

Appendix 11.3

Irish Water Correspondence

Emma Daly
DBFL
Ormond House,
Ormond Quay Upper,
Dublin 7
D07 W704

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

10 November 2025

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

**Re: Design Submission for Miltown Park, Sandford Road, Ranelagh, Dublin 6 (the “Development”)
(the “Design Submission”) / Connection Reference No: CDS25004073**

www.water.ie

Dear Emma Daly,

Many thanks for your recent Design Submission.

We have reviewed your proposal for the connection(s) at the Development. Based on the information provided, which included the documents outlined in Appendix A to this letter, Uisce Éireann has no objection to your proposals.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before you can connect to our network you must sign a connection agreement with Uisce Éireann. This can be applied for by completing the connection application form at www.water.ie/connections. Uisce Éireann’s current charges for water and wastewater connections are set out in the Water Charges Plan as approved by the Commission for Regulation of Utilities (CRU) (https://www.cru.ie/document_group/irish-waters-water-charges-plan-2018/).

You the Customer (including any designers/contractors or other related parties appointed by you) is entirely responsible for the design and construction of all water and/or wastewater infrastructure within the Development which is necessary to facilitate connection(s) from the boundary of the Development to Uisce Éireann’s network(s) (the “**Self-Lay Works**”), as reflected in your Design Submission. Acceptance of the Design Submission by Uisce Éireann does not, in any way, render Uisce Éireann liable for any elements of the design and/or construction of the Self-Lay Works.

If you have any further questions, please contact your Uisce Éireann representative:

Name: Antonio Garzón Mielgo

Email: antonio.garzonmielgo@water.ie

Yours sincerely,



Dermot Phelan
Connections Delivery Manager

Stiúirtheoirí / Directors: Niall Gleeson (POF / CEO), Jerry Grant (Cathaoirleach / Chairperson), Gerard Britchfield, Liz Joyce, Michael Nolan, Patricia King, Eileen Maher, Cathy Mannion, Paul Reid, Michael Walsh.

Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin, Ireland D01NP86

Is cuideachta ghníomhaíochta ainmnithe atá faoi theorainn scaireanna é Uisce Éireann / Uisce Éireann is a designated activity company, limited by shares. Cláraithe in Éirinn Uimh.: 530363 / Registered in Ireland No.: 530363.

Appendix A

Document Title & Revision

- 190226-X-05-Z00-DTM-DR-DBFL-CE-1301 Site Services Layout Rev 3
- 190226-X-05-Z00-DTM-DR-DBFL-CE-3311 Foul Water Longsections Sheet 1 Rev 1
- 190226-X-05-Z00-DTM-DR-DBFL-CE-3312 Foul Water Longsections Sheet 2 Rev 1
- 190226-X-93-Z00-DTM-DR-DBFL-CE-1311 Site Watermain Layout Rev 4

Additional Comments

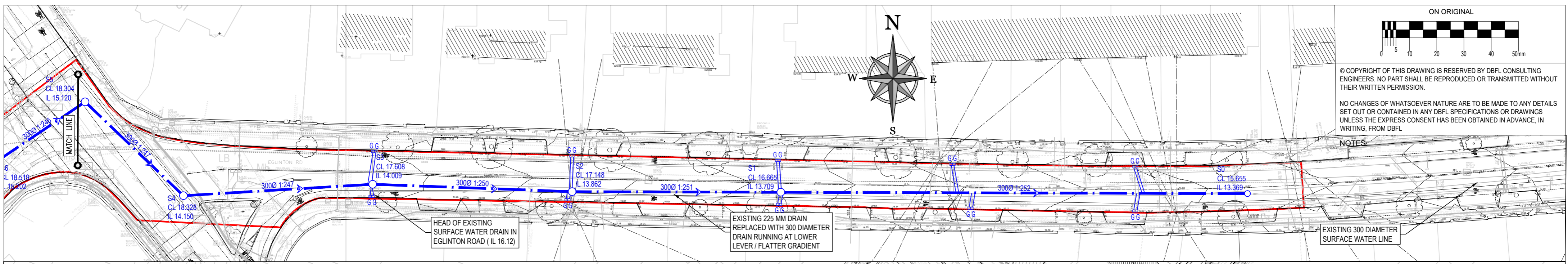
The design submission will be subject to further technical review at connection application stage.

Uisce Éireann cannot guarantee that its Network in any location will have the capacity to deliver a particular flow rate and associated residual pressure to meet the requirements of the relevant Fire Authority, see Section 1.17 of Water Code of Practice.

While Uisce Éireann notes that the water and wastewater services infrastructure will remain private and not be vested, we have the following comments: It is recommended that the foul sewer shall have 3 m clearance from proposed or existing structures.

For further information, visit www.water.ie/connections

Notwithstanding any matters listed above, the Customer (including any appointed designers/contractors, etc.) is entirely responsible for the design and construction of the Self-Lay Works. Acceptance of the Design Submission by Uisce Éireann will not, in any way, render Uisce Éireann liable for any elements of the design and/or construction of the Self-Lay Works.

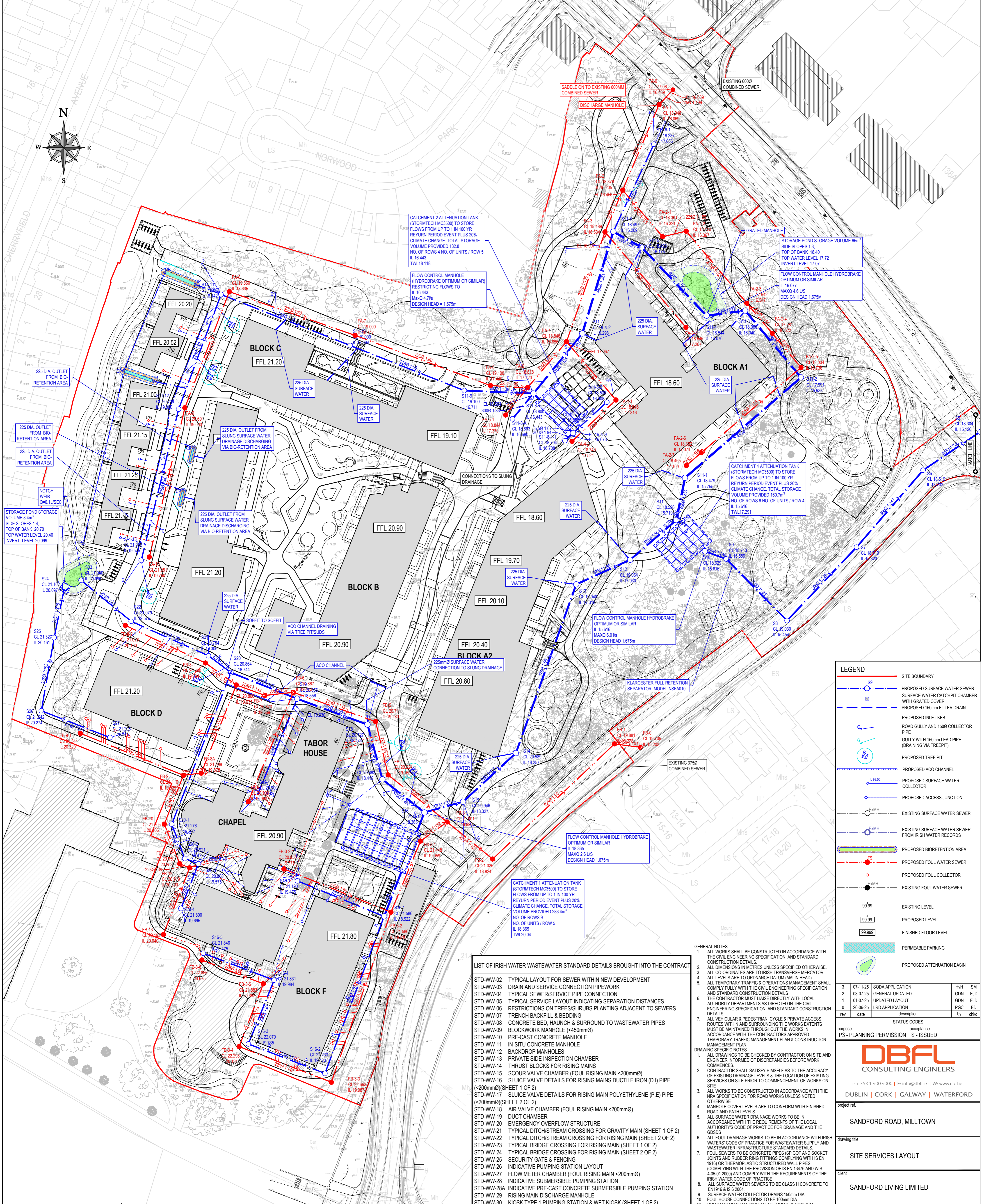


ON ORIGINAL

© COPYRIGHT OF THIS DRAWING IS RESERVED BY DBFL CONSULTING ENGINEERS. NO PART SHALL BE REPRODUCED OR TRANSMITTED WITHOUT THEIR WRITTEN PERMISSION.

NO CHANGES OF WHATSOEVER NATURE ARE TO BE MADE TO ANY DETAILS SET OUT OR CONTAINED IN ANY DBFL SPECIFICATIONS OR DRAWINGS UNLESS THE EXPRESS CONSENT HAS BEEN OBTAINED IN ADVANCE, IN WRITING, FROM DBFL.

NOTES:



LEGEND

[Red line]	SITE BOUNDARY
[Blue dashed line]	PROPOSED SURFACE WATER SEWER
[Blue dashed line]	SURFACE WATER CATCHPIT CHAMBER WITH GRATED COVER
[Blue dashed line]	PROPOSED 150mm FILTER DRAIN
[Blue dashed line]	PROPOSED INLET KEB
[Blue dashed line]	ROAD GULLY AND 1500 COLLECTOR PIPE
[Blue dashed line]	GULLY WITH 150mm LEAD PIPE (DRAINING VIA TREEPIT)
[Blue dashed line]	PROPOSED TREE PIT
[Blue dashed line]	PROPOSED ACO CHANNEL
[Blue dashed line]	PROPOSED SURFACE WATER COLLECTOR
[Blue dashed line]	PROPOSED ACCESS JUNCTION
[Blue dashed line]	EXISTING SURFACE WATER SEWER
[Blue dashed line]	EXISTING SURFACE WATER SEWER FROM IRISH WATER RECORDS
[Blue dashed line]	PROPOSED BIORETENTION AREA
[Red dashed line]	PROPOSED FOUL WATER SEWER
[Red dashed line]	PROPOSED FOUL COLLECTOR
[Red dashed line]	EXISTING FOUL WATER SEWER
[99.99]	EXISTING LEVEL
[99.99]	PROPOSED LEVEL
[99.99]	FINISHED FLOOR LEVEL
[Green hatched area]	PERMEABLE PARKING
[Blue hatched area]	PROPOSED ATTENUATION BASIN

LIST OF IRISH WATER WASTEWATER STANDARD DETAILS BROUGHT INTO THE CONTRACT

- STD-WW-02 TYPICAL LAYOUT FOR SEWER WITHIN NEW DEVELOPMENT
- STD-WW-03 DRAIN AND SERVICE CONNECTION PIPEWORK
- STD-WW-04 TYPICAL SERVICE PIPE CONNECTION
- STD-WW-05 TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES
- STD-WW-06 RESTRICTIONS ON TREES/SHRUBS PLANTING ADJACENT TO SEWERS
- STD-WW-07 TRENCH BACKFILL & BEDDINGS
- STD-WW-08 CONCRETE BED, HAUNCH & SURROUND TO WASTEWATER PIPES
- STD-WW-09 BLOCKWORK MANHOLE (450mmØ)
- STD-WW-10 PRE-CAST CONCRETE MANHOLE
- STD-WW-11 IN-SITU CONCRETE MANHOLE
- STD-WW-12 BACKDROP MANHOLES
- STD-WW-13 PRIVATE SIDE INSPECTION CHAMBER
- STD-WW-14 THRUST BLOCKS FOR RISING MAINS
- STD-WW-15 SCOUR VALVE CHAMBER (FOUL RISING MAIN <200mmØ)
- STD-WW-16 SLUICE VALVE DETAILS FOR RISING MAINS DUCTILE IRON (D.I.) PIPE (<200mmØ) (SHEET 1 OF 2)
- STD-WW-17 SLUICE VALVE DETAILS FOR RISING MAIN POLYETHYLENE (P.E) PIPE (<200mmØ) (SHEET 2 OF 2)
- STD-WW-18 AIR VALVE CHAMBER (FOUL RISING MAIN <200mmØ)
- STD-WW-19 DUCT CHAMBER
- STD-WW-20 EMERGENCY OVERFLOW STRUCTURE
- STD-WW-21 TYPICAL DITCH/STREAM CROSSING FOR GRAVITY MAIN (SHEET 1 OF 2)
- STD-WW-22 TYPICAL DITCH/STREAM CROSSING FOR RISING MAIN (SHEET 2 OF 2)
- STD-WW-23 TYPICAL BRIDGE CROSSING FOR RISING MAIN (SHEET 1 OF 2)
- STD-WW-24 TYPICAL BRIDGE CROSSING FOR RISING MAIN (SHEET 2 OF 2)
- STD-WW-25 SECURITY GATE & FENCING
- STD-WW-26 INDICATIVE PUMPING STATION LAYOUT
- STD-WW-27 FLOW METER CHAMBER (FOUL RISING MAIN <200mmØ)
- STD-WW-28 INDICATIVE SUBMERSIBLE PUMPING STATION
- STD-WW-28A INDICATIVE PRE-CAST CONCRETE SUBMERSIBLE PUMPING STATION
- STD-WW-29 RISING MAIN DISCHARGE MANHOLE
- STD-WW-30 KIOSK TYPE 1 PUMPING STATION & WET KIOSK (SHEET 1 OF 2)
- STD-WW-31 KIOSK TYPE 2 + 3 PUMPING STATION & WET KIOSK (SHEET 2 OF 2)
- STD-WW-32 HARDSTANDING AREA PUMPING STATION (PERMEABLE & IMPERMEABLE)
- STD-WW-33 LAMP BOLLARD & LAMP STANDARD
- STD-WW-34 VENT STACK

GENERAL NOTES

- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CIVIL ENGINEERING SPECIFICATION AND STANDARD CONSTRUCTION DETAILS.
- ALL DIMENSIONS IN METRES UNLESS SPECIFIED OTHERWISE.
- ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR. ALL LEVELS ARE TO ORDNANCE DATUM (M.A.S.L. HEAD).
- ALL TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT SHALL COMPLY FULLY WITH THE CIVIL ENGINEERING SPECIFICATION AND STANDARD CONSTRUCTION DETAILS. THE CONTRACTOR MUST LAISE DIRECTLY WITH LOCAL AUTHORITY DEPARTMENTS AS DIRECTED IN THE CIVIL ENGINEERING SPECIFICATION AND STANDARD CONSTRUCTION DETAILS.
- ALL VEHICULAR & PEDESTRIAN CYCLE & PRIVATE ACCESS ROUTES WITHIN AND SURROUNDING THE WORKS EXTENTS MUST BE MAINTAINED THROUGHOUT THE WORKS IN ACCORDANCE WITH THE CONTRACTORS APPROVED TEMPORARY TRAFFIC MANAGEMENT PLAN & CONSTRUCTION MANAGEMENT PLAN.
- ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES.
- CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF EXISTING DRAINAGE LEVELS & THE LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE.
- ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NRA SPECIFICATION FOR ROAD WORKS UNLESS NOTED OTHERWISE.
- MANHOLE COVER LEVELS ARE TO CONFORM WITH FINISHED ROAD AND PATH LEVELS.
- ALL SURFACE WATER DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY'S CODE OF PRACTICE FOR DRAINAGE AND THE GOODS.
- ALL FOUL DRAINAGE WORKS TO BE IN ACCORDANCE WITH IRISH WATERS CODE OF PRACTICE FOR WASTEWATER SUPPLY AND WASTEWATER INFRASTRUCTURE STANDARD DETAILS.
- FOUL SEWERS TO BE CONCRETE PIPES (SPIGOT) AND SOCKET JOINTS AND RUBBER RING FITTINGS COMPLYING WITH IS EN 1916 OR THERMOPLASTIC STRUCTURED WALL PIPES (COMPLYING WITH THE PROVISIONS OF EN 13476 AND WIS 4-35-01 2000) AND COMPLY WITH THE REQUIREMENTS OF THE IRISH WATER CODE OF PRACTICE.
- ALL SURFACE WATER SEWERS TO BE CLASS H CONCRETE TO EN1916 & IS 6204.
- SURFACE WATER COLLECTOR DRAINS 150mm DIA.
- FOUL HOUSE CONNECTIONS TO BE 100mm DIA.
- CONTRACTOR SHALL INSPECT THE ROUTE & CONFIRM LOCATIONS OF ALL TREES, FEATURES, ENTRANCES & ASPECTS IMPACTING CONSTRUCTION OF THE WORKS.
- NOTE THAT THE CONTRACTOR AND/OR ARCHITECT ARE RESPONSIBLE FOR CONNECTIONS INTO THE BUILDING.
- THIS DRAWING IS BASED ON TOPO SURVEY BY DAVIDSON HICKEY IN OCT 2019 AND APEX SURVEYS IN JAN 2020.

ORDNANCE SURVEY IRELAND LICENCE
No EN 0017919
© ORDNANCE SURVEY IRELAND
GOVERNMENT OF IRELAND

3	07-11-25	SODA APPLICATION	HvH	SM
2	03-07-25	GENERAL UPDATED	GDN	EJD
1	01-07-25	UPDATED LAYOUT	GDN	EJD
0	26-06-25	LARD APPLICATION	PGC	ED

rev | date | description | by | chkd

STATUS CODES

purpose | P3 - PLANNING PERMISSION | acceptance | S - ISSUED

DBFL CONSULTING ENGINEERS

T + 353 1 4000 4000 | E: info@dbfl.ie | W: www.dbfl.ie

DUBLIN | CORK | GALWAY | WATERFORD

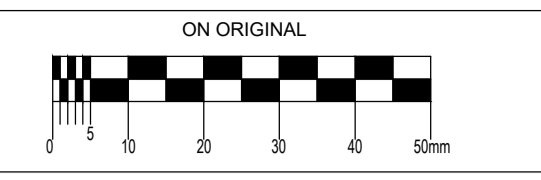
project ref: SANDFORD ROAD, MILLTOWN

drawing title: SITE SERVICES LAYOUT

client: SANDFORD LIVING LIMITED

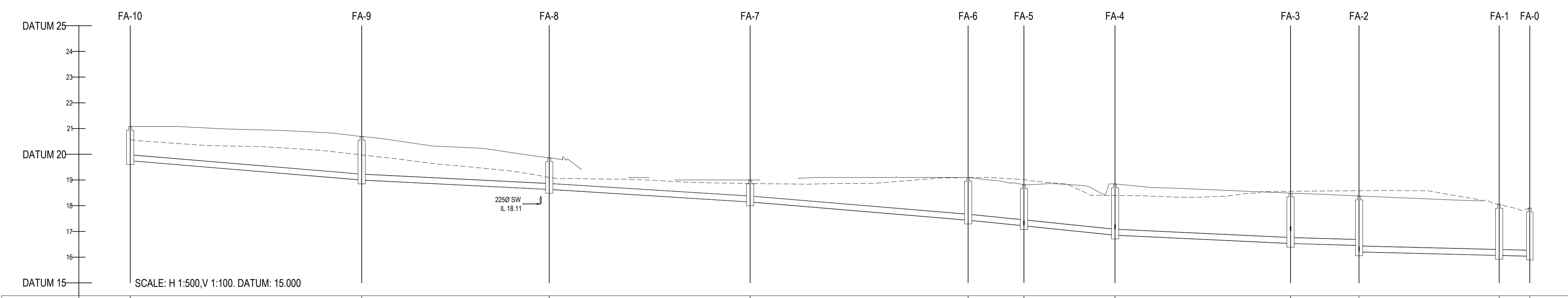
designed by: BK | author: OVF | scale: 1:500 | sheet size: A1P

drawing no: 190226-X-05-Z00-DTM-DR-DBFL-CE-1301 | revision: 3



© COPYRIGHT OF THIS DRAWING IS RESERVED BY DBFL CONSULTING ENGINEERS. NO PART SHALL BE REPRODUCED OR TRANSMITTED WITHOUT THEIR WRITTEN PERMISSION.
 NO CHANGES OF WHATSOEVER NATURE ARE TO BE MADE TO ANY DETAILS SET OUT OR CONTAINED IN ANY DBFL SPECIFICATIONS OR DRAWINGS UNLESS THE EXPRESS CONSENT HAS BEEN OBTAINED IN ADVANCE, IN WRITING, FROM DBFL

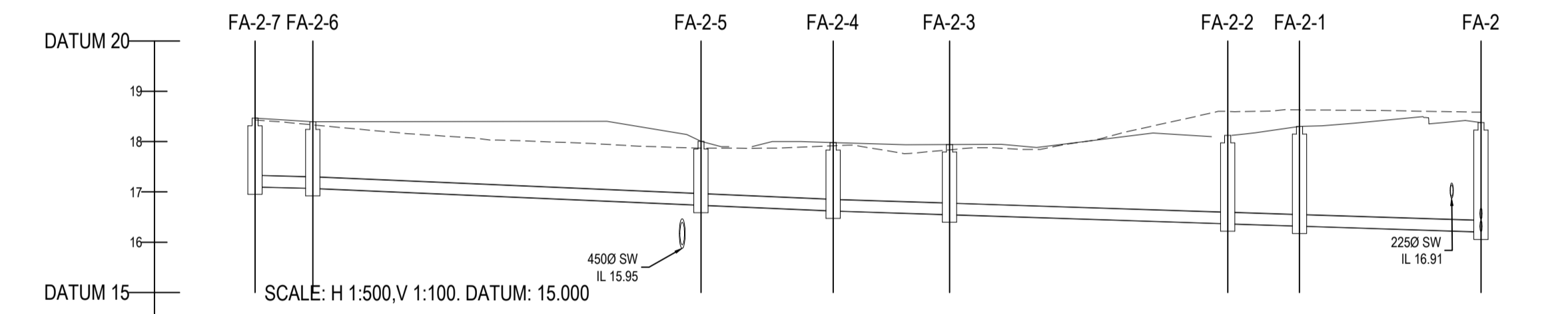
- NOTES:
- ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES
 - ALL LEVELS ARE IN METRES AND ARE RELATED TO ORDNANCE DATUM
 - CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF PAVEMENT LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE
 - ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NRA SPECIFICATION FOR ROAD WORKS UNLESS NOTED OTHERWISE
 - THIS DRAWING IS FOR PLANNING PURPOSES ONLY
 - MANHOLE COVER LEVELS ARE TO CONFORM WITH FINISHED ROAD AND PATH LEVELS
 - WHERE COVER TO PIPE IS LESS THAN 1200mm (ROAD/PATH/VERGE) OR 900mm (OPEN SPACE) SURROUND PIPE IN MINIMUM 150mm CONCRETE



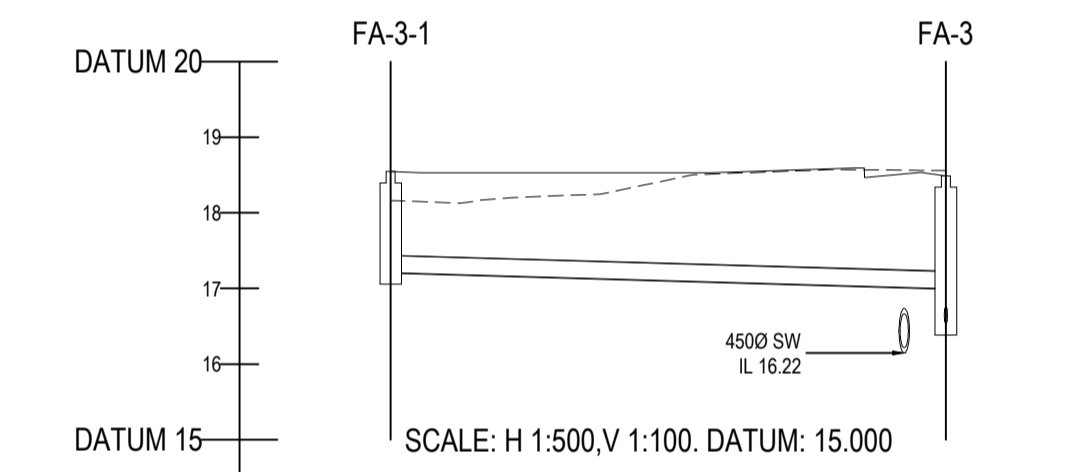
	FA-10	FA-9	FA-8	FA-7	FA-6	FA-5	FA-4	FA-3	FA-2	FA-1	FA-0
COVER LEVEL	21.081	20.691	19.860	19.000	19.100	18.818	18.846	18.489	18.378	18.048	17.906
INVERT LEVEL	19.750	19.000	18.635	18.147	17.440	17.220	16.866	16.534	16.466	16.009	15.909
DEPTH (m)	1.331	1.691	1.225	0.853	1.660	1.598	1.980	1.955	2.173	1.973	1.867
DISTANCE (m)		45.01	36.49	39.07	42.39	10.86	17.72	34.13	13.32	27.26	5.96
PIPE SLOPE		1:60	1:100	1:80	1:60	1:49	1:49	1:106	1:171	1:200	1:199
PIPE SIZE		225mm	225mm	225mm	225mm	225mm	225mm	225mm	225mm	225mm	225mm

KEY

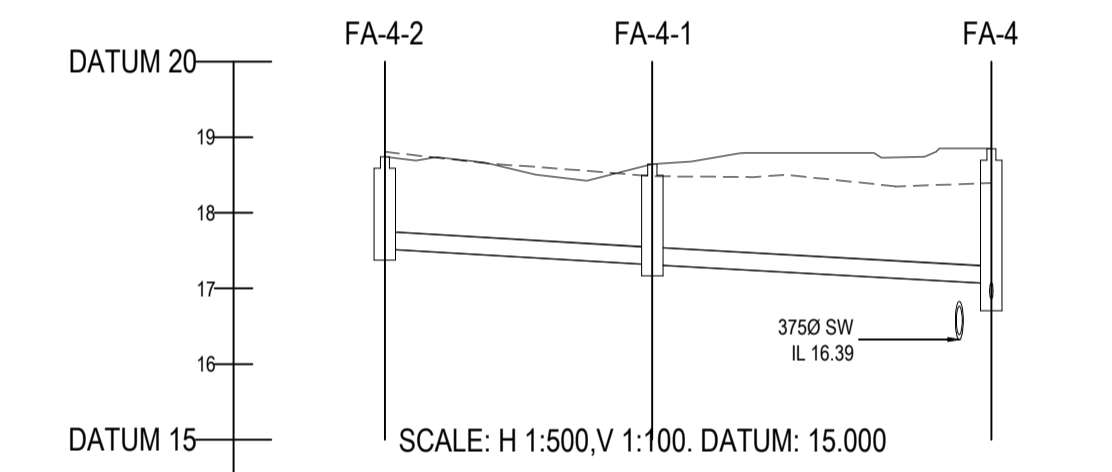
- EXISTING GROUND PROFILE
- _____ PROPOSED GROUND PROFILE



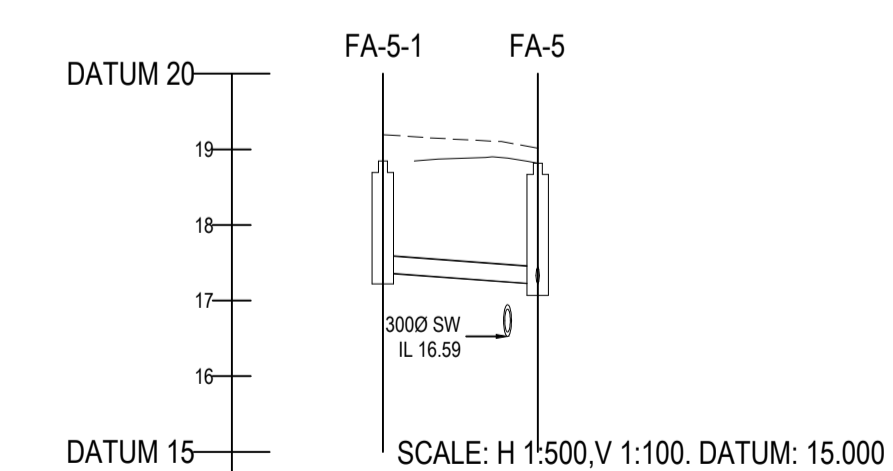
	FA-2-7	FA-2-6	FA-2-5	FA-2-4	FA-2-3	FA-2-2	FA-2-1	FA-2
COVER LEVEL	18.465	18.392	18.004	17.581	17.442	18.123	18.301	18.378
INVERT LEVEL	17.100	17.071	16.736	16.622	16.547	16.367	16.321	16.205
DEPTH (m)	1.365	1.321	1.268	1.359	1.395	1.756	1.980	2.173
DISTANCE (m)	5.73	38.55	13.12	11.56	27.62	7.13	18.02	
PIPE SLOPE	1:198	1:115	1:115	1:154	1:153	1:155	1:155	
PIPE SIZE	225mm	225mm	225mm	225mm	225mm	225mm	225mm	



	FA-3-1	FA-3
COVER LEVEL	18.546	18.469
INVERT LEVEL	17.207	16.997
DEPTH (m)	1.339	1.465
DISTANCE (m)	36.72	
PIPE SLOPE	1:175	1:90
PIPE SIZE	225mm	



	FA-4-2	FA-4-1	FA-4
COVER LEVEL	18.740	18.846	18.846
INVERT LEVEL	17.524	17.316	17.067
DEPTH (m)	1.216	1.530	1.780
DISTANCE (m)	17.69	22.42	
PIPE SLOPE	1:85	1:90	
PIPE SIZE	225mm	225mm	



	FA-5-1	FA-5
COVER LEVEL	18.844	18.818
INVERT LEVEL	17.370	17.220
DEPTH (m)	1.474	1.598
DISTANCE (m)	10.24	
PIPE SLOPE	1:68	
PIPE SIZE	225mm	

rev	date	description	by	chkd.
1	07-11-25	SODA APPLICATION	HJH	SM
0	26-06-25	LRO APPLICATION	PGC	ED

STATUS CODES
 purpose acceptance
 P3 - PLANNING PERMISSION S - ISSUED



T: +353 1 400 4000 | E: info@dbfl.ie | W: www.dbfl.ie
 DUBLIN | CORK | GALWAY | WATERFORD

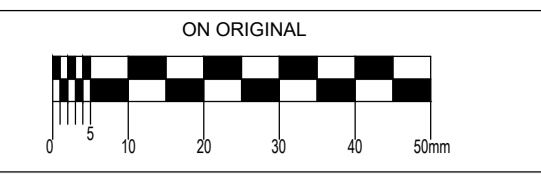
project ref.
 SANDFORD ROAD, MILLTOWN

drawing title
 FOUL WATER LONGSECTIONS SHEET
 1

client
 SANDFORD LIVING LIMITED

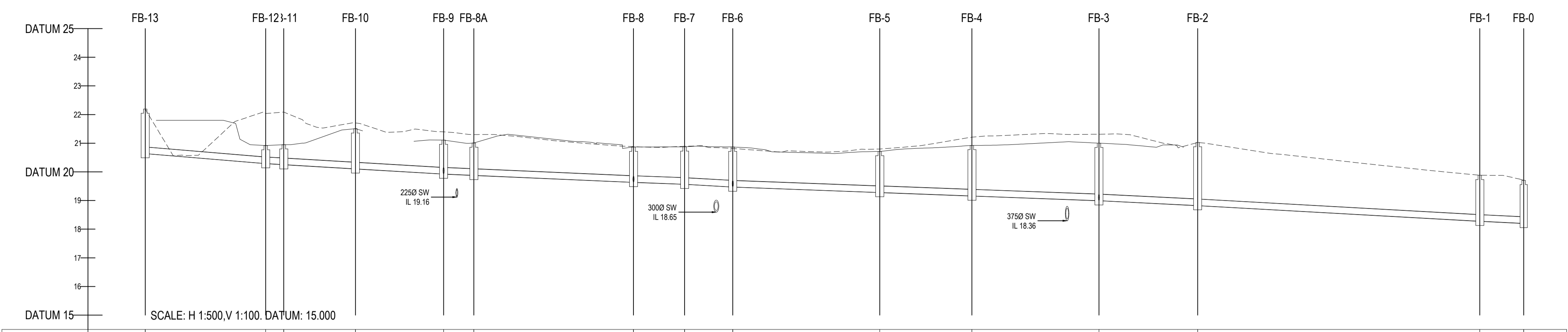
designed by	author	scale	sheet size
EDA	RMC	AS SHOWN	A1
drawing no.	revision		
190226-X-92-Z00-DTM-DR-DBFL-CE-3311	1		

F:\0199\190226\02\03_planning\2025\190226-X-92-Z00-DTM-DR-DBFL-CE-3311.dwg

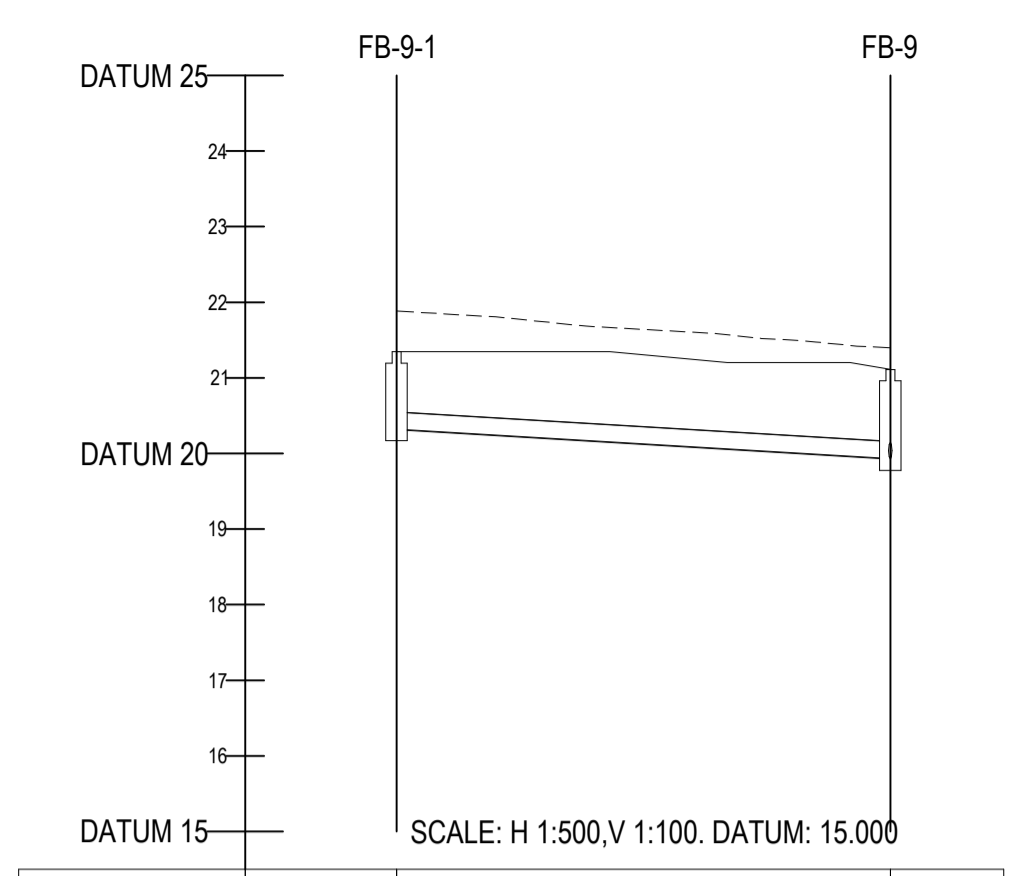


© COPYRIGHT OF THIS DRAWING IS RESERVED BY DBFL CONSULTING ENGINEERS. NO PART SHALL BE REPRODUCED OR TRANSMITTED WITHOUT THEIR WRITTEN PERMISSION.
 NO CHANGES OF WHATSOEVER NATURE ARE TO BE MADE TO ANY DETAILS SET OUT OR CONTAINED IN ANY DBFL SPECIFICATIONS OR DRAWINGS UNLESS THE EXPRESS CONSENT HAS BEEN OBTAINED IN ADVANCE, IN WRITING, FROM DBFL.

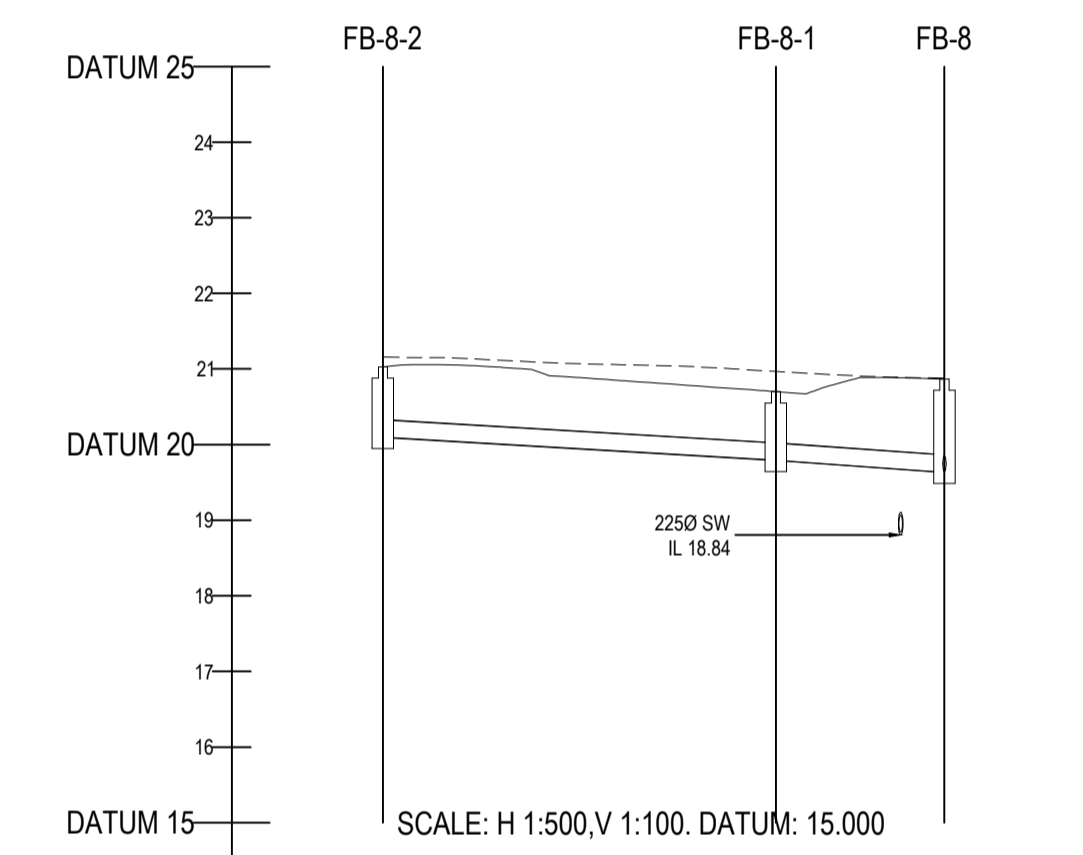
- NOTES:
- ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES
 - ALL LEVELS ARE IN METRES AND ARE RELATED TO ORDINANCE DATUM
 - CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF PAVEMENT LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE
 - ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NRA SPECIFICATION FOR ROAD WORKS UNLESS NOTED OTHERWISE
 - THIS DRAWING IS FOR PLANNING PURPOSES ONLY
 - MANHOLE COVER LEVELS ARE TO CONFORM WITH FINISHED ROAD AND PATH LEVELS
 - WHERE COVER TO PIPE IS LESS THAN 1200mm (ROAD/PATH VERGE) OR 500mm (OPEN SPACE) SURROUND PIPE IN MINIMUM 150mm CONCRETE.



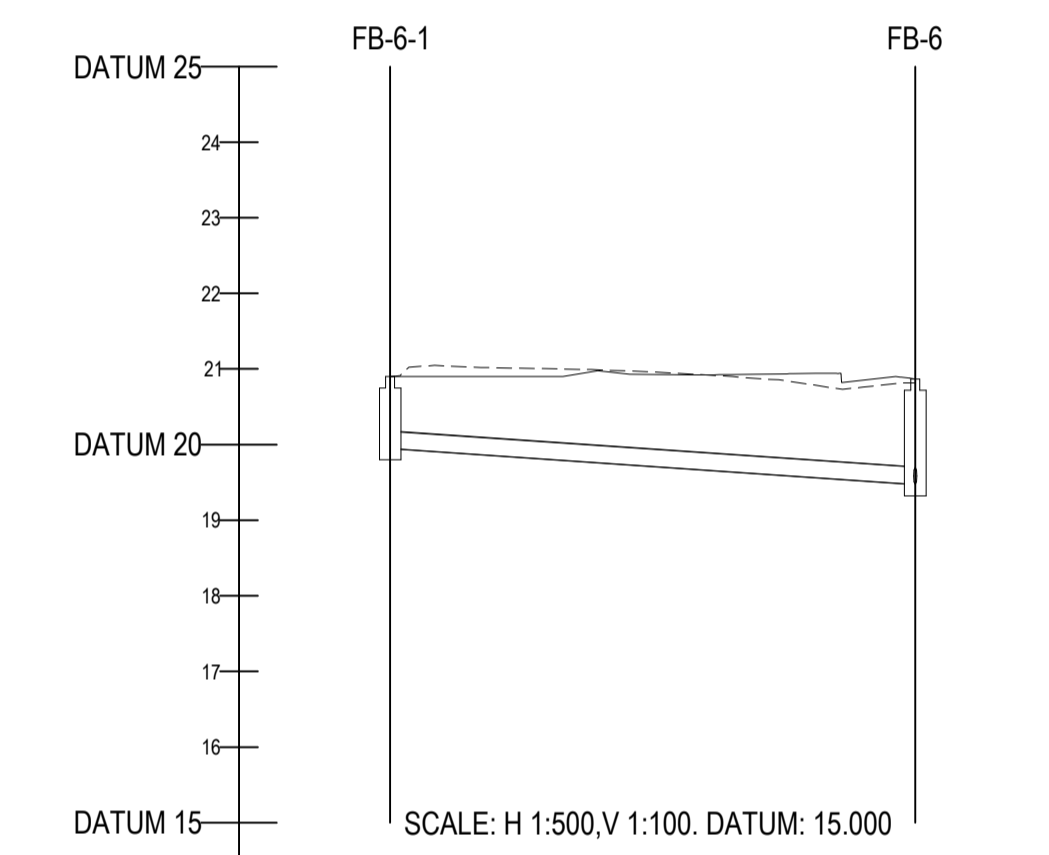
COVER LEVEL	22.193	20.919	20.950	21.505	21.110	21.008		20.866	20.873	20.867		20.711	20.624		21.001	21.025		19.881	19.705
INVERT LEVEL	20.640	20.220	20.233	20.106	19.625	19.678		19.635	19.569	19.473		19.280	19.100		18.996	18.824		18.278	18.202
DEPTH (m)	1.553	0.629	0.697	1.399	1.485	1.130		1.231	1.304	1.394		1.431	1.794		2.005	2.201		1.603	1.503
DISTANCE (m)		21.01	3.15	12.50	15.37	5.28		27.84	8.91	8.39		25.63	16.07		22.15	17.21		49.20	7.65
PIPE SLOPE		1:60	1:85	1:85	1:85	1:112		1:115	1:135	1:87		1:133	1:134		1:135	1:100		1:90	1:101
PIPE SIZE		225mm	225mm	225mm	225mm	225mm		225mm	225mm	225mm		225mm	225mm		225mm	225mm		225mm	225mm



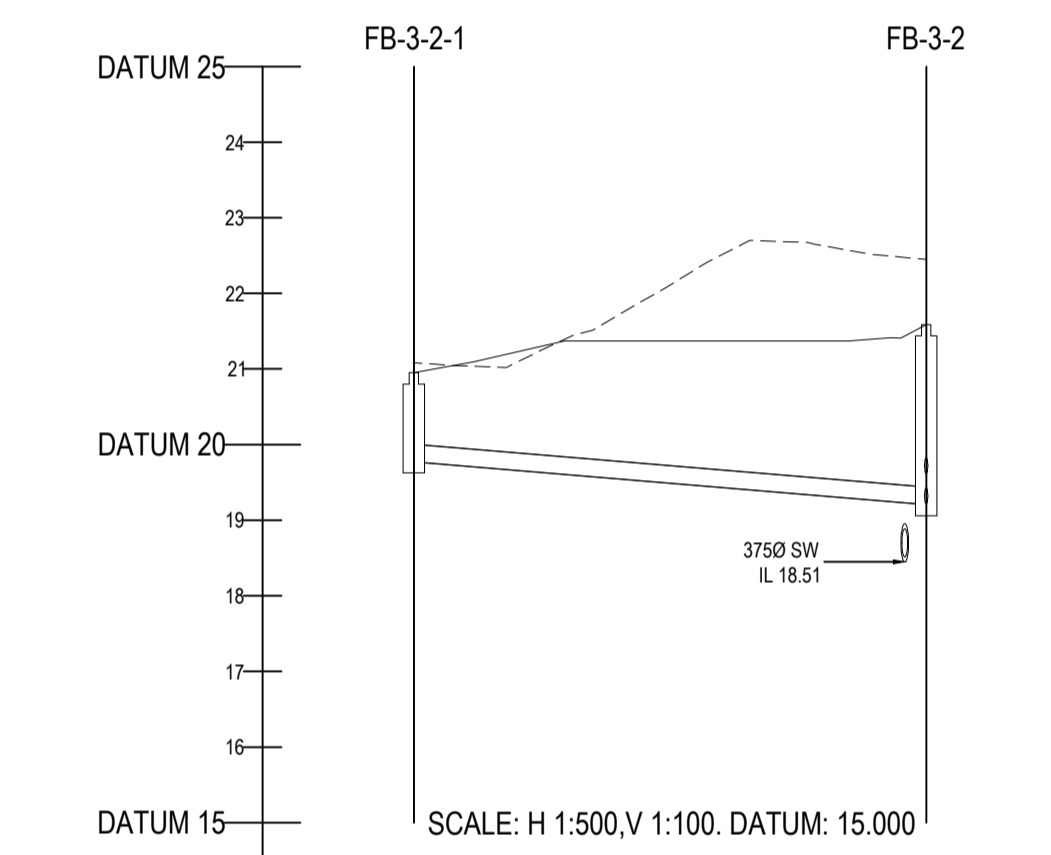
COVER LEVEL	21.344	21.110
INVERT LEVEL	20.320	19.930
DEPTH (m)	1.024	1.185
DISTANCE (m)		32.66
PIPE SLOPE		1:84
PIPE SIZE		225mm



COVER LEVEL	21.028	20.700	20.866
INVERT LEVEL	20.100	19.794	19.635
DEPTH (m)	0.928	0.906	1.231
DISTANCE (m)		25.99	11.15
PIPE SLOPE		1:85	1:70
PIPE SIZE		225mm	225mm

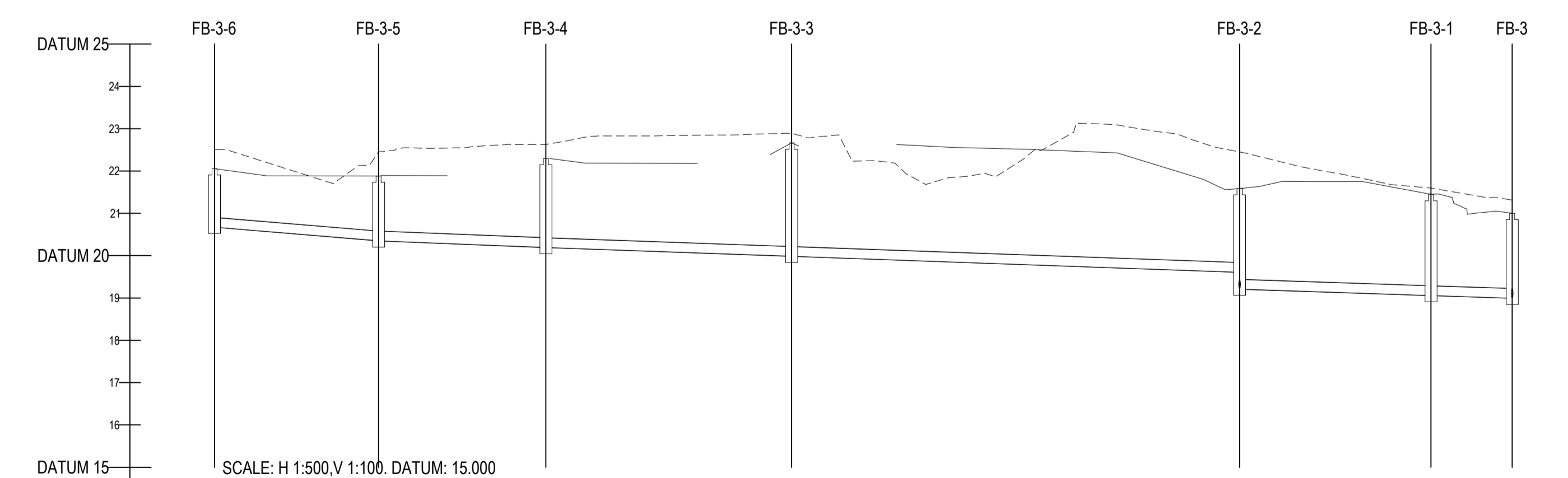


COVER LEVEL	20.900	20.867
INVERT LEVEL	19.960	19.474
DEPTH (m)	0.950	1.394
DISTANCE (m)		34.73
PIPE SLOPE		1:73
PIPE SIZE		225mm



COVER LEVEL	20.950	21.586
INVERT LEVEL	19.776	19.210
DEPTH (m)	1.175	2.376
DISTANCE (m)		33.89
PIPE SLOPE		1:60
PIPE SIZE		225mm

KEY
 - - - - - EXISTING GROUND PROFILE
 ——— PROPOSED GROUND PROFILE



COVER LEVEL	22.056	21.883	22.298	22.663	21.586	21.448	21.001
INVERT LEVEL	20.615	20.352	20.194	19.987	19.609	19.059	18.996
DEPTH (m)	1.381	1.531	2.104	2.676	2.376	2.389	2.005
DISTANCE (m)		19.37	19.75	29.02	52.88	22.60	9.58
PIPE SLOPE		1:60	1:125	1:140	1:140	1:150	1:152
PIPE SIZE		225mm	225mm	225mm	225mm	225mm	225mm

rev	date	description	by	chkd.
1	07-11-25	SODA APPLICATION	HJH	SM
0	26-06-25	LRO APPLICATION	PGC	ED

STATUS CODES
 purpose acceptance
 P3 - PLANNING PERMISSION S - ISSUED

DBFL
 CONSULTING ENGINEERS

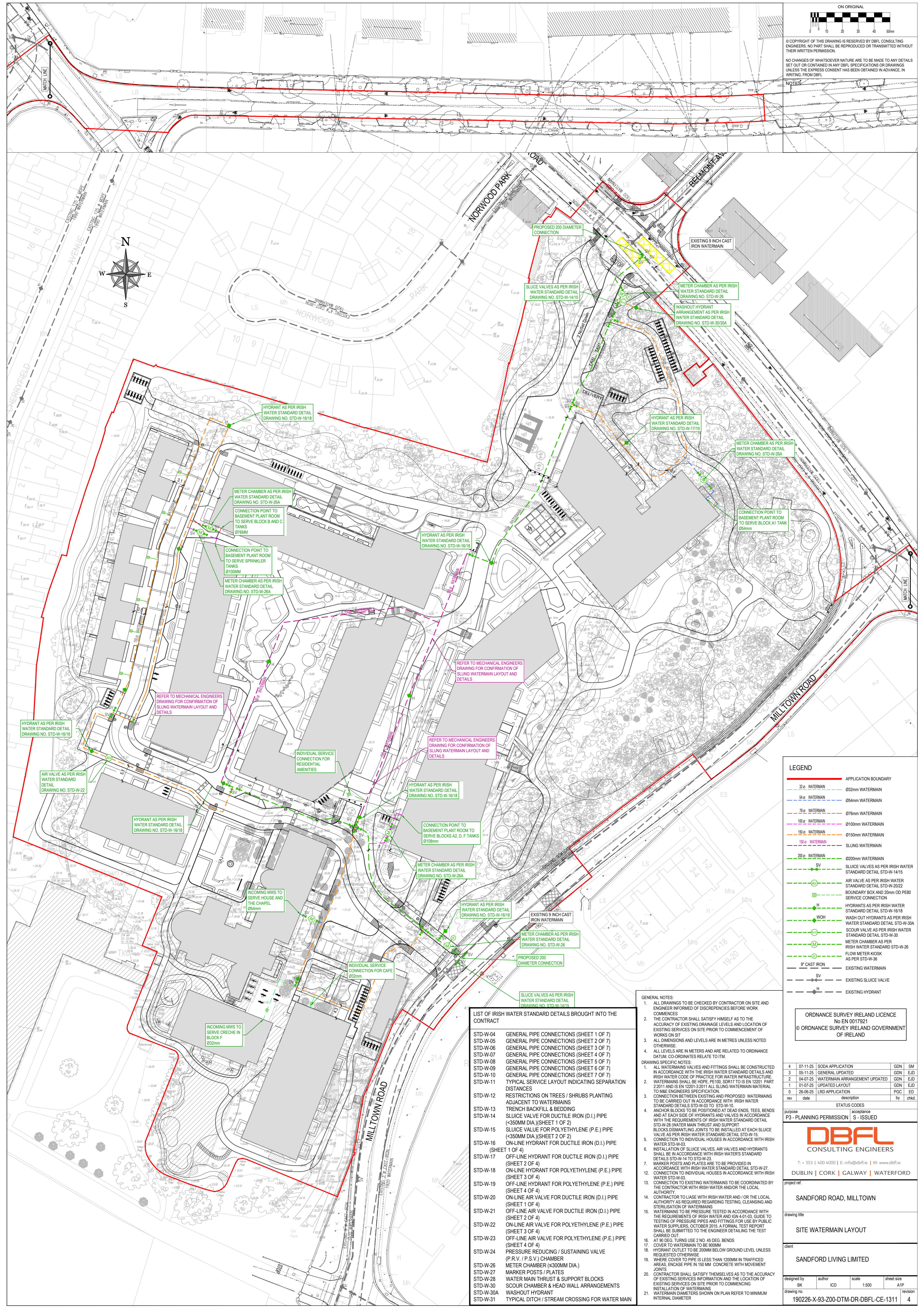
T: +353 1 400 4000 | E: info@dbfl.ie | W: www.dbfl.ie
 DUBLIN | CORK | GALWAY | WATERFORD

project ref.
 SANDFORD ROAD, MILLTOWN

drawing title
 FOUL WATER LONGSECTIONS SHEET
 2

client
 SANDFORD LIVING LIMITED

designed by	author	scale	sheet size
EDA	RMC	AS SHOWN	A1
drawing no.	revision		
190226-X-92-Z00-DTM-DR-DBFL-CE-3312	1		



LEGEND

Red line	APPLICATION BOUNDARY
Green dashed line	32mm WATERMAIN
Blue dashed line	54mm WATERMAIN
Red dashed line	75mm WATERMAIN
Purple dashed line	100mm WATERMAIN
Orange dashed line	150mm WATERMAIN
Yellow dashed line	150mm WATERMAIN
Green dashed line	200mm WATERMAIN
Green dashed line with SV	SLUICE VALVES AS PER IRISH WATER STANDARD DETAIL STD-W-1415
Green dashed line with AV	AIR VALVE AS PER IRISH WATER STANDARD DETAIL STD-W-2022
Green dashed line with H	BOUNDARY BOX AND 20mm OD PE80 SERVICE CONNECTION
Green dashed line with H	HYDRANTS AS PER IRISH WATER STANDARD DETAIL STD-W-1618
Green dashed line with WOH	WASH OUT HYDRANTS AS PER IRISH WATER STANDARD DETAIL STD-W-30A
Green dashed line with M	SCOUR VALVE AS PER IRISH WATER STANDARD DETAIL STD-W-30
Green dashed line with M	METER CHAMBER AS PER IRISH WATER STANDARD DETAIL STD-W-26
Green dashed line with M	FLOW METER KIOSK AS PER STD-W-36
Black dashed line	9" CAST IRON EXISTING WATERMAIN
Black dashed line with SV	EXISTING SLUICE VALVE
Black dashed line with H	EXISTING HYDRANT

ORDNANCE SURVEY IRELAND LICENCE
 No EN 0017921
 © ORDNANCE SURVEY IRELAND GOVERNMENT OF IRELAND

rev	date	description	by	chkd
3	07-11-25	SODA APPLICATION	GON	SM
4	05-11-25	GENERAL UPDATED	GON	EJD
2	04-07-25	WATERMAIN ARRANGEMENT UPDATED	GON	EJD
1	01-07-25	UPDATED LAYOUT	GON	EJD
0	26-05-25	LIRD APPLICATION	PGC	ED

STATUS CODES
 purpose P3 - PLANNING PERMISSION | acceptance S - ISSUED

DBFL CONSULTING ENGINEERS
 T + 353 1 400 4000 | E: info@dbfl.ie | W: www.dbfl.ie
 DUBLIN | CORK | GALWAY | WATERFORD

project ref: **SANDFORD ROAD, MILLTOWN**

drawing title: **SITE WATERMAIN LAYOUT**

client: **SANDFORD LIVING LIMITED**

designed by BK | author ICD | scale 1:500 | sheet size A1P | drawing no. 190226-X-93-200-DTM-DR-DBFL-CE-1311 | revision 4

LIST OF IRISH WATER STANDARD DETAILS BROUGHT INTO THE CONTRACT

STD-W-04	GENERAL PIPE CONNECTIONS (SHEET 1 OF 7)
STD-W-05	GENERAL PIPE CONNECTIONS (SHEET 2 OF 7)
STD-W-06	GENERAL PIPE CONNECTIONS (SHEET 3 OF 7)
STD-W-07	GENERAL PIPE CONNECTIONS (SHEET 4 OF 7)
STD-W-08	GENERAL PIPE CONNECTIONS (SHEET 5 OF 7)
STD-W-09	GENERAL PIPE CONNECTIONS (SHEET 6 OF 7)
STD-W-10	GENERAL PIPE CONNECTIONS (SHEET 7 OF 7)
STD-W-11	TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES
STD-W-12	RESTRICTIONS ON TREES / SHRUBS PLANTING ADJACENT TO WATERMANS
STD-W-13	TRENCH BACKFILL & BEDDING
STD-W-14	SLUICE VALVE FOR DUCTILE IRON (D.I.) PIPE (<350MM DIA.) (SHEET 1 OF 2)
STD-W-15	SLUICE VALVE FOR POLYETHYLENE (P.E.) PIPE (<350MM DIA.) (SHEET 2 OF 2)
STD-W-16	ON-LINE HYDRANT FOR DUCTILE IRON (D.I.) PIPE (SHEET 1 OF 4)
STD-W-17	OFF-LINE HYDRANT FOR DUCTILE IRON (D.I.) PIPE (SHEET 2 OF 4)
STD-W-18	ON-LINE HYDRANT FOR POLYETHYLENE (P.E.) PIPE (SHEET 3 OF 4)
STD-W-19	OFF-LINE HYDRANT FOR POLYETHYLENE (P.E.) PIPE (SHEET 4 OF 4)
STD-W-20	ON-LINE AIR VALVE FOR DUCTILE IRON (D.I.) PIPE (SHEET 1 OF 4)
STD-W-21	OFF-LINE AIR VALVE FOR DUCTILE IRON (D.I.) PIPE (SHEET 2 OF 4)
STD-W-22	ON-LINE AIR VALVE FOR POLYETHYLENE (P.E.) PIPE (SHEET 3 OF 4)
STD-W-23	OFF-LINE AIR VALVE FOR POLYETHYLENE (P.E.) PIPE (SHEET 4 OF 4)
STD-W-24	PRESSURE REDUCING / SUSTAINING VALVE (P.R.V. / P.S.V.) CHAMBER
STD-W-26	METER CHAMBER (≤300MM DIA.)
STD-W-27	MARKER POSTS / PLATES
STD-W-28	WATER MAIN THRUST & SUPPORT BLOCKS
STD-W-30	SCOUR CHAMBER & HEAD WALL ARRANGEMENTS
STD-W-30A	WASHOUT HYDRANT
STD-W-31	TYPICAL DITCH / STREAM CROSSING FOR WATER MAIN

GENERAL NOTES

- ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES
- THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF EXISTING DRAINAGE LEVELS AND LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE
- ALL DIMENSIONS AND LEVELS ARE IN METRES UNLESS NOTED OTHERWISE
- ALL LEVELS ARE IN METERS AND ARE RELATED TO ORDNANCE DATUM. CO-ORDINATES RELATE TO ITM.

DRAWING SPECIFIC NOTES

- ALL WATERMANS VALVES AND FITTINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE IRISH WATER STANDARD DETAILS AND IRISH WATER CODE OF PRACTICE FOR WATER INFRASTRUCTURE. WATERMANS SHALL BE HDPE, PE100, SDR17 TO IS EN 12201 PART 2:2011 AND IS EN 12201-3:2011 ALL SLUING WATERMAIN MATERIAL TO ME ENGINEERS SPECIFICATION
- CONNECTION BETWEEN EXISTING AND PROPOSED WATERMANS TO BE CARRIED OUT IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS STD-W-03 TO STD-W-10
- ANCHOR BLOCKS TO BE POSITIONED AT DEAD ENDS, TEES, BENDS AND AT EACH SIDE OF HYDRANTS AND VALVES IN ACCORDANCE WITH THE REQUIREMENTS OF IRISH WATER STANDARD DETAIL STD-W-28 (WATER MAIN THRUST AND SUPPORT BLOCKS) DISMANTLING JOINTS TO BE INSTALLED AT EACH SLUICE VALVE AS PER IRISH WATER STANDARD DETAIL STD-W-15 CONNECTION TO INDIVIDUAL HOUSES IN ACCORDANCE WITH IRISH WATER STD-W-03
- INSTALLATION OF SLUICE VALVES, AIR VALVES AND HYDRANTS SHALL BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS STD-W-14 TO STD-W-23
- MARKER POSTS AND PLATES ARE TO BE PROVIDED IN ACCORDANCE WITH IRISH WATER STANDARD DETAIL STD-W-27
- CONNECTION TO INDIVIDUAL HOUSES IN ACCORDANCE WITH IRISH WATER STD-W-03
- CONNECTION TO EXISTING WATERMANS TO BE COORDINATED BY THE CONTRACTOR WITH IRISH WATER AND/OR THE LOCAL AUTHORITY
- CONTRACTOR TO LIASE WITH IRISH WATER AND/OR THE LOCAL AUTHORITY AS REQUIRED REGARDING TESTING, CLEANSING AND STERILISATION OF WATERMANS
- WATERMANS TO BE PRESSURE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF IRISH WATER AND IGN 4-01-03. GUIDE TO TESTING OF PRESSURE PIPES AND FITTINGS FOR USE BY PUBLIC WATER SUPPLIERS, OCTOBER 2015. A FORMAL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER DETAILING THE TEST CARRIED OUT
- AT 90 DEG. TURNS USE 2 NO. 45 DEG. BENDS
- COVER TO WATERMAIN TO BE 900MM
- HYDRANT OUTLET TO BE 200MM BELOW GROUND LEVEL UNLESS REQUESTED OTHERWISE
- WHERE COVER TO PIPE IS LESS THAN 1200MM IN TRAFFICED AREAS, ENCASE PIPE IN 150 MM CONCRETE WITH MOVEMENT JOINTS
- CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE ACCURACY OF EXISTING SERVICES INFORMATION AND THE LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCING INSTALLATION OF WATERMANS
- WATERMAIN DIAMETERS SHOWN ON PLAN REFER TO MINIMUM INTERNAL DIAMETER

Appendix 14.1

Resource & Waste Management Plan



Trinity
Consultants

awnconsulting

Resource & Waste Management Plan

Project Title: Milltown Park, Sandford Road, Dublin 6 LRD

Appendix 14.1

CLIENT

Sandford
Living
Limited

DOCUMENT REFERENCE



257501.5511WMR01

DATE

04/12/2025

DOCUMENT CONTROL SHEET

Document Control Sheet		
Our Reference	257501.5511WMR01	
Original Issue Date	04/12/2025	
Client:	Sandford Living Limited	
Revision	Revision Date	Description

Details	Written by	Approved by
Signature		
Name	Chonaill Bradley	Fergal Callaghan
Title	Associate	Director
Date	04/12/2025	04/12/2025

Disclaimer

This report considers the specific instructions and requirements of our client. It is not intended for third-party use or reliance, and no responsibility is accepted for any third party. The provisions in this report apply solely to this project and should not be assumed applicable to other developments without review and modification.



TABLE OF CONTENTS

1. INTRODUCTION	1-1
2. OVERVIEW OF WASTE MANAGEMENT IN IRELAND	A-2
2.1 National level	A-2
2.2 Regional Level.....	A-3
2.3 Legislative Requirements.....	A-5
3. DESIGN APPROACH	A-7
3.1 Designing For Prevention, Reuse and Recycling.....	A-7
3.2 Designing for Green Procurement.....	A-7
3.3 Designing for Off-Site Construction	A-8
3.4 Designing for Materials Optimisation During Construction	A-8
3.5 Designing for Flexibility and Deconstruction.....	A-8
4. DESCRIPTION OF THE DEVELOPMENT	A-9
4.1 Location, Size and Scale of the Development.....	A-9
4.2 Details of the Non-Hazardous Wastes to be Produced	A-11
4.3 Potential Hazardous Wastes Arising.....	A-11
4.3.1 Contaminated Soil.....	A-11
4.3.2 Fuel/Oils	A-12
4.3.3 Invasive Plant Species	A-12
4.3.4 Asbestos	A-12
4.3.5 Other Known Hazardous Substances.....	A-13
5. ROLES AND RESPONSIBILITIES	A-14
5.1 Role of the Client	A-14
5.2 Role of the Client Advisory Team	A-14
5.3 Future Role of the Contractor	A-14
6. KEY MATERIALS & QUANTITIES	A-16
6.1 Project Resource Targets.....	A-16
6.2 Main Construction and Demolition Waste Categories.....	A-16
6.3 Demolition Waste Generation	A-17
6.4 Construction Waste Generation	A-17
6.5 Proposed Resource and Waste Management Options	A-18
6.6 Tracking and Documentation Procedures for Off-Site Waste	A-21
7. ESTIMATED COST OF WASTE MANAGEMENT	A-22
7.1 Reuse.....	A-22
7.2 Recycling	A-22
7.3 Disposal	A-22
8. DEMOLITION PROCEDURES	A-23
9. TRAINING PROVISIONS	A-25
9.1 Resource Manager Training and Responsibilities	A-25
9.2 Site Crew Training.....	A-25
10. TRACKING AND TRACING / RECORD KEEPING	A-26
11. OUTLINE WASTE AUDIT PROCEDURE	A-27
11.1 Responsibility for Waste Audit	A-27
11.2 Review of Records and Identification of Corrective Actions.....	A-27

11.3 Pest Management	A-27
12. CONSULTATION WITH RELEVANT BODIES	A-28
12.1 Local Authority.....	A-28
12.2 Recycling / Salvage Companies	A-28
13. SUMMARY AND CONCLUSION	A-29
14. REFERENCES	A-30
APPENDIX A. WASTE FACILITIES IN THE DUBLIN AREA	A-31

LIST OF TABLES

Table 6.1 Typical waste types generated and LoW codes (individual waste types may contain hazardous substances)	A-16
Table 6.2 Estimated off-site reuse, recycle and disposal rates for demolition waste	A-17
Table 6.3 Waste materials generated on a typical Irish construction site	A-17
Table 6.4 Predicted on and off-site reuse, recycle and disposal rates for construction waste	A-17

1. INTRODUCTION

AWN Consulting, a Trinity Consultants Team, has prepared this Construction and Demolition (C&D) Resource & Waste Management Plan (RWMP) on behalf of Sandford Living Limited.

The development will principally consist of: the demolition of c. 4,847.5 sq m of existing structures on site including Milltown Park House (880 sq m), Milltown Park House Rear Extension (2,031 sq m), the Finlay Wing (622 sq m), the Archive (1,240 sq m) and the Link Building between Tabor House and Milltown Park House Rear Extension to the front of the Chapel (74.5 sq m); the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m) and the provision of a single storey glass entrance lobby to the front and side of the Chapel (52 sq m); and the provision of 562 No. residential units comprising 6 No. three-bed courtyard houses and 556 No. apartment units (70 No. studios, 176 No. one-bed units, 267 No. two-bed units and 43 No. three-bed units).

This plan provides information necessary to ensure that the management of C&D waste at the site is undertaken in accordance with the current legal and industry standards including the *Waste Management Act 1996* as amended and associated Regulations ¹, *Environmental Protection Agency Act 1992* as amended ², *Litter Pollution Act 1997* as amended ³, the *National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE) (2024)* ⁴. In particular, this plan aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. It also provides appropriate measures in relation to the collection and transport of waste from the site to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil and/or water).

This RWMP includes information on the legal and policy framework for C&D waste management in Ireland, estimates of the type and quantity of waste to be generated by the proposed development and prescribes measures for the management of different waste streams. The RWMP should be viewed as a live document and will be regularly revisited throughout the project's lifecycle so that opportunities to maximise waste reduction / efficiencies are exploited throughout, and that data is collected on an ongoing basis so that it is as accurate as possible.

2. OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National level

The Irish Government issued a policy statement in September 1998, *Changing Our Ways*⁵, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. The target for C&D waste in this report was to recycle at least 50% of C&D waste within a five year period (by 2003), with a progressive increase to at least 85% over fifteen years (i.e. 2018).

In response to the *Changing Our Ways* report, a task force (Task Force B4) representing the waste sector of the already established Forum for the Construction Industry, released a report entitled '*Recycling of Construction and Demolition Waste*'⁶ concerning the development and implementation of a voluntary construction industry programme to meet the Government's objectives for the recovery of C&D waste.

In September 2020, the Irish Government published a policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan, '*A Waste Action Plan for a Circular Economy*'⁷ (WAPCE), replaces the previous national waste management plan, '*A Resource Opportunity*' (2012), and was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to an altered economical model, where climate and environmental challenges are turned into opportunities.

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken was the development of the *Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less'* (2021)⁸ to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity and was issued in December 2021. It is anticipated that the Strategy will be updated in full every 18 months to 2 years. At the time of issuing this report there has been no further iterations of the document.

The Circular Economy and Miscellaneous Provisions Act 2022⁹ was signed into law in July 2022. The Act underpins Ireland's shift from a "take-make-waste" linear model to a more sustainable pattern of production and consumption, that retains the value of resources in our economy for as long as possible and that will work to significantly reduce our greenhouse gas emissions. The Act defines Circular Economy for the first time in Irish law, incentivises the use of recycled and reusable alternatives to wasteful, single-use disposable packaging, introduces a mandatory segregation and incentivised charging regime for commercial waste, streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market, and tackles illegal fly-tipping and littering.

The Environmental Protection Agency (EPA) of Ireland issued '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' in November 2021¹⁰. These guidelines replace the previous 2006 guidelines issued by The National Construction and Demolition Waste Council (NCDWC) and the Department of the Environment, Heritage and Local Government (DoEHLG) in 2006¹¹. The guidelines provide a practical approach which is informed by best practice in the prevention and management of C&D wastes and resources from design to construction of a project, including consideration of the deconstruction of a project. These guidelines have been followed in the preparation of this document and include the following elements:

- ▶ *Predicted C&D wastes and procedures to prevent, minimise, recycle and reuse wastes;*
- ▶ *Design teams roles and approach;*
- ▶ *Relevant EU, national and local waste policy, legislation and guidelines;*
- ▶ *Waste disposal/recycling of C&D wastes at the site;*
- ▶ *Provision of training for Resource Waste Manager (RM) and site crew;*
- ▶ *Details of proposed record keeping system;*
- ▶ *Details of waste audit procedures and plan; and*
- ▶ *Details of consultation with relevant bodies i.e. waste recycling companies, Local Authority, etc.*

Section 3 of the Guidelines identifies thresholds above which there is a requirement for the preparation of a bespoke RWMP for developments. The new guidance classifies developments on a two-tiered system. Developments which do not exceed any of the following thresholds may be classed as Tier 1 development, which require a simplified RWMP:

- ▶ *New residential development of less than 10 dwellings.*
- ▶ *Retrofit of 20 dwellings or less.*
- ▶ *New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m².*
- ▶ *Retrofit of commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 2,000m²; and*
- ▶ *Demolition projects generating in total less than 100m³ in volume of C&D waste.*

A development which exceeds one or more of these thresholds is classed as Tier-2 development.

This development requires a RWMP as a Tier 2 development as it is above following criterion:

- ▶ *Demolition projects generating in total less than 100m³ in volume of C&D waste.*
- ▶ *New commercial, industrial, infrastructural, institutional, educational, health and other developments with an aggregate floor area less than 1,250m².*

The Department of Housing, Local Government and Heritage authored *Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities (2024)*¹², suggests the below thresholds at which the need for supplemental information such as the RWMP should be considered.

- ▶ *30 or more residential units,*
- ▶ *1,000 sq. meters of mixed-use development*

Other guidelines followed in the preparation of this report include '*Construction and Demolition Waste Management – a handbook for Contractors and Site Managers*'¹³, published by FÁS and the Construction Industry Federation in 2002 and the previous guidelines, '*Best Practice Guidelines for the Preparation of Waste Management Plans for Construction and Demolition Projects*' (2006).

These guidance documents are considered to define best practice for C&D projects in Ireland and describe how C&D projects are to be undertaken such that environmental impacts and risks are minimised and maximum levels of waste recycling are achieved.

2.2 Regional Level

The proposed development is located in the Local Authority area of Dublin City Council (DCC).

The Eastern Midlands Region (EMR) Waste Management Plan 2015 – 2021, which previously governed waste management policy in the DCC area, has been superseded as of March 2024 by the NWMPCE 2024 – 2030, the national waste management plan for Ireland.

The NWMPCE does not dissolve the three regional waste areas. The NWMPCE sets the ambition of the plan to have a 0% total waste growth per person over the life of the Plan with an emphasis on non-household waste, including waste from commercial activities and the construction and demolition sector. This plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.

The national plan sets out the following strategic targets for waste management in the country that are relevant to the development:

National Targets

1B. (Construction Materials) 12% Reduction in Construction & Demolition Waste Generated by 2030.

3B. (Reuse Facilities) Provide for reuse at 10 Civic Amenity Sites, minimum

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140 - €160 per tonne of waste which includes an €85 per tonne landfill levy introduced under the *Waste Management (Landfill Levy) (Amendment) Regulations 2015 (as amended)*¹⁴. *The Circular Economy (Waste Recovery Levy) Regulations 2024*¹⁵ will also a e levy of €10 per tonne to waste accepted for recovery. This will include backfilling at authorised recovery sites and at municipal waste landfills.

The *Dublin City Development Plan 2022 – 2028*¹⁶ sets out a number of policies and objectives for Dublin City in line with the objectives of the National climate action policy and emphasises the need to take action to address climate action across all sectors of society and the economy. In the waste sector, policy on climate action is focused on a shift towards a 'circular economy' encompassing three core principles: designing out waste and pollution; keeping products and material in use; and regenerating natural systems. Further policies and objectives can be found within the development plan.

Policies:

- ▶ *CA8 (f): (New development should generally demonstrate/ provide for:) minimising the generation of site and construction waste and maximising reuse or recycling.*
- ▶ *CA8 (G): (New development should generally demonstrate/ provide for:) the use of construction materials that have low to zero embodied energy and CO2 emissions*
- ▶ *CA23: The Circular economy: To support the shift towards the circular economy approach as set out in 'a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy', or as updated.*
- ▶ *CA24: To have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these guidelines in order to ensure the consistent application of planning requirements.*
- ▶ *SI27: Sustainable Waste Management: To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.*
- ▶ *SI28: To prevent and minimise waste generation and disposal, and to prioritise prevention, recycling, preparation for reuse and recovery in order to develop Dublin as a circular city and safeguard against environmental pollution.*
- ▶ *SI29: Segregated Storage and Collection of Waste Streams: To require new commercial and residential developments, to include adequate and easily accessible storage space that supports the*

separate collection of as many waste and recycling streams as possible, but at a minimum general domestic waste, dry recyclables and food waste as appropriate.

- ▶ *SI30: To require that the storage and collection of mixed dry recyclables, organic and residual waste materials within proposed apartment schemes have regard to the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2020 (or and any future updated versions of these guidelines produced during the lifetime of this plan).*

Objectives:

- ▶ *SIO14 Local Recycling/Reuse Infrastructure: To provide for a citywide network of municipal civic amenity facilities/ multi-material public recycling and reuse facilities in accessible locations throughout the city in line with the objectives of the circular economy and 15 minute city.*
- ▶ *SIO16 Eastern-Midlands Region Waste Management Plan: To support the implementation of the Eastern-Midlands Regional Waste Management Plan 2015–2021 and any subsequent plans in order to facilitate the transition from a waste management economy towards a circular economy.*

15.7.1 Re-use of Existing Buildings

- ▶ *Where development proposal comprises of existing buildings on the site, applicants are encouraged to reuse and repurpose the buildings for integration within the scheme, where possible in accordance with Policy CA6, CA7 and CA8. Where demolition is proposed, the applicant must submit a demolition justification report to set out the rationale for the demolition having regard to the 'embodied carbon' of existing structures as well as the additional use of resources and energy arising from new construction relative to the reuse of existing structures.*
- ▶ *Existing building materials should be incorporated and utilised in the new design proposals where feasible and a clear strategy for the reuse and disposal of the materials should be included where demolition is proposed.*

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the development are:

- ▶ *Waste Management Act 1996 as amended;*
- ▶ *Environmental Protection Agency Act 1992 as amended;*
- ▶ *Litter Pollution Act 1997 as amended;*
- ▶ *Planning and Development Act 2000 as amended* ¹⁷;
- ▶ *Circular Economy and Miscellaneous Provisions Act 2022.*

One of the guiding principles of European waste legislation, which has in turn been incorporated into the *Waste Management Act 1996* as amended and subsequent Irish legislation, is the principle of "Duty of Care". This implies that the waste producer is responsible for waste from the time it is generated through until its legal recycling, recovery or disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final destination, waste contractors will be employed to physically transport waste to the final destination. Following on from this is the concept of "Polluter Pays" whereby the waste producer is liable to be prosecuted for pollution incidents, which may arise from the incorrect management of waste produced, including the actions of any contractors engaged (e.g. for transportation and disposal/recovery/recycling of waste).

It is therefore imperative that the Developer ensures that the waste contractors engaged by demolition and construction contractors are legally compliant with respect to waste transportation, recycling, recovery

and disposal. This includes the requirement that a contractor handle, transport and recycle/recover/dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the *Waste Management (Facility Permit & Registration) Regulations 2007 as amended* or a Waste Licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and/or disposed of at the specified site.

3. DESIGN APPROACH

The client and the design team have integrated the '*Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects*' guidelines into the design workshops, to help review processes, identify and evaluate resource reduction measures and investigate the impact on cost, time, quality, buildability, second life and management post demolition and construction. Further details on these design principals can be found within the aforementioned guidance document.

The design team have undertaken the design process in line with the international best practice principles to firstly prevent wastes, reuse where possible and thereafter sustainably reduce and recover materials. The below sections have been the focal point of the design process and material selections and will continued to be analysed and investigated throughout the design process and when selecting material.

As noted in the EPA guidelines, the approaches presented are based on international principles of optimizing resources and reducing waste on demolition and construction projects through:

- ▶ *Prevention;*
- ▶ *Reuse;*
- ▶ *Recycling;*
- ▶ *Green Procurement Principles;*
- ▶ *Off-Site Construction;*
- ▶ *Materials Optimisation; and*
- ▶ *Flexibility and Deconstruction.*

3.1 Designing For Prevention, Reuse and Recycling

Undertaken at the outset and during project feasibility and evaluation the Client and Design Team considered:

- ▶ Establishing the potential for any reusable site assets (buildings, structures, equipment, materials, soils, etc.);
- ▶ The potential for refurbishment and refit of existing structures or buildings rather than demolition and new build;
- ▶ Assessing any existing buildings on the site that can be refurbished either in part or wholly to meet the Client requirements; and
- ▶ Enabling the optimum recovery of assets on site.

3.2 Designing for Green Procurement

Waste prevention and minimisation pre-procurement have been discussed and will be further discussed in this section. The Design Team will discuss proposed design solutions, encourage innovation in tenders and incentivise competitions to recognise sustainable approaches. They will also discuss options for packaging reduction with the main Contractor and subcontractors/suppliers using measures such as 'Just-in-Time' delivery and use ordering procedures that avoid excessive waste. The Green procurement extends from the planning stage into the detailed design and tender stage and will be an ongoing part of the long-term design and selection process for this development.

3.3 Designing for Off-Site Construction

Use of off-site manufacturing has been shown to reduce residual wastes by up to 90% (volumetric building versus traditional). The decision to use offsite construction is typically cost led, but there are significant benefits for resource management. Some further considerations for procurement which are being investigated as part of the planning stage design process are listed as follows:

- ▶ Modular buildings as these can displace the use of concrete and the resource losses associated with concrete blocks such as broken blocks, mortars, etc.;
 - Modular buildings are typically pre-fitted with fixed plasterboard and installed insulation, eliminating these residual streams from site.
- ▶ Use of pre-cast structural concrete panels which can reduce the residual volumes of concrete blocks, mortars, plasters, etc.;
- ▶ The use of prefabricated composite panels for walls and roofing to reduce residual volumes of insulation and plasterboards;
- ▶ Using pre-cast hollow-core flooring instead of in-situ ready mix flooring or timber flooring to reduce the residual volumes of concrete/formwork and wood/packaging, respectively; and
- ▶ Designing for the preferential use of offsite modular units.

3.4 Designing for Materials Optimisation During Construction

To ensure manufacturers and construction companies adopt lean production models, including maximising the reuse of materials onsite as outlined in section 3.1, structures should be designed with the intent of designing out waste. This helps to reduce the environmental impacts associated with transportation of materials and from waste management activities. This includes investigating the use of standardised sizes for certain materials to help reduce the amount of offcuts produced on site, focusing on promotion and development of off-site manufacture.

3.5 Designing for Flexibility and Deconstruction

Design flexibility has and will be investigated throughout the design process to ensure that where possible products (including buildings) only contain materials that can be recycled and are designed to be easily disassembled. Material efficiency is being considered for the duration and end of life of a building project to produce; flexible, adaptable spaces that enable a resource-efficient, low-waste future change of use; durability of materials and how they can be recovered effectively when maintenance and refurbishment are undertaken and during disassembly/deconstruction.

4. DESCRIPTION OF THE DEVELOPMENT

4.1 Location, Size and Scale of the Development

Sandford Living Limited intend to apply for permission for a Large-Scale Residential Development at a c. 4.26 hectare site at Milltown Park, Sandford Road, Dublin 6, D06 V9K7. Works are also proposed on Milltown Road and Sandford Road to facilitate access to the development including improvements to pedestrian facilities on an area of c. 0.16 hectares. The development's surface water drainage network shall discharge from the site via a proposed 300mm diameter pipe along Milltown Road through the junction of Milltown Road / Sandford Road prior to outfalling to the existing drainage network on Eglinton Road (approximately 200 metres from the Sandford Road / Eglinton Road junction), with these works incorporating an area of c. 0.32 hectares. The development site area, road works and drainage works areas will provide a total application site area of c. 4.74 hectares.

The development will principally consist of: the demolition of c. 4,847.5 sq m of existing structures on site including Milltown Park House (880 sq m), Milltown Park House Rear Extension (2,031 sq m), the Finlay Wing (622 sq m), the Archive (1,240 sq m) and the Link Building between Tabor House and Milltown Park House Rear Extension to the front of the Chapel (74.5 sq m); the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m) and the provision of a single storey glass entrance lobby to the front and side of the Chapel (52 sq m); and the provision of 562 No. residential units comprising 6 No. three-bed courtyard houses and 556 No. apartment units (70 No. studios, 176 No. one-bed units, 267 No. two-bed units and 43 No. three-bed units).

Block A1 will range in height from 5 No. storeys to 8 No. storeys and will comprise 81 No. apartment units; Block A2 will range in height from 6 No. storeys to 8 No. storeys and will comprise 139 No. apartment units; Block B will range in height from 3 No. to 7 No. storeys and will comprise 74 No. apartment units; Block C will range in height from 4 No. storeys to 7 No. storeys and will comprise 151 No. apartment units; Block D will range in height from 3 No. storeys to 5 No. storeys and will comprise 30 No. apartment units; Block E will be 2 No. storeys in height and will comprise 6 No. courtyard type houses; and Block F will range in height from 5 No. storeys to 7 No. storeys and will comprise 81 No. apartment units.

The development also includes the provision of: cultural/community space within Tabor House (4 No. storeys including lower ground floor level) and the Chapel (2 No. storeys including lower ground floor level and mezzanine level) (1,698 sq m) with associated outdoor space (248 sq m); a café/restaurant (154 sq m) and a creche (350 sq m) within Block F with associated outdoor creche play area; ancillary residents' amenities and facilities within Blocks B & C; and a single storey bin store and substation adjacent to Block F (101 sq m).

The development also provides a new access from Milltown Road (which will be the principal vehicular entrance to the site) in addition to utilising and upgrading the existing access from Sandford Road as a secondary access principally for deliveries, emergencies and taxis; new pedestrian access points; pedestrian/bicycle connections through the site; 319 No. car parking spaces (289 No. at basement level and 30 No. at surface level); set down area for deliveries; bicycle parking; 22 No. motorcycle spaces; bin storage; boundary treatments; private balconies and terraces facing all directions; hard and soft landscaping including public open space and communal open space; green/blue roofs; PV panels; substations; lighting; plant; lift cores and overruns; and all other associated site works above and below ground.

The proposed development has a gross floor space of c.50,196 sq m above ground level over a partial basement (under part of Blocks A1 and A2 and under Blocks B and C) measuring c. 10,550 sq m, which includes parking spaces, bin storage, bike storage and plant.

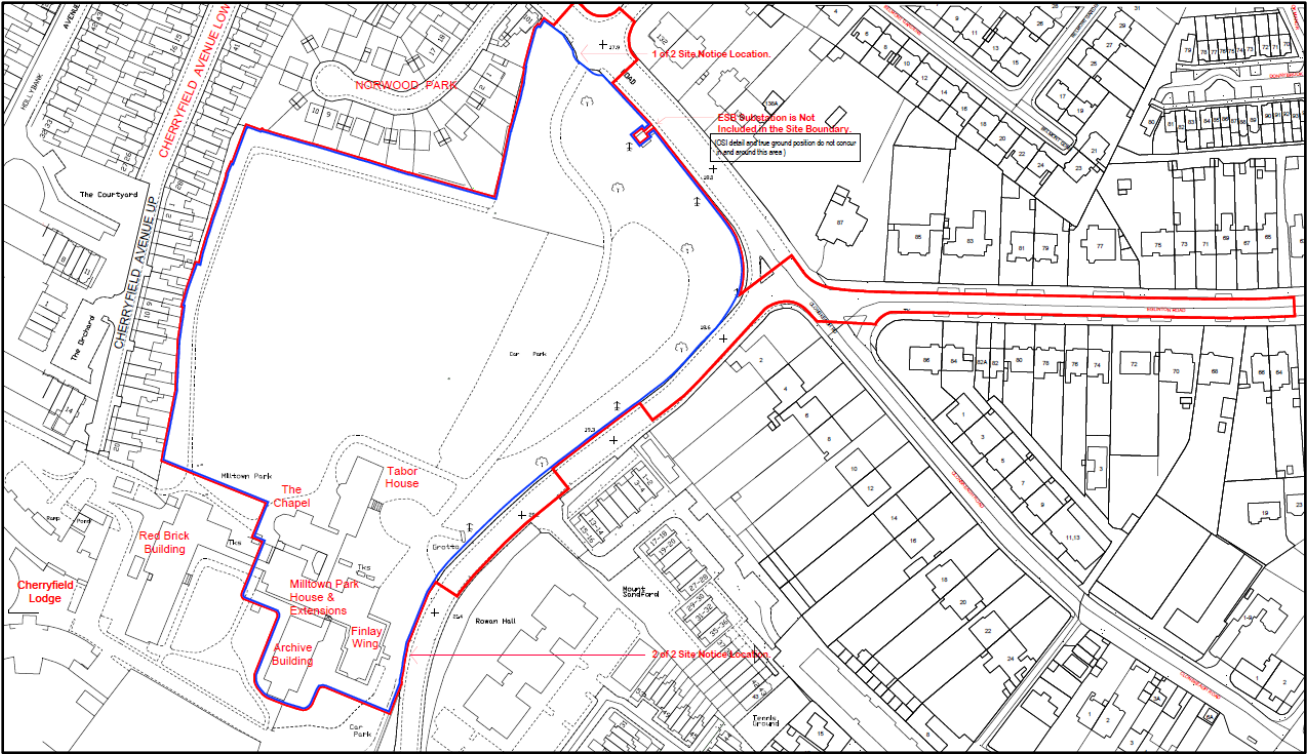


Figure 4.1 Proposed Development Site Location (Source OMP Architects 2025)

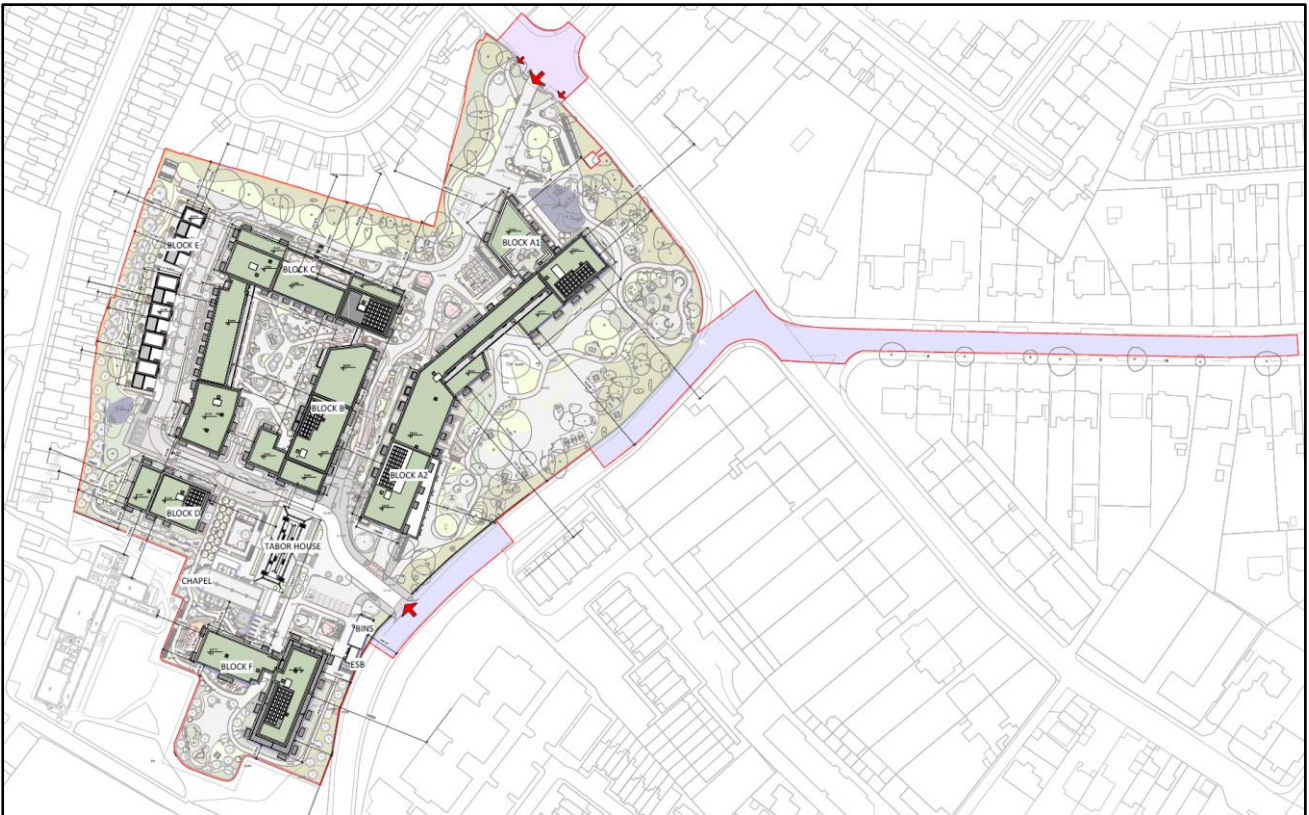


Figure 4.2 Proposed Development Site Layout (Source OMP Architects 2025)

4.2 Details of the Non-Hazardous Wastes to be Produced

There will be waste materials generated from the demolition and refurbishment of the existing buildings onsite, to accommodate the proposed development. The demolition will principally consist of: the demolition of c. 4,847.5 sq m of existing structures on site including Milltown Park House (880 sq m); Milltown Park House Rear Extension (2,031 sq m); the Finlay Wing (622 sq m); the Archive (1,240 sq m); and the link building between Tabor House and Milltown Park House rear extension to the front of the Chapel (74.5 sq m); the refurbishment and reuse of Tabor House (1,575 sq m) and the provision of a single storey glass entrance lobby to the front and side of the Chapel (51.9 sq m);

The volume of waste generated from renovation will be more difficult to segregate than waste generated from the construction phase, as many of the building materials will be bonded together or integrated i.e. plasterboard on timber ceiling joists, steel embedded in concrete, etc.

There will be soil, stones, clay and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed basement. The project engineers (DBFL Consulting Engineers) have estimated that between 74,000m³ and 80,000m³ of material will need to be excavated to do so. It is currently envisaged that 10,000m³ will be able to be retained and reused onsite for landscaping, the remaining material, will need to be removed offsite due to the limited opportunities for reuse on site. This will be taken for appropriate offsite reuse, recovery, recycling and/or disposal.

During the construction phase there may be a surplus of building materials, such as timber off-cuts, broken concrete blocks, cladding, plastics, metals and tiles generated. There may also be excess concrete during construction which will need to be disposed of. Plastic and cardboard waste from packaging and supply of materials will also be generated. The contractor will be required to ensure that oversupply of materials is kept to a minimum and opportunities for reuse of suitable materials is maximised.

Waste will also be generated from demolition and construction workers e.g. organic / food waste, dry mixed recyclables (waste paper, newspaper, plastic bottles, packaging, aluminium cans, tins and Tetra Pak cartons), mixed non-recyclables and potentially sewage sludge from temporary welfare facilities provided on site during the construction phase. Waste printer / toner cartridges, waste electrical and electronic equipment (WEEE) and waste batteries may also be generated infrequently from site offices.

4.3 Potential Hazardous Wastes Arising

4.3.1 Contaminated Soil

Site investigations and environmental soil testing were undertaken between January and June 2020 by Ground Investigations Ireland (GII). A number of samples were analysed for a suite of parameters which allows for the assessment of the sampled material in terms of total pollutant content for classification of materials as hazardous or non-hazardous. The suite also allows for the assessment of the sampled material in terms of suitability for placement at licenced landfills (inert, stable non-reactive, hazardous etc.). The parameter list for the suite includes analysis of the solid samples for arsenic, barium, cadmium, chromium, copper, cyanide, lead, nickel, mercury, zinc, speciated aliphatic and aromatic petroleum hydrocarbons, pH, sulphate, sulphide, moisture content, soil organic matter and an asbestos screen.

The suite also includes those parameters specified in the EU Council Decision establishing criteria for the acceptance of waste at Landfills (Council Decision 2003/33/EC), which for the solid samples are total organic carbon (TOC), speciated aliphatic and aromatic petroleum hydrocarbons, BTEX, phenol, polychlorinated biphenyls (PCB) and PAH.

If any potentially contaminated material is encountered, it will need to be segregated from clean / inert material, tested and classified as either non-hazardous or hazardous in accordance with the EPA

publication entitled 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous'¹⁸ using the *HazWasteOnline* application (or similar approved classification method). The material will then need to be classified as clean, inert, non-hazardous or hazardous in accordance with the *EC Council Decision 2003/33/EC*¹⁹, which establishes the criteria for the acceptance of waste at landfills.

In the event that Asbestos Containing Materials (ACMs) are found within the excavated material, the removal will only be carried out by a suitably permitted waste contractor, in accordance with *the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*²⁰ and *the Best Practice Guidance for Handling Asbestos (2023)*²¹. All asbestos will be taken to a suitably licensed or permitted facility.

In the event that hazardous soil, or historically deposited waste is encountered during the demolition and construction phase, the contractor will notify DCC and provide a Hazardous / Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant mitigation, destination for disposal / treatment, in addition to information on the authorised waste collector(s).

4.3.2 Fuel/Oils

Fuels and oils are classed as hazardous materials; any on-site storage of fuel / oil, and all storage tanks and all draw-off points will be bunded and located in a dedicated, secure area of the site. Provided that these requirements are adhered to and the site crew are trained in the appropriate refueling techniques, it is not expected that there will be any fuel / oil waste generated at the site.

4.3.3 Invasive Plant Species

Site invasive species surveys were undertaken by Invasive Plant Solutions (IPS) between 2020 and 2025 to inform the Invasive Alien Plant Species (IAPS) impact assessment and management plan for this project. A further follow up is scheduled for Spring 2026. The survey area included a site walkover survey of the entire site, and around part of the outside perimeter to search for any schedule 3 invasive species. Japanese Knotweed *Fallopia japonica*, which is listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended), was not recorded on the site.

Japanese Knotweed (*Fallopia japonica*) is an alien invasive species listed under schedule 3 of Regulations 477/2011, as amended. IPS's report concludes that it is not present on this site and there was no indication that it is growing in the immediate vicinity.

Several IASPs were recorded on Site between 2023 & 2025. Of this list, only two species are high-impact species listed on the Third Schedule of European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011), namely Spanish Bluebell and Three-cornered Garlic. High-impact Cherry Laurel was also recorded as seedlings and bushes within the woodland sections of the Site, however this species is not listed on the Third Schedule of S.I. 477 of 2011.

No other invasive plant species that could hinder removal of soil from the site during groundworks, such as Japanese knotweed, giant rhubarb or Himalayan balsam were noted on site.

4.3.4 Asbestos

Multiple asbestos refurbishment/demolition surveys were undertaken by Asbestos Safe in June 2020 and again 2023 for areas that were unable to be reached during the initial survey. The surveys were confined to all accessible areas of the existing buildings which are due for demolition and/or refurbishment in the future.

Asbestos Containing Materials (ACM) were detected in several locations within some of the buildings including in floor tiling, rope seals, bitumen and stair nosing's.

If located onsite removal of asbestos or ACMs will be carried out by a suitably qualified contractor and ACMs will only be removed from site by a suitably permitted / licenced waste contractor, in accordance with the *Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010 and the Best Practice Guidance for Handling Asbestos (2023)*. All material will be taken to a suitably licensed or permitted facility.

4.3.5 Other Known Hazardous Substances

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor.

In addition, WEEE (containing hazardous components), printer toner / cartridges, batteries (Lead, Ni-Cd or Mercury) and / or fluorescent tubes and other mercury containing waste may be generated from during C&D activities or temporary site offices. These wastes, if generated, will be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

5. ROLES AND RESPONSIBILITIES

The *Best Practice Guidelines on the Preparation of Resource Waste Management Plans for Construction and Demolition Projects* promotes that a suitably qualified Resource Manager (RM) with expertise in waste and resource management to implement the RWMP should be appointed. The RM may be performed by number of different individuals over the life-cycle of the Project, however it is intended to be a reliable person chosen from within the Planning/Design/Contracting Team, who is technically competent and appropriately trained, who takes the responsibility to ensure that the objectives and measures within the Project RWMP are complied with. The RM is assigned the requisite authority to meet the objective and obligations of the RWMP. The role will include the important activities of conducting waste checks/audits and adopting construction and demolition methodology that is designed to facilitate maximum reuse and/or recycling of waste.

5.1 Role of the Client

The Client are the body establishing the aims and the performance targets for the project.

- ▶ The Client has commissioned the preparation and submission of this RWMP as part of the design and planning submission;
- ▶ The Client is to commission the preparation and submission of an updated RWMP as part of the demolition and construction tendering process;
- ▶ The Client will ensure that the RWMP is agreed on and submitted to the local authority and their agreement obtained prior to commencement of works on site;
- ▶ The Client will request the end-of-project RWMP from the Contractor.

5.2 Role of the Client Advisory Team

The Client Advisory Team or Design Team is formed of architects, consultants, quantity surveyors and engineers and is responsible for:

- ▶ Drafting and maintaining the RWMP through the design, planning and procurement phases of the project;
- ▶ Appointing a RM to track and document the design process, inform the Design Team and prepare the RWMP.
- ▶ Including details and estimated quantities of all projected waste streams with the support of environmental consultants/scientists. This will also include data on waste types (e.g. waste characterisation data, contaminated land assessments, site investigation information) and prevention mechanisms (such as by-products) to illustrate the positive circular economy principles applied by the Design Team;
- ▶ Managing and valuing the demolition work with the support of quantity surveyors;
- ▶ Handing over of the RWMP to the selected Contractor upon commencement of demolition and/or construction of the development, in a similar fashion to how the safety file is handed over to the Contractor;
- ▶ Working with the Contractor as required to meet the performance targets for the project.

5.3 Future Role of the Contractor

The future demolition and construction contractors have not yet been decided upon for this RWMP. However, once select they will have major roles to fulfil. They will be responsible for:

- ▶ Preparing, implementing and reviewing the (including the Pre-Demolition) RWMP throughout the demolition and construction phases (including the management of all suppliers and sub-contractors) as per the requirements of the EPA guidelines;

- ▶ Identifying a designated and suitably qualified RM who will be responsible for implementing the RWMP;
- ▶ Identifying all hauliers to be engaged to transport each of the resources / wastes off-site;
- ▶ Implementing waste management policies whereby waste materials generated on site are to be segregated as far as practicable;
- ▶ Renting and operating a mobile-crusher to crush concrete for temporary reuse onsite during demolition/construction and reduce the amount of HGV loads required to remove material from site;
- ▶ Applying for the appropriate waste permit to crush concrete onsite;
- ▶ Identifying all destinations for resources taken off-site. As above, any resource that is legally classified as a 'waste' must only be transported to an authorised waste facility;
- ▶ End-of-waste and by-product notifications addressed with the EPA where required;
- ▶ Clarification of any other statutory waste management obligations, which could include on-site processing;
- ▶ Full records of all resources (both wastes and other resources) will be maintained for the duration of the project; and
- ▶ Preparing a RWMP Implementation Review Report at project handover.

6. KEY MATERIALS & QUANTITIES

6.1 Project Resource Targets

Project specific resource and waste management targets for the site have not yet been set and this information will be updated for these targets once these targets have been confirmed by the client. However, it is expected for projects of this nature that a minimum of 70% of waste is fully re-used, recycled or recovered. Target setting will inform the setting of project-specific benchmarks to track target progress. Typical Key Performance Indicators (KPIs) that will be used to set targets include (as per guidelines):

- ▶ Weight (tonnes) or Volume (m³) of waste generated per construction value;
- ▶ Weight (tonnes) or Volume (m³) of waste generated per construction floor area (m²);
- ▶ Fraction of resource reused on site;
- ▶ Fraction of resource notified as by-product;
- ▶ Fraction of waste segregated at source before being sent off-site for recycling/recovery; and
- ▶ Fraction of waste recovered, fraction of waste recycled, or fraction of waste disposed.

6.2 Main Construction and Demolition Waste Categories

The main non-hazardous and hazardous waste streams that could be generated by the demolition and construction activities at a typical site are shown in Table 6.1. The List of Waste (LoW) code (2018) for each waste stream is also shown.

Table 6.1 Typical waste types generated and LoW codes (individual waste types may contain hazardous substances)

Waste Material	LoW Code
Concrete, bricks, tiles, ceramics	17 01 01-03 & 07
Wood, glass and plastic	17 02 01-03
Treated wood, glass, plastic, containing hazardous substances	17-02-04*
Bituminous mixtures, coal tar and tarred products	17 03 01*, 02 & 03*
Metals (including their alloys) and cable	17 04 01-11
Soil and stones	17 05 03* & 04
Gypsum-based construction material	17 08 01* & 02
Paper and cardboard	20 01 01
Mixed C&D waste	17 09 04
Green waste	20 02 01
Electrical and electronic components	20 01 35 & 36
Batteries and accumulators	20 01 33 & 34
Liquid fuels	13 07 01-10
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04
Organic (food) waste	20 01 08
Mixed Municipal Waste	20 03 01

* Individual waste type may contain hazardous substances

6.3 Demolition Waste Generation

The demolition stage will involve the partial demolition of the existing buildings onsite (see section 4.2). The demolition areas are identified in the planning drawings provided with this application. The anticipated demolition waste and rates of reuse, recycling / recovery and disposal are shown in Table 6.2, below.

Table 6.2 Estimated off-site reuse, recycle and disposal rates for demolition waste

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Glass	261.8	0	0.0	85	222.5	15	39.3
Concrete, Bricks, Tiles, Ceramics	1483.3	30	445.0	65	964.2	5	74.2
Plasterboard	116.3	30	34.9	60	69.8	10	11.6
Asphalts	29.1	0	0.0	25	7.3	75	21.8
Metals	436.3	5	21.8	80	349.0	15	65.4
Slate	232.7	0	0.0	85	197.8	15	34.9
Timber	349.0	10	34.9	60	209.4	30	104.7
Asbestos	1.0	0	0.0	0	0.0	100	1.0
Total	2909.5		536.6		2020.0		352.9

6.4 Construction Waste Generation

Table 6.3 shows the breakdown of C&D waste types produced on a typical site based on data from the EPA *National Waste Reports*²² and the joint EPA & GMIT study²³.

Table 6.3 Waste materials generated on a typical Irish construction site

Waste Types	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
Total	100

Table 6.4, below, shows the estimated construction waste generation for the proposed Project based on the gross floor area of construction and other information available to date, along with indicative targets for management of the waste streams. The estimated amounts for the main waste types (with the exception of soils, stones and clay) are based on an average large-scale development waste generation rate per m², using the waste breakdown rates shown in Table 6.3. These have been calculated from the schedule of development areas provided by the architect.

Table 6.4 Predicted on and off-site reuse, recycle and disposal rates for construction waste

Waste Type	Tonnes	Reuse		Recycle / Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed C&D	1037.7	10	103.8	80	830.1	10	103.8
Timber	880.4	40	352.2	55	484.2	5	44.0

Plasterboard	314.4	30	94.3	60	188.7	10	31.4
Metals	251.6	5	12.6	90	226.4	5	12.6
Concrete	188.7	30	56.6	65	122.6	5	9.4
Other	471.7	20	94.3	60	283.0	20	94.3
Total	3144.4		713.8		2135.1		295.6

In addition to the information in Table 6.4, there will be between 74,000m³ and 80,000m³ of soil, stones, clay and made ground excavated to facilitate construction of new foundations, underground services, and the installation of the proposed basement. Any suitable excavated material will be temporarily stockpiled for reuse as fill or landscaping, where possible, but reuse on site is expected to be limited and all of the excavated material except for 10,000m³ is expected to be removed offsite for appropriate reuse, recovery and/or disposal.

It should be noted that until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process.

6.5 Proposed Resource and Waste Management Options

Waste materials generated will be segregated on-site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source, where feasible. All waste receptacles leaving the site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the Dublin region that provide this service.

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit. All waste arisings requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required.

National End-of-Waste Decision EoW-N001/2023 (Regulation 28) published by the EPA in September 2023, establishes criteria determining when recycled aggregate resulting from a recovery operation ceases to be waste. Material from this proposed development will be investigated to see if it can cease to be a waste under the requirements of the National End of Waste Criteria for Aggregates.

During demolition and construction, some of the sub-contractors on site will generate waste in relatively low quantities. The transportation of non-hazardous waste by persons who are not directly involved with the waste business, at weights less than or equal to 2 tonnes, and in vehicles not designed for the carriage of waste, are exempt from the requirement to have a waste collection permit (per Article 30 (1) (b) of the Waste Collection Permit Regulations 2007, as amended). Any sub-contractors engaged that do not generate more than 2 tonnes of waste at any one time can transport this waste off-site in their work vehicles (which are not designed for the carriage of waste). However, they are required to ensure that the receiving facility has the appropriate COR / permit / licence.

Written records will be maintained by the contractor(s), detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contractors who collect waste from the site and COR / permit / licence for the receiving waste facility for all waste removed off-site for appropriate reuse, recycling, recovery and / or disposal.

Dedicated banded storage containers will be provided for hazardous wastes which may arise, such as batteries, paints, oils, chemicals, if required.

The anticipated management of the main waste streams is outlined as follows:

Soil, Stone, Clay & Made Ground

The waste hierarchy states that the preferred option for waste management is prevention and minimisation of waste, followed by preparing for reuse and recycling / recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction works so the preferred option (prevention and minimisation) cannot be accommodated for the excavation phase.

When material is removed off-site it could be reused as a by-product (and not as a waste). If this is done, it will be done in accordance with Regulation 27 of the European Communities (Waste Directive) Regulations 2011, as amended, which requires that certain conditions are met and that by-product notifications are made to the EPA via their online notification form. Excavated material should not be removed from site until approval from the EPA has been received. The potential to reuse material as a by-product will be confirmed during the course of the excavation works, with the objective of eliminating any unnecessary disposal of material.

The next option (beneficial reuse) may be appropriate for the excavated material, pending environmental testing to classify the material as hazardous or non-hazardous in accordance with the EPA *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous* publication. Clean inert material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Regulation 27. Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Regulation 27. Regulation 27 will be investigated to see if the material can be imported onto this site for beneficial reuse instead of using virgin materials.

If the material is deemed to be a waste, then removal and reuse / recovery / disposal of the material will be carried out in accordance with the Waste Framework Directive (Directive 2008/98/EC), the *Waste Management Act 1996* as amended, the *Waste Management (Collection Permit) Regulations 2007* as amended and the *Waste Management (Facility Permit & Registration) Regulations 2007* as amended. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

In the event that contaminated material is encountered and subsequently classified as hazardous, this material will be stored separately to any non-hazardous material. It will require off-site treatment at a suitable facility or disposal abroad via Transfrontier Shipment of Wastes (TFS).

Bedrock

While it is not envisaged that bedrock will be encountered, if bedrock is encountered, it is anticipated that it will not be crushed on site. Any excavated rock is expected to be removed off-site for appropriate reuse, recovery and / or disposal. If bedrock is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from DCC.

Silt & Sludge

During the demolition and construction phase, silt and petrochemical interception will be carried out on run-off and pumped water from site works, where required. Sludge and silt will then be collected by a suitably licensed contractor and removed off-site.

Concrete Blocks, Bricks, Tiles & Ceramics

The majority of concrete blocks, bricks, tiles and ceramics generated as part of the demolition and construction works are expected to be clean, inert material and will be recycled, where possible. If concrete is to be crushed on-site, the appropriate mobile waste facility permit will be obtained from DCC.

Hard Plastic

As hard plastic is a highly recyclable material, much of the plastic generated will be primarily from material off-cuts. All recyclable plastic will be segregated and recycled, where possible.

Timber

Timber that is uncontaminated, i.e. free from paints, preservatives, glues, etc., will be disposed of in a separate skip and recycled off-site.

Metal

Metals will be segregated, where practical, and stored in skips. Metal is highly recyclable and there are numerous companies that will accept these materials.

Plasterboard

There are currently a number of recycling services for plasterboard in Ireland. Plasterboard from the demolition and construction phases will be stored in a separate skip, pending collection for recycling. The site Manager will ensure that oversupply of new plasterboard is carefully monitored to minimise waste.

Glass

Glass materials will be segregated for recycling, where possible.

Waste Electrical & Electronic Equipment (WEEE)

Any WEEE will be stored in dedicated covered cages / receptacles / pallets pending collection for recycling.

Other Recyclables

Where any other recyclable wastes, such as cardboard and soft plastic, are generated, these will be segregated at source into dedicated skips and removed off-site.

Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery, such as polystyrene, some plastics and some cardboards, will be placed in separate skips or other receptacles. Prior to removal from site, the non-recyclable waste skip / receptacle will be examined by a member of the waste team (see Section 9.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Asbestos Containing Materials

Any asbestos or ACM found on-site will be removed by a suitably competent contractor and disposed of as asbestos waste before the demolition works begin. All asbestos removal work or encapsulation work must be carried out in accordance with the *Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*.

Other Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil if encountered and / or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on-site will be undertaken so as to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous waste will be recovered, wherever possible, and failing this, disposed of appropriately.

On-Site Crushing

It is currently not envisaged that the crushing of waste materials will occur on-site. However, if the crushing of material is to be undertaken, a mobile waste facility permit will first be obtained from DCC and the destination of the accepting waste facility or if an application under regulation 28 will be made using National End-of-Waste Decision EoW-N001/2023, will be supplied to the DCC waste unit.

It should be noted that until a demolition and construction contractors are appointed it is not possible to provide information on the specific destinations of each construction waste stream. Prior to commencement of construction and removal of any waste offsite, details of the proposed destination of each waste stream will be provided to DCC by the project team.

6.6 Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by a weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the nominated project RM (see Section 9.0).

All movement of waste and the use of waste contractors will be undertaken in accordance with the Waste Framework Directive (Directive 2008/98/EC), the *Waste Management Act 1996* as amended, *Waste Management (Collection Permit) Regulations 2007* as amended and *Waste Management (Facility Permit & Registration) Regulations 2007* and amended. This includes the requirement for all waste contractors to have a waste collection permit issued by the NWCPO. The nominated project RM (see Section 9.0) will maintain a copy of all waste collection permits on-site.

If the waste is being transported to another site, a copy of the Local Authority waste COR / permit or EPA Waste Licence for that site will be provided to the nominated project Waste Manager (see Section 9.0). If the waste is being shipped abroad, a copy of the Transfrontier Shipping (TFS) notification document will be obtained from DCC (as the relevant authority on behalf of all Local Authorities in Ireland) and kept on-site along with details of the final destination (COR, permits, licences, etc.). A receipt from the final destination of the material will be kept as part of the on-site waste management records.

All information will be entered in a waste management recording system to be maintained on-site.

7. ESTIMATED COST OF WASTE MANAGEMENT

An outline of the costs associated with different aspects of waste management is outlined below. The total cost of C&D waste management will be measured and will take into account handling costs, storage costs, transportation costs, revenue from rebates and disposal costs.

7.1 Reuse

By reusing materials on site, there will be a reduction in the transport and recycle / recovery / disposal costs associated with the requirement for a waste contractor to take the material off-site. Clean and inert soils, gravel, stones, etc., which cannot be reused on-site may be used as access roads or capping material for landfill sites, etc. This material is often taken free of charge or at a reduced fee for such purposes, reducing final waste disposal costs.

7.2 Recycling

Salvageable metals will earn a rebate, which can be offset against the costs of collection and transportation of the skips.

Clean, uncontaminated cardboard and certain hard plastics can also be recycled. Waste contractors will charge considerably less to take segregated wastes, such as recyclable waste, from a site than mixed waste.

Timber can be recycled as chipboard. Again, waste contractors will charge considerably less to take segregated wastes, such as timber, from a site than mixed waste.

7.3 Disposal

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140 - €160 per tonne of waste which includes an €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations. The Circular Economy (Waste Recovery Levy) will also incur a levy of €10 per tonne for waste accepted for recovery. This will include backfilling at authorised recovery sites and at municipal waste landfills.

Collection of segregated C&D waste usually costs less than municipal waste. Specific C&D waste contractors take the waste off-site to a licensed or permitted facility and, where possible, remove salvageable items from the waste stream before disposing of the remainder to landfill. Clean soil, rubble, etc., is also used as fill / capping material, wherever possible.

8. DEMOLITION PROCEDURES

The demolition stage will involve the partial demolition of existing buildings onsite (See section 4.2). The demolition plans are identified in the planning drawings submitted as part of this application. A formal plan including safety procedures will be prepared by the demolition contractor. However, in general, the following sequence of works should be followed during the demolition stage:

Waste Reduction Assessment

In parallel, a detailed review of all existing structures, including those scheduled for retention and alteration, will be carried out to identify materials of heritage interest with potential for reuse, recycling, or recovery. This assessment will inform the separation and handling strategy during demolition. Items such as historic masonry, historic roof linings, structural steel, timber, glazing, historic joinery, chimney pieces, tiling (where practical to remove intact), mechanical and electrical components, and architectural features of heritage interest will be documented as part of a pre-demolition inventory. Where appropriate, materials will be earmarked for reuse on-site, donation to reuse networks, or recycling through certified facilities.

Check for Hazards

Prior to commencing works, buildings and structures to be demolished will be checked for any likely hazards including asbestos, ACMs, electrical power lines or cables, gas reticulation systems, telecommunications, unsafe structures and fire / explosion hazards, e.g. combustible dust, chemical hazards, oil, fuels and contamination.

Removal of Components

All hazardous materials will be removed first. All components from within the buildings that can be salvaged will be removed next. This will primarily be comprised of metal; however, may also include timbers, doors, windows, wiring and metal ducting, etc.

Excavation of Services, Demolition of Walls and Concrete

Services will be removed from the ground and the breakdown of walls will be carried out once all salvageable or reusable materials have been taken from the buildings. Finally, any existing foundations and hard standing areas will be excavated.

Reuse

Reuse (Most preferred): Wherever feasible, materials and components will be identified for direct reuse on-site or off-site without reprocessing. This includes salvaging items such as historic masonry, roof linings, structural steel, timber, glazing, historic joinery, chimney pieces, tiling (where practical to remove intact), mechanical and electrical components, and architectural features of heritage interest etc. Direct reinstatement of salvaged items within the retained structures will be possible, following a review of supplementation need and quantum of salvaged material. Where not possible to reuse on the site, such material of interest will be given to a salvage yard for reuse elsewhere. Such distinction will be justified by the design team conservation architect. Reuse avoids the environmental impacts of both waste processing and manufacturing new materials, making it the most favourable outcome. Opportunities for reuse will be maximized through early contractor engagement and coordination with reclamation networks or reuse marketplaces.

The demolition contractor will be required to keep track of all materials that will be removed from the site. The records will be maintained through docketts, receipts and logs. The information will then be analysed

to ensure that the targeted process was followed, and minimum impacts were incurred. A reporting schedule will be maintained through a plausible data sharing platform to ensure that all data is consolidated and visible for review.

The future contractor engaged to execute the works will also be consulted on storage and protection options for items of heritage interest, ranging from masonry to joinery, until they can be reused. A designated external store, away from concentrated works areas, will be enclosed for salvaged items that can be stored outside, with a dry/ ventilated area identified for internal features that require protection.

9. TRAINING PROVISIONS

A member of the demolition and construction team will be appointed as the RM to ensure commitment, operational efficiency and accountability in relation to waste management during the C&D phases of development.

9.1 Resource Manager Training and Responsibilities

The nominated RM will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid them in the organisation, operation and recording of the waste management system implemented on site.

The RM will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the Waste Manager to delegate responsibility to sub-contractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and material salvage.

The RM will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site. The RM will also be trained in the best methods for segregation and storage of recyclable materials, have information on the materials that can be reused on site and be knowledgeable in how to implement this RWMP.

9.2 Site Crew Training

Training of site crew in relation to waste is the responsibility of the RM and, as such, a waste training program will be organised. A basic awareness course will be held for all site crew to outline the RWMP and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic course will describe the materials to be segregated, the storage methods and the location of the Waste Storage Areas (WSAs). A sub-section on hazardous wastes will be incorporated into the training program and the particular dangers of each hazardous waste will be explained.

10. TRACKING AND TRACING / RECORD KEEPING

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the waste arisings on site.

A waste tracking log will be used to track each waste movement from the site. On exit from the site, the waste collection vehicle driver will stop at the site office and sign out as a visitor and provide the security personnel or RM with a waste docket (or Waste Transfer Form (WTF) for hazardous waste) for the waste load collected. At this time, the security personnel will complete and sign the Waste Tracking Register with the following information:

- ▶ Date
- ▶ Time
- ▶ Waste Contractor
- ▶ Company waste contractor appointed by, e.g. Contractor or subcontractor name
- ▶ Collection Permit No.
- ▶ Vehicle Reg.
- ▶ Driver Name
- ▶ Docket No.
- ▶ Waste Type
- ▶ LoW
- ▶ Weight/Quantity

The waste vehicle will be checked by security personal or the RM to ensure it has the waste collection permit no. displayed and a copy of the waste collection permit in the vehicle before they are allowed to remove the waste from the site.

The waste transfer dockets will be transferred to the RM on a weekly basis and can be placed in the Waste Tracking Log file. This information will be forwarded onto the DCC Waste Regulation Unit when requested.

Each subcontractor that has engaged their own waste contractor will be required to maintain a similar waste tracking log with the waste dockets / WTF maintained on file and available for inspection on site by the main contractor as required. These subcontractor logs will be merged with the main waste log.

Waste receipts from the receiving waste facility will also be obtained by the site contractor(s) and retained. A copy of the Waste Collection Permits, CORs, Waste Facility Permits and Waste Licences will be maintained on site at all times and will be periodically reviewed by the RM. Subcontractors who have engaged their own waste contractors, will provide the main contractor with a copy of the waste collection permits and COR / permit / licence for the receiving waste facilities and maintain a copy on file, available for inspection on site as required.

11. OUTLINE WASTE AUDIT PROCEDURE

11.1 Responsibility for Waste Audit

The appointed RM will be responsible for conducting a waste audit at the site during the C&D phase of the proposed Project. Contact details for the nominated RM will be provided to the DCC Waste Regulation Unit after the main contractor is appointed and prior to any material being removed from site.

11.2 Review of Records and Identification of Corrective Actions

A review of all waste management costs and the records for the waste generated and transported off-site will be undertaken mid-way through the demolition and construction phase of the proposed Project.

If waste movements are not accounted for, the reasons for this will be established in order to see if and why the record keeping system has not been maintained. The waste records will be compared with the established recovery / reuse / recycling targets for the site. Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Upon completion of the C&D phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling / reuse / recovery figures for the development.

11.3 Pest Management

A pest control operator will be appointed as required to manage pest onsite during the demolition and construction phases of the project. Organic and food wastes generated by staff will not be stored in open skips, but in closed waste receptacles. Any waste receptacles will be carefully managed to prevent leaks, odours and pest problems.

12. CONSULTATION WITH RELEVANT BODIES

12.1 Local Authority

Once demolition and construction contractors have been appointed and have appointed waste contractors, and prior to removal of any C&D waste materials off-site, details of the proposed destination of each waste stream will be provided to the DCC Waste Regulation Unit.

DCC will also be consulted, as required, throughout the demolition, excavation and construction phases in order to ensure that all available waste reduction, reuse and recycling opportunities are identified and utilised and that compliant waste management practices are carried out.

12.2 Recycling / Salvage Companies

The appointed waste contractor for the main waste streams managed by the demolition and construction contractors will be audited in order to ensure that relevant and up-to-date waste collection permits and facility registrations / permits / licences are held. In addition, information will be obtained regarding the feasibility of recycling each material, the costs of recycling / reclamation, the means by which the wastes will be collected and transported off-site, and the recycling / reclamation process each material will undergo off-site.

13. SUMMARY AND CONCLUSION

Adherence to this plan will also ensure that waste management during the demolition and construction phase at the proposed development is carried out in accordance with the requirements in the EPA's Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects and the DCC Waste Bye-Laws and the NWMPCE.

14. REFERENCES

1. Waste Management Act 1996 as amended,
2. Environmental Protection Agency Act 1992 as amended.
3. Litter Pollution Act 1997 (S.I. No. 12 of 1997) as amended
4. Regional Waste Management Planning Offices, *The National Waste Management Plan for a Circular Economy 2024 – 2030 (2024)*.
5. Department of Environment and Local Government (DoELG) *Waste Management – Changing Our Ways, A Policy Statement (1998)*.
6. Forum for the Construction Industry – *Recycling of Construction and Demolition Waste*.
7. Department of Communications, Climate Action and Environment (DCCAE), *Waste Action Plan for the Circular Economy - Ireland's National Waste Policy 2020-2025 (Sept 2020)*.
8. DCCAE, *Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021)*
9. Circular Economy and Miscellaneous Provisions Act 2022.
10. Environmental Protection Agency (EPA) *'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021)*
11. Department of Environment, Heritage and Local Government, *Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (2006)*.
12. Department of Housing, Local Government and Heritage authored *Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities (2024)*
13. FÁS and the Construction Industry Federation (CIF), *Construction and Demolition Waste Management – a handbook for Contractors and site Managers (2002)*.
14. Waste Management (Landfill Levy) Regulations 2015 (as amended)
15. Circular Economy (Waste Recovery Levy) Regulations 2024
16. Dublin City Council (DCC), Dublin City Council Development Plan 2022-2028 (2021)
17. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended
18. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2018)*
19. Council Decision 2003/33/EC, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC.
20. The *Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006-2010*.
21. Local Government Ireland, *Best practice guidance for handling asbestos (2023)*.
22. Environmental Protection Agency (EPA), National Waste Database Reports 1998 – 2020 and the Circular Economy and National Waste Database Report 2021 – 2022 (2024)
23. EPA and Galway-Mayo Institute of Technology (GMIT), *EPA Research Report 146 – A Review of Design and Construction Waste Management Practices in Selected Case Studies – Lessons Learned (2015)*.
24. European Commission, *Guidelines for the waste audits before demolition and renovation works of buildings (May 2018)*.

APPENDIX A. WASTE FACILITIES IN THE DUBLIN AREA

A full list of currently licensed waste facilities that can potentially be used for this development can be found on the National Waste Collection Permit Office Website - <https://facilityregister.nwcpo.ie/>.

Authorisation Reference	Name	Trading As	Address
WFP-DC-20-0054-01	Shanowen Plant Hire Ltd - Mobile Plant		Various Sites Various Sites Various Sites
WFP-DC-20-0053-01	Loftus Demolition & Recycling Ltd - Mobile PLant		Various Sites Various Sites Various Sites Various Sites
WFP-DC-20-0055-01	Padraig Thornton Waste Disposal Ltd	Thornton's Recycling	Unit S3A Henry Road Park West Business Park Dublin 12
WFP-DC-09-0015-03	Chevron Environmental Ltd	Electronic Recycling	Unit 20 Jamestown Business Park Jamestown Road Finglas D11 X2HN
WFP-DC-11-0023-03	Padraig Thornton Waste Disposal Ltd (PTWDL)	Thornton's Recycling	Unit 6 S3B Henry Road Park West Business Park D12 KT91
COR-DC-21-0010-01	Fridge Spares Wholesale Ltd		Unit 15, Blackwater Road Dublin Industrial Estate Glasnevin Dublin 11 D11 YK26
WFP-DC-11-0022-03	Dawnlane Limited	Mullen Scrap	31 & 32 Upper Clanbrassil Street Dublin 8 D08 XY92
WFP-DC-11-0025-03	Rehab Enterprises Limited	Rehab Recycle	The Rehab Building Kylemore Road Ballyfermot Dublin 10 D10 Y443
WFP-DC-11-0027-03	Tom Murphy Recovery & Towing Services Ltd		Block 4, Unit 24 Port Tunnel Business Park Clonsaugh Industrial Estate Dublin 17
WFP-DC-22-0059-01	Derek Beahan Limited	Derek Beahan Recovery	Unit 7 Concorde Industrial Estate Naas Road Dublin 12 D12 YD30
COR-DC-22-0011-01	Soaktech Limited		Unit 16, Butterly Business Park Kilmore Road Artane Dublin 5, D05 X079
WFP-DC-22-0060-01	Edward O'Reilly	E.O'Reilly Recycling	92E Fairview Strand Ballybough Dublin 3
WFP-DC-10-0021-04	Padraig Thornton Waste Disposal Ltd	Thornton's Recycling	Unit 51 Henry Road Park West Business Park Dublin 12 D12 FH68
WFP-DC-11-0028-03	Mitchell Taylor (Exports) Limited	MT oils	The Old Brewery Newmarket Dublin 8 D08 FPF6
WFP-DC-18-0045-02	J. Ryan Haulage Limited - Mobile Plant		Former Bailey Gibson Site 326-328 South Circular Road Dublin 8 D08 N8X6

Authorisation Reference	<u>Name</u>	<u>Trading As</u>	<u>Address</u>
<u>WFP-DC-10-0018-03</u>	Summerhill Spares Limited		Unit 3 Newtown Industrial Estate Malahide Road Coolock Dublin 17 D17 VY80
<u>WFP-DC-10-0020-03</u>	Everyday Waste & Skiphire	All Away Recycling	84E Pigeon House Road Ringsend Dublin 4 D04 R7N0
<u>WFP-DC-23-0061-01</u>	Wills Bros Limited		Terminal 4 North Lands, Dublin Port (bounded by Bond Road, Tolka Quay Road & Promenade Road) Dublin 1
<u>WFP-DC-24-0062-01</u>	Tinnelly Group	John Tinnelly & Sons Ireland Limited	Unit 5B, Unit 5H Fingal Bay Business Park Co. Dublin K32 NY57
<u>WFP-DC-24-0063-01</u>	Micks Recycling Limited	Micks Skips	Unit 3a Ballyboggan Business Centre Glasnevin Dublin 11
<u>WFP-DC-19-0048-02</u>	Sunflower Recycling Company (Limited by Guarantee)		Shamrock Terrace Five Lamps, North Strand Dublin 1 D01 DX67
<u>WFP-DC-08-0002-04</u>	G & T McGoverns Ltd		2-4, 9 & 12 Prices Lane Rear 31 Ranelagh Road Ranelagh Dublin 6
<u>WFP-DC-22-0056-01 (T)</u>	Dembachel Ltd.		Kylemore Business Park 2 Kylemore Way Inchicore Dublin 8
<u>WFP-DC-25-0064-01</u>	Martin Services (Industrial) Ltd		Unit 10/11 Bluebell Business Park Bluebell, Old Naas Road Dublin 12 D12 W995

Appendix 14.2

Operational Waste Management Plan



Trinity
Consultants

awnconsulting

Operational Waste Management Plan

Project Title: Milltown Park, Sandford Road, Dublin 6 LRD

Appendix 14.2

CLIENT

Sandford
Living
Limited

DOCUMENT REFERENCE



257501.5511WMR02

DATE

04/12/2025

DOCUMENT CONTROL SHEET

Document Control Sheet		
Our Reference	257501.5511WMR02	
Original Issue Date	04/12/2025	
Client:	Sandford Living Limited	
Revision	Revision Date	Description

Details	Written by	Approved by
Signature		
Name	Chonaill Bradley	Fergal Callaghan
Title	Associate (Environmental)	Director
Date	04/12/2025	04/12/2025

Disclaimer

This report considers the specific instructions and requirements of our client. It is not intended for third-party use or reliance, and no responsibility is accepted for any third party. The provisions in this report apply solely to this project and should not be assumed applicable to other developments without review and modification.



TABLE OF CONTENTS

1. INTRODUCTION	1-1
2. OVERVIEW OF WASTE MANAGEMENT IN IRELAND	2-2
2.1 National level	2-2
2.2 Regional Level.....	2-3
2.3 Legislative Requirements.....	2-5
2.4 Dublin City Council Waste Management Bye-Laws	2-5
2.5 Regional Waste Management Service Providers and Facilities.....	2-6
3. DESCRIPTION OF THE DEVELOPMENT	3-7
3.1 Location, Size and Scale of the Development.....	3-7
3.2 Typical Waste Categories	3-9
3.3 List of Waste Codes.....	3-9
4. ESTIMATED WASTE ARISING	4-11
5. WASTE STORAGE AND COLLECTION	5-12
5.1 Waste Storage – Residential Units	5-14
5.2 Waste Storage – Commercial Units	5-15
5.3 Waste Collection	5-16
5.4 Additional Waste Materials	5-16
5.5 Waste Storage Area Design.....	5-18
5.6 Facility Management Responsibilities	5-19
5.7 Pest Management	5-19
6. SUMMARY AND CONCLUSION	6-20
7. REFERENCES	7-21
APPENDIX A. ROAD SWEEP ANALYSIS FOR REFUSE TRUCK	A-22

LIST OF TABLES

Table 3.1	Typical Waste Types Generated and LoW Codes	3-9
Table 4.1	Estimated Waste Generation for Proposed Development (Residential)	4-11
Table 4.2	Estimated Waste Generation for Proposed Development (Residential)	4-11
Table 5.1	Waste storage requirements for the proposed development	5-12

1. INTRODUCTION

AWN Consulting, a Trinity Consultants Team, has prepared this Operational Waste Management Plan (OWMP) on behalf of Sandford Living Limited.

The development will principally consist of: the demolition of c. 4,847.5 sq m of existing structures on site including Milltown Park House (880 sq m), Milltown Park House Rear Extension (2,031 sq m), the Finlay Wing (622 sq m), the Archive (1,240 sq m) and the Link Building between Tabor House and Milltown Park House Rear Extension to the front of the Chapel (74.5 sq m); the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m) and the provision of a single storey glass entrance lobby to the front and side of the Chapel (52 sq m); and the provision of 562 No. residential units comprising 6 No. three-bed courtyard houses and 556 No. apartment units (70 No. studios, 176 No. one-bed units, 267 No. two-bed units and 43 No. three-bed units).

This OWMP has been prepared to ensure that the management of waste during the operational phase of the proposed development is undertaken in accordance with the current legal and industry standards including, the Waste Management Act 1996 as amended and associated Regulations ¹, Environmental Protection Agency Act 1992 as amended ², Litter Pollution Act 1997 as amended ³, the National Waste Management Plan for a Circular Economy 2024 - 2030 (NWMPCE) (2024) ⁴ and Dublin City Council (DCC) 'Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws' 2018 ⁵. In particular, this OWMP aims to provide a robust strategy for the storage, handling, collection and transport of the wastes generated at Site.

This OWMP aims to ensure maximum recycling, reuse and recovery of waste with diversion from landfill, wherever possible. The OWMP also seeks to provide guidance on the appropriate collection and transport of waste to prevent issues associated with litter or more serious environmental pollution (e.g. contamination of soil or water resources). The plan estimates the type and quantity of waste to be generated from the proposed development during the operational phase and provides a strategy for managing the different waste streams.

At present, there are no specific national guidelines in Ireland for the preparation of OWMPs. Therefore, in preparing this document, consideration has been given to the requirements of national and regional waste policy, legislation and other guidelines.

2. OVERVIEW OF WASTE MANAGEMENT IN IRELAND

2.1 National level

The Irish Government issued a policy statement in September 1998 entitled 'Changing Our Ways'¹⁰, which identified objectives for the prevention, minimisation, reuse, recycling, recovery and disposal of waste in Ireland. A heavy emphasis was placed on reducing reliance on landfill and finding alternative methods for managing waste. Amongst other things, Changing Our Ways stated a target of at least 35% recycling of municipal (i.e. household, commercial and non-process industrial) waste.

A further policy document, 'Preventing and Recycling Waste – Delivering Change' was published in 2002¹¹. This document proposed a number of programmes to increase recycling of waste and allow diversion from landfill. The need for waste minimisation at source was considered a priority.

This view was also supported by a review of sustainable development policy in Ireland and achievements to date, which was conducted in 2002, entitled 'Making Ireland's Development Sustainable – Review, Assessment and Future Action'¹². This document also stressed the need to decouple economic growth and waste generation, again through waste minimisation and reuse of discarded material.

In order to establish the progress of the Government policy document Changing Our Ways, a review document was published in April 2004 entitled '*Taking Stock and Moving Forward*'¹³. Covering the period 1998 – 2003, the aim of this document was to assess progress to date with regard to waste management in Ireland, to consider developments since the policy framework and the local authority waste management plans were put in place, and to identify measures that could be undertaken to further support progress towards the objectives outlined in *Changing Our Ways*.

In particular, *Taking Stock and Moving Forward* noted a significant increase in the amount of waste being brought to local authority landfills. The report noted that one of the significant challenges in the coming years was the extension of the dry recyclable collection services.

In September 2020, the Irish Government published a new policy document outlining a new action plan for Ireland to cover the period of 2020-2025. This plan '*A Waste Action Plan for a Circular Economy*'¹⁴ (WAPCE), was prepared in response to the 'European Green Deal' which sets a roadmap for a transition to a new economy, where climate and environmental challenges are turned into opportunities, replacing the previous national waste management plan "*A Resource Opportunity*" (2012).

The WAPCE sets the direction for waste planning and management in Ireland up to 2025. This reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority.

The policy document contains over 200 measures across various waste areas including circular economy, municipal waste, consumer protection and citizen engagement, plastics and packaging, construction and demolition, textiles, green public procurement and waste enforcement.

One of the first actions to be taken was the development of the Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021)¹⁵ to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity. This was issued in December 2021. The Strategy states "*It is anticipated that the Strategy will be updated in full every 18 months to 2 years*".

The Circular Economy and Miscellaneous Provisions Act 2022¹⁶ was signed into law in July 2022. The Act underpins Ireland's shift from a "take-make-waste" linear model to a more sustainable pattern of production and consumption, that retains the value of resources in our economy for as long as possible and that will to significantly reduce our greenhouse gas emissions. The Act defines Circular Economy for

the first time in Irish law, incentivises the use of recycled and reusable alternatives to wasteful, single-use disposable packaging, introduces a mandatory segregation and incentivised charging regime for commercial waste, streamlines the national processes for End-of-Waste and By-Products decisions, tackling the delays which can be encountered by industry, and supporting the availability of recycled secondary raw materials in the Irish market, and tackles illegal fly-tipping and littering.

The Department of Housing, Local Government and Heritage authored Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities (2024) ¹⁷, suggests the below thresholds at which the need for the supplemental information such as the OWMP should be considered.

- ▶ 30 or more residential units,
- ▶ 1,000 sq. metres of mixed-use development

Since 1998, the Environmental Protection Agency (EPA) has produced periodic 'National Waste (Database) Reports' which, as of 2023, have been renamed Circular Economy and Waste Statistics Highlight Reports ¹⁸ detailing, among other things, estimates for household and commercial (municipal) waste generation in Ireland and the level of recycling, recovery and disposal of these materials. The 2025 National Circular Economy and Waste Statistics web resource, which is the most recent study published, along with the national waste statistics web resource (2025) reported the following key statistics for 2024:

- ▶ Ireland generated 3.13 million tonnes of municipal waste in 2023, relatively unchanged compared to the 3.19 million tonnes generated in 2022.
- ▶ Between 2016 and 2023, municipal waste increased from 2.7 million tonnes to 3.13 million tonnes.
- ▶ Some 1.3 million tonnes of municipal waste generated in Ireland was recycled in 2023, resulting in a recycling rate of 42%. This indicates that we face significant challenges to meet the upcoming EU recycling targets for 2025 to 2035.
- ▶ Of the municipal waste recycled in 2023, over 814,000 tonnes went for material recycling (approximately the same as 2022) and over 480,000 tonnes were treated by composting/anaerobic digestion (approximately the same as 2022 but up 37% on 2020).
- ▶ A rounded 1.3 million tonnes of Ireland's municipal waste went for incineration with energy recovery in 2023. This tonnage is 43% of municipal waste managed.
- ▶ Ireland's landfill rate for municipal waste managed was 14% in 2023. This is a 1% decrease from 2022's rate of 15%.
- ▶ There has been a steep decline in Ireland's landfill rate for municipal waste from over 80% in 2001. Ireland must reduce the share of municipal waste landfilled to 10% or less by 2035, which includes waste landfilled at each step along the waste treatment process in Ireland and abroad.
- ▶ An estimated 42% (1.2 million tonnes) of all municipal waste managed was exported abroad in 2023, an increase from the 39% in 2022. Of the waste exported, most went for recycling (49%) or energy recovery (36%) while 11% went for composting or anaerobic digestion.

2.2 Regional Level

The proposed development is located in the Local Authority administrative area of Dublin City Council (DCC). The EMR Waste Management Plan 2015 – 2021 has been superseded as of March 2024 by the NWMPCE 2024 - 2030.

The NWMPCE does not dissolve the three regional waste areas. The NWCPCE sets the ambition of the plan to have a 0% total waste growth per person over the life of the Plan with an emphasis on non-household wastes including waste from commercial activities and the construction and demolition sector. This Plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.

The national plan sets out the following strategic targets for waste management in the country that are relevant to the development:

This Plan seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.

The national plan sets out the following strategic targets for waste management in the country that are relevant to the development:

National Targets

- 1A. (Residual Municipal Waste) 6% Reduction in Residual Municipal Waste per person by 2030
- 2A. (Contamination of Materials) 90% of Material in Compliance in the Dry Recycling Bin
- 2B. (Material Compliance Residual) 10% per annum increase in Material Compliance in the residual bin. (90% by the end of 2030)
- 3A. (Reuse of Materials) 20kg Per person / year – Reuse of materials like cloths or furniture to prevent waste.

Municipal landfill charges in Ireland are based on the weight of waste disposed. In the Leinster Region, charges are approximately €140-160 per tonne of waste, which includes a €85 per tonne landfill levy introduced under the Waste Management (Landfill Levy) (Amendment) Regulations 2015 ¹⁹. *The Circular Economy (Waste Recovery Levy) Regulations 2024* ²⁰ will also add a levy of €10 per tonne to waste accepted for recovery.

The *Dublin City Development Plan 2022 – 2028* ²¹ sets out a number of policies and objectives for Dublin City in line with the objectives of the National climate action policy and emphasises the need to take action to address climate action across all sectors of society and the economy. In the waste sector, policy on climate action is focused on a shift towards a 'circular economy' encompassing three core principles: designing out waste and pollution; keeping products and material in use; and regenerating natural systems. Further policies and objectives can be found within the development plan.

- ▶ *CA8 (f): minimising the generation of site and construction waste and maximising reuse or recycling.*
- ▶ *CA23: The Circular economy: To support the shift towards the circular economy approach as set out in 'a Waste Action Plan for a Circular Economy 2020 to 2025, Ireland's National Waste Policy, or as updated.*
- ▶ *CA24: To have regard to existing Best Practice Guidance on Waste Management Plans for Construction and Demolition Projects as well as any future updates to these guidelines in order to ensure the consistent application of planning requirements.*
- ▶ *SI27: Sustainable Waste Management: To support the principles of the circular economy, good waste management and the implementation of best practice in relation to waste management in order for Dublin City and the Region to become self-sufficient in terms of resource and waste management and to provide a waste management infrastructure that supports this objective.*
- ▶ *SI29: Segregated Storage and Collection of Waste Streams: To require new commercial and residential developments, to include adequate and easily accessible storage space that supports the separate collection of as many waste and recycling streams as possible, but at a minimum general domestic waste, dry recyclables and food waste as appropriate.*
- ▶ *SI30: To require that the storage and collection of mixed dry recyclables, organic and residual waste materials within proposed apartment schemes have regard to the Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities 2020 (or and any future updated versions of these guidelines produced during the lifetime of this plan).*

Objectives:

- ▶ *SIO14 Local Recycling/Reuse Infrastructure: To provide for a citywide network of municipal civic amenity facilities/ multi-material public recycling and reuse facilities in accessible locations throughout the city in line with the objectives of the circular economy and 15 minute city.*
- ▶ *SIO16 Eastern-Midlands Region Waste Management Plan: To support the implementation of the Eastern-Midlands Regional Waste Management Plan 2015–2021 and any subsequent plans in order to facilitate the transition from a waste management economy towards a circular economy.*

2.3 Legislative Requirements

The primary legislative instruments that govern waste management in Ireland and applicable to the proposed development are:

- ▶ *Waste Management Act 1996 as amended;*
- ▶ *Environmental Protection Agency Act 1992 as amended;*
- ▶ *Litter Pollution Act 1997 as amended;*
- ▶ *Planning and Development Act 2000 as amended* ²²;
- ▶ *Circular Economy and Miscellaneous Provisions Act 2022;*
- ▶ *Waste Management (Food Waste) (Amendment Regulations) 2015 (S.I. 190/2015);*
- ▶ *the European Union (Household Food Waste and Bio-waste) Regulations 2015 (S.I. 430/2015);*
- ▶ *the Waste Management (Food Waste) Regulations 2009 (S.I. 508/2009).*

These Acts and subordinate Regulations transpose the relevant European Union Policy and Directives into Irish law.

One of the guiding principles of European waste legislation, which has in turn been incorporated into the Waste Management Act 1996 as amended and subsequent Irish legislation, is the principle of "Duty of Care". This implies that the waste producer is responsible for waste from the time it is generated through until its legal disposal (including its method of disposal). As it is not practical in most cases for the waste producer to physically transfer all waste from where it is produced to the final disposal area, waste contractors will be employed to physically transport waste to the final waste disposal site.

It is, therefore, imperative that the residents, tenants and/or facilities management undertake on-site management of waste in accordance with all legal requirements and that the facilities management company employ suitably permitted / licenced contractors to undertake off-site management of their waste in accordance with all legal requirements. This includes the requirement that a waste contractor handle, transport and reuse / recover / recycle / dispose of waste in a manner that ensures that no adverse environmental impacts occur as a result of any of these activities.

A collection permit to transport waste must be held by each waste contractor which is issued by the National Waste Collection Permit Office (NWCPO). Waste receiving facilities must also be appropriately permitted or licensed. Operators of such facilities cannot receive any waste, unless in possession of a Certificate of Registration (COR) or waste permit granted by the relevant Local Authority under the Waste Management (Facility Permit & Registration) Regulations 2007, as amended, or a Waste Licence granted by the EPA. The COR / permit / licence held will specify the type and quantity of waste able to be received, stored, sorted, recycled, recovered and / or disposed of at the specified site.

2.4 Dublin City Council Waste Management Bye-Laws

The DCC "*Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)*" were brought into force in May 2019. These bye-laws repeal the previous Bye-

Laws for the Storage, Presentation and Collection of Household and Commercial Waste. The bye-laws set a number of enforceable requirements on waste holders with regard to storage, separation and presentation of waste within the DCC administrative area. Key requirements under these bye-laws of relevance to the operational phase of the proposed development include the following:

- ▶ *Kerbside waste presented for collection shall not be presented for collection earlier than 5.00 pm on the day immediately preceding the designated waste collection day;*
- ▶ *All containers used for the presentation of kerbside waste and any uncollected waste shall be removed from any roadway, footway, footpath or any other public place no later than 10:00 am on the day following the designated waste collection day, unless an alternative arrangement has been approved in accordance with bye-law 2.3;*
- ▶ *Documentation, including receipts, is obtained and retained for a period of no less than one year to provide proof that any waste removed from the premises has been managed in a manner that conforms to these bye-laws, to the Waste Management Act and, where such legislation is applicable to that person, to the European Union (Household Food Waste and Bio-Waste) Regulations 2015; and*
- ▶ *Adequate access and egress onto and from the premises by waste collection vehicles is maintained.*

The full text of the bye-laws is available from the DCC website.

2.5 Regional Waste Management Service Providers and Facilities

Various contractors offer waste collection services for the commercial and residential sector in the DCC region. Details of waste collection permits (granted, pending and withdrawn) for the region are available from the NWCPO.

As outlined in the regional waste management plan, there is a decreasing number of landfills available in the region. Only three municipal solid waste landfills remain operational and all are operated by the private sector. There are a number of other licensed and permitted facilities in operation in the region including waste transfer stations, hazardous waste facilities and integrated waste management facilities. There are two existing thermal treatment facilities, one in Duleek, Co. Meath and a second in Poolbeg in Dublin.

There is a DCC Recycling Centre at Gullistan Terrace, Rathmines located c.1.28km to the north east of the development, which can be utilised by the residents of the development for other household waste streams while a bottle bank can be found c. 1.38m to the north east at the Rathmines Road Tesco.

A copy of all CORs and waste permits issued by the Local Authorities are available from the NWCPO website and all Waste Licenses issued are available from the EPA.

3. DESCRIPTION OF THE DEVELOPMENT

3.1 Location, Size and Scale of the Development

Sandford Living Limited intend to apply for permission for a Large-Scale Residential Development at a c. 4.26 hectare site at Milltown Park, Sandford Road, Dublin 6, D06 V9K7. Works are also proposed on Milltown Road and Sandford Road to facilitate access to the development including improvements to pedestrian facilities on an area of c. 0.16 hectares. The development's surface water drainage network shall discharge from the site via a proposed 300mm diameter pipe along Milltown Road through the junction of Milltown Road / Sandford Road prior to outfalling to the existing drainage network on Eglinton Road (approximately 200 metres from the Sandford Road / Eglinton Road junction), with these works incorporating an area of c. 0.32 hectares. The development site area, road works and drainage works areas will provide a total application site area of c. 4.74 hectares.

The development will principally consist of: the demolition of c. 4,847.5 sq m of existing structures on site including Milltown Park House (880 sq m), Milltown Park House Rear Extension (2,031 sq m), the Finlay Wing (622 sq m), the Archive (1,240 sq m) and the Link Building between Tabor House and Milltown Park House Rear Extension to the front of the Chapel (74.5 sq m); the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m) and the provision of a single storey glass entrance lobby to the front and side of the Chapel (52 sq m); and the provision of 562 No. residential units comprising 6 No. three-bed courtyard houses and 556 No. apartment units (70 No. studios, 176 No. one-bed units, 267 No. two-bed units and 43 No. three-bed units).

Block A1 will range in height from 5 No. storeys to 8 No. storeys and will comprise 81 No. apartment units; Block A2 will range in height from 6 No. storeys to 8 No. storeys and will comprise 139 No. apartment units; Block B will range in height from 3 No. to 7 No. storeys and will comprise 74 No. apartment units; Block C will range in height from 4 No. storeys to 7 No. storeys and will comprise 151 No. apartment units; Block D will range in height from 3 No. storeys to 5 No. storeys and will comprise 30 No. apartment units; Block E will be 2 No. storeys in height and will comprise 6 No. courtyard type houses; and Block F will range in height from 5 No. storeys to 7 No. storeys and will comprise 81 No. apartment units.

The development also includes the provision of: cultural/community space within Tabor House (4 No. storeys including lower ground floor level) and the Chapel (2 No. storeys including lower ground floor level and mezzanine level) (1,698 sq m) with associated outdoor space (248 sq m); a café/restaurant (154 sq m) and a creche (350 sq m) within Block F with associated outdoor creche play area; ancillary residents' amenities and facilities within Blocks B & C; and a single storey bin store and substation adjacent to Block F (101 sq m).

The development also provides a new access from Milltown Road (which will be the principal vehicular entrance to the site) in addition to utilising and upgrading the existing access from Sandford Road as a secondary access principally for deliveries, emergencies and taxis; new pedestrian access points; pedestrian/bicycle connections through the site; 319 No. car parking spaces (289 No. at basement level and 30 No. at surface level); set down area for deliveries; bicycle parking; 22 No. motorcycle spaces; bin storage; boundary treatments; private balconies and terraces facing all directions; hard and soft landscaping including public open space and communal open space; green/blue roofs; PV panels; substations; lighting; plant; lift cores and overruns; and all other associated site works above and below ground.

The proposed development has a gross floor space of c.50,196 sq m above ground level over a partial basement (under part of Blocks A1 and A2 and under Blocks B and C) measuring c. 10,550 sq m, which includes parking spaces, bin storage, bike storage and plant.

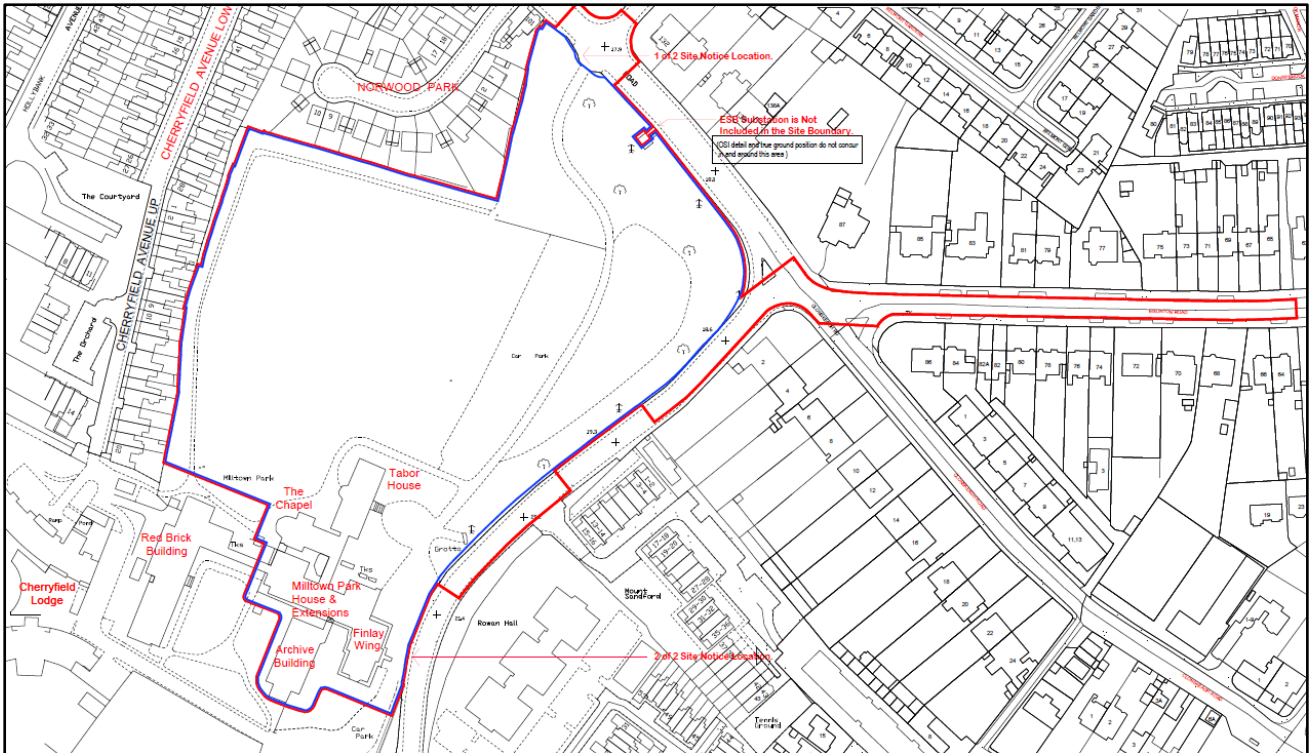


Figure 4.1 Proposed Development Site Location

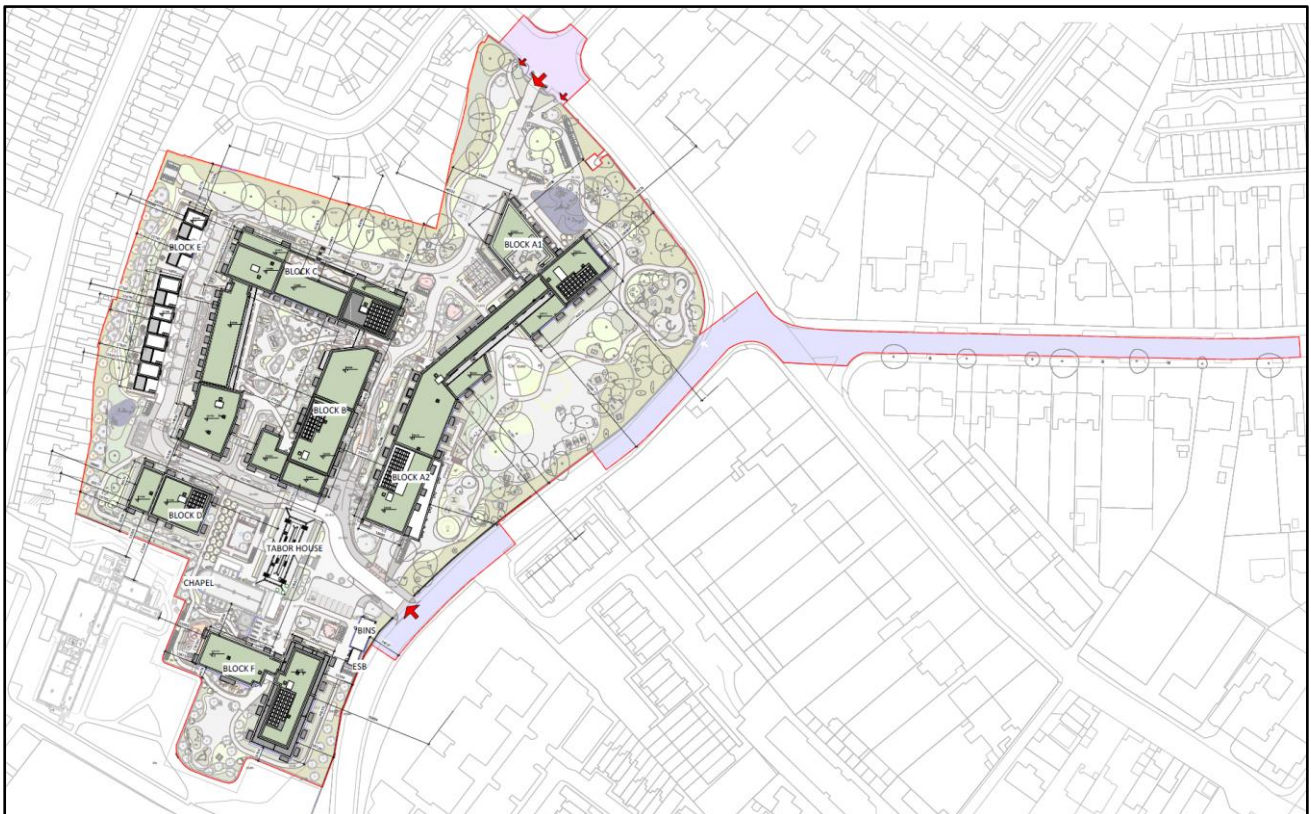


Figure 4.2 Proposed Development Site Layout

3.2 Typical Waste Categories

The typical non-hazardous and hazardous wastes that will be generated at the proposed development will include the following:

- ▶ Dry Mixed Recyclables (DMR) - includes waste paper (including newspapers, magazines, brochures, catalogues, leaflets), metal cans, plastic bottles, aluminium cans, tins and Tetra Pak cartons;
- ▶ Cardboard (bailed)
- ▶ Plastic packaging (bailed)
- ▶ Organic waste – food waste and green waste generated from internal plants / flowers;
- ▶ Glass; and
- ▶ Mixed Non-Recyclable (MNR)/General Waste.

In addition to the typical waste materials that will be generated at the development on a daily basis, there will be some additional waste types generated less frequently / in smaller quantities which will need to be managed separately including:

- ▶ Drink Cans and Bottles (Deposit Return Scheme)
- ▶ Green / garden waste may be generated from external landscaping;
- ▶ Batteries (both hazardous and non-hazardous);
- ▶ Waste electrical and electronic equipment (WEEE) (both hazardous and non-hazardous);
- ▶ Printer cartridges / toners;
- ▶ Chemicals (paints, adhesives, resins, detergents, etc.);
- ▶ Light bulbs;
- ▶ Textiles;
- ▶ Waste cooking oil (if any generated by the tenants or residents);
- ▶ Furniture (and, from time to time, other bulky wastes); and
- ▶ Abandoned bicycles.

Wastes should be segregated into the above waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible.

3.3 List of Waste Codes

In 1994, the *European Waste Catalogue*²³ and *Hazardous Waste List*²⁴ were published by the European Commission. In 2002, the EPA published a document titled the *European Waste Catalogue and Hazardous Waste List*²⁵, which was a condensed version of the original two documents and their subsequent amendments. This document has recently been replaced by the EPA *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous*²⁶ 2018. This waste classification system applies across the EU and is the basis for all national and international waste reporting, such as those associated with waste collection permits, COR's, permits and licences and EPA National Waste Database.

Under the classification system, different types of wastes are fully defined by a code. The List of Waste (LoW) code for typical waste materials expected to be generated during the operation of the proposed development are provided in Table 3-1 below.

Table 3.1 Typical Waste Types Generated and LoW Codes

Waste Material	LoW Code
Paper and Cardboard	20 01 01
Plastics	20 01 39

Metals	20 01 40
Mixed Non-Recyclable Waste	20 03 01
Glass	20 01 02
Biodegradable Kitchen Waste	20 01 08
Oils and Fats	20 01 25
Textiles	20 01 11
Batteries and Accumulators*	20 01 33* - 34
Printer Toner/Cartridges*	20 01 27* - 28
Green Waste	20 02 01
WEEE*	20 01 35*-36
Chemicals (solvents, pesticides, paints & adhesives, detergents, etc.) *	20 01 13*/19*/27*/28/29*30
Fluorescent tubes and other mercury containing waste*	20 01 21*
Bulky Wastes	20 03 07

** Individual waste type may contain hazardous materials*

4. ESTIMATED WASTE ARISING

A waste generation model (WGM) developed by AWN has been used to predict waste types, weights and volumes expected to arise from operations within the proposed development. The WGM incorporates building area and use and combines these with other data, including Irish and US EPA waste generation rates.

The estimated quantum / volume of waste that will be generated from the residential units and residential amenities has been determined based on the predicted occupancy of the units. While the floor area usage (m²) has been used to estimate the waste arising from the creche, café/restaurant and community/cultural units (commercial units).

The estimated waste generation for the proposed development for the main waste types is presented in Tables 4-1 to 4-3.

Table 4.1 Estimated Waste Generation for Proposed Development (Residential)

Waste Type	Waste Volume (m ³ / week)			
	Block A1	Block A2	Block B	Block C
Organic Waste	1.30	2.08	1.11	1.98
DMR	9.22	14.22	7.89	14.04
Glass	0.25	0.40	0.22	0.38
MNR	4.85	8.27	4.15	7.38
Total	15.63	24.97	13.37	23.79

Table 4.2 Estimated Waste Generation for Proposed Development (Residential)

Waste Type	Waste Volume (m ³ / week)			
	Block D	Block E (Per Unit)	Block F	
Organic Waste	0.44	0.02	1.21	
DMR	3.09	0.13	8.61	
Glass	0.08	0.01	0.24	
MNR	1.63	0.08	4.53	
Total	5.24	0.24	14.58	

Table 4.3 Estimated Waste Generation for Proposed Development (Commercial)

Waste Type	Waste Volume (m ³ / week)			
	Café/Restaurant Block F	Creche Block F	Community / Cultural (Chapel Tabor House)	
Organic Waste	0.07	0.04	0.32	
DMR	0.15	1.29	2.01	
Glass	0.01	0.01	0.32	
MNR	0.18	0.70	2.46	
Total	0.42	2.04	5.11	

*BS5906:2005 Waste Management in Buildings – Code of Practice*²³ has been considered in the calculations of waste estimates. AWN's modelling methodology is based on recently published data and data from numerous other similar developments in Ireland and, as it is based on AWN's experience, it provides a more representative estimate of the likely waste arisings from the proposed development.

5. WASTE STORAGE AND COLLECTION

This section provides information on how waste generated within the site will be stored and collected. This has been prepared with due consideration of the proposed site layout as well as best practice standards, local and national waste management requirements, including those of DCC. In particular, consideration has been given to the following documents:

- ▶ BS 5906:2005 Waste Management in Buildings – Code of Practice,
- ▶ The NWMPCE (2024);
- ▶ Dublin City Council Development Plan 2022 – 2028 (Appendix 7);
- ▶ DCC Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018);
- ▶ DoHLGH, *Design Manual for Urban Roads and Streets* (2019) ²⁶; and
- ▶ DoHLGH, *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities* (2025) ²⁷.

Waste Storage Areas

Dedicated communal Waste Storage Areas (WSA) have been allocated within the development design at basement and ground floor levels for the residential units and can be viewed in the drawings submitted with the application. Communal amenity space waste will be accommodated in any of the shared residential WSAs and waste estimates are included as part of the overall residential waste figures provided in Tables 4.1, 4.2 & 4.3.

The creche, café/restaurant and community/cultural units have their own commercial waste store located in the external location adjacent to block F.

Locations of all Waste Storage Areas (WSAs) can be viewed on the drawings submitted with the planning application.

The waste receptacles from the residential WSAs and commercial WSA will be collected by facilities management or the waste contractor (agreement dependant), at the time of collection and brought through the development, to the staging areas, within the development redline boundary.

Residents in Block E with their own individual waste storage areas will be responsible for moving their bins to and from the curtilage for collection.

Waste Storage Requirements

Using the estimated waste generation volumes in Table 4.1, 4.2 & 4.3 the waste receptacle requirements for MNR, DMR, organic waste and glass have been established for the WSA. These are presented in Table 5.1.

Table 5.1 Waste storage requirements for the proposed development

Area/Use	Bins Required			
	MNR ¹	DMR ²	Glass	Organic
Block A1	5 no. 1100 L	9 no. 1100 L	2 no. 240 L	6 no. 240 L
Block A2	8 no. 1100 L	13 no. 1100 L	2 no. 240 L	9 no. 240 L
Block B	4 no. 1100 L	8 no. 1100 L	1 no. 240 L	5 no. 240 L

Area/Use	Bins Required			
	MNR ¹	DMR ²	Glass	Organic
Block C	7 no. 1100 L	13 no. 1100 L	2 no. 240 L	9 no. 240 L
Block D	2 no. 1100 L	3 no. 1100 L	1 no. 240 L	2 no. 240 L
Block E (Individual)	1 no. 240 L	1 no. 240 L	Bottle Bank	1 no. 240 L
Block F	5 no. 1100 L	8 no. 1100 L	1 no. 240 L	6 no. 240 L
Commercial Waste Store	4 no. 1100 L	4 no. 1100 L	2 no. 240 L	2 no. 240 L

Note: 1 = Mixed Non-Recyclables
2 = Dry Mixed Recyclables

The waste receptacle requirements have been established from distribution of the total weekly waste generation estimate into the holding capacity of each receptacle type, along with collection frequency.

Waste storage receptacles as per Table 5.1 above (or similar appropriate approved containers) will be provided by the waste contractor in the WSA.

As outlined in the current Dublin City Development Plan, it is preferable to use 1,100 L wheelie bins for waste storage, where practical. However, in the case of organic and glass waste, it is considered more suitable to use smaller waste receptacles due to the weight of bins when filled with organic and glass waste. The use of 240 L bins, as recommended in Table 5.1, will reduce the manual handling impacts on the facilities management personnel and waste contractor employees.

The types of bins used will vary in size, design and colour dependent on the appointed waste contractor. However, examples of typical receptacles to be provided in the WSA are shown in Figure 5-1. All waste receptacles used will comply with the SIST EN 840-1:2020 and SIST EN 840-2:2020 as the standards for performance requirements of mobile waste containers, where appropriate.

Figure 5.1 Typical waste receptacles of varying size (240L and 1100L)



Receptacles for organic, mixed dry recyclable, glass and mixed non-recyclable waste will be provided in the WSAs prior to first occupation of the development.

Alternative options can be considered in future by the facilities management company, as technologies are developed. Solely for the purpose of ensuring the WSA is sufficiently sized to accommodate bins which take up more space.

A waste management plan will be provided to each resident and tenant from first occupation of the development. This Plan will be supplemented, as required, by the property management company with any new information on waste segregation, storage, reuse and recycling initiatives that are subsequently introduced.

5.1 Waste Storage – Residential Units

Residents will be required to segregate waste into the following main waste streams:

- ▶ Organic Waste;
- ▶ DMR;
- ▶ Glass; and
- ▶ MNR.

Provision will be made in all residential units to accommodate 3 no. bin types to facilitate waste segregation at source. An example of a potential 3 bin storage system is provided in Figure 5.3 below.

Figure 5.3 Example three bin storage system to be provided within the unit design



Residents will be required to take their segregated waste materials to their designated residential WSAs and deposit their segregated waste into the appropriate bins. The locations of the residential WSAs is illustrated in the drawings submitted with the planning application under separate cover, and in appendices of this report.

Each bin / container in the residential WSAs will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which waste types can be placed in each bin. Access to the residential WSA will be restricted to authorised residents, facilities management of the development and waste contractors by means of a key or electronic fob access.

Other waste materials such as textiles, batteries, printer toner/cartridges, waste cooking oil and WEEE may be generated infrequently by the residents. Residents will be required to identify suitable temporary

storage areas for these waste items within their own units and dispose of them appropriately. Further details on additional waste types can be found in Section 5.4.

5.2 Waste Storage – Commercial Units

The commercial tenants which includes the cultural/community, café/restaurant and creche use units will be required to segregate waste within their own unit into the following main waste types:

- ▶ Organic Waste;
- ▶ DMR;
- ▶ Glass; and
- ▶ MNR;

The commercial tenants will be required to take their segregated waste materials to their designated commercial WSAs and deposit their segregated waste into the appropriate waste receptacles. The location of the WSA is illustrated in the drawings submitted with the planning application under separate cover and in the appendices of this report.

Suppliers for the commercial tenants should be requested by the tenants to make deliveries in reusable containers, minimize packaging or remove any packaging after delivery, where possible, to reduce waste generated by the proposed development.

If any kitchens are allocated in unit area, this will contribute a significant portion of the volume of waste generated on a daily basis, and as such it is important that adequate provision is made for the storage and transfer of waste from these areas to the WSA.

If kitchens are required it is anticipated that waste will be generated in kitchens throughout the day, primarily at the following locations:

- ▶ Food Storage Areas (i.e. cold stores, dry store, freezer stores and stores for decanting of deliveries);
- ▶ Meat Preparation Area;
- ▶ Vegetable Preparation Area;
- ▶ Cooking Area;
- ▶ Dish-wash and Glass-wash Area; and
- ▶ Bar Area.

Small bins will be placed adjacent to each of these areas for temporary storage of waste generated during the day. Waste will then be transferred from each of these areas to the commercial bin stores.

All bins / containers in the commercial tenants' areas as well as in the WSA will be clearly labelled and colour coded to avoid cross contamination of the different waste streams. Signage will be posted above or on the bins to show exactly which wastes can be put in each.

Other waste materials such as textiles, batteries, lightbulbs, WEEE, cooking oil and printer toner / cartridges will be generated less frequently. Space has been allocated within the commercial WSAs for the storage of these items. Collections of these items will be arranged as required by the tenant or facilities management depending on the agreement. Further details on additional waste types can be found in Section 5.4.

5.3 Waste Collection

There are numerous private contractors that provide waste collection services in the Dublin City area. All waste contractors servicing the proposed development must hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered / permitted / licensed facilities only.

Bins from the development will be brought to a collection point in the forecourt, or directly from the ground level WSAs by the waste contractor or facilities management, immediately prior to collection. The basement level carpark is insufficient in height for a waste truck to access, all waste will be collected at grade. Temporary storage at the bottom of the basement ramp has been provided to move bins prior to collection.

The waste receptacles from the WSAs will be collected by facilities management, immediately prior to collection and brought to where the bins will be staged temporarily awaiting collection. The staging areas are such that they will not obstruct traffic or pedestrians (allowing a footway path of at least 1.8m, the space needed for two wheelchairs to pass each other) as is recommended in the *Design Manual for Urban Roads and Streets* (2019)²⁸.

Residents in Block E will be responsible for moving their own waste receptacle to and from the curtilage for collection and emptying.

A trolley / tug or suitable vehicle may be required to convey the bins to and from the collection area. The facilities management or waste contractor will ensure that empty bins are promptly returned to the WSAs after collection / emptying.

Suitable access and egress has been provided to enable the bins to be moved easily from the temporary staging area to the waste collection vehicles on the appropriate days. Waste will be collected at agreed days and times by the nominated waste contractors.

All waste receptacles will be clearly identified as required by waste legislation and the requirements of the DCC *Waste Bye-Laws*. Waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

It is recommended that bin collection times are staggered to reduce the number of bins required to be emptied at once and the time the waste vehicle is on-Site. This will be determined during the process of appointment of a waste contractor.

5.4 Additional Waste Materials

In addition to the typical waste materials that are generated on a daily basis, there will be some additional waste types generated from time to time that will need to be managed separately. A non-exhaustive list is presented below.

Deposit Return Scheme

Most drinks containers can be recycled via the deposit return scheme, such as bottles, cans and tins made from plastic, aluminium or steel. These items can be returned once they are between 150ml and 3 litres in size and have the Re-turn logo on them.

At the shops you can either return the containers:

- ▶ Using a Reverse Vending Machine (RVM)
- ▶ Manually in the shop

If a shop does not have a RVM but they sell containers with the Re-turn logo, the shop may allow you to manually return containers in store, unless they have a take back exemption.

Locations of RVM machines can be found via the Re-turn website (www.re-turn.ie)

Green Waste

Green waste may be generated from gardens, external landscaping and internal plants / flowers. Green waste generated from landscaping of external areas will be removed by external landscape contractors. Green waste generated from gardens internal plants / flowers can be placed in the organic waste bins.

Batteries

A take-back service for waste batteries and accumulators (e.g. rechargeable batteries) is in place in order to comply with the S.I. No. 283/2014 - European Union (Batteries and Accumulators) Regulations 2014, as amended. In accordance with these regulations, consumers are able to bring their waste batteries to their local civic amenity centre or can return them free of charge to retailers which supply the equivalent type of battery, regardless of whether or not the batteries were purchased at the retail outlet and regardless of whether or not the person depositing the waste battery purchases any product or products from the retail outlet.

The commercial tenants cannot use a civic amenity centre. They must segregate their waste batteries and either avail of the take-back service provided by retailers or arrange for recycling / recovery of their waste batteries by a suitably permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

Waste Electrical and Electronic Equipment (WEEE)

The WEEE Directive (Directive 2002/96/EC) and associated Waste Management (WEEE) Regulations have been enacted to ensure a high level of recycling of electronic and electrical equipment. In accordance with the regulations, consumers can bring their waste electrical and electronic equipment to their local recycling centre. In addition, consumers can bring back WEEE within 15 days to retailers when they purchase new equipment on a like for like basis. Retailers are also obliged to collect WEEE within 15 days of delivery of a new item, provided the item is disconnected from all mains, does not pose a health and safety risk and is readily available for collection.

As noted above, the commercial tenants cannot use a civic amenity centre. They must segregate their WEEE and either avail of the take-back / collection service provided by retailers or arrange for recycling / recovery of their WEEE by a suitably permitted / licenced contractor. Facilities management may arrange collection, depending on the agreement.

Printer Cartridge / Toners

It is recommended that a printer cartridge / toner bin is provided in the commercial units, where appropriate. The commercial tenants will be required to store this waste within their units and arrange for return to retailers or collection by an authorised waste contractor, as required.

Waste printer cartridge / toners generated by residents can usually be returned to the supplier free of charge or can be brought to a civic amenity centre.

Chemicals

Chemicals (such as solvents, paints, adhesives, resins, detergents, etc) are largely generated from building maintenance works. Such works are will be completed by external contractors who are responsible for the off-site removal and appropriate recovery / recycling / disposal of any waste materials generated.

Any waste cleaning products or waste packaging from cleaning products generated in the commercial units that is classed as hazardous (if they arise) will be appropriately stored pending disposal within the tenants' own space. Facilities management may arrange collection, depending on the agreement.

Any waste cleaning products or waste packaging from cleaning products that are classed as hazardous (if they arise) generated by the residents should be brought to a civic amenity centre.

Light Bulbs

Waste light bulbs (fluorescent, incandescent and LED) may be generated by lighting in the commercial units. It is anticipated that the commercial tenants will be responsible for the off-site removal and appropriate recovery / disposal of these wastes. Facilities management may arrange collection, depending on the agreement.

Waste light bulbs generated by residents should be taken to the nearest civic amenity centre for appropriate storage and recovery / disposal.

Textiles

Where possible, waste textiles should be recycled or donated to a charity organisation for reuse. Commercial and residential tenants will be responsible for disposing of waste textiles appropriately.

Waste Cooking Oil

If the commercial tenants use cooking oil, waste cooking oil will need to be stored within their units on a bunded area or spill pallet and regular collections by a dedicated waste contractor will need to be organised as required. Under sink grease traps will be installed in any cooking space.

If the residents generate waste cooking oil, this can be brought to a civic amenity centre.

Furniture & Other Bulky Waste Items

Furniture and other bulky waste items (such as carpet, etc.) may occasionally be generated by the commercial tenants. The collection of bulky waste will be arranged, as required by the tenant. If residents wish to dispose of furniture, this can be brought a civic amenity centre.

Abandoned Bicycles

Bicycle parking areas are planned for the development. As happens in other developments, residents sometimes abandon faulty or unused bicycles, and it can be difficult to determine their ownership. Abandoned bicycles should be donated to charity if they arise or facilities management may arrange collection by a licensed waste contractor.

5.5 Waste Storage Area Design

The commercial and residential WSAs should be designed and fitted-out to meet the requirements of relevant design Standards, including:

- ▶ Be fitted with a non-slip floor surface;
- ▶ Provide ventilation to reduce the potential for generation of odours with a recommended 6-10 air changes per hour for a mechanical system for internal WSA;
- ▶ Provide suitable lighting – a minimum Lux rating of 400 is recommended;
- ▶ Be easily accessible for people with limited mobility;
- ▶ Be restricted to access by nominated personnel only;
- ▶ Be supplied with hot or cold water for disinfection and washing of bins;
- ▶ Be fitted with suitable power supply for power washers;
- ▶ Have a sloped floor to a central foul drain for bins washing run-off;

- ▶ Have appropriate signage placed above and on bins indicating correct use;
- ▶ Robust design of doors to bin area incorporating steel sheet covering where appropriate;
- ▶ Have access for potential control of vermin, if required; and
- ▶ Be fitted with CCTV for monitoring.

The facilities management company, commercial tenants and residents will be required to maintain the bins and storage areas in good condition as required by the DCC Waste Bye-Laws.

5.6 Facility Management Responsibilities

It shall be the responsibility of the facilities manager to ensure that all waste generated is managed to ensure correct storage prior to collection by an appropriately permitted waste management company.

The facilities manager will provide the following items to all residents, commercial staff and any facilities management team appointed:

- ▶ Provision of a Waste Management Plan document, prepared by the facilities manager, to all residents, commercial tenants and facilities management staff. It shall clearly state the methods of source waste segregation, storage, reuse and recycling initiatives that shall apply to the management of the development;
- ▶ Provision and maintenance of appropriate graphical signage to inform residents, tenants and staff of their obligation to reduce waste, segregate waste and dispose of it in the correct bin;
- ▶ Preparation of an annual waste management report for all residents, commercial tenants and staff to view;
- ▶ Designation of access routes to common waste storage areas to ensure safe access from the unit by mobility impaired persons;
- ▶ Provision of an appropriately qualified and experienced staff member, who will be responsible for all aspects of waste management at the development;
- ▶ Frequent inspection of waste storage areas and signing of a monitoring check list, which shall be displayed within the area; and
- ▶ Maintenance of a register, detailing the quantities and breakdown of wastes collected from the development and provision of supporting documentation by the waste collector to allow tracking of waste recycling rates.

5.7 Pest Management

A pest control operator will be appointed as required to manage pests onsite during the operational phase of this development. All waste generated within the development will be stored in closed waste receptacles both within the office & commercial units and within the WSA. Any waste receptacles will be carefully managed to prevent leaks, odours and pest problems.

The WSA will have access for potential control of vermin, if required, be supplied with hot or cold water, drainage point and will be regularly inspected by facilities management to deter pests.

6. SUMMARY AND CONCLUSION

In summary, this OWMP presents a waste strategy that addresses all legal requirements, waste policies and best practice guidelines and demonstrates that the required storage areas have been incorporated into the design of the proposed development.

Implementation of this OWMP will ensure a high level of recycling, reuse and recovery at the development. All recyclable materials will be segregated at source to reduce waste contractor costs and ensure maximum diversion of materials from landfill, thus contributing to the targets set out in the *NWMPCE*.

Adherence to this plan will also ensure that waste management at the development is carried out in accordance with the requirements of the *DCC Waste Bye-Laws*.

The waste strategy presented in this document will ensure sufficient storage capacity is provided for the estimated quantity of segregated waste. The designated areas for waste storage will provide sufficient room for the required receptacles in accordance with the details of this strategy.

7. REFERENCES

1. Waste Management Act 1996 as amended.
2. Environmental Protection Agency Act 1992 as amended.
2. Litter Pollution Act 1997 as amended;
4. Regional Waste Management Planning Offices, *The National Waste Management Plan for a Circular Economy 2024 - 2030 (2024)*.
5. Dublin City Council (DCC) *Dublin City Council (Storage, Presentation and Segregation of Household and Commercial Waste) Bye-Laws (2018)*
6. Department of Environment and Local Government (DoELG) *Waste Management – Changing Our Ways, A Policy Statement (1998)*
7. Department of Environment, Heritage and Local Government (DoEHLG) *Preventing and Recycling Waste - Delivering Change (2002)*
8. DoELG, *Making Ireland’s Development Sustainable – Review, Assessment and Future Action (World Summit on Sustainable Development) (2002)*
9. DoEHLG, *Taking Stock and Moving Forward (2004)*
10. Department of Communications, Climate Action and Environment (DCCA), *Waste Action Plan for the Circular Economy - Ireland’s National Waste Policy 2020-2025 (2020)*.
11. DCCA, *Whole of Government Circular Economy Strategy 2022-2023 'Living More, Using Less' (2021)*.
12. Department of Housing, Local Government and Heritage authored *Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities (2024)*
13. Environmental Protection Agency (EPA), *National Waste Database Reports 1998 – 2020 and the Circular Economy and National Waste Database Report 2021 -2022 (2024)*
14. Waste Management (Landfill Levy) Regulations 2015 (as amended)
15. Circular Economy (Waste Recovery Levy) Regulations 2024
16. DCC, *Dublin City Development Plan 2022-2028 (2022)*.
17. Planning and Development Act 2000 (S.I. No. 30 of 2000) as amended
18. European Waste Catalogue - Council Decision 94/3/EC (as per Council Directive 75/442/EC).
19. Hazardous Waste List - Council Decision 94/904/EC (as per Council Directive 91/689/EEC).
20. EPA, *European Waste Catalogue and Hazardous Waste List (2002)*
21. EPA, *Waste Classification – List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2018)*
22. BS 5906:2005 Waste Management in Buildings – Code of Practice.
23. Department of Transport, Tourism and Sport and Department of Housing, Planning and Local Government, *Design Manual for Urban Roads and Streets (2019)*
24. Department of Housing Local Government and Heritage (DoHLGH), *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2023)*

Appendix 15.1

Traffic Count Survey



Innovative Data Solutions

Project Reference:

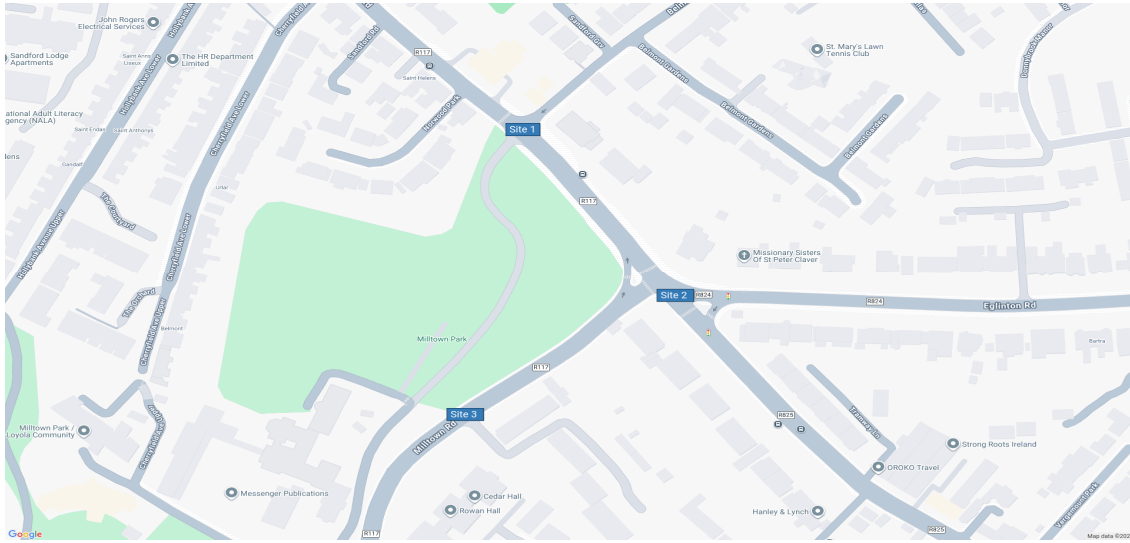
25733 - Milltown, Co. Dublin

UK +44 (0)20 3883 7753
Ireland +353 (0)44 931 8019
Belgium +32 (0)334 606 35

Website: idaso.co
info@idasoltd.com

IDASO

Survey Name: 25733 - Milltown, Co. Dublin
Date: Thu 11 Sep 2025 — Sat 13 Sep 2025



IDASO

Survey Name: 25733 - Milltown, Co. Dublin
Date: Thu 11 Sep 2025 — Sat 13 Sep 2025

Site 2

Maintenance works were conducted by ESB on 11th September from 09:35 to 12:00, with a Stop/Go traffic management system in place on Arm B





IDASO

Survey Name: 25733 Milltown, Co. Dublin
Site: Site 1
Location: Sandford Road/Belmont Avenue
Date: Thu 11-Sep-2025
AM Peak: 07:45 - 08:45 Total: 1542
PM Peak: 17:00 - 18:00 Total: 1829
15 Min Peak: 08:30 - 08:45 Total: 532
Overall 15 Min Peak: 08:30 - 08:45 Total: 1332 Date: 11/09/2025

Arm A - Belmont Ave
Arm B - R117 Sandford Rd
Arm C - Beckett College Access
Arm D - R117 Sandford Rd

Table with 10 columns (TIME, P/C, M/C, CAB, TASI, LEV, OSV1, OSV2, PSV, TOT) and 100 rows of traffic data for the AM peak period.



IDASO

Survey Name: 25733 Milltown, Co. Dublin
Site: Site 1
Location: Sandford Road/Belmont Avenue
Date: Sat 13-Sep-2025
AM Peak: 10:59 - 11:59 Total: 1334
PM Peak: 15:00 - 16:00 Total: 1408
15 Min Peak: 13:00 - 13:15 Total: 386

Arm A - Belmont Ave
Arm B - R117 Sandford Rd
Arm C - Beckett College Access
Arm D - R117 Sandford Rd

Table with 10 columns (TIME, P/C, M/C, CAB, TASI, LEV, OSV1, OSV2, PSV, TOT) and 100 rows of traffic data for the PM peak period.



IDASO

Survey Name: 25733 - Milltown, Co. Dublin
Site: Site 2
Location: Sandford Road/Conseagh Road/Milltown Road/Eglington Road
Date: Thu 11 Sep 2025
AM Peak: 07:45 - 08:45 Total: 3498
PM Peak: 17:45 - 18:45 Total: 2331
15 Min Peak: 08:30 - 08:45 Total: 861 Date: 11/09/2025

Arm A - Eglington Rd
Arm B - R25
Arm C - Milltown Rd
Arm D - R117 Sandford Rd

Table with 10 columns (TIME, P/C, M/C, CAR, TAXI, LGV, OSV1, OSV2, PSV, TOT) and 100 rows of traffic data for the AM peak (07:45-08:45).



IDASO

Survey Name: 25733 - Milltown, Co. Dublin
Site: Site 2
Location: Sandford Road/Conseagh Road/Milltown Road/Eglington Road
Date: Sat 13 Sep 2025
AM Peak: 10:59 - 11:59 Total: 1861
PM Peak: 15:59 - 16:59 Total: 2099
15 Min Peak: 13:00 - 13:15 Total: 546

Arm A - Eglington Rd
Arm B - R25
Arm C - Milltown Rd
Arm D - R117 Sandford Rd

Table with 10 columns (TIME, P/C, M/C, CAR, TAXI, LGV, OSV1, OSV2, PSV, TOT) and 100 rows of traffic data for the AM peak (10:59-11:59).



IDASO

Survey Name: 25733 - Miltown, Co. Dublin
Site: S19 2
Location: Sandford Road/Gonskeagh Road/Miltown Road/Eglinton Road
Date: Thu 11 Sep 2025
AM Peak: 07:45 - 08:45 Total: 2488
PM Peak: 17:45 - 18:45 Total: 2331
Overall 15 Min Peak: 08:30 - 08:45 Total: 661 Date: 11/09/2025

Arm A - Eglinton Rd
Arm B - R625
Arm C - Miltown Rd
Arm D - R117 Sandford Rd

Table with 10 columns (P/C, M/C, CAR, TAXI, LSV, ODV1, ODV2, PSV, TOT) and 10 rows of data for each arm (A-D) and direction (S, N, E, W).



IDASO

Survey Name: 25733 - Miltown, Co. Dublin
Site: S19 2
Location: Sandford Road/Gonskeagh Road/Miltown Road/Eglinton Road
Date: Sat 13 Sep 2025
AM Peak: 10:59 - 11:59 Total: 1861
PM Peak: 18:00 - 18:00 Total: 2069
Overall 15 Min Peak: 13:00 - 13:15 Total: 946

Arm A - Eglinton Rd
Arm B - R625
Arm C - Miltown Rd
Arm D - R117 Sandford Rd

Table with 10 columns (P/C, M/C, CAR, TAXI, LSV, ODV1, ODV2, PSV, TOT) and 10 rows of data for each arm (A-D) and direction (S, N, E, W).



IDASO

Survey Name: 25733 - Milltown, Co. Dublin
Site: S19 2
Location: Sandford Road/Gonskeagh Road/Milltown Road/Eglinton Road
Date: Thu 11 Sep 2025
AM Peak: 07:45 - 09:45
PM Peak: 17:45 - 18:45
Overall 15 Min Peak: 08:30 - 09:45

Arm A - Eglinton Rd
Arm B - R825
Arm C - Milltown Rd
Arm D - R117 Sandford Rd

Total: 2488
Total: 2331
Total: 661
Est. Date: 11/09/2025

A													B													C													D														
P/C	M/C	CAR	TAXI	LSV	ODV1	ODV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LSV	ODV1	ODV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LSV	ODV1	ODV2	PSV	TOT	PCU	P/C	M/C	CAR	TAXI	LSV	ODV1	ODV2	PSV	TOT	PCU														
0	0	17	2	1	0	0	0	20	23.6	0	0	0	0	0	0	0	0	0	0	75.1	0	0	10	0	1	0	0	1	21	23.7	0	0	0	0	0	0	0	0	75.1	0	0	10	0	1	0	0	1	21	23.7				
1	2	11	0	4	0	0	0	17	18	0	1	0	0	0	0	0	0	0	0	77.2	0	1	0	0	2	1	0	0	28	29.7	0	0	0	0	0	0	0	0	77.2	0	1	0	0	2	1	0	0	28	29.7				
5	0	20	0	2	1	0	0	23	24.7	0	0	0	0	0	0	0	0	0	0	77.2	0	0	20	5	1	1	0	0	26	26.7	0	0	0	0	0	0	0	0	77.2	0	0	20	5	1	1	0	0	26	26.7				
10	0	18	0	2	0	0	0	20	21.3	0	0	0	0	0	0	0	0	0	0	75.1	0	0	18	0	2	0	0	0	20	21.3	0	0	0	0	0	0	0	0	75.1	0	0	18	0	2	0	0	0	20	21.3				
0	0	21	0	0	0	0	0	21	22	0	0	0	0	0	0	0	0	0	0	75.1	0	0	21	0	0	0	0	0	21	22	0	0	0	0	0	0	0	0	75.1	0	0	21	0	0	0	0	0	21	22				
14	0	0	1	1	1	0	0	3	3.3	0	0	0	0	0	0	0	0	0	0	75.1	0	0	0	0	0	0	0	0	3	3.3	0	0	0	0	0	0	0	0	75.1	0	0	0	0	0	0	0	0	3	3.3				
8	0	18	0	1	0	0	0	19	19.1	0	0	0	0	0	0	0	0	0	0	75.1	0	0	18	0	1	0	0	0	19	19.1	0	0	0	0	0	0	0	0	75.1	0	0	18	0	1	0	0	0	19	19.1				
5	0	14	2	1	2	0	0	7	7.6	0	0	0	0	0	0	0	0	0	0	75.1	0	0	14	2	1	2	0	0	7	7.6	0	0	0	0	0	0	0	0	75.1	0	0	14	2	1	2	0	0	7	7.6				
4	0	17	0	2	2	0	0	5	5.2	0	0	0	0	0	0	0	0	0	0	75.1	0	0	17	0	2	2	0	0	5	5.2	0	0	0	0	0	0	0	0	75.1	0	0	17	0	2	2	0	0	5	5.2				
7	0	21	1	2	0	0	0	3	3.3	0	0	0	0	0	0	0	0	0	0	75.1	0	0	21	1	2	0	0	0	3	3.3	0	0	0	0	0	0	0	0	75.1	0	0	21	1	2	0	0	0	3	3.3				
17	0	18	1	2	0	0	0	1	1.1	0	0	0	0	0	0	0	0	0	0	75.1	0	0	18	1	2	0	0	0	1	1.1	0	0	0	0	0	0	0	0	75.1	0	0	18	1	2	0	0	0	1	1.1				
3	0	14	0	1	0	0	0	1	1.1	0	0	0	0	0	0	0	0	0	0	75.1	0	0	14	0	1	0	0	0	1	1.1	0	0	0	0	0	0	0	0	75.1	0	0	14	0	1	0	0	0	1	1.1				
3	0	14	0	1	0	0	0	1	1.1	0	0	0	0	0	0	0	0	0	0	75.1	0	0	14	0	1	0	0	0	1	1.1	0	0	0	0	0	0	0	0	75.1	0	0	14	0	1	0	0	0	1	1.1				
3	0	14	0	1	0	0	0	1	1.1	0	0	0	0	0	0	0	0	0	0	75.1	0	0	14	0	1	0	0	0	1	1.1	0	0	0	0	0	0	0	0	75.1	0	0	14	0	1	0	0	0	1	1.1				
10	0	15	0	0	0	0	0	1	1.1	0	0	0	0	0	0	0	0	0	0	75.1	0	0	15	0	0	0	0	0	1	1.1	0	0	0	0	0	0	0	0	75.1	0	0	15	0	0	0	0	0	1	1.1				
1	0	16	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	16	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	16	2	1	0	0	0	0	0	0	0	0
4	1	26	2	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	26	2	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	26	2	7	1	0	0	0	0	0	0	0
4	1	26	2	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	26	2	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	26	2	7	1	0	0	0	0	0	0	0
3	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	26	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0	0	0	0	0	0	0	0	
4	1	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75.1	0	0	25	0	0	0																											



IDASO

Survey Name: 25733 - Milltown, Co. Dublin
Site: Site 3
Location: Milltown Road/Mount Sandford
Date: Thu 13 Sep 2025
AM Peak: 07:30 - 08:30 Total: 1391
PM Peak: 17:45 - 18:45 Total: 1776
15 Min Peak: 08:00 - 08:15 Total: 375
Overall 15 Min Peak: 08:00 - 08:15 Total: 375 Date: 11/09/2025

Arm A - R117 Milltown Rd
Arm B - Mount Sandford
Arm C - R117 Milltown Rd

Table with columns for Time, P/C, M/C, CAR, TAXI, LOW, OVNS, OVNS, OVNS, PSV, TOT, PCU, and multiple columns for different road arms (A, B, C) with their respective metrics.



IDASO

Survey Name: 25733 - Milltown, Co. Dublin
Site: Site 3
Location: Milltown Road/Mount Sandford
Date: Sat 13 Sep 2025
AM Peak: 12:45 - 13:45 Total: 1149
PM Peak: 13:45 - 13:45 Total: 1238
15 Min Peak: 13:00 - 13:15 Total: 334

Arm A - R117 Milltown Rd
Arm B - Mount Sandford
Arm C - R117 Milltown Rd

Table with columns for Time, P/C, M/C, CAR, TAXI, LOW, OVNS, OVNS, OVNS, PSV, TOT, PCU, and multiple columns for different road arms (A, B, C) with their respective metrics.

Appendix 15.2

Mobility Management Plan

Residential-led Mixed-Use Development at Milltown Park, Sandford Road, Dublin 6

Mobility Management Plan

190226-X-20-BK01-L01-RP-DBFL-CE-0003

December 2025

Project Title:	Residential-led Mixed-Use Development at Milltown Park, Sandford Road, Dublin 6		
Document Title:	Mobility Management Plan		
File Ref:	190226-X-20-BK01-L01-RP-DBFL-CE-0003		
Status:	P3 - Planning	Rev:	1
	S - Issued		

Status	Rev.	Date	Description	Prepared	Reviewed	Approved
P1	0	01/07/25	Draft Design Team	Jane Murphy	Helen Gendy	Robert Kelly
P1	0	10/07/25	Stage 2 Planning	Jane Murphy	Helen Gendy	Robert Kelly
P3	1	03/12/25	Final Issue	Jane Murphy	Helen Gendy	Robert Kelly

Disclaimer

This document has been prepared for the exclusive use of our Client and unless otherwise agreed in writing with DBFL Consulting Engineers no other party may use, make use of or rely on the contents of this document. The document has been compiled using the resources agreed with the Client and in accordance with the agreed scope of work. DBFL Consulting Engineers accepts no responsibility or liability for any use that is made of this document other than for the purposes for which it was originally commissioned and prepared, including by any third party or use by others of opinions or data contained in this document. DBFL Consulting Engineers accepts no liability for any documents or information supplied by others and contained within this report. It is expressly stated that no independent verification of any documents or information supplied by others for this document has been made. DBFL Consulting Engineers has used reasonable skill, care and diligence in compiling this document and no warranty is provided as to the report's accuracy.

Copyright

The contents and format of this report are subject to copyright owned by DBFL Consulting Engineers unless that copyright has been legally assigned by us to another party or is used by DBFL Consulting Engineers under licence. This report may not be copied or used for any purpose other than the intended purpose.

Contents

1	INTRODUCTION	1
1.1	CONTEXT.....	1
2	MOBILITY MANAGEMENT PLAN FRAMEWORK	4
2.1	WHAT IS A MOBILITY MANAGEMENT PLAN?.....	4
2.2	WHAT IS A RESIDENTIAL MOBILITY MANAGEMENT PLAN?	4
2.3	WHO IS INVOLVED?	5
2.4	OBJECTIVES OF A MOBILITY MANAGEMENT PLAN	6
2.5	MOBILITY MANAGEMENT PLAN PROCESS	6
2.6	MOBILITY MANAGEMENT PLAN NEXT STEP	8
2.7	POLICY FRAMEWORK.....	9
3	PROPOSED DEVELOPMENT	14
3.1	RECEIVING ENVIRONMENT.....	14
3.2	PROPOSED DEVELOPMENT	14
4	COMMUTER TRENDS & TRANSPORT NEEDS.....	18
4.1	INTRODUCTION	18
4.2	SUBJECT SITE PROPOSED MODAL SPLIT.....	21
4.3	PUBLIC TRANSPORT CAPACITY ASSESSMENT	22
5	OBJECTIVES & TARGETS	24
5.1	INTRODUCTION	24
5.2	MMP OBJECTIVES	24
5.3	MMP ACTIONS & TARGETS	25
6	MMP MEASURES	28
6.1	INTRODUCTION	28
6.2	MODE SPECIFIC MEASURES.....	29
6.3	MANAGEMENT & MONITORING MEASURES.....	30

6.4	MARKETING & PROMOTION MEASURES	30
7	PRELIMINARY ACTION PLAN	31
7.1	OVERVIEW	31
7.2	MANAGEMENT AND MONITORING STRATEGY	31
7.3	WALKING STRATEGY.....	35
7.4	CYCLING STRATEGY	37
7.5	PUBLIC TRANSPORT STRATEGY	39
7.6	PRIVATE CAR STRATEGY	41
7.7	MARKETING AND PROMOTION STRATEGY	43
8	SUMMARY AND CONCLUSIONS.....	45
8.1	SUMMARY	45
Appendix A :	Mode Specific Measures	47
Appendix B :	Management & Monitoring Measures	53
Appendix C :	Marketing & Promotion Measures	57

Figures

Figure 2-1:	MMP Development Process and Status	7
Figure 2-2:	SMART targeting principles	8
Figure 2-3:	MMP Policy Framework and External Influences	9
Figure 3-1:	Subject Site Layout	16
Figure 3-2:	Subject Site Basement Layout	17
Figure 4-1:	Mode of Transport by Age-GDA (National Household Travel Survey 2024)	19
Figure 4-2:	Locations of Census Small Areas Reviewed (Source: CSO)	20
Figure 4-3:	Existing Modal Split (Source: CSO).....	21
Figure 6-1:	MMP Action Plan Strategies	29
Figure 8-1:	MMP Sub Strategy Themes & Initiatives	45

Tables

Table 3-1: Development Schedule Summary (Source: O'Mahony Pike).....	14
Table 5-1: Mode Share Targets for Sandford Development	27
Table 7-1: Preliminary Schedule of MMP Management & Monitoring Initiatives.....	34
Table 7-2: Preliminary Schedule of MMP's Walking Initiatives	35
Table 7-3: Preliminary Schedule of MMP's Cycling Initiatives	37
Table 7-4: Preliminary Schedule of MMP's Public Transport Initiatives	39
Table 7-5: Preliminary Schedule of MMP's Private Car Initiatives.....	41
Table 7-6: Preliminary Schedule of MMP's Marketing & Promotion Initiatives	43

1 INTRODUCTION

1.1 CONTEXT

DBFL Consulting Engineers have compiled this framework Mobility Management Plan (MMP) as part of the planning application for a proposed residential-led mixed-use development at a site located on the R117 Sandford Road, Dublin 6.

Sandford Living Limited intend to apply for permission for a Large-Scale Residential Development at a c. 4.26 hectare site at Milltown Park, Sandford Road, Dublin 6, D06 V9K7. Works are also proposed on Milltown Road and Sandford Road to facilitate access to the development including improvements to pedestrian facilities on an area of c. 0.16 hectares. The development's surface water drainage network shall discharge from the site via a proposed 300mm diameter pipe along Milltown Road through the junction of Milltown Road / Sandford Road prior to outfalling to the existing drainage network on Eglinton Road (approximately 200 metres from the Sandford Road / Eglinton Road junction), with these works incorporating an area of c. 0.32 hectares. The development site area, road works and drainage works areas will provide a total application site area of c. 4.74 hectares.

The development will principally consist of: the demolition of c. 4,847.5 sq m of existing structures on site including Milltown Park House (880 sq m), Milltown Park House Rear Extension (2,031 sq m), the Finlay Wing (622 sq m), the Archive (1,240 sq m) and the Link Building between Tabor House and Milltown Park House Rear Extension to the front of the Chapel (74.5 sq m); the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m) and the provision of a single storey glass entrance lobby to the front and side of the Chapel (52 sq m); and the provision of 562 No. residential units comprising 6 No. three-bed courtyard houses and 556 No. apartment units (70 No. studios, 176 No. one-bed units, 267 No. two-bed units and 43 No. three-bed units).

Block A1 will range in height from 5 No. storeys to 8 No. storeys and will comprise 81 No. apartment units; Block A2 will range in height from 6 No. storeys to 8 No. storeys and will comprise 139 No. apartment units; Block B will range in height from 3 No. to 7 No. storeys and will comprise 74 No. apartment units; Block C will range in height from 4 No. storeys to 7 No. storeys and will comprise 151 No. apartment units; Block D will range in height from 3 No. storeys to 5 No. storeys and will comprise 30 No. apartment units; Block E will be 2 No. storeys in height and will comprise 6 No. courtyard type houses; and Block F will range in height from 5 No. storeys to 7 No. storeys and will comprise 81 No. apartment units.

The development also includes the provision of: cultural/community space within Tabor House (4 No. storeys including lower ground floor level) and the Chapel (2 No. storeys including lower ground floor level and mezzanine level) (1,698 sq m) with associated outdoor space (248 sq m); a café/restaurant (154 sq m) and a creche (350 sq m) within Block F with associated outdoor creche play area; ancillary residents' amenities and facilities within Blocks B & C; and a single storey bin store and substation adjacent to Block F (101 sq m).

The development also provides a new access from Milltown Road (which will be the principal vehicular entrance to the site) in addition to utilising and upgrading the existing access from Sandford Road as a secondary access principally for deliveries, emergencies and taxis; new pedestrian access points; pedestrian/bicycle connections through the site; 319 No. car parking spaces (289 No. at basement level and 30 No. at surface level); set down area for deliveries; bicycle parking; 22 No. motorcycle spaces; bin storage; boundary treatments; private balconies and terraces facing all directions; hard and soft landscaping including public open space and communal open space; green/blue roofs; PV panels; substations; lighting; plant; lift cores and overruns; and all other associated site works above and below ground.

The proposed development has a gross floor space of c.50,196 sq m above ground level over a partial basement (under part of Blocks A1 and A2 and under Blocks B and C) measuring c. 10,550 sq m, which includes parking spaces, bin storage, bike storage and plant.

This MMP has been prepared to guide the delivery and management of several coordinated initiatives which ultimately seek to encourage sustainable travel practices for all journeys to and from the proposed residential-led mixed-use development.

This framework document aims to inform three distinct audiences as follows;

- The appointed **Mobility Manager** who will be responsible for implementing and managing the MMP. The MMP targets and measures introduced in Chapter 5 and Chapter 6 will be coordinated, administered and updated by the appointed Mobility Manager.
- The **Local Authority Officers** who will be eager to ensure that the MMP initiatives are appropriately ambitious, deliverable and implemented fully. The officers, who will be very familiar with the MMP process, will be predominately interested in the proposed MMP Targets (Chapter 5) and associated measures (Chapter 6).

- The **Residents and Staff** of the proposed development who may be unfamiliar with the MMP process. They will find the process and context information as outlined in Chapter 2 invaluable. They may also be interested in the MMP targets and measures introduced in Chapter 5 and Chapter 6.

2 MOBILITY MANAGEMENT PLAN FRAMEWORK

2.1 WHAT IS A MOBILITY MANAGEMENT PLAN?

The Dublin Transportation Office's (which has been subsumed into the National Transportation Authority (NTA) in December 2009) 2001 publication entitled *"The Route to Sustainable Commuting"* defines a MMP as *"... a package of measures put in place by an organisation to encourage and support more sustainable travel patterns ..."*.

The MMP can be developed for an individual site or group of sites and designed specially to respond to a range of different site-specific land uses such as business (offices, retail, industrial etc.), residential and schools/ colleges/ universities.

Whilst the emergence and successful application of MMPs have only transpired over the last 15 years in Ireland, other countries have extensive experience in designing, implementing, marketing and monitoring the successful delivery of MMPs. Accordingly, MMPs are also known by a number of other names including:

- Travel Plans;
- Green Travel Plans;
- Sustainable Mobility Plans; or
- Sustainable Commuter Plans.

2.2 WHAT IS A RESIDENTIAL MOBILITY MANAGEMENT PLAN?

A Residential Mobility Management Plan is a package of measures designed specifically to reduce the number and length of car-based trips generated, whilst also encouraging more sustainable forms of travel and reducing the overall need to travel. It sets out objectives and targets to achieve sustainable travel patterns.

A successfully implemented Residential MMP can provide reductions in car usage, particularly influencing levels of single-occupancy car travel, with increased trips made by public transport, walking and cycling; and improve road safety and personal security (especially for pedestrians and cyclists).

Mobility Management Plans to date have mainly focused on the development of destination MMPs and to encourage travel by sustainable modes for employment and school developments.

Destination MMPs focus on a particular journey purpose while a residential MMP is concerned with journeys made from a single origin (home) to multiple and changing destinations.

Best Practice guidance is provided in *“Making Residential Travel Plans Work – Good Practice Guidelines For New Development”* published by the Department for Transport (UK) in September 2005 and *“Making Residential Travel Plans Work”* in August 2007. These documents highlight that a Residential MMP (with aspects of retail, medical, childcare and community) will be different to a school or workplace MMP as the pattern of journeys originating at a place of residence is more varied with multiple destinations and different needs and travel choices.

The DfT’s (UK) *“Making Residential Travel Plans Work – Good Practice Guidelines”* suggest that the growing interest in residential travel planning is being driven by two factors:

- *“the increased acceptance of travel planning as a legitimate part of the transport planning toolkit and an effective mechanism in helping both to reduce congestion and to promote the use of sustainable modes of transport”*
- *“the pressure for new housing and its transport implications in many parts of the country is driving the need to find new ways of ensuring the development of more sustainable communities”*

2.3 WHO IS INVOLVED?

A Residential MMP impacts the following stakeholders who should all be involved in some form or manner:

- Local Authority Officers;
- Housing developers;
- Future residents and Staff at sites that have an MMP;
- Residents in the community surrounding new housing developments with a MMP; and
- Transport Operators.

2.4 OBJECTIVES OF A MOBILITY MANAGEMENT PLAN

The principal objective of an MMP is to reduce levels of private car use in parallel with encouraging people to walk, cycle, use public transport, car share or even reduce the number trips undertaken / required.

A comprehensive range of goals, and subsequent complementary secondary level objectives, can be identified with the purpose of achieving the ultimate objective of the MMP. This can be achieved through the delivery of a range of complimentary integrated initiatives which can positively influence travel behaviour and associated travel habits.

The specific objective(s) of an MMP can vary depending upon the organisation, site characteristics and specific land uses which vary with each site. Nevertheless, in the context of this MMP objectives can include;

A. For the Residents and Staff -

- Address residents' and staffs' need for access to a full range of facilities for work, education, health, leisure, recreation and shopping; and
- Promote healthy lifestyles and sustainable, vibrant local communities.

B. The Local Community -

- Reduce the traffic generated by the development for journeys on the external road network;
- Make local streets less dangerous, less noisy and less polluted;
- Enhance viability of public transport; and
- Improve the environment and the routes available for cycling and walking.

2.5 MOBILITY MANAGEMENT PLAN PROCESS

Once the decision has been made to produce a MMP the process of compiling the plan encompasses the 9 principal steps presented in **Graph 2.1** below.

The MMP however remains an 'active' document which continues to evolve and develop during its lifecycle. Accordingly, once the initial nine steps have been successfully completed (including monitoring and reporting requirements), the process recommences with the identification of new actions and associated targets which instigates the second generation of the MMP. As a

result, subsequent generations of the MMP can be incorporated into the management and operation of the residential development for as long as necessary or potentially even for the entire existence of the residential development.

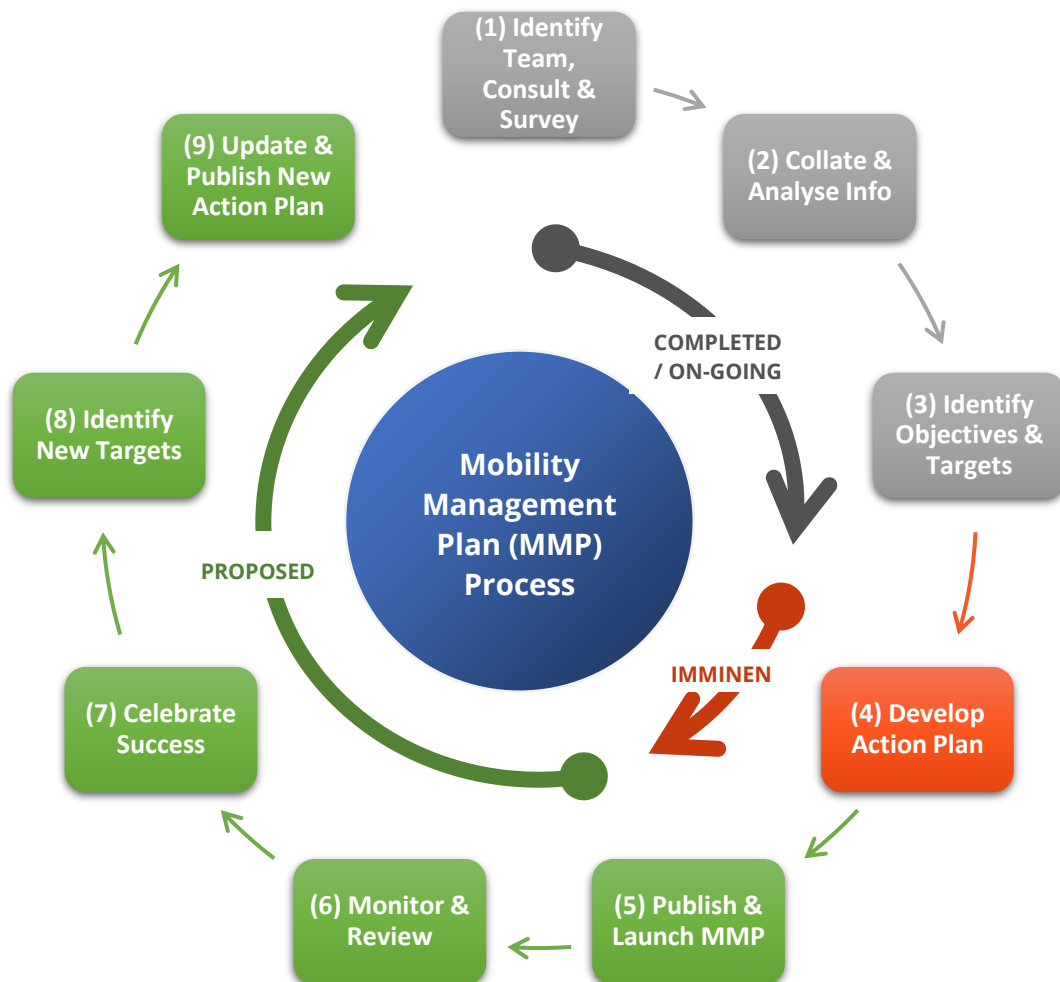


Figure 2-1: MMP Development Process and Status

Once the Residential development's specific objectives are identified "SMART" targets will both assist in defining the specific measures that are included and / or prioritised within the MMP (to reach the objective) and help with the monitoring and evaluation of the level of success achieved by the MMP. SMART targets, which can be agreed with the local authority should be;

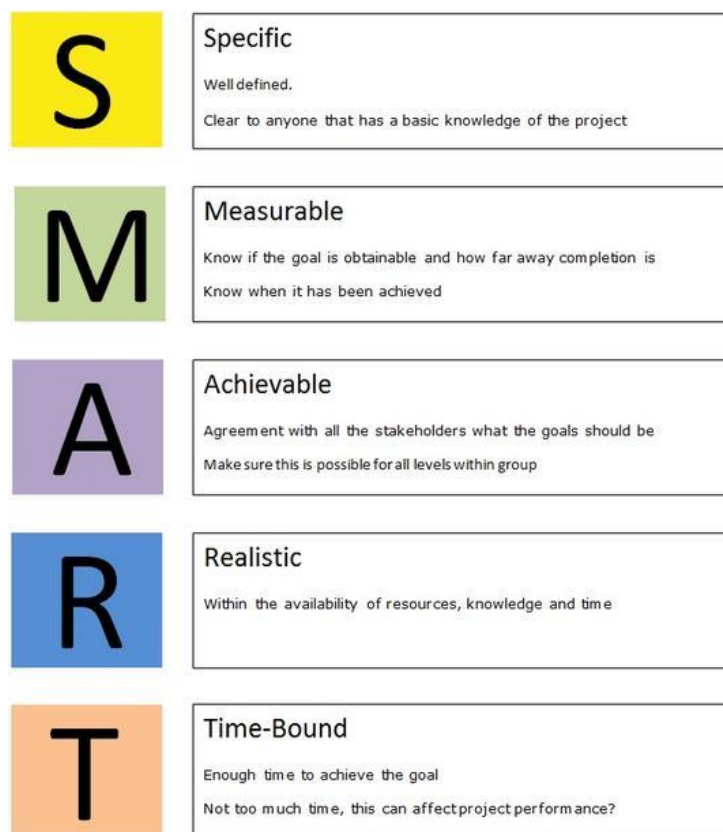


Figure 2-2: SMART targeting principles

2.6 MOBILITY MANAGEMENT PLAN NEXT STEP

In the context of the residential development's operational framework, the local receiving environment and the identification of the Preliminary Action Plan this document should form the basis by which;

- a) the subject residential accommodation development's specific travel characteristics are outlined and presented to the local authority; and
- b) through a partnership approach between the developers and the local planning authority, the Preliminary Action Plan is explored and re-examined with the objective of reaching agreement upon the MMP's measures and subsequently the adoption of an 'agreed' MMP Action Plan with targets, initiatives, timescales, responsibilities and resources clearly outlined and approved by both parties.

To enable this process to commence it is proposed that this MMP framework document, as compiled by DBFL is submitted to Dublin City Council once permission is granted by An Bord Pleanála. At the request of the local authority a meeting between the local authority officers and

the developers can take place if required with the objective of formally agreeing an MMP action plan and associated targets for the subject residential-led mixed-use development as proposed at Milltown Park, Sandford Road, Dublin 6.

2.7 POLICY FRAMEWORK

The MMP for the residential development is supported by comprehensive transport policy hierarchy in addition to being influenced directly / indirectly by other policy themes (e.g. environmental, health etc.) which generate a range of complementary policy instruments in addition to demands and pressures that clearly necessitate a change in existing travel behaviour. Commencing at EU level and subsequently transferred into national policy and regulations in Ireland the hierarchy continues from regional (Greater Dublin Area) to sub-region (Dublin City Council) and eventually arriving at site (or land use) specific policy objectives.

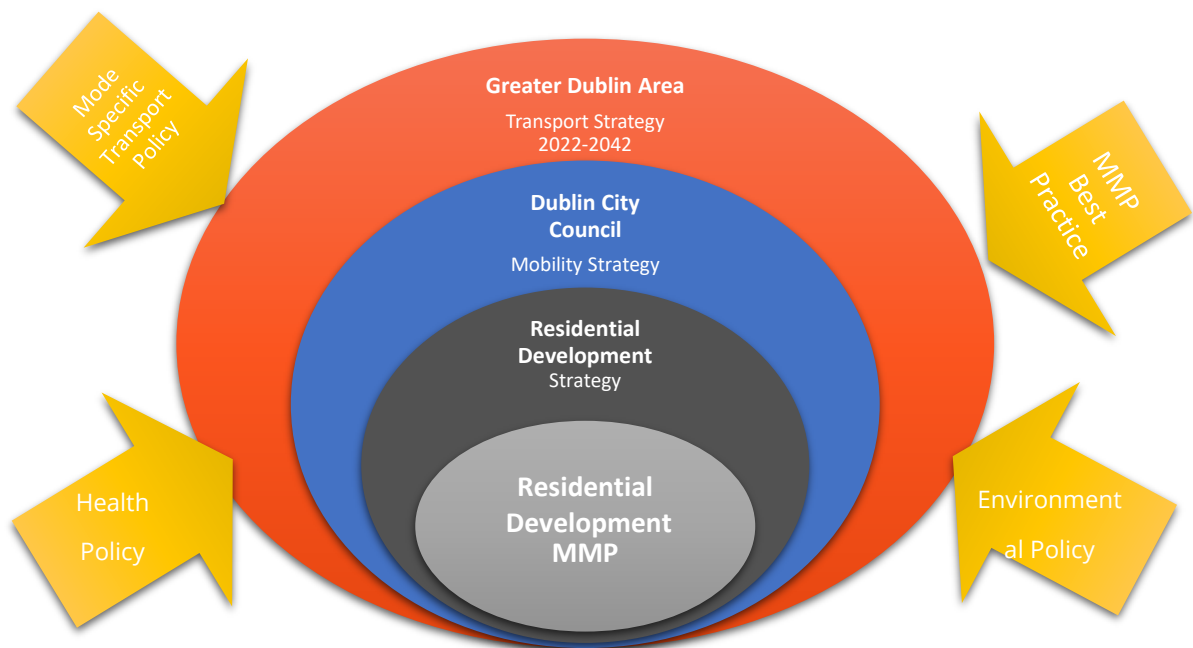
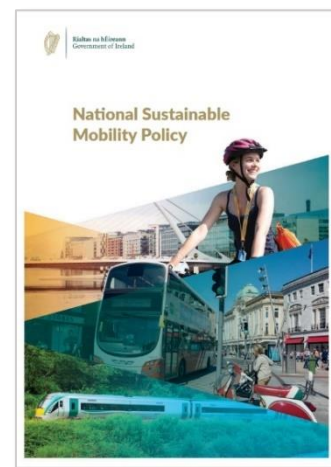


Figure 2-3: MMP Policy Framework and External Influences

National Smarter Travel Policy

The National Sustainable Mobility Policy was published in April 2022 by the Department of Transport and replaces Smarter Travel 2009. The overall aim of the Policy is to “set out a strategic framework for 2030 for active travel and public transport to support Ireland’s overall requirement to achieve a 51% reduction in carbon emissions by the end of this decade”.



The Policy is a direct response to the fact that continued growth in demand for road transport is not sustainable due to the resulting adverse impacts of increasing congestion levels,

localised air pollution, contribution to global warming and the additional negative impacts to health through promoting increasingly sedentary lifestyles. The following 3 key Policy areas and 10 goals form the basis of the National Sustainable Mobility Policy:

Safe and Green Mobility

1. Improve mobility safety
2. Decarbonise public transport
3. Expand availability of sustainable mobility in metropolitan areas
4. Expand availability of sustainable mobility in regional and rural areas
5. Encourage people to choose sustainable mobility over the private car

People Focused Mobility

6. Take a whole journey approach to mobility, promoting inclusive access for all
7. Design infrastructure according to Universal Design Principles and the Hierarchy of Road Users model
8. Promote sustainable mobility through research and citizen

Better Integrated Mobility

9. Better integrate land use and transport planning at all levels
10. Promote smart and integrated mobility through innovative technologies and development of appropriate regulation

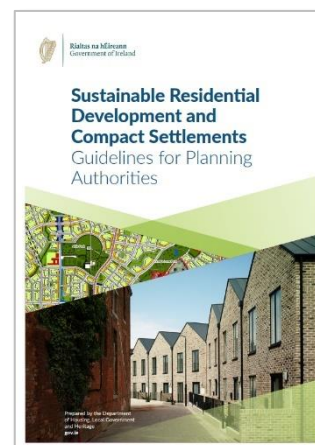
The policy is accompanied by an Action Plan with a total 91 actions organised by goal to be completed by 2025. Each action has been assigned to a specific government department or body

with the hope of creating accountability for their implementation. The success of the policy will be measured using an annual National Household Travel Survey administered by the National Transport Authority.

Sustainable Residential Development and Compact Settlements - Guidelines for Planning Authorities - (January 2024)

The guidelines set out policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements.

These Guidelines replace the Sustainable Residential Development in Urban Areas Guidelines for Planning Authorities issued as Ministerial guidelines under Section 28 of the Act in 2009, which in turn replaced the Residential Density Guidelines issued in 1999. They build on and update previous guidance to take account of current Government policy and economic, social and environmental considerations. There is a renewed focus in the Guidelines on the renewal of existing settlements and on the interaction between residential density, housing standards and quality urban design and placemaking to support sustainable and compact growth.



The Guidelines include a Specific Planning Policy Requirement (SPPR) in relation to car parking. The quantum of car parking or the requirement for any such provision for new developments will be based on the accessibility characteristics of the site. There are four accessibility levels set out in the Guidelines that will determine the level of parking provided, these are as follows:

High-Capacity Public Transport Node or Interchange: Lands within 1km walking distance of an existing or planned high capacity urban public transport node or interchange, including DART or high frequency Commuter Rail; or locations within 500 metres walking distance of an existing or planned BusConnects 'Core Bus Corridor' stop.

Accessible Locations: Lands within 500 metres (i.e. up to 5–6-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services.

Intermediate Locations: Lands within 500-1,000 metres (i.e. 10–12-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services and lands

within 500 metres (i.e. 6-minute walk) of a reasonably frequent (minimum 15-minute peak hour frequency) urban bus service.

Peripheral Locations: comprise of lands that do not meet the proximity or accessibility criteria detailed above. This includes all lands in Small and Medium Sized Towns and in Rural Towns and Villages.

The subject Sandford Road development is classed as a *high-capacity public transport node or interchange*. Accordingly, under SPPR 3 – Car Parking (i) the Guidelines state that for high-capacity public transport node or interchange *"car parking should be minimised, substantially reduced or wholly eliminated. The maximum rate of car parking provision for residential development at these locations, where such provision is justified to the satisfaction of the planning authority, shall be 1 no. space per dwelling"*.

The Guidelines note that the maximum car parking standards:

- Do not include bays assigned for use by a car club, designated short stay on-street Electric Vehicle (EV) charging stations or accessible parking spaces.
- The maximum car parking standards do include provision for visitor parking.

The Guidelines also set out requirements under SPPR 4 for Cycle Parking and Storage. In terms of quantity, it states that *"residential units that do not have ground level open space or have smaller terraces, a general minimum standard of 1 cycle storage space per bedroom should be applied. Visitor cycle parking should also be provided"* and that *"it will be important to make provision for a mix of bicycle parking types including larger / heavier cargo and electric bikes and for individual lockers"*.

Greater Dublin Area Transport Strategy 2022-2042

The Greater Dublin Area Transport Strategy 2022-2042 has arisen from a review of the original 2016 strategy. The updated document *"sets out the framework for investment in transport infrastructure and services over the next two years"*.



The overall aim of the Transport Strategy is *"to provide a sustainable, accessible and effective transport system for the Greater Dublin Area which meets the region's climate change requirements, serves the needs of urban and rural communities, and supports economic growth"*.

Four primary objectives have been identified as part of the Greater Dublin Area Transport Strategy 2022-2042. These are:

- **An Enhanced Natural and Built Environment:** To create a better environment and meet our environmental obligations by transitioning to a clean, low emission transport system, reducing car dependency, and increasing walking, cycling and public transport use.
- **Connected Communities and a Better Quality of Life:** To enhance the health and quality of life of our society by improving connectivity between people and places, delivering safe and integrated transport options, and increasing opportunities for walking and cycling.
- **A Strong Sustainable Economy:** To support economic activity and growth by improving the opportunity for people to travel for work or business where and when They need to and facilitating the efficient movement of goods.
- **An Inclusive Transport System:** To deliver a high quality, equitable and accessible transport system, which caters for the needs of all members of society.

Dublin City Council Development Plan 2022 - 2028

The *Dublin City Council Development Plan* establishes the regulatory framework against which all development in the county takes place. In both the authority's transportation objectives and development standards the objectives and subsequent thresholds for the requirements of MMPs are clearly detailed. Policy *SMT6* entitled states;

"To promote best practice mobility management and travel planning through the requirement for proactive mobility strategies for new developments focussed on promoting and providing for active travel and public transport use while managing vehicular traffic and servicing activity."

Dublin City Development Plan 2022 - 2028 outlines the importance and utilities of Mobility Management Plans and Travel Plans, as these documents may be used to manage site accessibility, maximise access to public transport and accommodate sustainable movement needs, which helps meet the various objectives of the development plan. It has become best practice to prepare Mobility Management Plans for developments to improve sustainability and encourage sustainable travel trends as much as possible. This may include a modal shift from private car usage towards walking, cycling, and public transport uptake.

3 PROPOSED DEVELOPMENT

3.1 RECEIVING ENVIRONMENT

A full description of the subject site and the local transportation environment (including the local road network, cycle and pedestrian infrastructure and public transport provision and accessibility) is included within the Traffic and Transport Assessment accompanying this Mobility Management Plan.

3.2 PROPOSED DEVELOPMENT

The proposed development site consists of approximately 4.26 hectares of developable land which currently comprises former institutional buildings associated with the Jesuit Community, located in the southern portion of the subject site.

In summary, the project comprises the development of 556 no. residential apartment units, 6 no. courtyard houses, one 350m² creche, a café and community space.

With reference to the O'Mahony Pike Architects' drawings included within this planning submission; the development schedule is summarised in Table 3-1 below.

Unit Type	Description	Quantity	
Apartments	Studio Apartment	70	556
	1 Bedroom Apartment	176	
	2 Bedroom Apartment	267	
	3 Bedroom Apartment	43	
Houses	3 Bedroom House	6	6
Childcare Facility	350m ² Creche	1	-
Community	1,946m ² Community Space	1	-
Cafe	154m ² Café	1	-
Total			562

Table 3-1: Development Schedule Summary (Source: O'Mahony Pike)

Further details of the development proposals including the site layout (Figure 3-1) and site access arrangements are illustrated in the architects' scheme drawings as submitted with this planning application.

Taking into consideration Table 16.1 of the current Dublin City Development Plan 2022-2028; and Chapter 5 of *Sustainable Residential Developments and Compact Settlements: Guidelines for Planning Authorities*, it is considered appropriate a parking provision of 319 car parking spaces,

giving a car parking ratio of 0.546 spaces per apartment unit (excludes creche, community, cafe, taxi and set-down car parking spaces). The provision will include 19 disabled spaces (over 5% of total parking provision), 29 no. surface level car parking spaces and 10 no. car share spaces (5 GoCar spaces and 5 development car share spaces for the development-owned car share vehicles). Also, 173 no. e-Car parking spaces (50%) will be provided in accordance within the development basement car park. The total car parking provision for the development is 319 no. spaces, of which 288 will be provided as basement car parking and 29 no. spaces will be at surface level. Of the surface level parking spaces, 4 set-down spaces, 2 creche allocated spaces, 2 no. short term visitor spaces and 1 community / commercial space have been identified. There are also 2 taxi spaces at surface level. The subject site basement layout is shown in Figure 3-2 below.

The development provides 1343 no. bicycle parking spaces on site at a ratio of 1.7 spaces per bedroom, 959 no. spaces are covered and secured long stay spaces for residential use and 384no. spaces are short stay spaces for visitors to the development. A total of 38 no. cycle parking spaces have also been provided for employees and visitors of the on-site creche, café, medical and retail units. Of the cycle parking provision, 18 no. spaces are provided as cargo bicycle spaces, 6 of these spaces are provided at basement level with the remaining 12 no. spaces available at surface level. The total cycle parking provision is in excess of the DCC development management standard by 128 no. bicycle parking spaces. This increased level of cycle parking is intended to encourage and support a positive modal shift away from a dependency on car travel.



Figure 3-1: Subject Site Layout

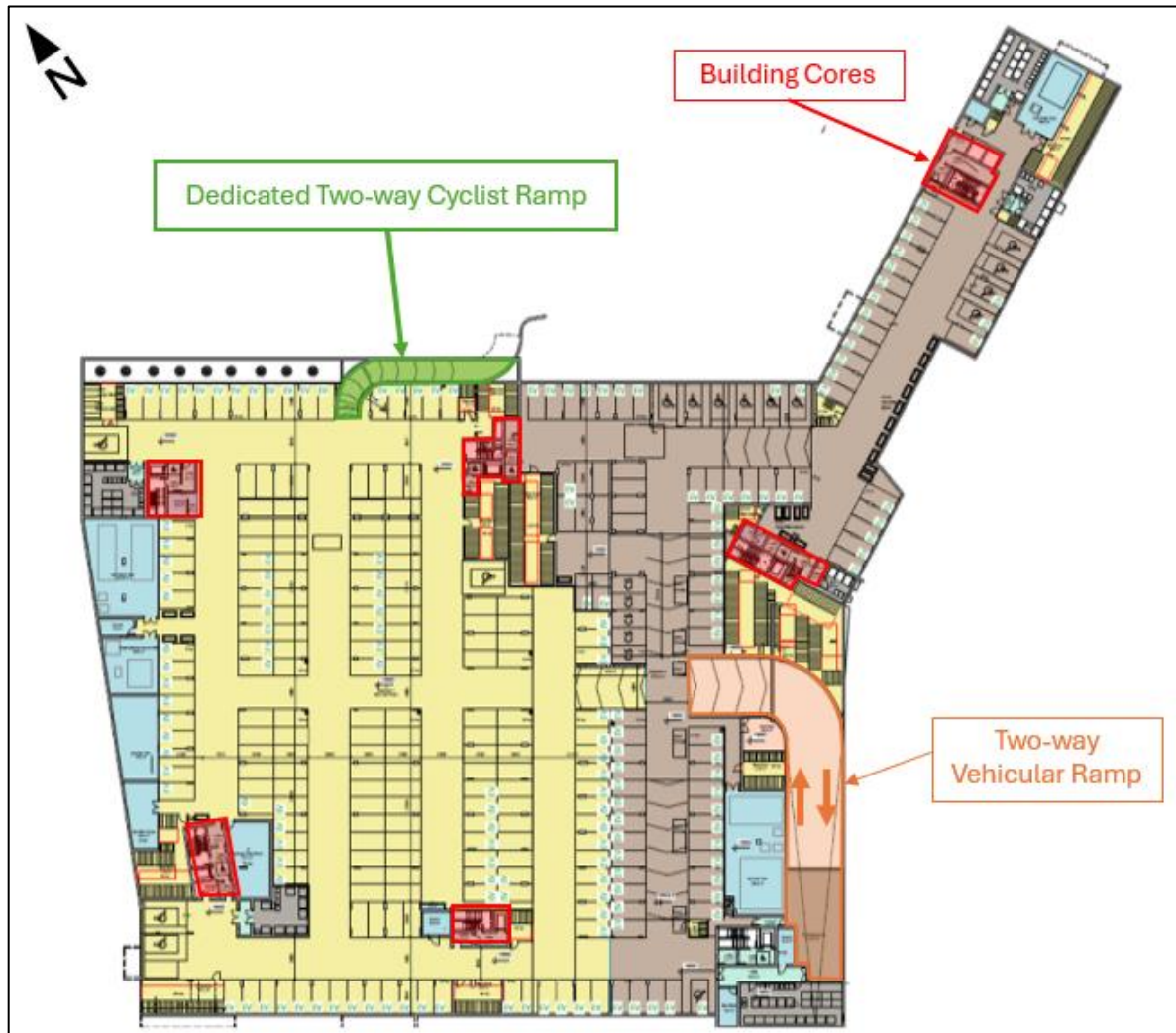


Figure 3-2: Subject Site Basement Layout

A full description of the proposed development characteristics is included within the Traffic and Transport Assessment, with additional detail on the internal operations within the subject site included in the Parking Management Strategy accompanying this Mobility Management Plan.

4 COMMUTER TRENDS & TRANSPORT NEEDS

4.1 INTRODUCTION

It is important to establish baseline trends and area specific transport needs in developing an MMP. The site is located within an area comprising of primarily residential houses with the neighbourhood centre facilities being in close proximity. It is necessary to predict the nature of the proposed traffic to / from the site and investigate whether it is possible to influence the modal split of the commuters from the proposed development.

Varying demographic profiles that have an immediate impact on the traffic network are commuters commuting to / from home as well as other journeys such as school pick up / drop off and shopping trips. These can have their trip patterns influenced. Visitors are more difficult to influence in their trip patterns as they can be unpredictable.

National Household Survey 2024

The National Transport Authority (NTA) has undertaken National Household Travel Survey (2024) which is a representative study of Ireland's travel habits. The main aim of this study is to obtain accurate data describing the typical travel habits of the representative sample of the Irish population throughout the week, across all regions of the country and including number of trips made daily, the mode and time of travel, the distance travelled and the journey purpose. This intensive study reveals that within the Dublin City region, there is an upsurge in bus use for the 15-24-year age group which indicates that this is a more popular mode of transport for this age group with approximately 11% modal share. Walking is also popular mode of transport for the same age group with approximately 29% modal share. The study also reveals that travel by car is about 0.48 for the 15-24- year age gap and 0.55 for the 25-34-year age group.

	4-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65+ yrs
Car	64	48	55	63	69	72	66
Walk	26	29	31	25	19	16	24
Bus/Coach	3	11	6	3	3	3	6
Cycle	6	6	3	4	3	3	1
Train/DART/Luas	*	3	3	2	2	1	2
Truck/van	1	1	1	2	3	3	*
Other	*	2	1	1	2	2	1

Figure 4-1: Mode of Transport by Age-GDA (National Household Travel Survey 2024)

Similarly, the proposed parking of 0.546 per residential apartment unit, is deemed appropriate considering access to sustainable modes of travel in the area. Further, provisions made in this subject development such as an excess in the provision of cycle parking, GoCar availability within the subject site, Parking Management and an MMP to govern the development when operated, all contribute to the suitability of the 0.546 per residential apartment unit parking proposal. The Parking Strategy included within this pre-application package includes more detail to further justify the proposed development car parking ratio and provision.

Local Study Area Context

The Central Statistics Office's SAPMAP (Small Areas Population Map) data has also been investigated to determine the travel trends within the local vicinity of the subject Sandford residential development. SAPMAP is an interactive mapping tool that allows users to pinpoint a location on the map and access 2022 census data related to that area.

Figure 4-2 below illustrates the seven small areas, composed of residential apartments, in the vicinity of the subject site. The CSO SAPMAP means of travel statistics from these seven sites will be used to predict modal split targets for the proposed residential development. These sites best represent the development's future travel trends prior to the positive influence of the MMP initiatives, detailed within this MMP.

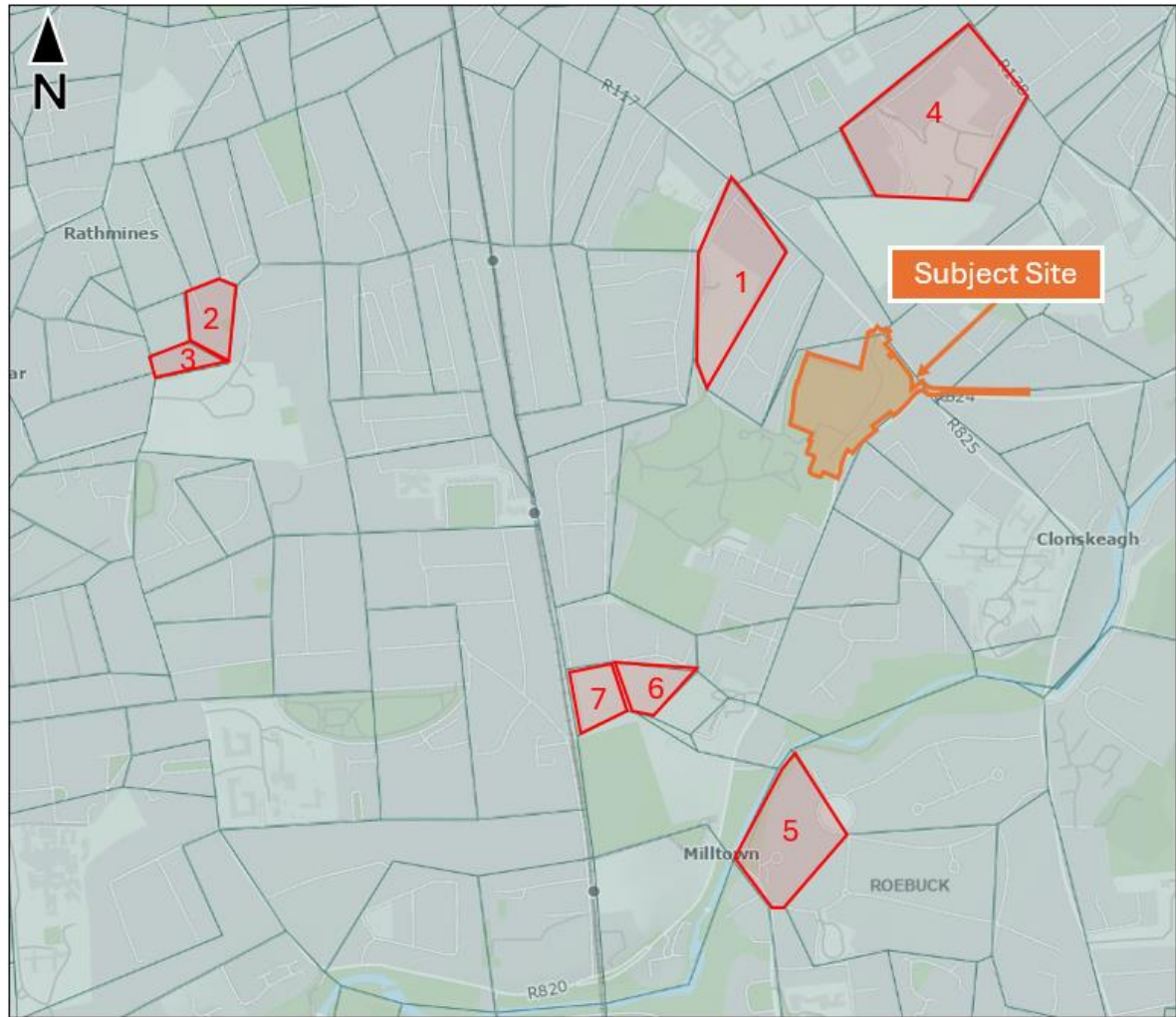


Figure 4-2: Locations of Census Small Areas Reviewed (Source: CSO)

Modal Split

The 2022 Census data for the modes of travel used within the Small Areas was assessed; the locations of these small areas relative to the proposed development are shown in Figure 4-2 above.

The seven Census Small Areas from above were assessed to identify the modal split within the subject area. The assessment reveals that walking is the predominant mode of transport with a 24% modal share. Driving is the second most prominent mode of transport with a modal share of 19% and 3% for car drivers and car passengers respectively. Cycling has a modal share of 11%. All commuting journeys made by Luas and Bus within the assessed areas, forms modal share of 12% and 6% respectively. Figure 4-3 below depicts the modal split within the area.

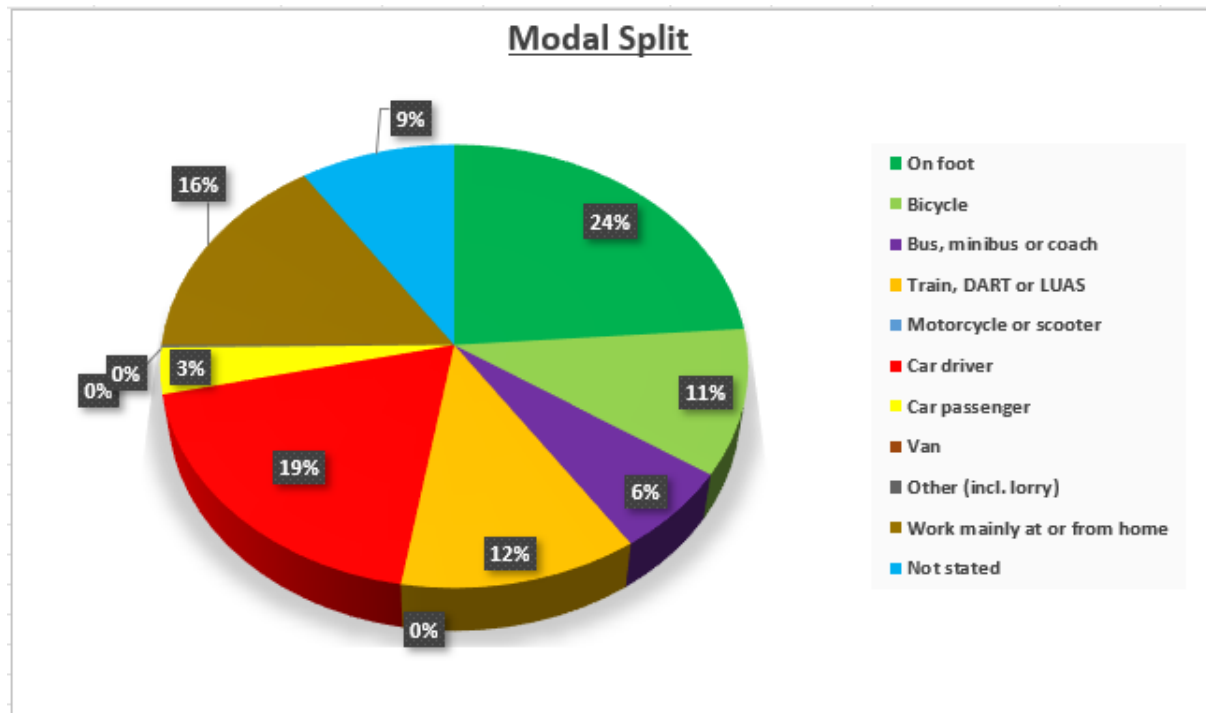


Figure 4-3: Existing Modal Split (Source: CSO)

In summary, existing levels of car ownership and usage would indicate a trend towards the use of sustainable travel modes by residents of apartment developments in the Dublin area. It is imperative that viable travel alternatives are provided and encouraged. This will have the impact of reducing demand for use of the private vehicle and subsequent requirements for car parking. To this end a Mobility Management Plan has been produced for the development and should be read in conjunction with this report.

4.2 SUBJECT SITE PROPOSED MODAL SPLIT

It is considered that an appropriate aim of the MMP would be to reduce the level of single occupancy car trips from the subject site and promote sustainable modes of travel. The key target of this MMP will therefore be to achieve a modal split reflective of 2022 census data, as observed in the tables and figures above, which reduces the number of car-based trips generated by the development and supplements these trips through the use of sustainable modes of transport. Accordingly, an overall minimisation of the number of single car trips undertaken may be achieved. The MMP would subsequently seek to transfer this previous 'car' based trips onto the following modes / travel options:

- LUAS
- Cycle
- Bus
- Bicycle Sharing
- Car Sharing

4.3 PUBLIC TRANSPORT CAPACITY ASSESSMENT

A public transport capacity assessment was carried out to determine the ability of the surrounding public transport services to cater for the proposed development. The conclusions of the assessment are as follows:

1. The survey and analysis undertaken shows that the Sandford Road site is currently well served by high frequency bus and LUAS services, which have some existing spare capacity.
2. The demand for public transport generated by the future Sandford Road development residents and staff can be catered for by the existing bus and LUAS services.
3. Some LUAS services have reached capacity at peak hours but the worst case trip generation for the proposed development is 94 trips for the AM peak service and 74 trips for the PM peak service which only equates to less than 1% of the current LUAS trips.
4. The additional demand for bus service generated by the development site, based largely on CSO data from Census 2022, will result in small increases in passenger volumes on the adjacent bus and LUAS routes. The current bus services are capable of facilitating this increase, while the LUAS services are capable of facilitating this increase for the majority of journeys.
5. The proposed BusConnects routes will improve public transport infrastructure in the area surrounding the proposed development and increase the number of all-day high-frequency services. The subject site will be directly serviced by the new Route 86, Route 87 and Route 88.

6. In the event of any rise in passenger numbers in the years to come, the NTA will respond to this increased demand with higher bus frequencies. The measure (Measure BUS5) can be found in the 2022-2042 Transport Strategy for the Greater Dublin Area.

7. No capacity constraints in the adjacent bus or LUAS network, either current or planned, are anticipated, based on the analysis and modelling undertaken.

The public transport capacity assessment report can be found accompanying this planning application.

5 OBJECTIVES & TARGETS

5.1 INTRODUCTION

In order to measure the ongoing success of the Mobility Management Plan and its various measures it is important that a series of objectives are set in conjunction to a range of associated targets. The proposed objectives and targets are set out in this section of the MMP.

5.2 MMP OBJECTIVES

The overall aim of this MMP is to reduce the dependency on the use of the private car by increasing resident and staffs' awareness to the other travel alternatives available.

To support this principal objective, several sub-objectives have been set out:

- a) Reduce private car use by encouraging people to walk, cycle, use public transport, car club share or even reduce the number of trips undertaken / required;
- b) Make all residents and staff aware of the sustainable transport options available to them;
- c) Encourage the use of sustainable modes of transport;
- d) Encourage the most efficient use of cars and other vehicles;
- e) Reduce any transport impacts of the development on the local community;
- f) Promote walking and cycling as a health benefit to residents and staff;
- g) Managing the ongoing development and delivery of the Mobility Management Plan with future residents and staff;
- h) Promoting smarter working and living practices that reduce the need to travel overall; and
- i) Promote healthy lifestyles and sustainable, vibrant local communities.

The above objectives can be achieved through the integrated provision of hard and soft initiatives. Soft measures include the dissemination of important information regarding:

- Routing, timetable and ticketing information for bus and train services;
- The location and most convenient routes to / from local services (e.g. shops, medical facilities and schools etc.);

- Safe routes to school literature;
- Provision of live information for Dublin Bus at the reception;
- Provision of a free telephone service for calling a taxi, and information regarding taxi ordering apps;
- Cost data comparing public transport and private car journeys; and,
- The health benefits of walking and cycling to include safety advice.

Without such information, some people may choose the perceived option available to them which is often perceived to be the car, even if from a cost and duration of journey perspective this may not be the case.

Similarly, if a resident is unaware of the availability of local shops and services, they may choose to travel a greater distance than necessary in order to access a service.

Accordingly, the objectives of this MMP can therefore be summarised as follows:

- Consider the needs of residents and staff in relation to accessing facilities for education, health, leisure, recreation and shopping purposes, including identifying local amenities available that reduce the need to travel longer distances; and
- Develop good urban design by ensuring permeability of the development to neighbouring areas and provision of cycle facilities including storage.

5.3 MMP ACTIONS & TARGETS

Targets are important as they give the MMP direction from its inception, providing measurable goals. When setting site-specific targets, it is important that they are 'SMART' (Specific, Measurable, Achievable, Realistic and Time-bound) in order that the outcome can be quantified and an assessment of what the MMP has or will achieve can be made.

Since the overall aim of the MMP is to minimise reliance upon the private car, it is appropriate to set a target which relates to this objective. It is also necessary to collect data to identify and understand the baseline travel habits, against which the MMP's progress can be measured. It is recommended that residents' and staffs' questionnaires are circulated once the site reaches 90% occupancy. These questionnaires will establish the baseline travel data for the subject site.

The Mobility Management Plan's initial actions (A) are set out below:

- A1** – The appointment of a Mobility Manager prior to occupation of the site;
- A2** – Provision of a portal to the MMP on a website for the development that includes information on all travel opportunities from the site that is made available to all residents and staff prior to site occupation;
- A3** – In consultation with key stakeholders including the local authority, continually develop, implement, monitor, evaluate and review the progress of the MMP towards achieving the targets;
- A4** – To undertake a baseline travel survey when 90% of the residential units are occupied;
- A5** – To update modal split targets which can be reviewed once the baseline travel characteristics are established.

The Mobility Management Plan's principal targets (**T**) are set out below:

- T1** – To support the development of the Sandford lands as a sustainable community;
- T2** – To provide sustainability in all ways including cost, health and environment – reducing the impact on traffic congestion and air quality;
- T3** – To achieve a 95% resident awareness of the MMP and its aims and objectives;
- T4** – To facilitate and encourage greater use of sustainable transport modes (walking, cycling, public transport) in preference to the use of the private car;
- T5** – Achieve the identified modal split travel targets.

The above targets will be achieved by introducing an integrated package of measures that focus on promoting travel to and from the subject development by sustainable modes of transport as a viable alternative to the private car. These means and supporting strategies will seek to encourage residents, staff and visitors to consider lower carbon travel alternatives in everyday journeys.

The interim mode split targets for the subject site are set out in Table 5-1.

Mode of Travel	1st Year Target (2028)	MMP 5 - year Target (2033)
On Foot	30%	30%
Bicycle	13%	15%
Bus/Minibus/Coach	9%	11%
Train/DART/LUAS	14%	17%
Car Driver	25%	19%
Car Passenger	4%	3%
Work from Home/Other	5%	5%

Table 5-1 : Mode Share Targets for Sandford Development

The above targets are intended to be both realistic and aspirational as to act as a motivation for the MMP in general whilst remaining attainable. These targets are subject to ongoing revision following the completion of the baseline surveys (and subsequent surveys) once the site is occupied and the input of the MMP's key stakeholders.

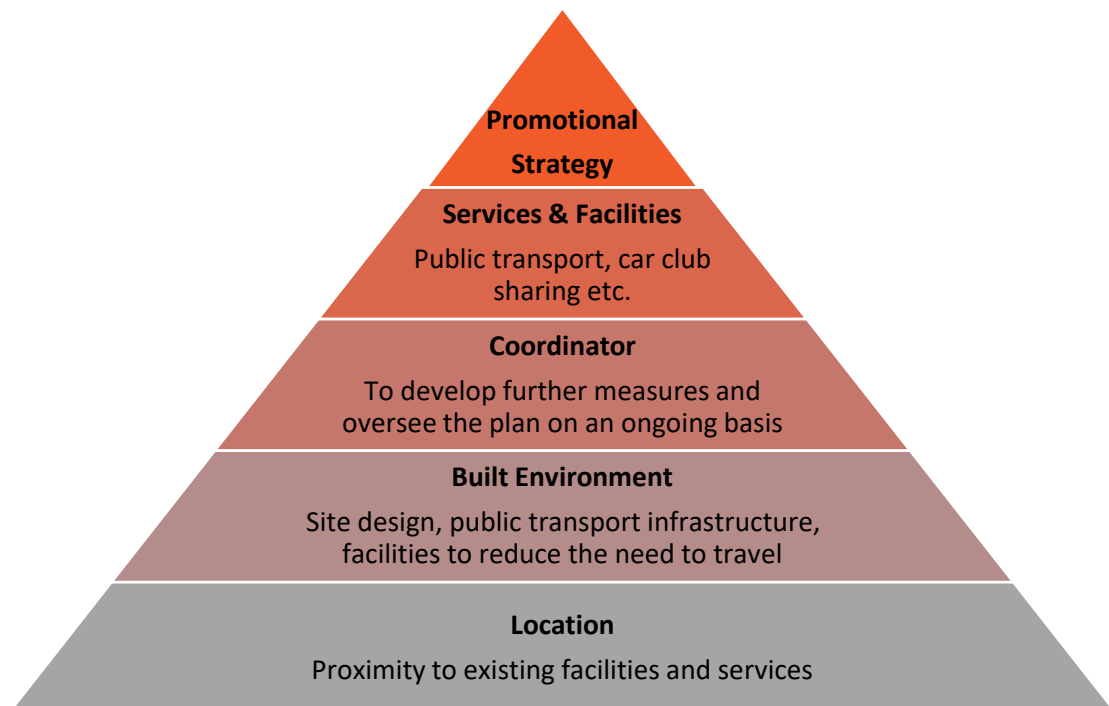
The data shown previously in Chapter 4, has been considered to determine the most likely travel trends for this development and thus generated an accurate prediction for modal splits, shown in Table 5-1 above, and predicted trips from existing census data; this information displays the existing sustainable baseline. These goals have been set with an overall goal of delivering a sustainable development, and with the vision of setting attainable yet ambitious targets to ensure measurable success for this mobility management plan.

6 MMP MEASURES

6.1 INTRODUCTION

Mobility management plans have a wide range of possible “hard” and “soft” tools from which to choose from with the objective of influencing travel choices. The following section introduces potential strategy measures that could be considered at the subject residential development. The range of initiatives discussed here is by no means exhaustive but is indicative of the kind of measures available and the processes and resources required to implement them.

The 5 tier Travel Plan Pyramid below has been developed to illustrate the key elements of a successful Mobility Management Plan. (Reference: *Good Practice Guidelines: Delivering Travel Plans through the Planning System*, DfT (UK), 2009).



Accordingly, the Residential MMP is organised as a series of integrated sub-strategies covering the different modes of travel and associated management and awareness related issues to all modes.

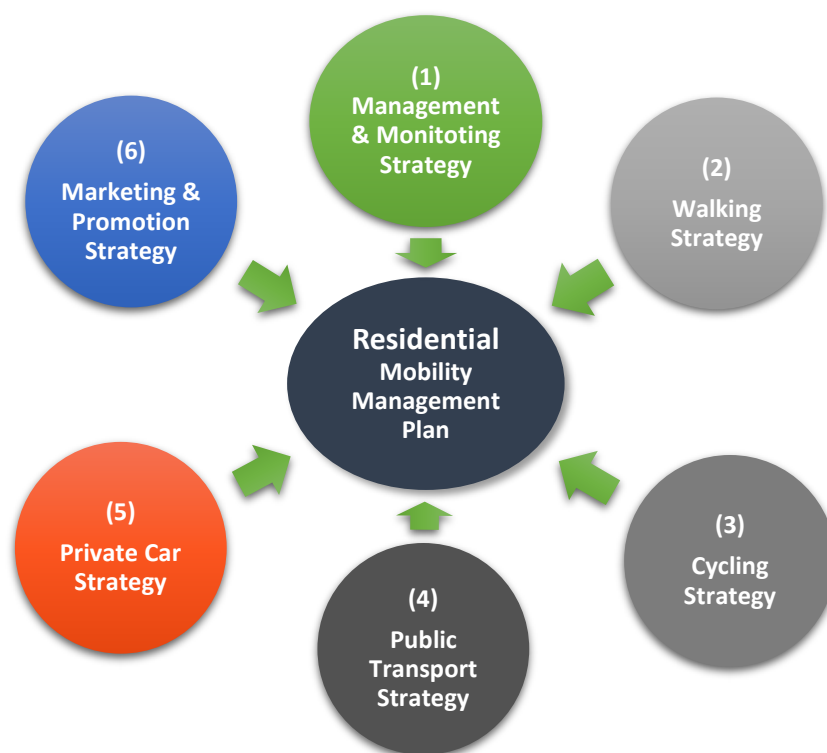


Figure 6-1: MMP Action Plan Strategies

6.2 MODE SPECIFIC MEASURES

The following initiatives could be promoted to enable the objectives to be fulfilled, to encourage the best choice of travel other than private car.

- a) Walking – provision of facilities
- b) Cycling – discounted cycle purchase, bike service workshops, cycle training
- c) Public Transport (Bus, Luas) – discounted travel tickets
- d) Private Car Strategy including car sharing and car clubs

These mode specific measures are discussed in more detail in **Appendix A** which is appended with this document.

6.3 MANAGEMENT & MONITORING MEASURES

Ensuring the success of a Mobility Management Plan, defining a management structure is critical to its effective implementation. Therefore, a Mobility Manager must be appointed and a Resident's Group should be established. This will ensure the ongoing success of the MMP.

A programme of monitoring has been designed to generate information by which the success of the MMP can be evaluated. This will be the responsibility of the Mobility Manager.

The MMP information will be reviewed and updated regularly. This is achieved by research into the travel options and liaising with the residents and staff to determine the most appropriate and useful information to communicate. The Mobility Manager will also be responsible for managing the annual review of the MMP including the surveys to be undertaken by the residents and staff.

Details of these measures can be found in **Appendix B** of this document.

6.4 MARKETING & PROMOTION MEASURES

The Mobility Manager will be involved in the promotion of the MMP and to make residents and staff aware of its existence.

The most important and cost-effective measure to be introduced as part of this MMP is the 'Welcome Travel Pack', which will be issued to all new residents of the site when they move in.

The Pack will contain information about all modes of transport available for journeys to and from the site. It includes information related to journeys to a number of local destinations which are considered to be key to residents. These include colleges, local shops, health facilities, and both bus stops and Luas stops within the local area.

Information within the Pack will include details of the listed destinations and the services and facilities they offer. In addition, contact details of the Mobility Manager will be provided. The Pack will also give details of safe pedestrian and cycle routes from the site, fare and timetable information for public transport.

A simple cost-benefit analysis of public transport versus the use of the private car will also be set out in the Travel Pack. This, along with all of the information contained within the Pack will be available prior to occupation and will be reviewed annually and updated as necessary.

The methods of the marketing measures are set out in **Appendix C** of this document.

7 PRELIMINARY ACTION PLAN

7.1 OVERVIEW

The coordinated application of the following 6 integrated sub-strategies ensures that the success of the MMP will be a product of the sum of all sub-strategies.

The following sections consider each specific sub-strategy within which details of the proposed actions are identified for the period of this plan. The proposed timescale of each MMP initiative are categorised as Completed, Short Term (1 year), Medium Term (3 years) or Long Term (5 years).

7.2 MANAGEMENT AND MONITORING STRATEGY

MMP Management

The development, implementation and coordination of the MMP in the short, medium and long term require management support and resources if it is to be successful in achieving its long-term aspirations and targets. Funding for many of the specific actions will need to be assigned appropriate budgets. The proposed management company is fully committed to the implementation, management and monitoring of the MMP. Some of the measures may in the longer-term result in cost savings. The role of management will also actively seek a partnership approach with other organisations as part of the continued development of the MMP.

MMP Monitoring

It is essential that the continued rollout and subsequent impact of the MMP initiatives is monitored on a regular basis for the following principal reasons;

- To demonstrate that the various targets are being achieved (or not met, at which point the measures being used should be reviewed) as people only value what they can measure and relate to,
- To ensure that the MMP continues to receive the support of the building complex's management, staff and its partners (internal and external),
- To show that both financial and resource input is being utilised to maximum effect.

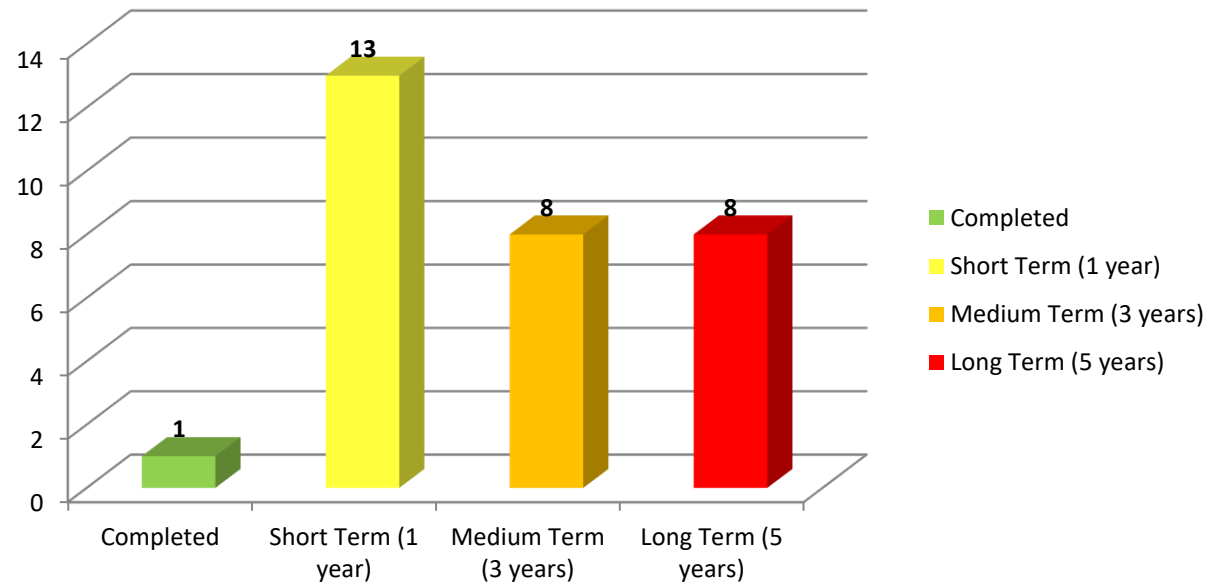
To ensure that the MMP is responsive to emerging opportunities and operational requirements, the status of the principal management and monitoring focused initiatives of the Residential MMP are outlined in Table 7-1 below.

Ref	Initiative	Status / Timescale				Lead Party	Comments
		Completed	Short (1 year)	Medium (3 years)	Long (5 years)		
MMS 1	Appointment of a Mobility Manager	-	✓	-	-		
MMS 2	Establish MMP Steering Group and meeting / reporting arrangements	-	✓	-	-		
MMS 3	Nominate MMP 'Champion' and role (Management)	✓	-	-	-		
MMS 4	Establish MMP 'Charter' and confirm management support for;						
	MMS 4a – MMP memorandum of understanding	-	✓	-	-		
	MMS 4b – Identify and agree MMP objectives	-	✓	-	-		
	MMS 4c – Review and establish MMP targets	-	✓	✓	✓		
MMS 5	In partnership with Local Authority review funding opportunities and potential budgets for;						
	MMS 5a – Setting up and launching MMP	-	✓	-	-		
	MMS 5b – Annual MMP management costs	-	✓	-	-		
	MMS 5c – Participation in calendar of events	-	-	✓	✓		
	MMS 5d – MMP incentives	-	-	✓	✓		
	MMS 5e – MMP facilities	-	-	✓	-		
	MMS 5f – MMP training requirements	-	✓	-	-		
MMS 6	Establish 'External' engagement contacts and collaboration programme.	-	✓	-	-		
MMS 7	Agree Monitoring and Reporting Programme with respect to;						
	MMS 7a – Resident Travel Surveys	-	✓	-	✓		
	MMS 7b – Roll out / uptake of MMP initiatives	-	-	✓	✓		
	MMS 7c – MMP Budgets	-	✓	✓	✓		
	MMS 7d – MMP performance (Key Performance Indicators - KPIs)	-	✓	-	-		
MMS 8	Facilitate the establishment and operation of mode specific 'user' groups (e.g. walking, cycling etc.)	-	-	✓	-		
MMS 9	Review travel practises by trip purpose and implement policy to encourage sustainable travel practices.	-	-	-	✓		

MMS 10	Appoint a resident 'Champion' for each mode specific 'user' group (e.g. walking, cycling, public transport etc.)	-	-	-	✓		
MMS 11	A Sustainable Travel Pack to be provided to all new Residents and Staff	-	✓	✓	-		

Table 7-1: Preliminary Schedule of MMP Management & Monitoring Initiatives

The identified Management and Monitoring strategy promotes a total of 30 measures. The implementation schedules of these measures are outlined in Graph 7-1 below.



Graph 7-1: Roll-out of MMP's Management & Monitoring Initiatives

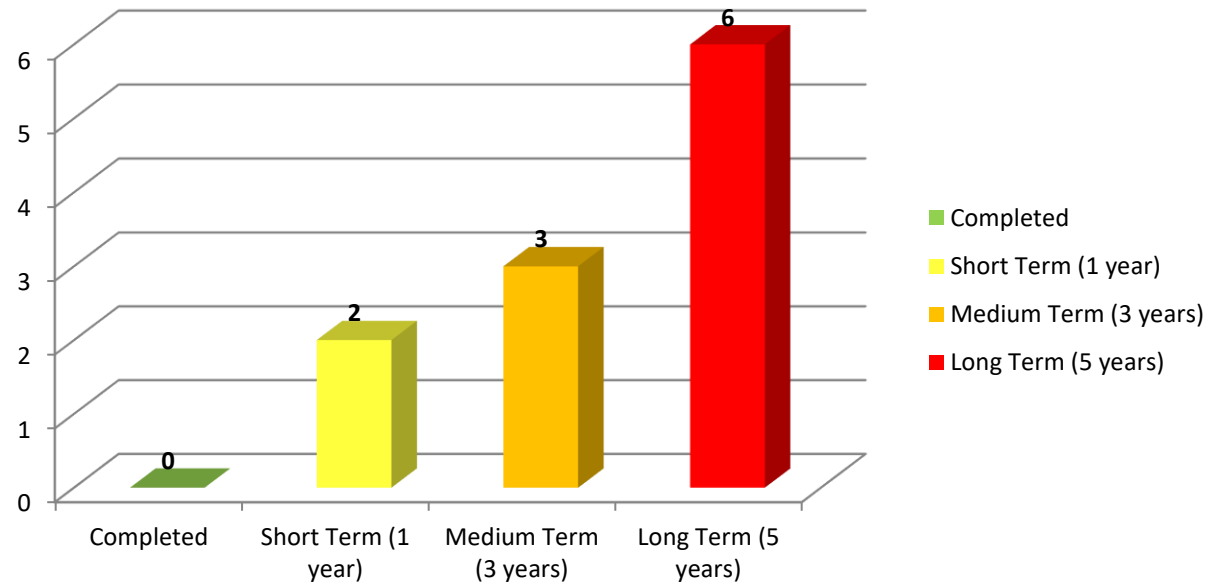
7.3 WALKING STRATEGY

The status and preliminary scheduling of the principal walking focused initiatives of the MMP are outlined in the Table 7-2 below.

Ref	Initiative	Status / Timescale				Lead Party	Comments
		Completed	Short (1 year)	Medium (3 years)	Long (5 Years)		
WS 1	Develop a 'Walking' Accessibility Sheet for the site.	-	✓	-	-		
WS 2	Explore the opportunity of creating a calendar of 'Walking' Events and incentives:						
	WS 2a - Walk to work / school week	-	-	✓	✓		
	WS 2b - Walk on Wednesdays	-	-	✓	✓		
	WS 2c - Pedestrian Training	-	-	✓	✓		
	WS 2d - Travel diary with incentive / awards scheme	-	-	-	✓		
	WS 2e – Coordinated with PT events	-	-	-	✓		
WS 3	Undertake route audit and implement a review program to ensure appropriate infrastructure is provided / upgraded to meet walking and accessibility requirements for External routes to key off-site destinations	-	-	-	✓		
WS 4	Develop a 'Walking' Fact Sheet	-	✓	-	-		

Table 7-2: Preliminary Schedule of MMP's Walking Initiatives

The MMP's Walking Strategy promotes a total of 11 measures. The preliminary implementation schedule of these walking initiatives is outlined in Graph 7-2 below.



Graph 7-2: Roll-out of MMP's Walking Initiatives

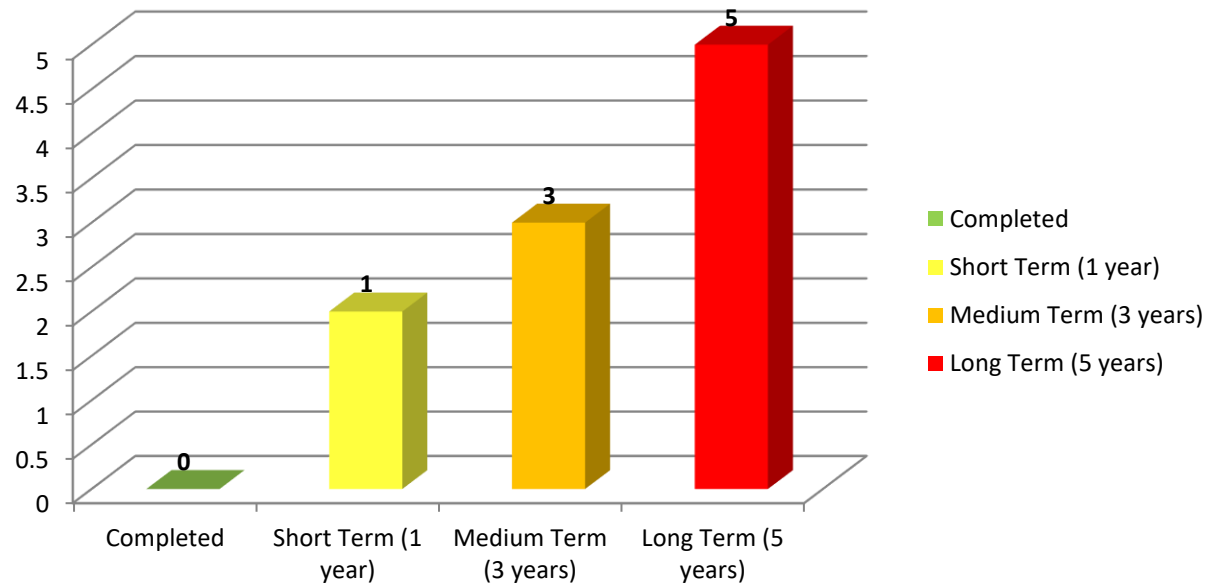
7.4 CYCLING STRATEGY

The status and preliminary scheduling of the principal cycling focused initiatives of the MMP are outlined in the Table 7-3 below.

Ref	Initiative	Status / Timescale				Lead Party	Comments
		Completed	Short (1 year)	Medium (3 years)	Long (5 Years)		
CS 1	Investigate the potential benefit and uptake of setting up a scheme to address personal security issues associated with cycling	-	-	-	✓		
CS 2	Explore the opportunity of establishing a Bike Users Group	-	-	-	✓		
CS 3	Develop a 'Cycling' Accessibility Sheet for the site	-	✓	-	-		
CS 4	Explore the opportunity of creating a calendar of 'Cycling' Events and incentives	-	-	✓	-		
CS 5	Undertake route audit and implement a review program to ensure appropriate infrastructure is provided / upgraded to meet cycling requirements for external routes to key off-site destinations	-	-	-	✓		
CS 6	Investigate the potential demand for providing cycle training	-	-	-	✓		
CS 7	Explore the potential for launching a Travel Diary incentive / awards scheme	-	-	-	✓		
CS 8	Examine the opportunity and potential benefits and uptake of Bike service / maintenance workshops	-	-	✓	-		
CS 9	Market / Publicise the potential availability of employer operated discounted cycle purchase incentives	-	-	✓	-		

Table 7-3: Preliminary Schedule of MMP's Cycling Initiatives

The MMP's Cycling Strategy promotes a total of 9 measures. The preliminary implementation schedule of these cycling initiatives is outlined in Graph 7-3 below.



Graph 7-3: Roll-out of MMP's Cycling Initiatives

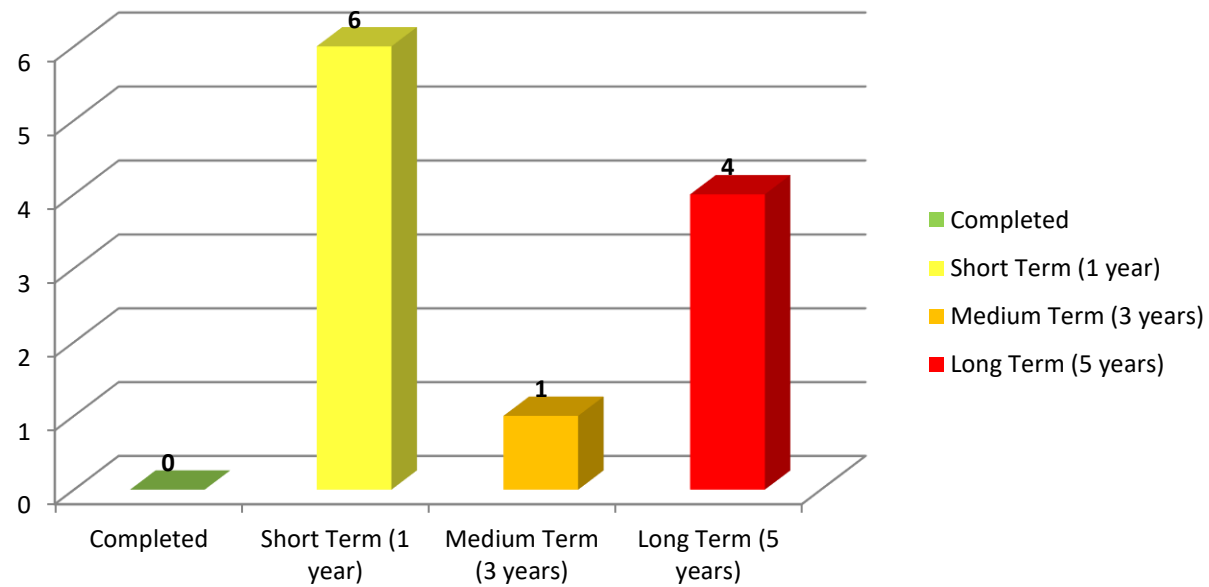
7.5 PUBLIC TRANSPORT STRATEGY

The status and preliminary scheduling of the principal public transport focused initiatives of the MMP are outlined in the Table 7-4 below.

Ref	Initiative	Status / Timescale				Lead Party	Comments
		Completed	Short (1 year)	Medium (3 years)	Long (5 Years)		
PTS 1	Explore the opportunities of;						
	PTS 1a - maintaining the existing bus services	-	✓	-	-		
	PTS 1b - Enhancing the catchment of these services	-	-	-	✓		
PTS 2	Market / Publicise the potential for residents and staff through their employers to purchase both annual and monthly TaxSaver tickets	-	✓	-	-		
PTS 3	Investigate the potential benefits of establishing a Public Transport Users Group	-	-	-	✓		
PTS 4	Develop a 'Public Transport' Accessibility Sheet for the site	-	✓	-	-		
PTS 5	Compile and disseminate a 'Public Transport' Fact Sheet	-	✓	-	-		
PTS 6	Explore the opportunity of implementing a calendar of 'Public Transport' Events and incentives	-	-	-	✓		
PTS 7	In partnership with Dublin Bus / LUAS and local authority ensure all local bus / Luas interchanges display up to date timetables, fare and route information	-	-	✓	-		
PTS 8	Encourage the use / initiatives for buses / LUAS where feasible for a range of different travel purposes	-	✓	-	-		
PTS 9	Promote the availability of the TaxSaver scheme	-	✓	-	-		
PTS 10	Explore the potential of a Travel Diary incentive / awards scheme	-	-	-	✓		

Table 7-4: Preliminary Schedule of MMP's Public Transport Initiatives

The identified Public Transport strategy promotes a total of 11 measures. The implementation schedule of these measures is outlined in Graph 7-4 below.



Graph 7-4: Roll-out of MMP's Public Transport Initiatives

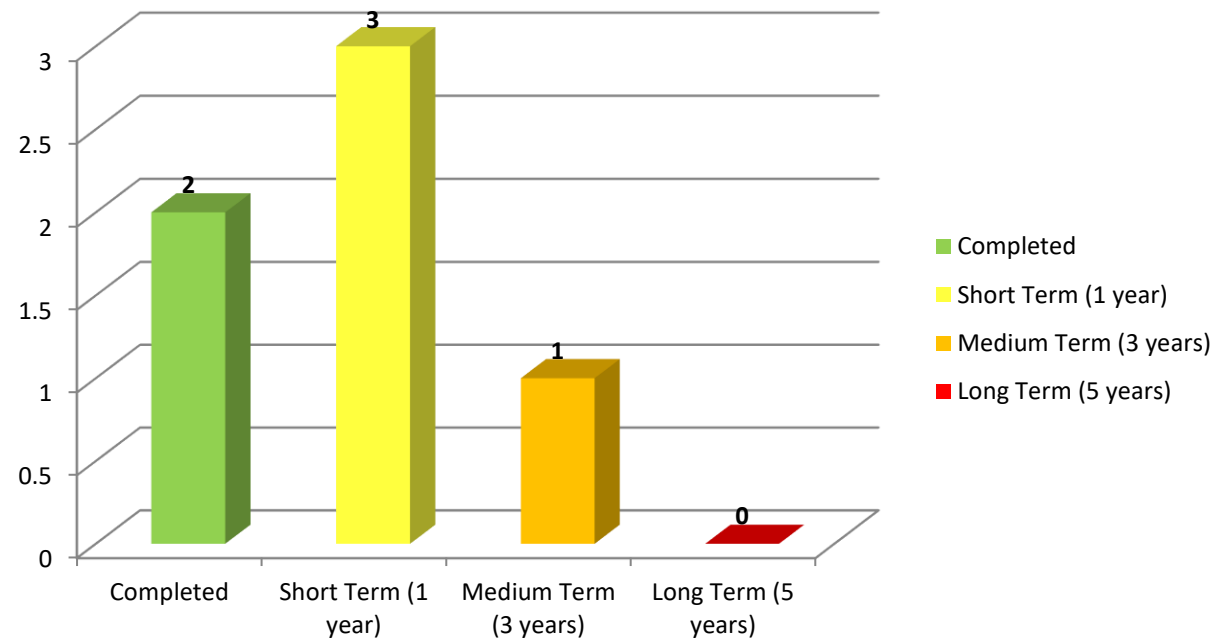
7.6 PRIVATE CAR STRATEGY

The identified action plan and preliminary scheduling of the principal private car focused initiatives of the MMP are outlined in the Table 7-5 below.

Ref	Initiative	Status / Timescale				Lead Party	Comments
		Completed	Short (1 year)	Medium (3 years)	Long (5 Years)		
PCS 1	Investigate the benefits of developing a 'Car' Fact Sheet	-	✓	-	-		
PCS 2	Develop a Parking Management Strategy	✓	-	-	-		
PCS 3	Explore the opportunities of encouraging informal arrangements between residents and staff for 'shared' travel to work practices	-	-	✓	-		
PCS 4	Encourage use of formal car sharing website (www.carsharing.ie)	-	✓	-	-		
PCS 5	Disseminate information about GoCar.ie	-	✓	-	-		
PCS 6	Establish a Car Sharing Club, using GoCar, to promote an alternative to private cars	✓	-	-	-		

Table 7-5: Preliminary Schedule of MMP's Private Car Initiatives

The MMP's Private Car Strategy promotes a total of 6 measures. The preliminary implementation schedule of these private car focused initiatives is outlined in Graph 7-5 below.



Graph 7-5: Roll-out of MMP's private Car Initiatives

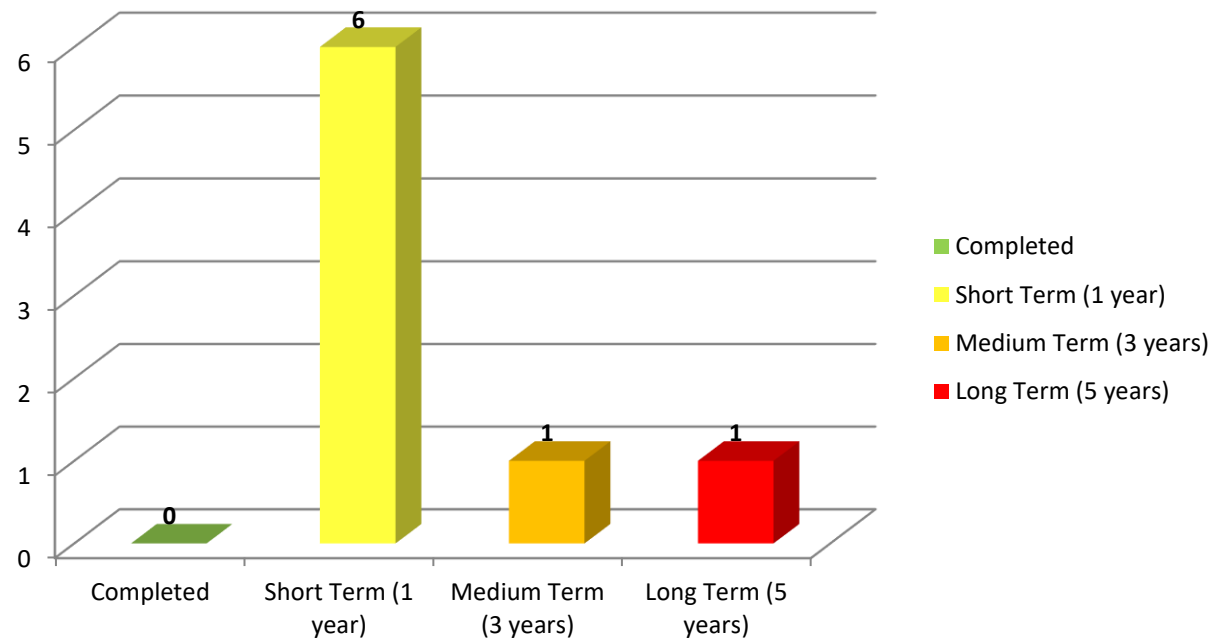
7.7 MARKETING AND PROMOTION STRATEGY

Increasingly referenced as the ‘softer’ form of initiatives, the provision of detailed information, raising awareness and promotion of the MMP and its measures is imperative to its success. The strategy involves the marketing and communication of the benefits of alternative active and more sustainable travel, increasing awareness of the adverse impacts of travel and transport on the environment, health and communities (local and national), by identifying ways in which individuals can make a difference will be an important element of the MMP. The Marketing and Promotion strategy also supports a number of the other interdependent MMP sub-strategies.

Ref	Initiative	Status / Timescale				Lead Party	Comments
		Completed	Short (1 year)	Medium (3 years)	Long (5 Years)		
MPS 1	Develop a marketing plan for the MMP	-	✓	-	-		
MPS 2	Compile formal ‘Sustainable Travel’ induction package or ‘Welcome Travel Pack’ for each dwelling	-	✓	-	-		
MPS 3	Explore the cost benefits of developing a dedicated MMP website	-	✓	-	-		
MPS 4	Investigate the opportunity of developing an events calendar with 2 to 4 events per year and a supporting promotion strategy to market each event	-	-	✓	-		
MPS 5	Incorporate section / report success etc. of MMP process in local newsletters and other information dissemination initiatives	-	-	-	✓		
MPS 6	As part of Induction Sales Meeting with residents and staff introduce the residential MMP, its objectives and recommended travel practices	-	✓	-	-		
MPS 7	Explore the cost benefits of developing a MMP App to enhance access to MMP information and events	-	✓	-	-		
MPS 8	Investigate the opportunity for an MMP annual newsletter for distribution to all residents and staff	-	✓	-	-		

Table 7-6: Preliminary Schedule of MMP’s Marketing & Promotion Initiatives

The preliminary Marketing and Promotion sub-strategy promotes a total of 8 measures. The implementation schedule of these measures is outlined in Graph 7-6 below.



Graph 7-6: Roll-out of MMP's Marketing & Promotion Initiatives

8 SUMMARY AND CONCLUSIONS

8.1 SUMMARY

This Mobility Management Plan has been prepared in support of a planning application for the development of 556 no. residential apartment units, 6 no. courtyard houses, one 350m² creche, a café and community area at the R117 Sandford Road, Dublin 6. This MMP focuses primarily on how residents, staff and visitors can be encouraged to use sustainable means of transport to and from the site. The subject site will be actively managed by a highly experienced management company with the focus of bringing in and supporting sustainable modes of transport and discouraging private car journeys to/from the site.

DBFL Consulting Engineers have compiled this MMP as the basis for discussions between the developers and planning officers from Dublin City Council. Through these scoping discussions the preferred strategy (and supporting measures and targets) will emerge with the resulting MMP detailing the agreed approach, actions and targets.

The measures proposed in this document will not only benefit the residents and staff but will also help to mitigate any potential transport impacts of the development on the wider local community.

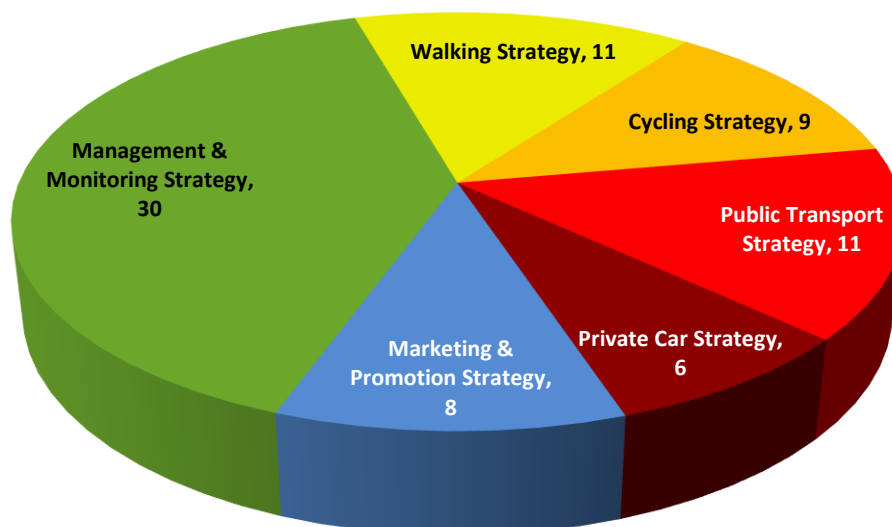
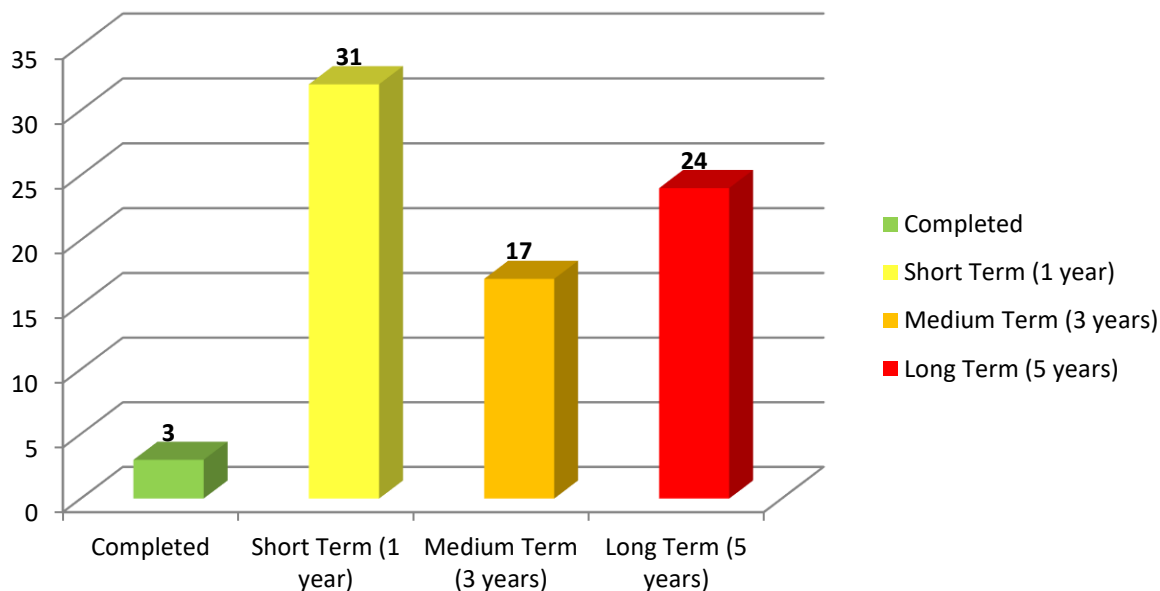


Figure 8-1: MMP Sub Strategy Themes & Initiatives

The identified preliminary action plan promotes a total of 75 initiatives across 6 sub strategy themes as presented in the Pie Chart below.

The implementation schedule of identified 75 MMP initiatives is outlined in Graph 8-1 below. Three of the initiatives of the action plan have been completed, with 31 initiatives (or 41%) planned to be implemented within 1 year of the residential development being occupied.



Graph 8-1: Roll-out of MMP's Initiatives

In the context of the subject residential led mixed-use development's operational framework, the local receiving environment and the identification of the Preliminary Action Plan as summarised previously, this document seeks to form the basis by which;

- the specific travel characteristics for the proposed residential development are outlined and presented to the local authority, and
- through a partnership approach between the developers and the local planning authority, the Preliminary Action Plan is explored and re-examined with the objective of reaching agreement upon the MMP's measures and subsequently the adoption of an 'agreed' MMP Action Plan with specific targets, initiatives, timescales, responsibilities and resources clearly outlined and approved by both parties.

Appendix A : Mode Specific Measures

A1.0 MODE SPECIFIC MEASURES

Car Usage - Parking Management Strategy

A1.1 A Parking Management Strategy has been prepared by DBFL to manage the daily usage of the 319 no. car parking spaces provided as part of the development. The parking strategy is founded on the principles that none of the residential units will be allocated a parking space as part of the property contract.

A1.2 Aside from the GoCar, crèche, commercial, community and taxi and set-down spaces, the remaining spaces will be available for tenants to rent on a need's basis. The cost associated with the parking spaces is expected to be in the region of €100 – 150 per month which is specified at such a rate so as to discourage the use of the private vehicle unless necessary and to encourage the uptake of more sustainable modes such as walking, cycling and public transport for which there are excellent opportunities within and directly adjacent to the development site.

A1.3 The parking spaces will be allocated on a 'first come, first served' basis in terms of paying the prescribed fee. Access to the car park will be strictly controlled by a combination of barriers and shutters. Entry will be facilitated by coded entry and/or number plate recognition which will permit registered vehicles only to enter.

Car Usage - Car Sharing

A1.4 Car sharing is also known as lift-sharing, car-pooling or ride-sharing. Car sharing offers people a cost effective and a more sustainable way of travelling by car when other forms of transport are not viable.

A1.5 Car sharing schemes encourage individuals to share private vehicles for particular journeys. Car sharing can be both formal and informal. Informal car sharing operates between individuals and neighbours and formal car sharing is defined by a more elaborate approach to trip matching, often focussed on the commuting journey.

A1.6 Car sharing would reduce a number of car trips and participants will meet other members in the community. A National Car Sharing database is now available at www.carsharing.ie. It is an all-island service for the public and is free of charge to use.

A1.7 The benefits of car sharing:

- reduces transport costs
- reduces the number of cars on the road which results in less pollution, less congestion and fewer parking issues
- reduces the need for a private car

A1.8 The residential development's community website would have a section dedicated to the car share scheme and the residents would have an option to register. To encourage take up of the car sharing, the MMP Coordinator would host events to introduce prospective car sharers to each other and would help 'break the ice' as it is always more likely that people will share, particularly for the journey 'home', with somebody that they have met rather than a complete stranger.

Car Usage - Car Club

A1.9 Car Clubs are membership-based schemes providing shared cars for hire. A Car Club can play an important role in reducing costs, congestion and environmental impact. Members have flexible access to the hire of a vehicle. Vehicles are parked in reserved parking spaces close to homes, town centres or workplaces and can be used and paid for on an hourly rate, daily or weekly basis. Individuals can join a car club or an organisation may have a corporate package with one of the car club providers.

A1.10 Car sharing clubs in Dublin have experienced significant growth in recent years. The facility allows members' access to a shared car in the local area for an hourly fee. This facility could be an attractive option for those who choose to start walking or cycling to work but may require access to a car at short notice. A GoCar Letter of Intent has been issued to guarantee the establish 5 no. GoCars at the residential development. Additionally, the development will provide 5 no. development-owned vehicles for use as car sharing vehicles. Residents, staff and visitors can obtain further information at www.gocar.ie. The benefits of such car sharing services include;

- the reduction of the number of cars on the road and therefore traffic congestion, noise and air pollution;
- minimising the demand for car parking and freeing up land traditionally used for private parking spaces, but which may not be used;
- increasing use of public transport, walking and cycling as the need for car ownership is reduced; and
- car sharing allows those who cannot afford a car the opportunity to drive, encouraging social inclusivity.

Public Transport - Buses

A1.11 The residential development will be well served by Dublin Bus services with bus routes passing the subject site on the R117 Sandford Road. The bus stops are located in very close proximity with the closest Dublin Bus stop at only 80m from the subject site with frequent inbound services operating daily.

Public Transport - Luas

A1.12 The LUAS Green Line serves the area with the Beechwood stop 1 km to the west of the subject site. The Ranelagh and Cowper LUAS stops are equally accessible from the subject site. The Green Line runs from Brides Glen to Broombridge serving Sandyford and Dundrum as well as the city centre. The subject site will also benefit from the improved connectivity by the LUAS Cross City service.

A1.13 Encouraging the residents and staff to use public transport starts with awareness and promotion. People's perceptions of public transport may be based on outdated experiences, or even on hearsay. Marketing information can be effective in selling the public transport service to them.

A1.14 As well as providing information, part of the aim is to positively brand public transport, pointing out its advantages and attempting to reduce people's negative associations. The outcome of this is the importance of not encouraging people onto poor public transport, where negative experiences may further reinforce car preferences.

A1.15 The use of information points within the development is an effective method of increasing awareness among residents and staff about public transport options. These 'points' are usually information stands containing the latest bus and rail timetables, route maps and other promotional material. The development's website can also be a conduit for this information, and can incorporate links to the bus operators' websites and the Luas website.

A1.16 A public transport information service can be offered to residents and staff in which they have opportunity to register to receive public transport timetables for their preferred routes by email or text. Members are sent new timetables as they become available.

A1.17 Financial incentives for staff can be an effective tool in the promotion of public transport use. This can be done through the provision of low interest or interest-free loans for the purchase of public transport season tickets where applicable (discounted season tickets etc.).

Walking

A1.18 The development has been designed to ensure that the development is permeable with a number of access points / gateways to facilitate walking through the site. The feasibility of measures that promote walking will be influenced by factors such as the safety and ease of walking to and from the site and the age profile of commuters. Generally speaking a distance of up to 4km is considered reasonable for walking. This distance is only indicative but can help to define target groups.

A1.19 The health benefits of walking are a key element in promoting Mobility Management Plans. Walking improves cardiovascular fitness and burns calories. Walking will also increase your muscle tone, boost metabolism, ease stress, raise energy levels and improve sleep, which combined can also help with weight loss. Regular walking can also reduce the risk of coronary heart disease, diabetes, strokes, high blood pressure, cancer, osteoporosis and arthritis.

A1.20 Walking will mainly be self-promoting and initiatives should focus on making people aware of the routes available to them. A map showing the walking routes should be prepared and placed at key locations within the development. These could be stand-alone signs or maps on notice boards. This information would also be available on the community website.

A1.21 It is important to ensure that pedestrians are safe and are satisfied with the facilities available and their maintenance. It should be noted that: -

- Walking is truly the most-sustainable form of transportation, and the world's first form of travel.
- All trips, regardless of mode, both begin and end on foot.
- Walking needs to have a greater level of priority in most cities, like walk-signal times, safer well-lit / marked crosswalks and pedestrian zones.
- Walking is an easy mode of travel for distances under 2km. Most people are prepared to walk between 800m to 1km to a train station or bus stop.

Cycling

A1.22 The residential development is well located for cycling journeys and this mode of travel should be encouraged with the provision of a wide range of routes within the development and new links to existing and future major routes in the local area. A distance of up to 10km is considered reasonable for cycling. This distance is only indicative but can help to define target groups.

A1.23 The on-site cycle facilities will be linked to the existing off-site cycle routes.

A1.24 As with many measures relating to cycling, the aim is a mixture of support, through incentives and facilities, and encouragement, through information and marketing. Incentives and facilities at both trip origin and destination / place of work, education, worship etc. can include some of the following. The MMP will highlight that many of these are available at trip end destinations:

- the provision of well-located high-quality cycle parking facilities including cargo bicycle parking at surface and basement level;
and

- storage, changing and shower facilities for cyclists.

Appendix B : Management & Monitoring Measures

B1.0 MANAGEMENT & MONITORING MEASURES

B1.1 Introduction

B1.1.1 For the Mobility Management Plan to be successful, it is important that it is organised and managed well. The success of the Mobility Management Plan will also be subject to ongoing monitoring.

B1.2 Management Structure & Roles

B1.2.1 The appointment of a Mobility Manager / Group is critical to the success of the MMP. The site will be managed by a highly experienced management company, who will oversee and ensure a successful MMP.

B1.2.2 For the MMP to be successful it is essential that all residents and staff take ownership of it. Therefore, as the development is being built out and the community becomes established it will become increasingly important for management responsibility to be supplemented by the local community residing at the subject development.

Mobility Manager

B1.2.3 A Mobility Manager will therefore be appointed prior to first occupation of the site. The Mobility Manager will be employed full-time and therefore be available full-time, but their role as a Mobility Manager will be part-time (i.e. he / she will be employed for other work in addition to mobility management). Their role will include leading the implementation, monitoring and review of the Plan.

B1.2.4 A MMP needs to be monitored, co-ordinated and marketed on a regular basis to ensure that it meets its objectives and its targets are achievable and realistic. The Mobility Manager is appointed to ensure the success of this plan. The primary duties of the Mobility Manager are:

- To develop and oversee the implementation of the initiatives outlined in the plan;
- To monitor progress of the plan;
- To promote and market the plan;
- To manage public transport discount fare schemes, cycle promotion schemes and events; and
- To provide “travel advice and information” to residents and staff.

B1.2.5 To promote and manage the shift towards high level, public transport use, the MMP should be monitored, developed, promoted and managed by the Mobility Manager. The Mobility Manager should encourage and promote the measures mentioned within this report to the commuters of the development.

Residents Group

B1.2.6 As the development approaches full occupation; residents of the development will be invited to form a Residents Group.

B1.3 Monitoring

B1.3.1 Baseline conditions will be established as early as possible following 90% occupation of the development. Following the baseline survey, annual surveys will be undertaken until the development is fully occupied. By this time, it is expected that the travel patterns will have been established. A review of the trends in the MMP results would then be used to identify whether further monitoring is required.

B1.3.2 The Mobility Manager will be responsible for undertaking the monitoring, the processing of results and the production of the reports with the results of the findings.

B1.3.3 The monitoring will take place in the form of Travel Surveys. These will be carried out on the same day every year. It is recommended that the timing of the Travel Survey should take place in a neutral time of year i.e. Spring or Autumn.

B1.3.4 The survey would be in the form of a questionnaire that residents and staff would complete. Communication of the Travel Survey will be through letters in the post or email. This letter will inform all residents and staff of how to complete the survey online. Residents and staff can also request a paper copy of the survey to be filled out by hand rather than electronically. However, the online method would be the preferred channel. The survey will include questions to allow the monitoring of the particular targets that have been set in the MMP.

B1.3.5 It is essential that the residents and staff see the results of the survey and review their own travel patterns against the typical data. Therefore, the results should be available on the community website.

B1.3.6 The Mobility Manager will be responsible for the preparation of the annual monitoring reports. The objective of the review will be to assess the success of the MMP and to identify potential for future improvement.

B1.3.7 An important part of the review would be to revise information relating to public transport, cycling and walking routes to ensure that it is relevant and up-to-date. This is

critical if residents and staff are going to be able to rely on information when making travel choices.

B1.3.8 The annual reports will also include a review of where targets are being met and also identify potential changes to the measures implemented by the plan where targets are not being met. Specific short-term targets will be considered and agreed to ensure progress towards the overall target. Targets will also be revised to ensure that they remain appropriate and challenging.

Appendix C : Marketing & Promotion Measures

C1.0 MARKETING MEASURES

C1.1 Raising Awareness, Marketing & Promotion

C1.1.1 The education of residents and staff on the Mobility Management Plan initiatives and the importance of contribution are very important. The services available to the residents and staff must be communicated in a consistent and continuous manner to sustain behavioural change.

C1.1.2 Promotion would start with the marketing of the residential development. The sustainable location of the development and the high-quality infrastructure provision for walking and cycling will be a prominent feature. The high-quality links provided by Dublin Bus and Luas to the various Employment Areas, City Centre and other links are also an attractive feature for encouraging sustainable travel for future residents and staff.

C1.1.3 Communications will include promotional initiatives and activities aimed at informing the residents and staff of all relevant external bodies of the existing and proposed transport networks. Such initiatives will include, but not limited to:

- Internal communications channels
- Advertising – local press and media
- Publicity – promotion of benefits

C1.2 Sustainable Travel Pack

C1.2.1 Promotion of sustainable travel will continue when residents take up occupation of their new accommodation. A 'Welcome Pack' can be provided which will include maps and timetable information for walking, cycling and public transport journeys. It will also include information on a range of incentives to encourage take up of public transport and cycling etc.

C1.2.2 The 'Welcome Pack' will be produced and approved prior to first occupation and staff will be trained in the contents of the information contained. The 'Welcome Pack' will include:

- A covering letter explaining the purpose of the 'Welcome Pack' and contact details of the Mobility Manager,
- An overview of the Mobility Management Plan,
- Maps for walking, cycling and public transport,
- Timetables for public transport (i.e. Dublin Bus, Luas),
- Local taxi information,

- Car sharing scheme information,
- Information on reducing the demand for travel,
- Sustainable travel voucher to encourage walking, cycling and public transport, and
- Pedometer pack with information on the health benefits of walking.

C1.2.3 Increasing awareness of alternative modes to car use and the benefits is a central component of mobility management. In particular, residents and staff should be made aware of the benefits of active travel modes including health and financial benefits. Key actions might include:

- Establishing a clear brand concept for green / smarter travel to and from the site. This should be incorporated in all communication with the residents and staff regarding commuting to and from the site;
- Provide a central information point for residents and staff in relation to travel options, this should be a physical point within the development but should also be made available on the internet. The latter could also include information on bus and rail routes and timetables;
- New residents to the development should be informed about travel options;
- Ensure the residential development is included as a key destination on journey planning apps.

C1.3 Personalised Travel Plan

C1.3.1 An advisory leaflet will be provided in the 'Welcome Pack' to explain to new residents the sustainable transport options available in the MMP and that if they wish they may contact the Mobility Manager directly to discuss specific travel needs. The Mobility Manager will then use the information discussed to prepare a 'Personal Travel Plan' for that resident free of charge. The Personal Travel Plan will be based on individual lifestyles and in light of the available transport options for stated everyday journeys.

C1.3.2 This process will allow residents and staff to consider how they currently travel and promote alternative methods for their journeys to work, school and when accessing other local amenities. Personalised journey planning will also enable residents and staff who might not otherwise use public transport realise there are local services available that can suit their needs.

C1.3.3 The Mobility Manager is responsible for promoting the availability of this measure and residents and staff will be encouraged to contact the Mobility Manager if they have any specific sustainable travel related queries.

C1.4 Online Website

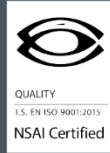
C1.4.1 A dedicated online website for the residential development may be created and will focus on providing appropriate, up-to-date information on sustainable travel options for accessing the development site.

C1.4.2 This website will act as a 'one-stop-shop' for the dissemination of site-wide sustainable travel information to residents and staff, as well as acting as a source of information for visitors. Information on the website will include details of local public transport routes, local amenities and facilities, walking and cycle maps and a link to online car sharing opportunities. The website will also provide links to other websites such as Dublin Bus and Luas so as to encourage residents and staff to plan their journeys using sustainable transport.

C1.5 Smart Device Travel App

C1.5.1 A Travel App could be developed for the residents and staff at the development as well as visitors travelling to the site. This smart device app will enable all users to gain instant access to travel information. This may include:

- Timetables, location of stops, route information, fares, and real-time information for both buses and the Luas.
- Interactive map showing users current location and highlighting local points of interest (e.g. closest bus stop)
- Pedometer for walkers



**Engineering
Sustainable
Futures**

Dublin Office

Ormond House
Upper Ormond Quay
Dublin 7, Ireland
D07 W704

+ 353 1 400 4000
info@dbfl.ie
www.dbfl.ie

Cork Office

14 South Mall
Cork, Ireland
T12 CT91

+ 353 21 202 4538
info@dbfl.ie
www.dbfl.ie

Galway Office

Odeon House
7 Eyre Square
Galway, Ireland
H91 YNC8

+ 353 91 33 55 99
info@dbfl.ie
www.dbfl.ie

Waterford Office

Suite 8b The Atrium
Maritana Gate, Canada St
Waterford, Ireland
X91 W028

+ 353 51 309 500
info@dbfl.ie
www.dbfl.ie