STAGE 0-1 REPORT Tectoni







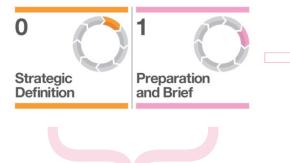
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CONTENTS

PURPOSE OF REPORT	1.
THE TECTONIC VISION	2.
THE BRIEF	3.
TIMELINE OF THE PROJECT	4.
UNDERSTANDING THE PEOPLE	5.
STRATEGIES AND INTENTIONS	6.
TRANSFORMATION OF THE SITE - KEY AREAS	7.
FRIARY GREEN MASTERPLAN	8.
SUSTAINABILITY STRATEGIES	9.
HEALTH AND SAFETY AND FIRE COMPLIANCE	10.
FEASIBILITY	11.
BIBLIOGRAPHY	12.
APPENDIX	13.

PURPOSE OF REPORT



The purpose of this stage 0 - 1 report, aims to determine the best means of achieving the client's brief. This report also explores the steps which need to be undertaken, in order for the design process to occur from stage 2 onwards (RIBA, 2020).

Alongside the RIBA Plan of work and core strategies, the report also aligns with BIM protocols and a collaborative frame of working.

Fab city manifesto -



We encourage residents and users to take ownership of the space through productive landscapes and voluntary programmes to keep them engaged in the communal spaces which they experience.

Through our CPUL strategy, we will make local produce accessible and widely available to all on the site. The shared nature of these resources will act as a mechanism for bringing the community closer together.

Creating a living, active and vibrant community through people-centred design will be a key intention for the Friary Green design scheme. The urban environment will be created to service the needs of people, meaning that buildings will be complementary to the users lifestyles, not defining them.



The team -

The design team consists of a variety of roles, who all work together to deliver the client's requirements.

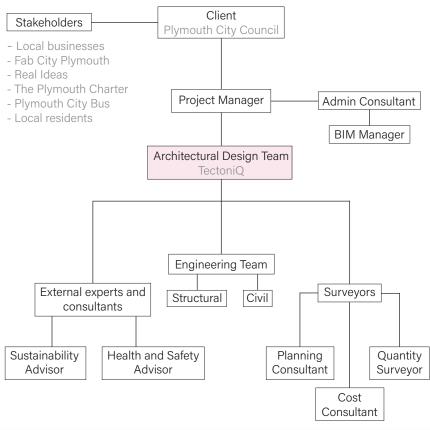
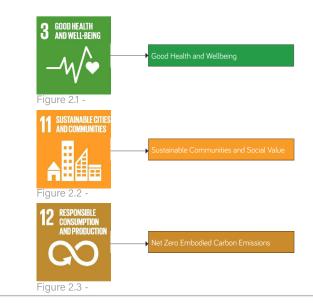


Figure 1 - RIBA Plan of work and core strategies

UN Sustainability Goals -

Our dedication to the three selected **UN Sustainability Goals** —Good Health and Well-Being (Goal 3), Sustainable Cities and Communities (Goal 11), and Responsible Consumption and Production (Goal 12) - will be ingrained in every aspect of our design and implementation. Taking these goals and our people centric approach forward, we will create a diverse and inclusive community, who are environmentally responsible. Throughout this project, we will aim to use the environment to promote good health, physical and mental, and well-being.



THE TECTONI® VISION

TectoniQ is a passionate and innovative architectural design practice. Our team is vibrant, reliable and enthusiastic, with expertise towards community spaces. Our creations aim to improve wellness, and the client's needs will be at the forefront of the design process.

We are **co-operative company**, who value teamwork and inclusivity.



Amelia Tomala Architectural Designer

Toby Attrill

Architectural Designer

"My interests stem

from the integration

into urban planning.

It is important to improve the users

lifestyles through

of green infrastructure

environmental design."

"My values are centred around people and well-being. I believe it is important to focus on how people interact with the built environment."

Specialisation -- Time manager - Visualiser

Specialisation -

- Digital model making

- Environmental strategies





Specialisation -

- Visualiser

- Researcher



Architectural Designer

about creating thriving communities within urban settings, with a strong consideration of the environment."

Specialisation -

- Physical model making

- Spatial organiser



Sapphire Hettiaratchi

"My interests are in creating inclusive communities for people of all kinds, and to inspire well-being through connecting the urban to nature."

Team Ethos -

US

Here at TectoniQ, we are about passion and innovation. We deliver quality beyond expectation.

YOU

Helping you deliver your vision for your lives, building places where you want to build your lives.

PROCESS

Our creative process involves you with us in the design journey, in a co-designing process, with your needs at the forefront of the design and providing a creative solution.



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THE BRIEF

Project brief -

The project will involve developing a proposal for re-shaping an urban block in the Coxside area of Plymouth. The parts of Plymouth that lay East of Sutton Harbour have historically been less developed and destined to industrial or semi-industrial uses.

One problem that Plymouth has greatly suffered from in its recent development is fragmentation and lack of legibility and permeability. The result is a city of fragments, left-over and often deserted public spaces, walls separating people and environment, massive roundabouts, industrial sheds, and car parks in prime locations.

The masterplan project needs to include:

- Affordable Housing Min. 50% - Max. 70% of built volume.

- A Neighbourhood Healthcare Centre

Including a community surgery accommodating at least 4 GP's with nurses, dieticians etc., plus a community pharmacy.

- A Community Cultural and Recreation hub

Including a neighbourhood library and a youth club with art + tech activities.

- A Community Repair, DIY and Re-use Centre

Aimed at helping/teaching people to repair and/or up cycle their belongings.

- A Business Start-up Centre

Providing office and/or workshop spaces for young enterprises.

- Open Green Infrastructure

Aimed at supporting people's well-being, facilitating biodiversity and reducing the urban 'heat island'.

The site and broader context-



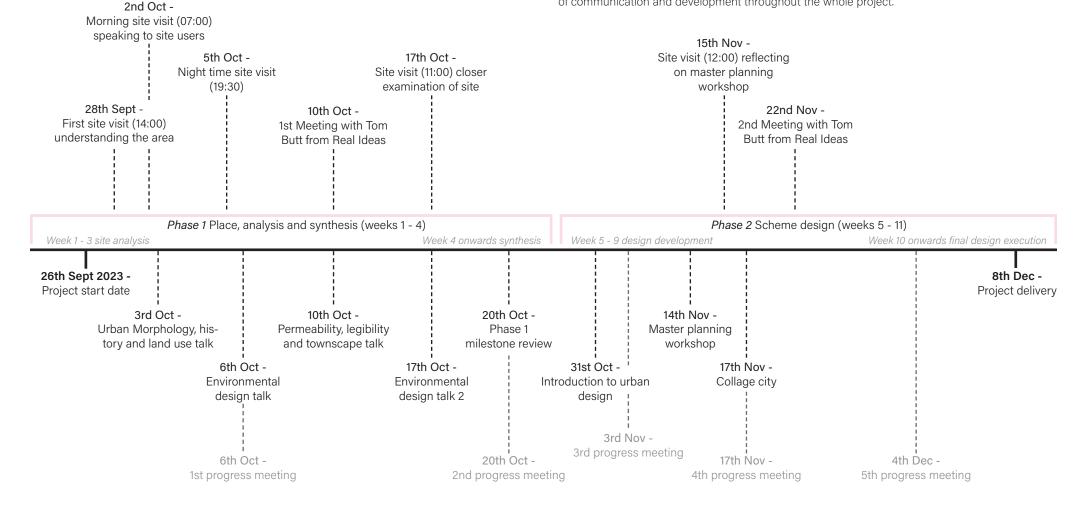


TIMELINE OF THE PROJECT

Throughout this project, TectoniQ stuck to a rigorous plan of action. In order for us to deliver the project with a consistent level of quality, we followed the plan whilst adhering to all the deadlines required. Throughout Phase 1, we focused on understanding the site and the clients needs. By researching the existing site conditions and undertaking a site survey with local residents and businesses, which allowed us to develop our key intentions for the project. Moving onto week 4, the site analysis, laid the foundations for the project's synthesis. By exploring spatial relations present at

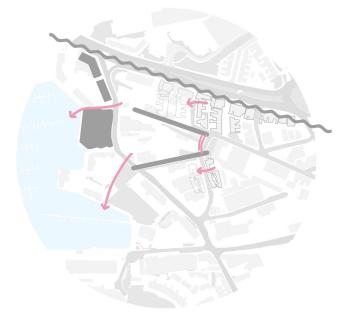
site in conjunction with site analysis and research carried out in weeks 1 - 3, the synthesis heavily influenced the project's design development.

During the design development process, the team explored multiple design iterations, in order to deliver the best outcome which meets the client's needs and expectations. Throughout the project, the team also met with Tom Butt from Real ideas, to allow us to understand the brief within the community realm. The team met with Real Ideas, in both Phases 1&2, to allow for a consistent flow of communication and development throughout the whole project.



UNDERSTANDING THE SITE AND PEOPLE

Opportunities and constraints



The two main constraints within the site are the steep level changes present on the y-axis, and the business' of Exeter Street that blocks permeability into the site. There is an opportunity to expand the residential units into the site, allowing for communities to grow.

To tackle these issues, we will outline necessary design strategies, which help to sustain an urban mixed use village.

Topography and Flood Risk



Steep topographical changes around the site with high levels of annual rainfall would mean that without intervention, most of the site would flood within 100 years.

Our environmental strategies for Friary Green, look to counter these risks by increasing the amount of water kept within the soil, in order to reduce the volume of surface run off water.

100 years
Areas of 800ml + annual rainfall
Areas of 1000ml + annual rainfall

Sutton Harbour and Coxside Survey

To establish a well-grounded understanding of the site in which the Friary Green masterplan is based, we conducted a site survey. We gathered feedback from both residents and businesses to find out their preferences and expectations for the redevelopment of the area.



To see a full report of the survey results, please scan the QR code on the left.

There was a total of 35 responses collected.



"We want more parks and green spaces in the neighbourhood."



"I think the area is lacking social spaces both indoor and outdoor."



"I feel like this area is missing restaurants and bars. It would good to make it more lively, especially in the evenings."



"Although we're so close to the waterfront, we feel so far away from it."

STRATEGIES AND INTENTIONS

The Masterplan-

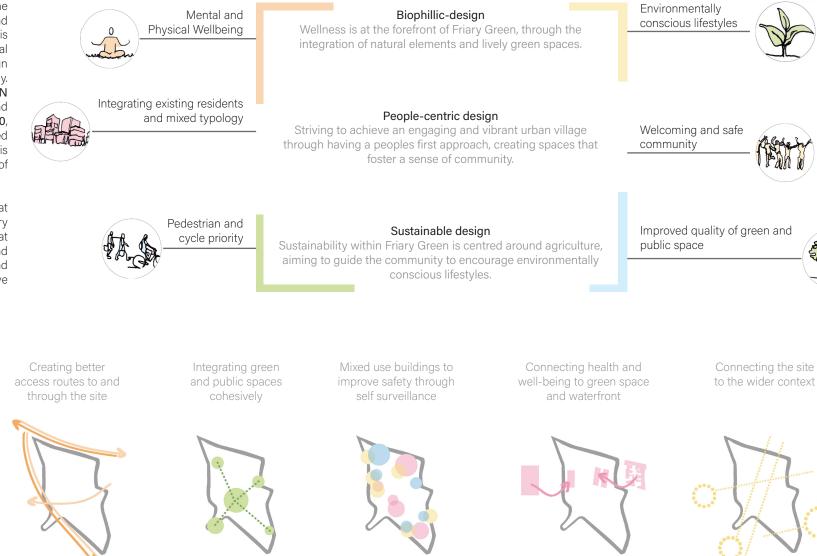
Using the findings from the survey of existing residents and users, our thorough site analysis and our consultations with Real Ideas, informed our design intentions and design strategy. Working in alignment with the UN Sustainable goals (3, 11 & 12), and the RIBA Climate Challenge 2030, these frameworks further informed our design code, whether this is urban building or the creation of public space.

We feel that strong intentions that shine through in all areas of Friary Green will foster a community that is welcoming and safe, vibrant and active at all times of the day and self-sustaining with a productive landscape.

Connecting health and

well-being to green space

and waterfront

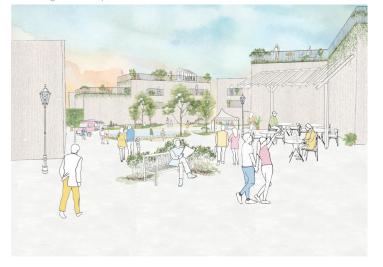


TRANSFORMATION OF THE SITE - KEY AREAS

Before - Scrap Yard



After - Agriculture Space



The central area of the site is one of the key spaces that we identified and want to reinvent. By consulting our key intentions, we created a framework for what we want to include in this key space. Changing the ground condition from concrete and tarmac to areas of quality green space will promote environmentally conscious lifestyles and active public spaces. The active frontages of the mixed use facilities that organically spill into this space, help to include users in all activities on the site as they move through the space. Designing with respect to the existing topography of the site, we will include mixed use buildings here to foster a welcoming and safe community through selfsurveillance, wanting to create a space that remains lively throughout all hours of the day.

Before - Sutton Road



After - Sutton Road re-imagined



The widening of pavements and the introduction of a light transport system (tram) along Sutton Street will allow for pedestrians and cyclists to be a priority on the site. The reduction of vehicle traffic on the site will allow for cyclists to take ownership of the roads in a safe manner, which is something that we have taken forward from our consultation with the existing community around the site. From the survey, we highlighted a trend that the existing community wanted, increased pedestrianisation, which became one of our key intentions- refer to page 6 for key intentions. The inclusion of the Healthcare Centre next to the tram will allow for easy accessibility to a key facility on the site.

FRIARY GREEN MASTERPLAN

The Masterplan-



- \bigcirc Health Centre
- Community Cultural and Recreational Hub
 - Community Repair, DIY, and Re-Use Centre

A closer look at Friary Green







Outdoor residential space

Workshop and residential courtyard

Community courtyard

Throughout Friary Green, there is a continuous focus on active green infrastructure that benefits both the community and environment. Given our mixed use strategy, all public outdoor spaces are interconnected with the urban environment. In alignment with the UN Sustainability Goals (No. 3 & 11), Friary Green uses green areas such as outdoor gyms and play areas, to improve the health and well-being of the users. Moreover, the design scheme uses green infrastructure such as green roofs to increase biodiversity and reduce carbon footprint in order to meet Goal 11.

In compliance with Approved Document M, Friary Green includes ramps and disabled access routes throughout the design scheme. Approved Document K, has also been applied to Friary Green. Two primary staircases in the centre of the masterplan are designed in compliance with the document.

Axonometric

Building upon the plan of Friary Green, this axonometric, illustrates how we have incorporated mixed use in our design scheme. For instance, a majority of the residential buildings have secondary uses on the ground floor such as cafés and shops, which promote active frontages and increased activity throughout the day. Through promoting mixed use, Friary Green also aims to foster a culture of self surveilling residents to take ownership of the spaces created for the community, both on the site and in the wider city context.



*See key on the left, underneath the masterplan.

Small Facilities

SUSTAINABILITY STRATEGIES

Green space strategy

Our green space strategy revolves around the inclusion of green infrastructure and edible landscapes.



From Andre Viljoen's Continuous Productive Urban landscape (CPUL) we have learnt that local food production is essential within sustainable infrastructure. Viljoen's view proposes that planners and designers need to explore the public perception of productive landscape to reach full potential of design. Productive landscapes include green corridors with footpaths and cycleways, and feature space for urban agriculture, which are presented in Friary Green. In reflection of UN Goal 12, the CPUL strategy allows the community to responsibly grow and harvest their own produce.

Our strategies employed to increase biodiversity through green infrastructure and community.



Roof Gardens





Connection to

waterfront



Bee Hives

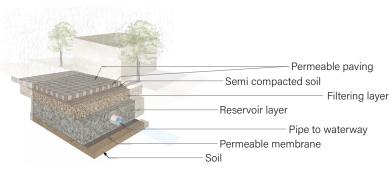


Community Kitchen



Water collection and re-use

Flood prevention strategy



Understanding the flood risk within the site allows us to strategically implement flood defence mechanisms.

Changing the ground conditions from majority concrete and tarmac to having a higher quantity of green spaces and trees, helps to reduce the risk of flooding by reducing the amount of surface run off. The soil condition for the majority of the site is the Saltash formation, which is characterised as having high concentrations of Slate and Siltstone. The low

permeability of the soil (saltash formation) means that water is kept within the vicinity of plants roots. This allows for opportunities to support dense vegetation to further reduce levels of surface run off. For example, Friary Green incorporates porous paving slabs to allow for water penetration. This will keep the surfaces safer for pedestrians and cars by reducing the risk of aquaplaning and slipping. A rock reservoir layer filters the water and gradually directs water back to the water table, reducing flood risk.

Approved Document H will be used to inform the flood prevention strategy.

RIBA 2030 Climate Challenge

Friary Green is determined to comply to the guidelines set out by the RIBA 2030 Climate Challenge and EU 2050 agreement. The challenge includes: Net zero operational carbon, Net zero embodied carbon, Sustainable water cycle, Sustainable connectivity and transport, Sustainable land use and bio-diversity, Good health and well-being, Sustainable communities and social value and Sustainable life cycle cost. Our primary focus revolves around cultivating a holistic approach to sustainability, with particular emphasis on responsible water management on the site. Through water collection and re-use, and a biodiversity pond, we strive to encourage sustainable water usage. This harvested rainwater is subsequently re-purposed for non-potable applications, such as landscape irrigation and other essential on-site needs, mitigating our reliance on traditional water sources. In addition to this, 40% of the roofs will have solar panels.

FIRE COMPLIANCE AND HEALTH SAFETY

Fire assembly and access



Secondary access routes 45m Fire tender access Fire assembly points

All of the buildings within the Friary Green masterplan are within a 45 meter radius to an access route for Fire tenders and other emergency services, complying with B5. All access roads are compliant with the minimum width (3.7 meters) set out by the B5 building regulations.

Fire hydrant and turning areas



- Turning circles 19.2m or wider
- \bigcirc Existing fire hydrants
- New fire hydrants

In order to comply to B5 Building regulations, there is a minimum of 19.2 meters of turning circle for Fire tenders.

Approved Document B will be used to inform the design to comply with the fire safety regulations set out within this document. The document covers:

B1: Means of escape and warning. B2: Internal fire spreading (lining). B3: Internal fire spreading (structure). B4: External fire spread. B5: Access and facilities for fire service.

A fire safety specialist will need to be consulted at a later stage of the process in order to fully comply, as well as agreements from Devon and Cornwall fire and rescue service.

Health and safety -

In addition to a fire safety expert, a health and safety consultant will also join the team to ensure the safety of the users during the building process (RIBA stage 3 onwards).

When traveling to site visits, we made it a priority to adhere to safety precautions recommended by the Health and Safety Executive and the RIBA Health and Safety Tests. Due to limited access to certain areas of the site, we made sure to only explore the areas that where safe and accessible to us. For example, challenging topography restricted access to areas under the bridge, and the presence of industrial facilities posed difficulties in reaching specific spaces due to ongoing construction and machinery operations. To overcome this, we took photos and sketches from a far and also used a laser distance measurer. When visiting the site on the 5th Nov. (19:30), we avoided some areas to mitigate any potential danger, as the site did not have any pedestrian lighting.

We aspire to keep all users, both the end users and those working on site during the building process, safe at all times. The buildings that we plan to retrofit and re-purpose have no existing structural problems, and are safe to use going forward with our masterplan.







These photographs taken by TectoniQ, highlighting some of the dangers we came across during our site visits (28th Sept. - 15th Nov.). For example, dense foliage under the bridge, prevented access to the area, so photos and research to the extent of the drop were limited.

TectoniQ

FEASIBILITY

Costing Breakdown-

Name and role of team involved:	Week number:	Hourly breakdowr	Hourly rate per person:	Number of people involved:	Total cost for week:	Cost breakdown:
TectoniQ (Architectural design team)	1 (Project commencing 26th Sept. 2023)	10 Hours x4	£25	4 (Design team)	£1,000	Overhead costs: £480
TectoniQ (Architectural design team)	2	12 Hours x4	£25	4 (Design team)	£1,200	Overhead costs: £576
TectoniQ, Tom Butt(Architectural design team, Real Ideas)	3	16 Hours x4	£25 (Real Ideas: No charge.)	5 (Design team, Tom Butt)	£1,600	Overhead costs: £768
TectoniQ (Architectural design team)	4	24 Hours x4	£25	4 (Design team)	£2,400	Overhead costs: £1,152
			End of Phase 1 (20/10/23)		PHASE 1 COST:	£6,200
TectoniQ (Architectural design team)	5	24 Hours x4	£25	4 (Design team)	£2,400	Overhead costs: £1,152
TectoniQ (Architectural design team)	6	24 Hours x4	£25	4 (Design team)	£2,400	Overhead costs: £1,152
TectoniQ (Architectural design team)	7	28 Hours x4	£25	4 (Design team)	£2,800	Overhead costs: £1,344
TectoniQ, Tom Butt (Architectural design team, Real Ideas)	8	28 Hours x4	£25 (Real Ideas: No charge.)	5 (Design team, Tom Butt)	£2,800	Overhead costs: £1,344
TectoniQ (Architectural design team)	9	36 Hours x4	£25	4 (Design team)	£3,600	Overhead costs: £1,728
TectoniQ (Architectural design team)	10	36 Hours x4	£25	4 (Design team)	£3,600	Overhead costs: £1,728
TectoniQ (Architectural design team)	11	40 Hours x4	£25	4 (Design team)	£4,000	Overhead costs: £1,920
		End of Phase 2-	Project devlivery (08/12/23)		PHASE 2 COST:	£21,600
					PHASE 1 & 2 COST:	£27,800

Plymouth City Council Budget -

Although there will be a high initial cost, the maintenance cost will be low as the community voluntary programmes will cover most public building upkeep, reducing the involvement and maintenance cost to the council. This will be within keeping of their budget, set at £16m for the year.



PROFIT:

Figure 3 - Plymouth City Council Annual Budget Breakdown.

TectoniQ Architecture will be one of the main points of contact, alongside the required specialists after the project is completed and we will continue to provide support to the client in order to ensure an accomplished handover and occupancy. We aim to allow for the residents to take primary ownership of the public outdoor spaces and public buildings, as through our consultation with Real Ideas, a community engagement specialist organisation, we learned that shared ownership historically created the most successful outcomes for projects such as Friary Green.

Maintenance will be carried out by council services for refuse collection and general large scale maintenance. Voluntary programmes, led by the community, will be the lead in regards to the maintenance of the public growing spaces and the general upkeep of buildings such as the Friary Green Agriculture centre.

A plan for use strategy will be created for the training of staff or any additional commissions and consultations for the handover stage to ensure successful occupation and performance of the building. Starting the plan for use in early stages (Stages 0-1) will result in a 'softer landing' and a more complete handover at the completion of the project.

£33,360

£33,360

£33,360

-£13.334

£20,026

£19.625.87

£400.52 (£100.13)

References -

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HM Government, (2010) Approved document H, 2021 Edition. P. 755-818

HM Government, (2010) Approved document K, 2021 Edition. P. 910-964

HM Government, (2010) Approved document M, 2021 Edition. P. 1186-1243 Available at: The merged Approved Documents - GOV.UK (www.gov.uk)

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Figures -

Figure 1 - RIBA (2020) Plan of Work 2020 Overview. Available at: https://www.architecture.com/knowledge-and-resources/resources/landing-page/riba-plan-of-work#available-resources.

Figures 2.1, 2.2 and 2.3 - United Nations (2023) The Sustainable Development Goals Report 2023: Special Edition. Available at: https://unstats.un.org/sdgs/report/2023/

Figure 3 - Plymouth City Council (2022) How the Council's Budget works. Available at: https://www.plymouth.gov.uk/how-councils-budget-works

Ethics Protocol Form when working with human participants

BA (Hons) Architecture PROJECT PROPOSAL (Part A)

Use Part A to demonstrate that you have considered the necessary issues under each section to ensure a robust and ethical project.

Student Name: Toby Attrill, Sapphire Hettiaratchi, Eloise Johnson, Amelia Tomala Module Code: DSCM621

Project Title: What is the title for your project? A 'working title' may be sufficient at this stage and can refined as your project develops. You should aim to give your project an engaging title.

Plymouth Coxside and Sutton Harbour Site Survey.

Key Theme(s): What themes have emerged to date and from what sources? How have these helped to shape your thinking around your area of interest and the design of your project?

Key themes that we wanted to address in our survey surround themselves with issues on safety, change and public outdoor space. We found these issues to be of importance and interest during our groups primary site visit. These themes are something we consider key and central to our project.

Rationale: Why do you feel it necessary to develop greater knowledge and understanding in this area? Explain which of the mode of enquiry you have chosen and why?

It is necessary to conduct this survey as the people being surveyed have an unrivalled wealth of knowledge and experience when discussing this area, as through previous research we discovered that there is little movement in terms of population in and out of the site, with most residents being lifelong and having overseen several changes amongst the site.

Project Aim(s): What are you planning to achieve through your project? You might have one aim or several aims but do not attempt to cover too much. Are your aims achievable in the time available?

We are ambitious in our aims, but also are using the completed survey in order to build a hierarchy of priorities within our proposal.

Research Question: Identify a question that lies at the heart of your investigations. The question should help you maintain a clear focus throughout your project.

Q.5: Do you feel like there is anything missing from this area? If so, what would you like to see come into this area?

Use Part B to demonstrate that you have understood the importance of maintaining an ethical approach to your project.

Informed Consent: How will you ensure that your participants are aware of what they are agreeing to? Your project supervisor will need to see your letters to gatekeepers, consent forms, etc.

There is a statement made clear to the reader that the data that is collated will not be shared with anyone outside of the names provided, and we provided all of our names within the form.

Openness and Honesty: How will you maintain a transparent approach when working with your participants? Your project supervisor will need to see your research brief for participants, etc.

When working with them, we keep a certain degree of anonymity between them and us, in order for them to provide us with the greatest degree of honesty that can be afforded. Additionally, our intentions and aims for the outcome of this survey are laid out in the introduction and explanation of what we are doing.

Protection from Harm: How will you reassure your participants that they will not be subject to any risk of physical, emotional or psychological harm? What steps will you take to address any risks?

The submission process of the survey is completely anonymous, along with us not keeping a record of who we gave surveys to, in order to protect them from us either chasing them up or contacting them for a second time without their consent.

Confidentiality: How will you preserve the confidentiality of your participants during your data collection as well as when writing up and publishing your project?

As stated in our introduction and explanation to the survey, we will not share findings or opinions directly with anyone else outside of Group Q. Although our research through this survey will inform us, none of the data found will be explicitly shown in any context to anyone outside of the four members of group Q.

Right to Withdraw: How will you make it clear to your participants that they have the right to withdraw their involvement in your research at any time (or a by a certain date) and without penalty?

Our mode of receiving the surveys back allowed the right to withdraw, as they can simply not post it to the return address or respond to the email that is sent only once.

Debriefing: How and when will you feedback the results of your project to any participants? How will you make a copy of your finished work to those that request to see it?

If those who participated in the survey request to see the final results and findings, then we can provide a record that protects all participants anonymity. Redacting names, gender and age range as the personal information that we asked for will help us in our search for confidentiality and anonymity.

Other Ethical Issues: Are there any other ethical issues (particular to your project) that your project supervisor should be aware of at this stage?

No.

I have reviewed Part A and Part B and seen copies of all necessary supporting material for the student's project. I approve the student's request for ethics approval and give permission for the student to begin work with any necessary participant(s) in support of their project.

Supervisor's or Module leader's name: Alessandro Aurigi

Date: 04.10.23

Tectoni

Group member contacts

Members	Role	Email addresses	Primary BIM Contact	Contact No.
Toby Attrill	Architectural Designer	toby.attrill@students.plymouth.ac.uk	Microsoft teams/ email	07493551235
Sapphire Hettiaratchi	Architectural Designer	sapphire.jardinehettiaratchi@students.plymouth.ac.uk	Microsoft teams/ email	07582097348
Eloise Johnson	Architectural Designer	eloise.johnson@students.plymouth.ac.uk	Microsoft teams/ email	07760884482
Amelia Tomala	Architectural Designer	amelia.tomala@students.plymouth.ac.uk	Microsoft teams/ email	07478187906

Tectoni Stage 0 - 1 Report January 2024 University of Plymouth Drake Circus, Plymouth PL4 8AA