

BEFORE THE DUNEDIN CITY COUNCIL

IN THE MATTER OF of the Resource Management Act 1991

AND

IN THE MATTER OF Notice of Requirement by Otago Regional Council for a designation pursuant to section 168 of the Act in relation to a Central City Bus Hub (DCC Notice of Requirement: DIS-2017-1)

STATEMENT OF EVIDENCE BY EMILY CAMBRIDGE

09 OCTOBER 2017

1. INTRODUCTION

QUALIFICATIONS AND EXPERIENCE

- 1.1 My name is Emily Louise Cambridge. I hold a bachelor degree in Landscape Architecture from Lincoln University, obtained in 2010 and I am a registered member of the New Zealand Institute of Landscape Architects. I am based in Christchurch as a Team Leader of the Design Practice with the firm Beca New Zealand Limited which practices as a multi-disciplinary consultancy with offices throughout New Zealand.
- 1.2 I have been engaged in the field of landscape architecture for 7 years. My experience includes landscape architectural and urban design particularly in the areas of streetscape design, cycleway design, road infrastructure, CPTED and safety and network functionality reviews.
- 1.3 An outline of projects in which I have been called upon to provide landscape architecture advice is included as Appendix B.
- 1.4 Beca have a contract with the Otago Regional Council for developing the design of the Dunedin Bus Hub. I was the lead Landscape Architect for the Concept and Preliminary Design phases of the project. This includes the design and production of both the preliminary 'bus shelter design' and the 'full canopy design.' In this role I have visited site, produced concept and preliminary design packages, attended consultation, directly liaised with the DCC urban design team, and have lead the design refinements since the consultation. I have been asked to prepare evidence addressing urban design and landscape design matters raised in the submissions on the notice of requirement for designation for the Dunedin Bus Hub and Associated works given by Dunedin City Council (NoR).

2. CODE OF CONDUCT

- 2.1 I confirm my obligations in terms of the Environment Court's Code of Conduct for Expert Witnesses contained in the Practice Note 2014. I confirm

that the issues addressed in this brief of evidence are within my area of expertise. I confirm that I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

2.2 I have been engaged by the Otago Regional Council to prepare Landscape and Urban Design evidence in relation to the NoR.d

2.3 The data, information, facts and assumptions I have considered in forming my opinions are set out in my evidence to follow.

3. SCOPE OF EVIDENCE

3.1 Within this evidence I address the following matters:

3.1.1 the design process and description of my involvement in the preparation of the concept design and preliminary design for Dunedin Bus Hub;

3.1.2 consideration of the submissions that are relevant to the design of the bus hub; and

3.1.3 the Council Officer's Report;

3.2 I am generally familiar with the NoR and accompanying information which was submitted in support of the project. I am particularly familiar with the content as it relates to the Landscape and Urban Design. In this regard I have carefully reviewed the content of:

3.2.1 The consultation plans that have been prepared for the project including accompanying plans as shown in Appendix C of the material accompanying the NoR.

3.3 In preparing my evidence I have relied upon the following documents:

3.3.1 Ministry for the Environment (MfE), National guidelines for Crime Prevention through Environmental Design (CPTED) in New Zealand (November 2005);

- 3.3.2 MfE, New Zealand Urban Design Protocol (March 2005);
- 3.3.3 Dunedin City Council Central City Plan Palette (CCPP).
- 3.4 I have also reviewed the submissions received in relation to urban design and landscape issues on the project.

4. DESIGN PROCESS – CONCEPT DESIGN

- 4.1 In 2016 Otago Regional Council (ORC) commissioned Beca Limited to prepare a streetscape design and layout for Great King Street to become a central bus hub for Dunedin City.
- 4.2 Beca carried out the concept design for the Bus Hub which included the presentation of site analysis, design inspiration and an overall concept plan. This package also highlighted the key objectives, materiality and planting palette proposed for Great King Street. The concept design package was accepted by ORC and then presented to Dunedin City Council (DCC) for comment and subsequent approval to proceed with preliminary design.
- 4.3 Beca presented the concept design package to DCC's Urban Designer¹ on 15 September 2016 and requested feedback. The DCC made a number of recommendations including:
 - 4.3.1 consistency with tree species along the street and increasing planting areas as much as possible;
 - 4.3.2 contrasting two tone grey pavement surface accepted; and
 - 4.3.3 integrating colour into the streetscape to add interest through the furniture, wayfinding and structures.
- 4.4 These recommendations were addressed by the design team in the Preliminary Design phase of the project.

¹ Glen Hazelton – Dunedin City Council Urban Design Lead

5. DESIGN PROCESS - PRELIMINARY DESIGN

- 5.1 Beca progressed to the preliminary design phase and developed the Bus Shelter Design Proposal document which included two design options for the project (refer to Appendix C of the Notice of Requirement report). This document was then presented for community and stakeholder consultation. The design intent of the Bus Shelter design options was expressly stated to capitalize on Dunedin's evolving culture of street art and the high student population who thrive on vibrancy, life and culture.
- 5.2 The Bus Shelter design² proposal presented options that introduce:
- 5.2.1 street art by transforming the entire street into the canvas;
 - 5.2.2 vibrancy into the street through the use of bright playful colours;
 - 5.2.3 a new landmark for central Dunedin;
 - 5.2.4 Introduces a bold statement and illustrates confidence in the public bus system; and
 - 5.2.5 a cost effective solution that is bold and different.
- 5.3 Option 1 of the Bus Shelter Design Proposal presented a brightly painted ribbon pattern on an asphalt surface. The twists and turns in the ribbon pattern represents the journey Dunedin has taken through the years – from the humble historic beginnings to a vibrant art loving city. The ribbon colours extend across pedestrian crossings and vehicle crossings to enforce pedestrian priority. The intent for the Dunedin Bus Hub was to serve as a start and finish to a future central city arts trail.
- 5.4 Option 2 of the Bus Shelter Design Proposal presented a traditional two toned grey paved option with bright inserts of blue recycled glass pavers to assist in uplifting the vibrancy of the ground surface. At the time of concept design we could source recycled glass paving from a local supplier.

² Beca Design Concept report (Appendix B of the accompanying NoR documents).

- 5.5 The Bus Shelter design package was used for public consultation. It included a materials and planting palette to illustrate the look and feel of the new Bus Hub to the stakeholders and community. The consultation materials requested feedback from the community for the design and materiality proposed within the project.
- 5.6 Beca produced a visualisation fly through to illustrate ORC's preferred painted ribbon option. This was on display on both the ORC website and at the public open days which I attended.
- 5.7 Feedback was sought for both of the proposal options to determine which direction the community would favour.
- 5.8 The public consultation feedback period closed on 24 December 2016. The Otago Regional Council reported to the design team that there was no clear preference for either of the design proposal options in the feedback received. Due to there being no clear preference the ORC's preferred option that was presented at public consultation was therefore chosen to be progressed to developed design.

6. DESIGN PROCESS – SUBSEQUENT DESIGN REFINEMENTS

- 6.1 Since the closure of public feedback in December, ORC sought information and guarantees from the supplier of the resin paint to ensure that the painted treatment would be durable enough for a high volume pedestrian and vehicle environment. Guarantees were not able to be supplied to satisfy the ORC.
- 6.2 DCC has concurrently been compiling a Dunedin Central City Plan Palette (CCPP) with the aim of creating a consistency in materiality for central city projects going forward. The design team has been in regular communications with the DCC Urban Design³ lead to make sure that the design of the Bus Hub will be complementary of the direction of the CCPP.

³ Dr. Crystal Filep – Dunedin City Council

- 6.3 During the consultation phase there was feedback received for the structures and layout of furniture adjacent to the Community House. ORC responded to feedback by revising the layout for this area. The community desired structures that would not obstruct the building or contrast with its heritage character. ORC engaged Beca to investigate design and layout options for this area. A layout to include a toilet block, bicycle parking, bus shelter seating and a café kiosk was developed and approved by ORC and DCC. The toilet block within the area is now proposed to be located away from the edge of Community House. It is my opinion that the distance between the toilet and Community House will mean that there are no detrimental effects on the Community house building.
- 6.4 Further responses were received from stakeholders along Great King Street who were concerned about the loss of visibility into their businesses due to the location of bus shelters within their land. A visualisation was developed to illustrate the Countdown carpark bus shelters. In response to consultation feedback an investigation into an option to extend a canopy structure along the footpath without compromising footpath width is being investigated. An updated Full Canopy Design Plan in Appendix A illustrates the indicative location and extent of an extended canopy structure to the footpaths adjacent to both Farmers and Countdown.
- 6.5 A safety audit was carried out by MWH (now part of Stantec) in May 2017 on the Dunedin Bus Hub Preliminary Design and it was suggested that the painted ribbon pattern may not be appropriate for the visually impaired. Together with a lack of confidence in the durability of the product and the safety audit concerns the proposal 1 as shown in Appendix C of the NoR report is now omitted as a surface option.
- 6.6 Beca was then engaged to provide further options analysis for paving within the Dunedin Bus Hub. Beca presented five options for paving along Great King Street including the three options for Firth paver combinations (options from the Dunedin CCPP) and coloured glass insets, asphalt with paver sett edging and the original painted asphalt option.

- 6.7 Since the concept design phase, the design team has confirmed that the locally sourced recycled glass resin is no longer available and an alternative cannot be found in the South Island. Due to the expense and practicalities of transporting this product some distance the final design for the pavement treatment, as shown in the updated Full Canopy Design Plan in Appendix A, has been confirmed, excluding the recycled glass resin treatment.

7. DESIGN PROCESS – THE FINAL LANDSCAPE DESIGN

- 7.1 Through the evolution of the design process outlined above an updated full canopy design shown in Appendix A has been produced. The final pavement surface choice was made after producing the paving options analysis. The use of the Firth Piazza range with a soldier course of the Firth Holland paver was recommended. DCC's Urban Designer⁴ supported this recommendation.

8. CONSIDERATION OF SUBMISSIONS

- 8.1 It is my understanding that the submissions relevant to the landscape and urban design matters are 5, 9, 10, 14, 18, and 20 from Athol Parks, Public Health South (Jo Kingi), Bruce Collier, Ngai Tahu Justice Holdings, Generation Zero, and Michael Smith. The other experts will respond to the submissions outside of my expertise.
- 8.2 The submitter Athol Parks states that there is a need to create a consistency between the Dunedin Bus Hub to the overall city 'look and feel'. I agree with this statement and the submission has been addressed through the evolution of the design process. The current design integrates materials and furniture that are proposed in the draft Dunedin CCPP. The DCC Urban Designer has also been involved in discussions with both Beca and ORC throughout the design process. I consider that consistency with the Dunedin CCPP achieves the outcome sought by the submitter.

⁴ Dr. Crystal Filep – Dunedin City Council Urban Design lead

- 8.3 Submitter ten (Bruce Collier) raises concerns about the paving surface that was illustrated in Option 1 of the Preliminary design proposal because is not considered by the submitter to be consistent with Dunedin's architectural and heritage character. Through the refinements made throughout the design process the submitters concerns have been addressed. It is now proposed for the footpath area to be constructed using unit pavers. Refer to the updated Full canopy design plan shown in Appendix A. I consider that consistency with the Dunedin CCP will also contribute to generally achieving the outcome sought by the submitter.
- 8.4 Submitter 14 (Ngai Tahu Justice Holdings) states a concern for planting affecting sightlines particularly at vehicle access ways. I confirm that all plant species proposed along the street edges are low growing. The condition suggested by Ms Justice to manage planting and structures that may affect sight distances from this access will ensure that planting is appropriately managed to preserve sight distances. There are also no trees within the road corridor that will restrict sightlines from access ways.
- 8.5 The submission from Jenny Coatham on behalf of Generation Zero presents a number of recommendations for the Dunedin Bus Hub which are being integrated into the detailed design phase of the project:
- 8.5.1 The submission seeks a good level of wayfinding within the bus hub including clear signs, route numbers and names, schedules and maps including destinations. I agree that wayfinding and legibility are very important for bus users. Wayfinding will be integrated into bus shelters and totem pole structures including the use of real time display and maps on large screens.
- 8.5.2 Seating and shelter: The submitter also suggests that:
- seating is made available for waiting passengers at all times in order to increase the accessibility of transit systems for elderly people;
 - there should be space for people with prams and those who are in wheelchairs; and

- waiting passengers should be sheltered from the weather and be ensured safety whilst waiting for their bus.

8.5.3 I agree that seating and shelter is very important in the bus hub environment. In response to the feedback received seating has been located adjacent to all bus bays. In the Bus Shelter Design which is shown in Appendix C of the NoR, covered seating is located at all bus stops.

8.5.4 Under the updated Full canopy design option, (included in Appendix A) bus shelter 1 is removed from adjacent to Community House. There is covered seating adjacent to Bus bay 2 which would be used if required. Canopy structures are currently being investigated by ORC which would connect along the extent of the adjacent carparks on the street (Countdown and Wilson carparks). These canopy structures would include seating and provide some shelter from the weather with glassed roof and rear walls. The indicative locations of the shelters and canopy locations is shown on the updated Full Canopy Design plan in Appendix A.

8.5.5 Generation Zero also seeks clear pedestrian and vehicle paths to ensure universal access to the Bus Hub and to improve accessibility within the area. I agree that the Bus Hub should be accessible for all users. The current design achieves accessibility for bus hub users and will be tested against subsequent accessibility design standards during detailed design.

8.6 Submitter 18 also refers to a lack of weather protection within the Bus Hub. As mentioned above in 8.5.3 the lack of shelter is being investigated by ORC and the Full Canopy design shown in Appendix A includes indicative locations for canopy structures along some parts of currently uncovered areas of footpath of Great King Street. Vehicle access ways into Wilsons Carpark, Countdown, The Victoria Hotel and NZ Police restrict the opportunity for an uninterrupted canopy. It is in my opinion that the

proposed bus shelters will provide an improvement to the experience of Great King Street with newly installed shelters which will offer weather protection within the Bus Hub.

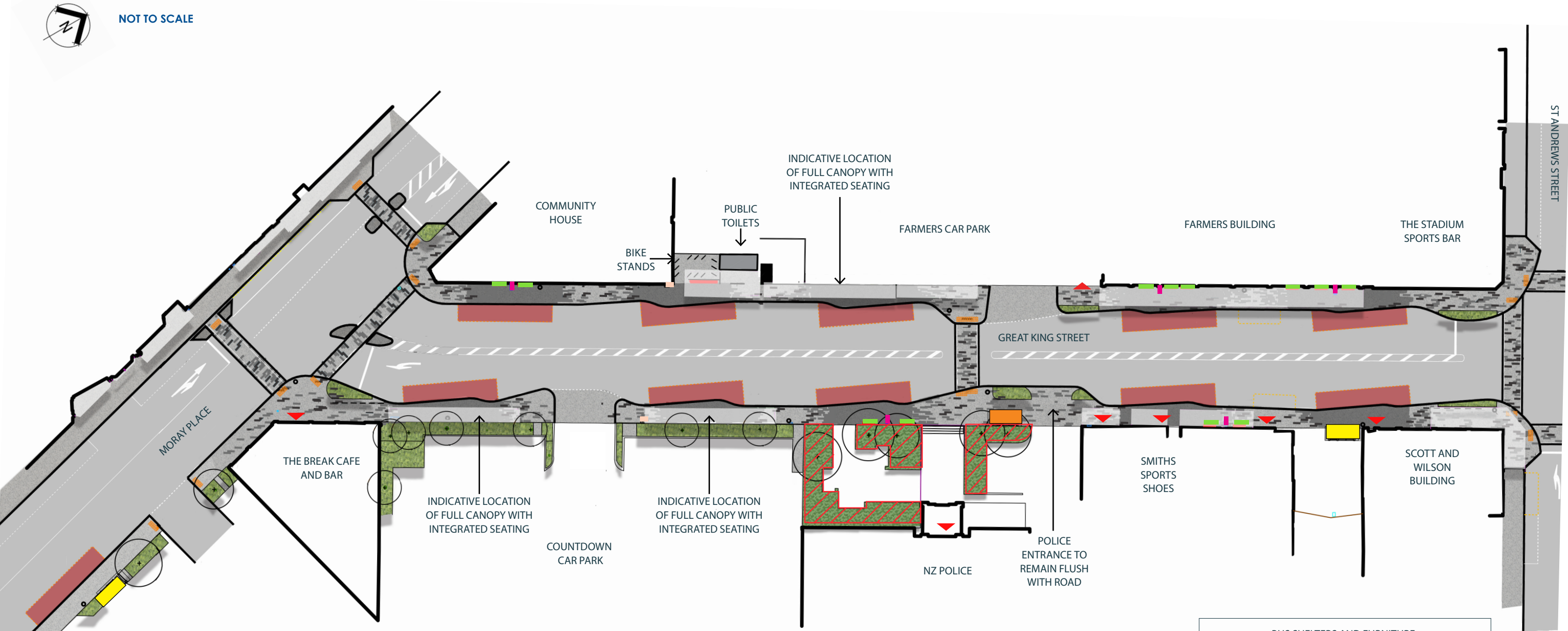
- 8.7 Submitter 20 Michael Smith discusses the apparent contrary comments made by ORC's NoR around the removal of bus bays to enhance the amenity of adjacent streets. He states from the conclusion of the NoR that the proposal for the bus hub on Great King Street would improve amenity. I agree that this statement appears contrary, however, it is in my opinion that the streetscape of Great King Street would be enhanced for pedestrians for the following reasons: a consistent design approach, bus shelter structures for some coverage over the footpaths, enhanced footpath surface treatments, landscaping, and the introduction of street furniture.
- 8.8 In response to the report completed by Dr. Crystal Filep which states that the preliminary plan does not incorporate changes that have been discussed with DCC, it is in my opinion that the updated Full Canopy design plan addresses the changes that we have discussed with Ms. Filep and DCC including the toilet/ bike storage layout, pavement surfacing and integration of the materiality from the CCPP.

9. CONCLUSION

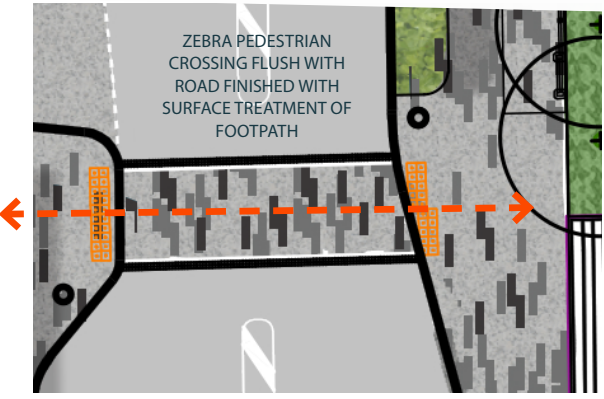
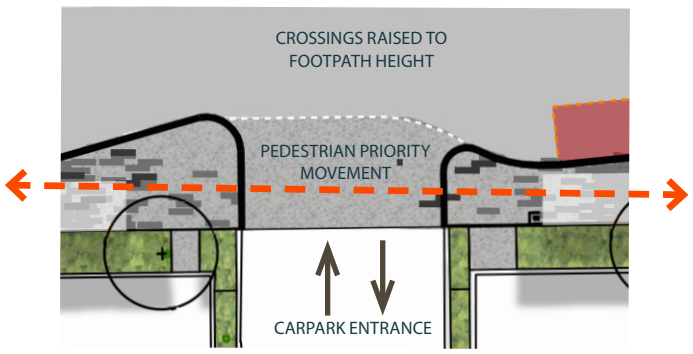
- 9.1 As set out in my evidence, the design for the bus hub has evolved to enable the design to align well with the City Council's plan for the central city and to provide the facilities proposed at the bus hub. As described within this statement of evidence, the pavement treatment, seating, shelter canopies and consistency of the design with the DCC CCPP have been amended during the evolution of the design process and will be carried forward into detailed design of the project.
- 9.2 It is in my opinion that the bus hub will result in improved amenity for users. The introduction of shelter for bus users (either as bus shelters or the full canopy design), surface upgrades, landscaping, lighting and street furniture

will have a positive effect on the overall streetscape and experience for Great King Street.

APPENDIX A – FULL CANOPY DESIGN



CIRCULATION AT CONFLICT POINTS



- BUS SHELTERS AND FURNITURE**
- Single Cantilever with front wall screens
 - Single Cantilever with no cover front screens
 - Timber seating elements
 - Entry points to buildings
 - Existing planting
 - Proposed planting
 - Existing tree
 - Bus Bay Totem Pole to front end of bus bay
 - Recycling bin beside cafe shelters
 - Rubbish bin at crossings and intersections
 - Tactile pavers for pedestrian crossing points

APPENDIX B – OUTLINE OF EXPERIENCE



Emily Cambridge

REGISTERED LANDSCAPE ARCHITECT

BLA (Hons)

Emily is a Senior Landscape Architect and Team Leader of Beca's South Island Design Practice. She has 6 years' experience and during this time has been involved with a wide range of projects including concept development, graphic presentation, construction detailing and consultation. Emily was the lead Landscape Architect on The Waitomo Caves Village Structure Plan which won a Best Practice Award Commendation for Strategic Planning and Guidance at the 2015 NZPI Awards. She has experience in a broad range of projects, including open public space, city streetscapes and roading infrastructure commissions. Emily enjoys working as part of a multidisciplinary team, integrating and coordinating the landscape design package together with other disciplines.

.Citizenship	New Zealand
.Membership	<ul style="list-style-type: none">■ Registered member of New Zealand Institute of Landscape Architects
.Special competence	<ul style="list-style-type: none">■ Planting design and landscape management■ Parks and reserve design■ Detailed design, documentation and contract administration■ Graphic illustration and presentation
.Background	<p>2010 - Present: Landscape Architect, Beca Carter Hollings & Ferner Ltd, Christchurch, New Zealand</p> <p>2007 - 2010: Bachelor of Landscape Architecture, Lincoln University, New Zealand</p>

Relevant experience

Dunedin Bus Hub, Otago Regional Council, 2016 – current

Emily is the lead landscape architect working through the developed design for Great King Street which will accommodate the new central bus hub for Dunedin. Emily has been working closely with the Otago Regional Council and Dunedin City Council to develop a design that is distinctive for central Dunedin. The street includes 10 bus bays, bus shelters, toilet and bike facilities and associated furniture. The project also had input from the local runanga and their narratives have been integrated into the design. Emily was also involved in producing material and attending the public consultation workshops that ran over a week at the council building.

Clutha District Council Reserve Management Plans – Clutha District – 2016 – current

Emily was the lead Landscape Architect involved in the revision of the combined Reserve Management Plans (RMP) for Clutha District Council. Reserve Management Plans were prepared for each of the townships Balclutha, Milton and Waiholo. The plans identified the level of investment, overarching landscape and ecology features and development opportunities for each of the existing reserves. Objectives and policies were developed for each reserve and plans were drafted for community consultation. The final RMP's were very visual documents which illustrated the look and feel of each of the reserves. The plans identified potential Destination Parks that would become key attractors for both tourists as well as the local community.

Major Cycleway Routes – Christchurch, Christchurch City Council – 2016 – current

The Christchurch City Council have committed to investing in the establishment 13 new Major Cycleway routes across the city over the next 3 years. Beca together with MWH and GHD have combined to form the Velos team who are looking at the route assessment, scheme design and detailed design of a number of the cycleways. Emily has been leading the Urban Design and Landscape inputs for the Velos team. She has been involved in five of the 13 routes including Multi Criteria Analysis, CPTED assessments, safety and functionality assessment as well as detailed design of hard and soft landscaping along the routes. As well as these input into an overall Urban and Landscape Design guideline for the network as a whole.

Land Drainage Recovery Programme – Bells Creek, Christchurch City Council – 2016 – current

The Christchurch City Council has introduced the LDRP to develop a physical works remediation programme for repairing the land drainage within Christchurch's troubled flooding areas. Beca and Opus were commissioned to carry out the design work for the remediation work for the Bells Creek zone within the suburb of Linwood. Emily was the lead Landscape Architect involved in the programme for this zone and worked with the engineers and council to provide Landscaping plans and advice to the programme. Emily is involved in Safety in Design work shopping, landowner consultation as well as the landscape detailed design packages.

Cashel Square Plaza design, Christchurch, Lichfield Holdings Ltd – 2014 - current

Emily was a member of the combined Landscape Architecture and Civil Engineering team which developed a landscape plan for this plaza as part of the Cashel Square office building development situated in the Christchurch CBD. Emily assisted during the concept design phase particularly with the development of the design options to be presented to the client. Her involvement included developing plans, cross sections and 3D models of the space and presentation of the report. An application for building consent was lodged and Emily also played a part in assisting with the finalisation of the detailed design drawings to display the construction methods.

Sullivan Avenue Campus, ARA Polytechnic Institute of Technology - Christchurch \$1M, 2013 - current

Emily is a part of the Beca project team for the redevelopment of the ARA Trades Campus open space areas. The project includes the campus wide landscape environs, and the design of a new 'Heart Space' – a central campus plaza area for students to gather, interact, play, relax and learn. Emily is currently leading the construction monitoring of the Landscape works which are expected to be finished by the end of 2017.

Waitomo Structure Plan, Tere Waitomo Community Committee 2012 – 2014

Emily was the lead Landscape Architect on the Beca team commissioned to develop a long term structure plan for the Waitomo District in Waikato. The project undertook a Concept development phase; the team completed detailed analysis of Waitomo Village and the surrounding area which included consultation with community board members, local iwi and the residents of the area. Further completed phases of the project included the development of design principles and an overall structure plan for the village outlining potential areas for future growth. Emily contributed to the development of Landscape principles and ideas for the development of the village and surrounding area. The Structure Plan which won a Best Practice Award Commendation for Strategic Planning and Guidance at the 2015 NZPI Awards

Vanuatu Tourism Infrastructure – MAF and Vanuatu Government, 2012

Emily was involved with a multi-disciplinary team that presented a concept options report for the development of the Port Vila seafront park and the main port in Vanuatu. The report presented was highly visual and gave visual demonstrations of what the seafront could look like with various stages of development. Her involvement included the development of graphics and visuals that would appeal to the Client, public of Vanuatu and the stakeholders.

Emily re-joined the project team to assist with the the Detailed Design package for the upgrade of the Seafront Park and local Port area. Her involvement was in the setting up of drawing, detailing built elements including custom furniture and screening as well as various pavement surfaces that will feature within the Park and Port areas.