LAND PLANNING & DESIGN

CUNNANE STRATTON REYNOLDS

C2C Greenway
Dublin

Public Realm / Landscape Design

Tender Stage Summary Report

Prepared for

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Dublin City Council

by
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To be read with Landscape Drawings – See list in Appendix 1

& Arboricultural Impact Assessment by Arborist Associates

1 INTRODUCTION

CSR were appointed as Landscape Architects CSR to assist Roughan & O'Donovan develop a suitable design approach to surfaces, spaces and soft landscape along the corridor – streetscapes and local spaces that resulted.

The Clontarf to City Centre (C2C) Greenway is circa 2.5km of high quality cycle facilities, realigned traffic and bus lanes, improved footpaths and landscaping from Clontarf Road / Alfie Byrne Road, via Clontarf Road, Marino Mart, Fairview, Annesley Bridge Road, North Strand Road and Amiens Street. The scheme received planning permission in 2017 subject to conditions. These have been resolved over the subsequent detailed design period and engagement / workshops with the local community representative committee in Fairview and relevant departments of Dublin City Council.

The purpose of this report is to summarise the content of the finalised public realm proposals and how issues raised over the course of the above process have been addressed or incorporated into the proposed scheme.

2. BACKGROUND

CSR were engaged in mid 2018 to assist in the development of a public realm masterplan for the road / cycleway corridor improvements along the C2C, specifically the development of an appropriate palette of materials and site specific proposals for various public realm opportunities along the route. These were to be presented at various public consultation events during the course of the process.

CSR would then assist in the preparation of GA plans for the layout of surface finishes, site furniture, soft landscape proposals, street tree bespoke pits etc. CSR would also provide supporting specifications and schedule of quantities (softworks). It was intended that CSR drawings would be advisory to the Engineering layouts being prepared and level and related information would be integrated on ROD GA plans.

Over the course of the project and issues arising, this role has expanded to assist with the resolution of these issues, further aspects of the project e.g. SuDs, and the integration of public realm drawings into the Tender Issue package.

In April 2019 a draft detailed design proposal was issue to DCC. Following a review by DCC parks and public realm staff a number of concerns and issues were raised about design proposals and in particular tree protection and works around trees. These can be summarised as follows:

Hard Landscape

- Integration of sub-surface utilities and services, surface cabinets and related infrastructure and paving and related soft landscape proposals.
- Clarity re locations of different material types
- Clarity re natural PC concrete slabs and their colour.
- Distinction of private landings in the pavings
- Re-use / protection of historic materials / surfaces.

- Clarity re lighting columns and related traffic infrastructure/signage and its positioning.
- Clarity re drainage proposals gully locations including any SUDS proposals.
- Improvements to seating – removal of central arm on benches, confirmation of colours of metalwork.
- Clarification of use of “stone” or concrete cubes and/or benches.
- Use of anti-graffiti coating to furniture surfaces.
- Provision of samples for various materials / furniture / finishes.
- Timber slats and detailing for drainage / cleaning.
- Provision of Drinking fountains along the route
- Clarity re proposals and functioning of public realm opportunity areas e.g. Five Lamps.

Soft Landscape

- Maximising tree cover / density along the route.
- Tree pit detail to be agreed to maximise growing conditions.
- Protection of existing street trees and trees in Fairview Park – paving details and methods of working.
- Supervision of works around trees.
- Requirement for an up to date Arboricultural Impact Assessment of the works – this would require the appointment of an Arborist to the project.
- Construction, level changes and detailing of proposed footpath in Fairview Park
- Location of railing to park boundary
- Suggested increased planting / soft verge to Fairview Park cycle lane rather than gravelled edge.
- Reduced new trees within Fairview Park (there are lots of existing trees in this area)
- Proposed lighting ducting in Fairview Park

Various details, street tree species selection and more site specific commentaries were received from DCC Parks

Various meetings have been held between the design team and DCC Parks and Public realm officers over the past 12 months resulting in a finalised streetscape and public realm design – these reflect agreed details for new tree pits, SUDs features, tree and planting design including species selection, and a revised design and layout for the proposed new footpath in Fairview Park.

The finals design proposals are summarised below in Section 3. This should be read with:

1. Clontarf to City Centre Cycle Route – Public Realm Design Proposals. Presentation to Local Area Committee November 2020
2. Landscape and Public realm detailed design drawing package (plans and details) for tender issue:

- General Arrangement Plans @ 1:100 (a1) and 1:200 A3 incorporating all materials and surface furnishings including lighting
- Planting details including species lists.
- Structural tree pit details
- Existing trees and Structural soil
- SUS / Bioretention details
- Surface details
- Furnishings
- Tree Protection
- Root Protection
- Resurfacing near existing trees
- Fairview Park Path

See Drawing List in Appendix 1

3. Arboricultural Impact Statement by Arborist Associates, December 2020

3.0 SUMMARY OF THE DESIGN PROPOSALS

3.1 Objectives

The purpose of the public realm proposals is to realise the opportunity presented by the redesign of the road corridor from the City Centre to Clontarf as a key route to and from the city centre to:

- Create a High Quality street corridor from the City Centre to Clontarf
- Enhance the image and contribute to the regeneration of the intervening areas
- Develop an appropriate palette of paving materials and associated hard landscape treatments of key areas / focal points
- Develop a greening strategy in association with the streetscape enhancement.
- Respond to the requirements of the Part 8 Planning Permission
- Complement parallel initiatives e.g the Tea Rooms project in Fairview park

The approach required an understanding of the places and character of the corridor, the proposed infrastructure improvements and the development of an appropriate design approach in term of typologies of spaces, the components, materials, details and special features required. This approach and palette would inform the overall concept, masterplan and detailed proposals.

This analysis is set out in the final draft of the Public Realm Design Proposals presentation (November 2020). The key points reflect the division of the route into two distinct character areas:

- Amiens Street/North Strand and
- Fairview Village

Each with a series of local community plazas and focal points created at key junctions created by road alignment adjustments.

3.2. Materials Palette / Strategy

3.2.1 Paving

The proposed palette of material for surfacing is selected from those commonly used throughout the City to ensure the sustainability, ongoing availability of materials and ease of maintenance / repair and reflects the requirements of different zones for different material types as set out by DCC. It consists of the following approach:

- 600X600 Leinster Granite slabs laid in stretcher bond pattern perpendicular to the kerbline from the City Centre to 5 Lamps.
- 600X600 PCC slabs with Granite Kerb from 5 Lamps to Royal Canal
- Predominantly PCC materials from Royal Canal to Fairview Village
- In-situ concrete paving in Clontarf.

All areas would have details or smaller setts / cubes in Leinster and Iberian Granite for feature areas, infill, crossovers and lines of delineation e.g. drainage channels, areas of private landings.

Kerbing from the city centre to Malahide Road would be in granite.

For local community plazas which vary in size, shape and function, a simple repeating fan type cobbled paving (Bogen pattern) in granite is used consistently because of its organic and flexible form rather than bespoke defined paving patterns. This has allowed the scheme evolve throughout the design process without compromising proposals for these areas.

Recycled antique granite from site (kerbs and slabs) is reused in the immediate vicinity of its current location.

Granite slabs and kerbs, Bogen pattern paving and granite details.


PCC slabs and in-situ concrete with granite kerbs

The General Arrangement Plans illustrate how the above materials are arranged throughout the scheme.

Selection of GA plans from Community Plaza areas – Talbot St (Top left); Buckingham/Foley St (Top right); 5 Lamps (Bottom left); Annesley Place (Bottom right)

3.3.2. Greening

The greening strategy is divided into a number of elements:

Street Trees

London Planes on a London Street

These are the largest structuring elements of the scheme. A palette of street trees has been agreed with DCC parks with the dominant tree being London Plane (Platanus X hispanica) which forms the main tree throughout the street corridor with incidental use of other species in local plazas / feature areas. These include:

Turkish Hazel (Corylus colurna)

Small leaved lime (Tilia cordata)

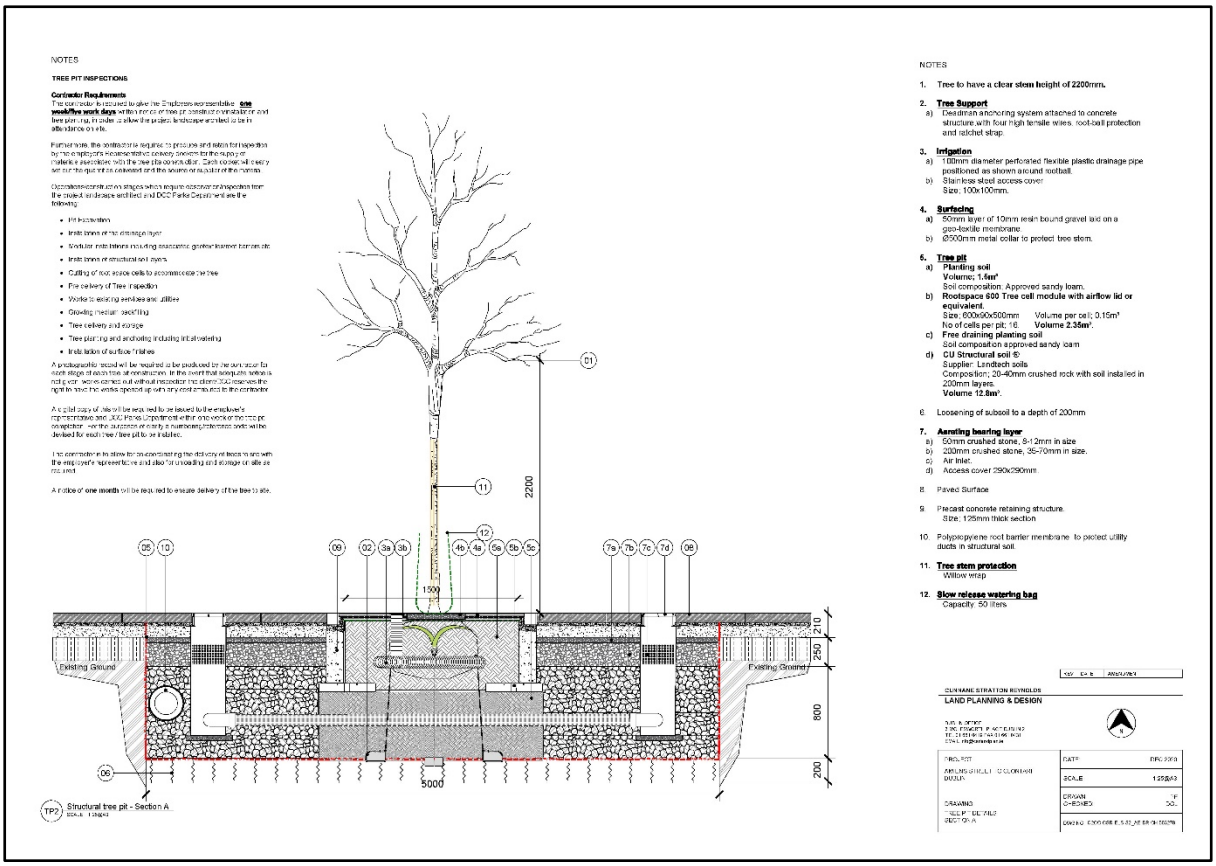
Sycamore (Acer pseudoplatanus “Erectum”)

In Fairview Park trees include Beech (Fagus sylvatica), Horse Chesnut (Aesculus hippocastanum), Flowering Cherry (Prunus avium “Plena”), Magnolia, Oak (Quercus petrea) and Holm Oak (Quercus ilex) are proposed in grass areas as well as the above street trees.

Silver birch is used as a smaller scale of tree in a range of soft areas / islands throughout the scheme where a larger tree would not be appropriate but some taller greenery, enclosure and ornament would add variation to the main landscape structure provided by the street trees.

All street trees in paved areas will be planted in specially designed tree pits developed with DCC Parks. These tree pits are a hybrid consisting of a tree pit of planting soil (1.5m^3) over modular tree pit cells containing planting soil (2.35m^3) surrounded by structural tree soil (12.8m^3). In places these are linked to form larger combined trench pits.

Where trees are in soft areas of sufficient size, tree pits are not used and traditional planting methods adopted.



Developed tree pit detail following liaison with DCC Parks
– See Dwg Nos C2CC-CSR-ELS-S2_AE-DR-CH-503277-79.

Greening

As well as the larger scale of street tree planting, a series of linear and local soft planting areas are created throughout the scheme to green, provide ornamentation and biodiversity. At a local level they are closer to pedestrians and easy to appreciate. They also assist in separating functions – cycling and walking where space allows.

Typically these areas are linear and approximately 2m wide and consist of a hedge to 1m and associated mixed low shrub and perennial planting – this reflects a style of greening used in recent years by DCC in greening medians and other areas in the city in recent years. A central steel post and tensile wire fencing is used centrally in the planted area to prevent crossing and protect the establishing plants.

Local greening to cycling and pedestrian areas.

Hedges proposed consist of lengths of the following:

Cherry laurel – Prunus laurocerasus “Rotundifolia”. An evergreen with large glossy leaves.

Hornbeam – Carpinus betulus. A deciduous hedges that retains its leaves in winter, creating a seasonal interest.

These hedges would be maintained to create regular shaped hedges. Laurel would be best pruned by hand to avoid cutting leaves, Hornbeam can be mechanically cut.

In Fairview a more informal hedging is proposed. On the north side of the road corridor linear beds are planted with a central spine of Viburnum tinus “Eve Price” to maintained at ca 1m in an informal shape. Along the proposed verge to the south of the road by Fairview Park an informal row of Aucuba japonica “Crotonifolia” with short lengths of Aucuba japonica “Rozannie” are proposed due to the dry and shady conditions under the established trees here.

Perennial planting mixes are listed in the detailed drawings and are variations of the same mix of flowers, grasses and low growing shrubs. The mix is designed to provide a “frothy” mix of vegetation, flowers and form with the associated hedge. It has a high proportion of pollinator species (flowers) and has been expanded since last reviewed with DCC reflecting research of best practice to ensure that the mix contains sufficient range of species / varieties to ensure that there will always be some (if not all) that will thrive in the varied conditions that will be encountered on a site of this nature.

Flowery perennial mixes as part of local greening

Where there are no hedges to give height and structure, a selection of native shrubs are planted as specimens in these areas. The intention is to showcase the ornamental qualities of natives shrubs e.g. Viburnum opulus, Crataegus monogyna and Euonymus europaeus whilst benefiting from their biodiversity contribution. Some formative pruning may be required in maintenance to create small multi-stemmed trees / tall shrubs that are both elegant and ecologically valuable.

Native shrubs / small trees as ornament – Guelder Rose, Hawthorn and Spindle

Greening and Suds

A late variation of the public realm design has been the introduction of Suds features to the scheme. These consist of a series of permeable and impermeable bioretention areas throughout the corridor.

These contain bespoke perennial mixes designed to look like those described above but selected for their tolerance of what would be highly varied conditions including inundation and drought conditions. It is anticipated that the flooding periods will be short-lived and water will drain away quickly. However, the impermeable areas will experience drought conditions in Summer as the planting will be unable to access surrounding ground water. As sunken containers they may require supplementary irrigation in the Summer.

Rain garden and bio-retention area planting

Where bio-retention areas abut adjacent pedestrian areas, to avoid encroachment, a low hedge of holly (Ilex aquifolium “Alaska”) is proposed to prevent / discourage access onto the soft areas to avoid falls to the slightly lower areas and to protect the planting.

3.2.3 Site Furniture.

A range of seating – benches, backed seating and PCC cube or linear seats are proposed throughout the scheme. In general double length backed hardwood seating is proposed adjacent the new footpath in Fairview Park, backed seating and benches are proposed throughout the streetscape with pcc cube and cuboid benches with timber section proposed in some feature areas.

Sheffield bicycle stands are distributed in large numbers throughout the scheme.

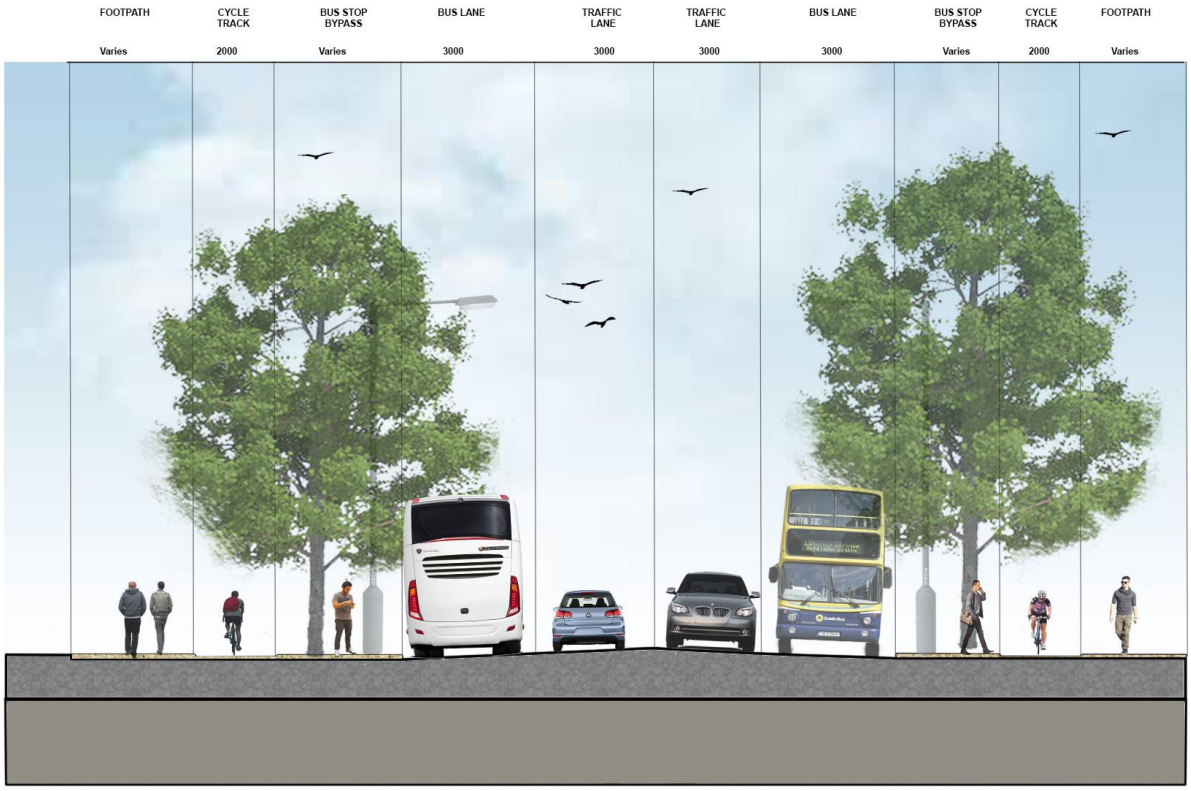
Bins are located throughout the scheme

Details are set out in the accompanying Furnishing Drawings and General Arrangement Plans

3.3 Scheme layout

The accompanying Design Proposals presentation illustrate the typical design of streets and approaches to local community plazas in terms of design intents.

Typical sections through the street corridor are illustrated. The GA plans illustrate how this approach is interpreted throughout the street corridor.



Indicative street section – Amiens Street

Each local community plaza (build out areas) is illustrated in its current form, as a design concept and the most current detailed proposal. These are also illustrated in the final GA plans. It should be noted that the designs are deliberately flexible and unprescriptive about functioning of these places, most of which will evolve as the scheme is established and opportunities for animation of the spaces by local business' / people evolves.

Fairview Park and Village. The design approach here involves the:

- Retention of the tree lined park edges to the south – subject to some tree loss and replanting to accommodate road and path alignments.
- Retention of a generally open and sunny urban and north side of the village – the built edge. Here street tree proposals are limited to framing of terraces of buildings, clusters of street tree planting at junctions with scattered clusters of Silver Birch trees in soft planted areas and islands as described above.

(NB. Previous proposals for this corridor included more formal rows of “lollipop” Holly and Olive trees, however changes to layout of soft areas here eroded this feature and a more flexible and robust scattering of trees, less formal in character, and less dependent on regular spacing has been proposed).

- The proposed esplanade in Fairview park has been reduced to a narrower 2.5m wide footpath located closer to the park boundary. Although less of a feature/esplanade this will still provide the footpath required along this edge. The section taken from the road to the park (see Design Proposals and Detail Plans) will now consist typically of:

  Road / Bus lane – Existing tree lined verge with some additional trees as well as new hedge and ground cover planting – Cycleway – retained park boundary/railing – 2-3m varying width grass verge and mature trees along internal park boundary – New footpath 2.5m wide with scattered seating - park area / grass.

Indicative section through Fairview Park edge

4.0 Tree Impacts / Protection and Fairview Park

A tree impact assessment has been prepared by Arborist Associates and can be referred to for detail. Following lengthy analysis and workshop with DCC Parks including site visits tree removal has been minimised and a range of bespoke design solutions and tree protection measures adopted to protect retained trees.

Trees to be removed are shown in red on the attached GA plans. The breakdown of trees to be removed and their condition is given in the Tree Impact Assessment. Some tree removal is due to the condition of the trees rather than as a result of the scheme.

Tree protection consists of:

- Fencing of areas of trees
- Protection of trees (trunks) from impacts where fencing is not feasible / practical
- Root protection through bespoke excavation measures.

- Bespoke surface / build up details around tree roots using structural tree soil and varying standard construction details.

These measures are shown on the supporting Tree Protection, Root Protection and Existing Trees and Structural Soil details/drawings.

Fairview Park

The originally proposed 4m wide esplanade feature set 4m in from the park boundary within the RPA of the mature park boundary trees has been modified to minimise risk to these trees. In addition a bespoke “no-dig” construction detail is proposed.

Path Alignment

The path alignment is now closer to the tree positions that are along the park boundary. Following discussion and liaison with DCC Parks it was agreed that the structural tree roots most likely to be encountered here would be more tolerant of the loading created by the new footpath than finer, feeding roots further from the tree as originally proposed.

The path has been reduced from 4m to 2.5m thus significantly reducing the soil covered by the path and reducing risks to the trees.

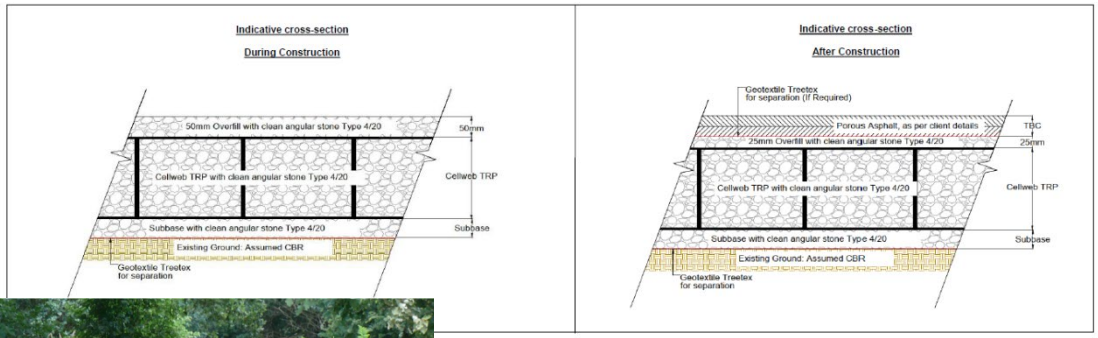
Construction Detail

The Fairview Park paths sections and construction details envisage a no dig construction laid across the existing soil surface as follows:

1. Existing soil amelioration – nutrient and aeration
2. Regulation of levels with a layer of aggregate
3. Installation of Cellweb TRP or equivalent ground reinforcement system.
4. Installation of asphalt surfacing.

The proposed Cellweb system means that point loads are distributed over the path thus avoiding localised compaction at any specific location.

The above installation will require a carefully considered method statement involving construction of the route from gradually extending areas of installed ground reinforcement i.e. no machinery will be allowed over soft ground.



Typical Cellweb “No Dig” Tree Root Protection System for path construction in tree root zone

5.0 CONCLUSION

The current detailed proposal reflect a lengthy design development process with inputs from a range of disciplines within DCC and other organisations as well as through the Community Consultation process.

The finalised scheme represents the accommodation of many, often conflicting, requirements within an integrated design. However the core public realm objectives and potential of the project are still being met. The finalised proposals will:

- Completely enhance the built street corridor from the city centre to Clontarf with high quality paving laid in a consistent manner, related infrastructure and furniture, lighting etc.
- 143 new trees will be planted along the corridor and where planted in paved areas specialised structural soil pits will be created to ensure the long-term sustainability of the trees and integrity of the surrounding pavements.
- Soft landscape proposals of hedges and low-level perennial planting throughout the scheme will create a softer more inviting pedestrian environment and contribute to enhanced biodiversity.
- Eight new community plazas will be created along the corridor to provide opportunities for animation of streets and local business'.
- The northern boundary of Fairview park will be opened up to the village and animated by the new cycleway and new internal perimeter footpath creating a busier corridor along this park edge with consequential improvements in passive surveillance, safety and use.

Overall the project's public realm improvements will be transformative and regenerative throughout this corridor showing the potential of key infrastructure projects to provide significant added value as well as their core functional objectives.

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DOCUMENT ISSUE SHEET Sheet no.: 1

Project No.: 15373 Issue By: DOL

Project: Clontarf to City Centre Cycle Route
Notes: Detaled Design Stage

Day	25
Month	11
Year	20

Dwg. No.	Dwg. Title		Status	Revision /type (P=print, E=electronic)
Landscape Plans				
C2CC-CSR-ELS-S2_AE-DR-CH-503200	**General arrangement plans**		Draft	E
	59 sheets			
Landscape Details	**Dwg. Title**	**GA REF**		
C2CC-CSR-ELS-S2_AE-DR-CH-503260-68	**Surface Details**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503260	Flags	A2,C1,DC,CH		
C2CC-CSR-ELS-S2_AE-DR-CH-503261	Loading bays & parking	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503262	Curved Kerb Line	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503263	Setts	B1,B2,B3,B4		
C2CC-CSR-ELS-S2_AE-DR-CH-503264	Bogen Setts	B5		
C2CC-CSR-ELS-S2_AE-DR-CH-503265	Circular Setts	B6		
C2CC-CSR-ELS-S2_AE-DR-CH-503266	Tactile Paving Crossings	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503267	Tactile Paving Bus stops	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503268	Antique Paving and Kerbs	AP,K1		
C2CC-CSR-ELS-S2_AE-DR-CH-503269-71	**Furnishings Details**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503269	F1.1,F1.2 Seating	F1.1,F1.2		
C2CC-CSR-ELS-S2_AE-DR-CH-503270	F2,F3, F4.1,F4.2 Seating	F2,F3, F4.1,F4.2		
C2CC-CSR-ELS-S2_AE-DR-CH-503271	F5 Bikestands	F5		
C2CC-CSR-ELS-S2_AE-DR-CH-503272-76	**Planting details**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503272	Species	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503273	Tree Pit in grass/vegetation	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503274	Tree Pit in grass/vegetation Plan	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503275	Hedge & wire fence	H#,WF		
C2CC-CSR-ELS-S2_AE-DR-CH-503276	Shrub details	PA#		
C2CC-CSR-ELS-S2_AE-DR-CH-503277-79	**Structural tree pit**	TP#	Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503277	Plan			
C2CC-CSR-ELS-S2_AE-DR-CH-503278	Section A			
C2CC-CSR-ELS-S2_AE-DR-CH-503279	Isometric			
C2CC-CSR-ELS-S2_AE-DR-CH-503280-81	**Existing trees & structural soil**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503280	Plan	EP2		
C2CC-CSR-ELS-S2_AE-DR-CH-503281	Section B	EP2		
C2CC-CSR-ELS-S2_AE-DR-CH-503282-85	**SUDS Bioretention details**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503282	Impermeable system Type B	BR-T		
C2CC-CSR-ELS-S2_AE-DR-CH-503283	Permeable system Type A	BR		
C2CC-CSR-ELS-S2_AE-DR-CH-503284	Inlet details			
C2CC-CSR-ELS-S2_AE-DR-CH-503285	Bioretention swale	SW1		
C2CC-CSR-ELS-S2_AE-DR-CH-503286-87	**Tree protection**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503286	Temporary fence	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503287	Direct impact protection	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503288-89	**Root protection**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503288	Root friendly excavation	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503289	Surface roots	-		
C2CC-CSR-ELS-S2_AE-DR-CH-503290-92	**Resurfacing near existing trees**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503290	Gravel	E1		
C2CC-CSR-ELS-S2_AE-DR-CH-503291	Gravel & Metal edge	E1		
C2CC-CSR-ELS-S2_AE-DR-CH-503292	Planting near existing trees	PA#		
C2CC-CSR-ELS-S2_AE-DR-CH-503293-94	**Fairview park path**		Draft	E
C2CC-CSR-ELS-S2_AE-DR-CH-503293	Typical section Camber	C5		
C2CC-CSR-ELS-S2_AE-DR-CH-503294	Typical section Crossfall	C5		

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Eng-M&E
Planner
file

Issued for: Information: Comment: Approval:
Bid: Submission: Tender:
Construction: Completion: