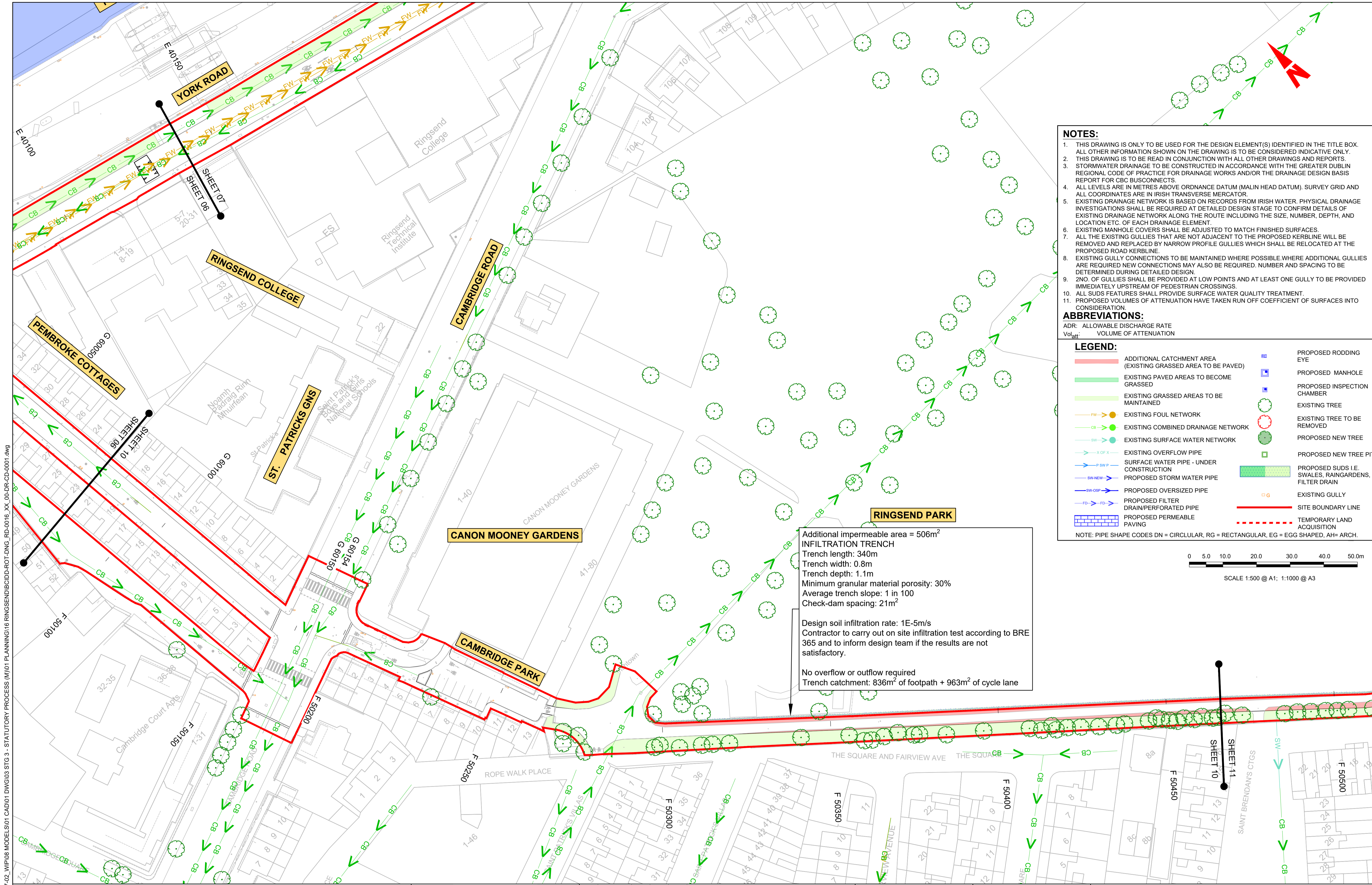
- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
- STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
- ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM), SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
- EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
- EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
- ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
- EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
- 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
- ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
- PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

ABBREVIATIONS:
 ADR: ALLOWABLE DISCHARGE RATE
 Vol_{att}: VOLUME OF ATTENUATION



<p><small>Disclaimer</small></p> <p>a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.</p> <p>b. This drawing is to be used for the design element identified in the title box. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.</p> <p>c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Grid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.</p> <p>d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superceded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.</p> <p>e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.</p>				<table border="1"> <tr> <th>Rev</th> <th>Date</th> <th>Drm</th> <th>Chk'd</th> <th>App'd</th> <th>Description</th> </tr> <tr> <td>M01</td> <td>MAR 2023</td> <td>DS</td> <td>EOC</td> <td>SMG</td> <td>ISSUE FOR PHASE 4: PLANNING</td> </tr> </table>	Rev	Date	Drm	Chk'd	App'd	Description	M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING	<p>Client</p> <p>Udarás Náisiúnta Iompair National Transport Authority</p>	<p>Engineering Designer</p> <p>TYPSA</p>	<p>Programme Title</p> <p>BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS</p>
Rev	Date	Drm	Chk'd	App'd	Description														
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING														
<p>Date: MAR 2023 Scale: 1:500 @ A1, 1:1000 @ A3</p> <p>Programme Code: BCIDD Originator Code: ROT</p> <p>Drawn: DS Checked: EOC Approved: SMG</p>						<p>Drawing Title</p> <p>RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS</p>													
<p>Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0009</p>				<p>Sheet Number: 09 of 12</p>	<p>Status: A</p>	<p>Rev: M01</p>													

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



- NOTES:**
- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
 - STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
 - ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM), SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
 - EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
 - EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
 - ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
 - EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
 - 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
 - ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
 - PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

- ABBREVIATIONS:**
- ADR: ALLOWABLE DISCHARGE RATE
Vol_{att}: VOLUME OF ATTENUATION
- LEGEND:**
- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
 - EXISTING PAVED AREAS TO BECOME GRASSED
 - EXISTING GRASSED AREAS TO BE MAINTAINED
 - EXISTING FOUL NETWORK
 - EXISTING COMBINED DRAINAGE NETWORK
 - EXISTING SURFACE WATER NETWORK
 - EXISTING OVERFLOW PIPE
 - SURFACE WATER PIPE - UNDER CONSTRUCTION
 - PROPOSED STORM WATER PIPE
 - PROPOSED OVERSIZED PIPE
 - PROPOSED FILTER DRAIN/PERFORATED PIPE
 - PROPOSED PERMEABLE PAVING
 - PROPOSED RODDING EYE
 - PROPOSED MANHOLE
 - PROPOSED INSPECTION CHAMBER
 - EXISTING TREE
 - EXISTING TREE TO BE REMOVED
 - PROPOSED NEW TREE
 - PROPOSED NEW TREE PIT
 - PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
 - EXISTING GULLY
 - SITE BOUNDARY LINE
 - TEMPORARY LAND ACQUISITION
- NOTE: PIPE SHAPE CODES DN = CIRCULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH = ARCH.

Additional impermeable area = 506m²
INFILTRATION TRENCH
 Trench length: 340m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 21m²

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required
 Trench catchment: 836m² of footpath + 963m² of cycle lane

W:\000000\171117-02_WIP\08 MODELS\01 CAD\01 DWG\03 STG 3 - STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg

Disclaimer

a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.

b. This drawing is to be used for the design element identified in the title box. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.

c. O.S. data used for plans are printed under © Ordnance Survey Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.

d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superceded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

e. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

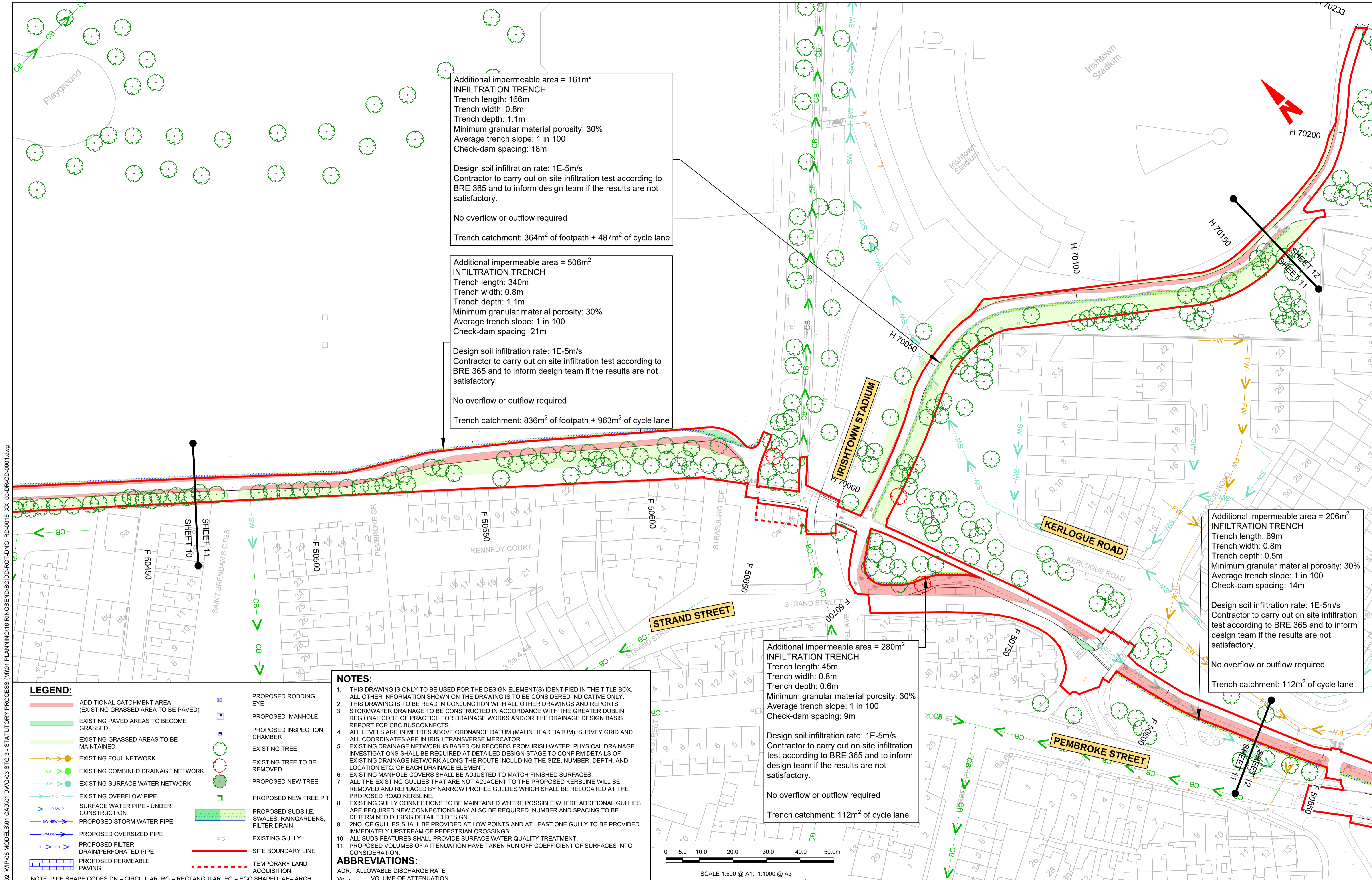


Rev	Date	Drn	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client NTA Udarás Náisiúnta Iompair National Transport Authority		Engineering Designer CIROD TYPSA		
Date MAR 2023	Scale 1:500 @ A1 1:1000 @ A3	Drawn DS	Checked EOC	Approved SMG
Programme Code BCIDD	Originator Code ROT	QMS Code		

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS				
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS				
Drawing File Name BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0010	Sheet Number 10 of 12	Status A	Rev M01	

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



Additional impermeable area = 161m²
INFILTRATION TRENCH
 Trench length: 166m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 18m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 364m² of footpath + 487m² of cycle lane

Additional impermeable area = 506m²
INFILTRATION TRENCH
 Trench length: 340m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 21m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 836m² of footpath + 963m² of cycle lane

Additional impermeable area = 206m²
INFILTRATION TRENCH
 Trench length: 69m
 Trench width: 0.8m
 Trench depth: 0.5m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 14m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 112m² of cycle lane

Additional impermeable area = 280m²
INFILTRATION TRENCH
 Trench length: 45m
 Trench width: 0.8m
 Trench depth: 0.6m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 9m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 112m² of cycle lane

NOTES:

- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
- STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
- ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM), SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
- EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
- EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
- ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
- EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE. WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
- 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
- ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
- PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.

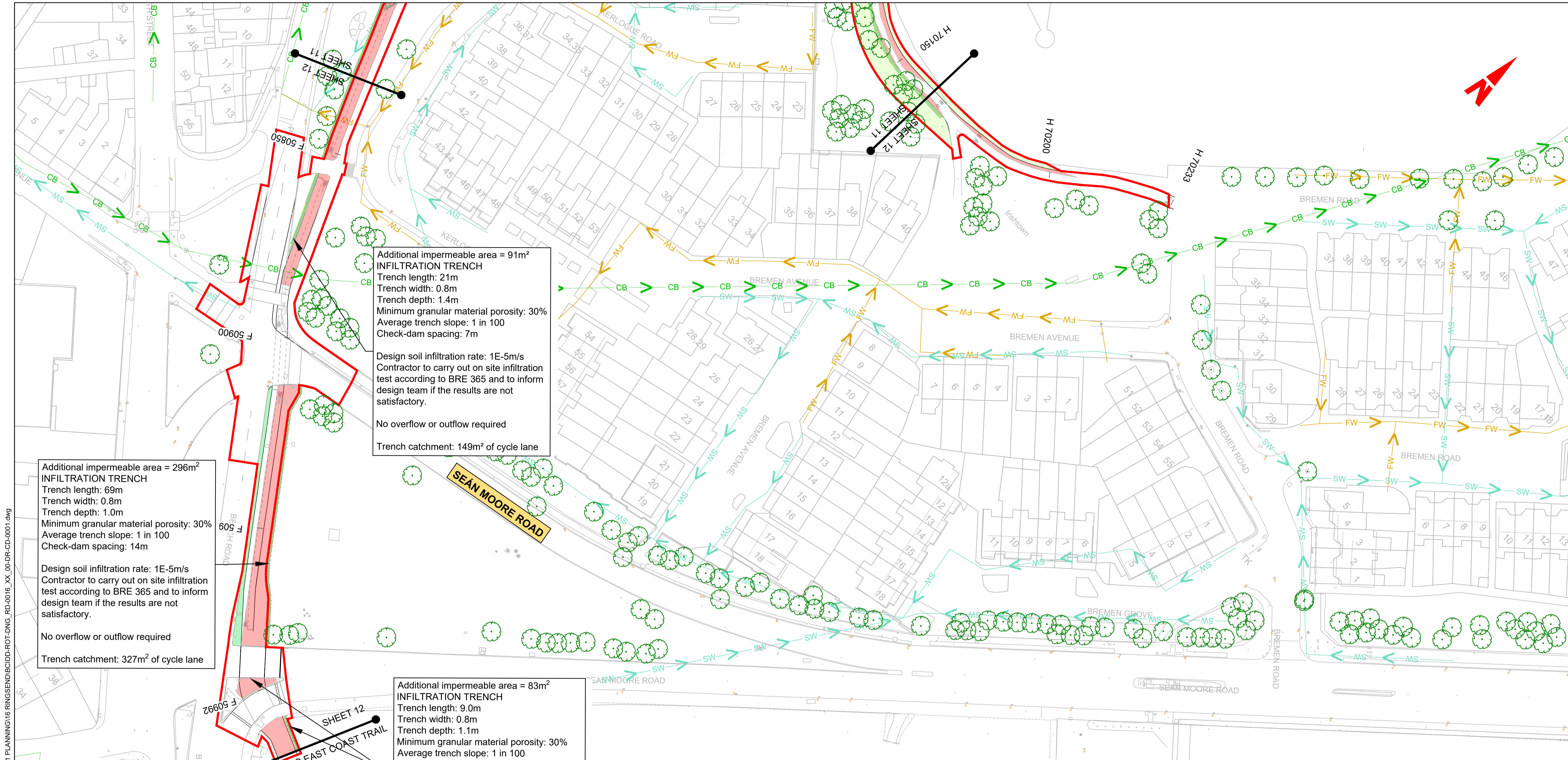
ABBREVIATIONS:
 ADR: ALLOWABLE DISCHARGE RATE
 Vol_{att}: VOLUME OF ATTENUATION

LEGEND:

- ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)
- EXISTING PAVED AREAS TO BECOME GRASSED
- EXISTING GRASSED AREAS TO BE MAINTAINED
- EXISTING FOUL NETWORK
- EXISTING COMBINED DRAINAGE NETWORK
- EXISTING SURFACE WATER NETWORK
- EXISTING OVERFLOW PIPE
- SURFACE WATER PIPE - UNDER CONSTRUCTION
- PROPOSED STORM WATER PIPE
- PROPOSED OVERSIZED PIPE
- PROPOSED FILTER DRAIN/PERFORATED PIPE
- PROPOSED PERMEABLE PAVING
- PROPOSED RODDING EYE
- PROPOSED MANHOLE CHAMBER
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- PROPOSED NEW TREE
- PROPOSED NEW TREE PIT
- PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
- EXISTING GULLY
- SITE BOUNDARY LINE
- TEMPORARY LAND ACQUISITION

NOTE: PIPE SHAPE CODING DN = CIRCULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.

<p>Rev M01 MAR 2023 DS EOC SMG</p>		<p>Date Description</p>		<p>Client</p>		<p>Engineering Designer</p>		<p>Programme Title</p>	
<p>Project Ireland 2040 Building Ireland's Future</p>		<p>ISSUE FOR PHASE 4: PLANNING</p>		<p>NTA Údarás Náisiúnta Iompair National Transport Authority</p>		<p>CIROD TYPSA</p>		<p>BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS</p>	
<p>Scale 1:500 @ A1 1:1000 @ A3</p>		<p>Drawn DS</p>		<p>Checked EOC</p>		<p>Approved SMG</p>		<p>Drawing Title</p>	
<p>Programme Code BCIDD</p>		<p>Originator Code ROT</p>		<p>QMS Code</p>		<p>Sheet Number 11 of 12</p>		<p>Status A</p>	
<p>Rev M01</p>		<p>Rev M01</p>		<p>Rev M01</p>		<p>Rev M01</p>		<p>Rev M01</p>	



Additional impermeable area = 91m²
INFILTRATION TRENCH
 Trench length: 21m
 Trench width: 0.8m
 Trench depth: 1.4m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 7m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 149m² of cycle lane

Additional impermeable area = 296m²
INFILTRATION TRENCH
 Trench length: 69m
 Trench width: 0.8m
 Trench depth: 1.0m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 14m

Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

Trench catchment: 327m² of cycle lane

Additional impermeable area = 83m²
INFILTRATION TRENCH
 Trench length: 9.0m
 Trench width: 0.8m
 Trench depth: 1.1m
 Minimum granular material porosity: 30%
 Average trench slope: 1 in 100
 Check-dam spacing: 3m
 Design soil infiltration rate: 1E-5m/s
 Contractor to carry out on site infiltration test according to BRE 365 and to inform design team if the results are not satisfactory.

No overflow or outflow required

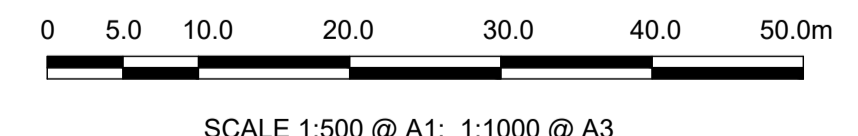
Trench catchment: 51m² of cycle lane

- NOTES:**
- THIS DRAWING IS ONLY TO BE USED FOR THE DESIGN ELEMENT(S) IDENTIFIED IN THE TITLE BOX. ALL OTHER INFORMATION SHOWN ON THE DRAWING IS TO BE CONSIDERED INDICATIVE ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND REPORTS.
 - STORMWATER DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS AND/OR THE DRAINAGE DESIGN BASIS REPORT FOR CBC BUSCONNECTS.
 - ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM (MALIN HEAD DATUM), SURVEY GRID AND ALL COORDINATES ARE IN IRISH TRANSVERSE MERCATOR.
 - EXISTING DRAINAGE NETWORK IS BASED ON RECORDS FROM IRISH WATER. PHYSICAL DRAINAGE INVESTIGATIONS SHALL BE REQUIRED AT DETAILED DESIGN STAGE TO CONFIRM DETAILS OF EXISTING DRAINAGE NETWORK ALONG THE ROUTE INCLUDING THE SIZE, NUMBER, DEPTH, AND LOCATION ETC. OF EACH DRAINAGE ELEMENT.
 - EXISTING MANHOLE COVERS SHALL BE ADJUSTED TO MATCH FINISHED SURFACES.
 - ALL THE EXISTING GULLIES THAT ARE NOT ADJACENT TO THE PROPOSED KERBLINE WILL BE REMOVED AND REPLACED BY NARROW PROFILE GULLIES WHICH SHALL BE RELOCATED AT THE PROPOSED ROAD KERBLINE.
 - EXISTING GULLY CONNECTIONS TO BE MAINTAINED WHERE POSSIBLE WHERE ADDITIONAL GULLIES ARE REQUIRED NEW CONNECTIONS MAY ALSO BE REQUIRED. NUMBER AND SPACING TO BE DETERMINED DURING DETAILED DESIGN.
 - 2NO. OF GULLIES SHALL BE PROVIDED AT LOW POINTS AND AT LEAST ONE GULLY TO BE PROVIDED IMMEDIATELY UPSTREAM OF PEDESTRIAN CROSSINGS.
 - ALL SUDS FEATURES SHALL PROVIDE SURFACE WATER QUALITY TREATMENT.
 - PROPOSED VOLUMES OF ATTENUATION HAVE TAKEN RUN OFF COEFFICIENT OF SURFACES INTO CONSIDERATION.
- ABBREVIATIONS:**
 ADR: ALLOWABLE DISCHARGE RATE
 Vol_{att}: VOLUME OF ATTENUATION

LEGEND:

	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREA TO BE PAVED)		PROPOSED RODDING EYE
	EXISTING PAVED AREAS TO BECOME GRASSED		PROPOSED MANHOLE
	EXISTING GRASSED AREAS TO BE MAINTAINED		PROPOSED INSPECTION CHAMBER
	EXISTING FOUL NETWORK		EXISTING TREE
	EXISTING COMBINED DRAINAGE NETWORK		EXISTING TREE TO BE REMOVED
	EXISTING SURFACE WATER NETWORK		PROPOSED NEW TREE
	EXISTING OVERFLOW PIPE		PROPOSED NEW TREE PIT
	SURFACE WATER PIPE - UNDER CONSTRUCTION		PROPOSED SUDS I.E. SWALES, RAINGARDENS, FILTER DRAIN
	PROPOSED STORM WATER PIPE		EXISTING GULLY
	PROPOSED OVERSIZED PIPE		SITE BOUNDARY LINE
	PROPOSED FILTER DRAIN/PERFORATED PIPE		TEMPORARY LAND ACQUISITION
	PROPOSED PERMEABLE PAVING		

NOTE: PIPE SHAPE CODES DN = CIRCULAR, RG = RECTANGULAR, EG = EGG SHAPED, AH= ARCH.



\\odubhp1\j2019\191711917-02_WIP\08 MODELS\01 CAD\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0001.dwg

Disclaimer

a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.

b. This drawing is to be used for the design element identified in the title box. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.

c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Malin Head. All Co-ordinates are in Irish Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.

d. The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.



Rev	Date	Drm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

Client: **NTA**
 Údarás Náisiúnta Iompair
 National Transport Authority

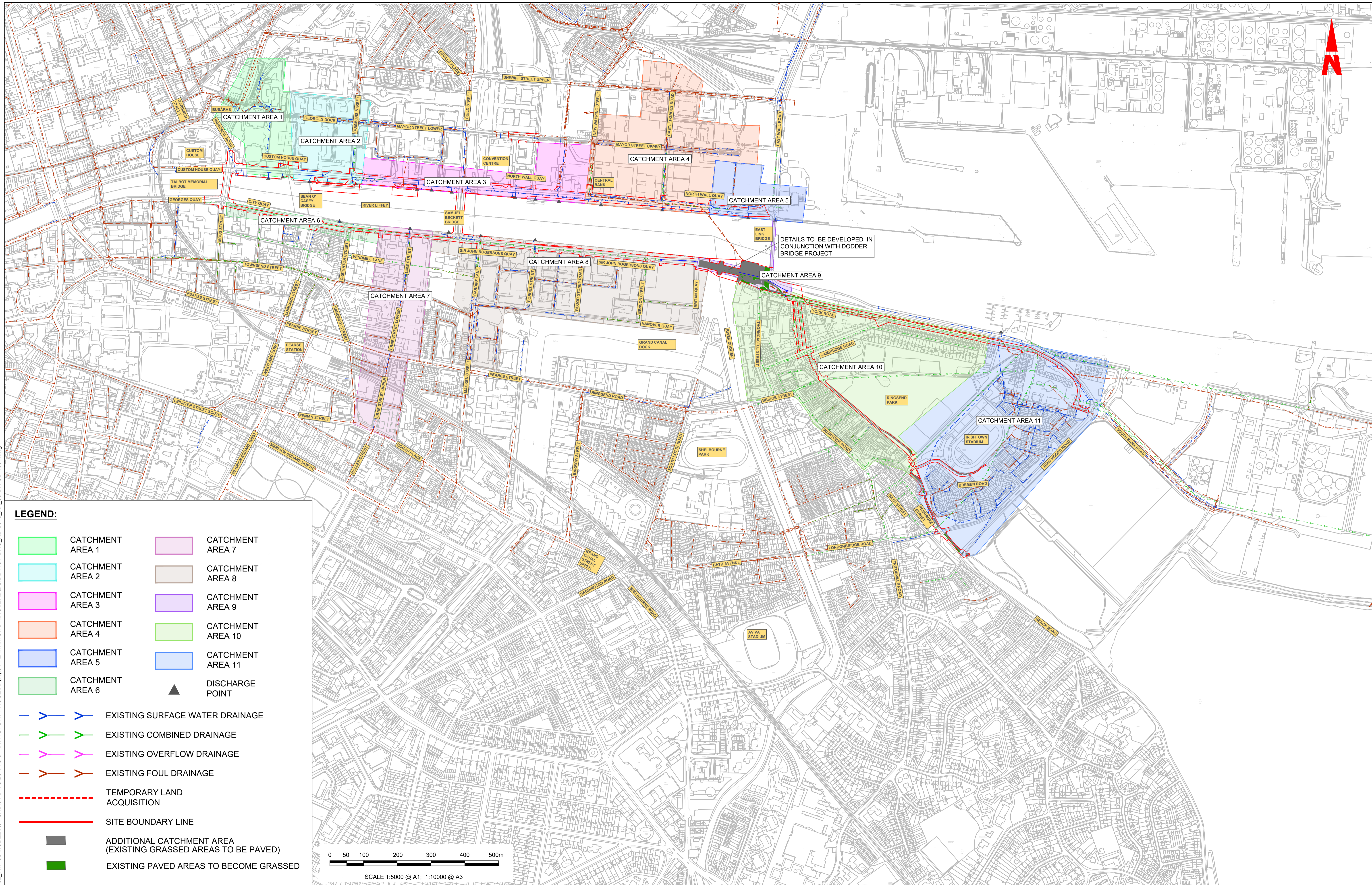
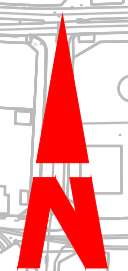
Engineering Designer: **FIROD**
 TYPSA

Date: MAR 2023
 Scale: 1:500 @ A1, 1:1000 @ A3
 Drawn: DS
 Checked: EOC
 Approved: SMG

Programme Code: BCIDD
 Originator Code: ROT
 QMS Code:

Programme Title: BUSCONNECTS DUBLIN			
CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title: RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME PROPOSED SURFACE WATER DRAINAGE WORKS			
Drawing File Name: BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-0012	Sheet Number: 12 of 12	Status: A	Rev: M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY



LEGEND:

	CATCHMENT AREA 1		CATCHMENT AREA 7
	CATCHMENT AREA 2		CATCHMENT AREA 8
	CATCHMENT AREA 3		CATCHMENT AREA 9
	CATCHMENT AREA 4		CATCHMENT AREA 10
	CATCHMENT AREA 5		CATCHMENT AREA 11
	CATCHMENT AREA 6		DISCHARGE POINT

	EXISTING SURFACE WATER DRAINAGE
	EXISTING COMBINED DRAINAGE
	EXISTING OVERFLOW DRAINAGE
	EXISTING FOUL DRAINAGE
	TEMPORARY LAND ACQUISITION
	SITE BOUNDARY LINE
	ADDITIONAL CATCHMENT AREA (EXISTING GRASSED AREAS TO BE PAVED)
	EXISTING PAVED AREAS TO BECOME GRASSED

0 50 100 200 300 400 500m
SCALE 1:5000 @ A1; 1:10000 @ A3

Disclaimer
 a. © National Transport Authority (NTA) 2022. This drawing is confidential and the copyright in it is owned by NTA. This drawing must not be either loaned, copied or otherwise reproduced in whole or in part or used for any purpose without the prior permission of NTA.
 b. This drawing is to be used for the design element identified in the titleblock. Other information shown is to be considered indicative only. The drawing is to be read in conjunction with all other relevant design drawings.
 c. O.S. data used for plans are printed under © Ordnance Survey Ireland Government of Ireland. All rights reserved. Licence Number 2022/OSI_NMA_180 National Transport Authority. All elevations are in metres and relate to OSI Geoid Model (OSGM15) Mean Head. All Co-ordinates are in Irish

Transverse Mercator Grid (ITM) as defined by OSI active local GPS station.
 d. Information concerning the position of apparatus shown on this drawing is based on drawings supplied by the utility owners and/or the utility works contractor, whilst every care has been taken in the preparation of this drawing, positions should be taken as approximate and are intended for general guidance only and no representation is made by the NTA as to the accuracy, completeness, sufficiency or otherwise of this drawing and the position of the apparatus. The information contained herein does not purport to be comprehensive or final as the apparatus is subject to being altered and/or superceded. Recipients should not rely on this information. Any liabilities are hereby expressly disclaimed.

The information contained herein has been provided by the NTA but does not purport to be comprehensive or final. Recipients should not rely on the information. Neither the NTA nor any of its directors, officers, employees, agents, stakeholders or advisers make any representation or warranty as to, or accept any liability or responsibility in relation to, the adequacy, accuracy, reasonableness or completeness of the information provided as part of this document or any matter on which the information is based (including but not limited to loss or damage arising as a result of reliance by recipients on the information or any part of it). Any liabilities are hereby expressly disclaimed.

Rev	Date	Dm	Chk'd	App'd	Description
M01	MAR 2023	DS	EOC	SMG	ISSUE FOR PHASE 4: PLANNING

NTA Údarás Náisiúnta Iompair National Transport Authority		Engineering Designer 		
Date	Scale	Drawn	Checked	Approved
MAR 2023	1:5,000 @ A1 1:10,000 @ A3	DS	EOC	SMG
Programme Code	Originator Code	QMS Code		
BCIDD	ROT			

Programme Title BUSCONNECTS DUBLIN CORE BUS CORRIDORS INFRASTRUCTURE WORKS			
Drawing Title RINGSEND TO CITY CENTRE CORE BUS CORRIDOR SCHEME OVERALL CATCHMENT AREAS			
Drawing File Name	Sheet Number	Status	Rev
BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-1001	01 of 01	A	M01

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

\\wddubhp1\U201919\17119117-02_WIP\08 MODELS\01 CAD\01 DWG\03 STG 3 - STATUTORY PROCESS (M)\01 PLANNING\16 RINGSEND\BCIDD-ROT-DNG_RD-0016_XX_00-DR-CD-1001.dwg