

Thursday 27 October 2022

OIA IRO-310

Name: [REDACTED]

Email: [REDACTED]@massey.ac.nz

Kia ora [REDACTED]

Official information request on wastewater network renewals project in Upper Hutt.

I write regarding your official information request dated Tuesday 27 September 2022 for information on wastewater network renewals in Upper Hutt.

To ensure that we are able to respond to your request appropriately and accurately, we would like to clarify certain details in turn.

Are there any specific projects that you are seeking information on or are looking for information on all current projects?

We would appreciate if you could provide your clarification in writing by emailing official.information@wellingtonwater.co.nz. Alternatively, if you would prefer to clarify your request verbally, please call [REDACTED] during business hours on [REDACTED] who will be able to assist.

Further to our request for information, pursuant [Section 14\(1\)\(b\)](#) of the Local Government Official Information and Meetings Act 1987 an extension of time is required to respond to your request to Wednesday 23 October 2022. This is necessary as consultations are such that a proper response cannot be made within the original time limit and, on the basis we receive clarification from you, more time will be required to determine what information we provide.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Ngā mihi

[REDACTED]
**Manager, Customer Experience
Wellington Water Ltd**

For the latest news and updates, follow us on our social channels:

 /wellingtonwater  @wgtnwaternz & @wgtnwateroutage  @wellington_water

www.wellingtonwater.co.nz

Our water, our future.

Thursday 24 November 2022

OIA IRO-310

Name: [REDACTED]

Email: [REDACTED] [@massey.ac.nz](mailto:[REDACTED]@massey.ac.nz)

Kia ora [REDACTED]

Official information request on wastewater network renewals project in Upper Hutt.

I write regarding your official information request dated Tuesday 27 September 2022 for information on wastewater network renewals in Upper Hutt.

Following scope clarification sought on Monday 17 October and again on Friday 11 November 2022, we have considered your request in accordance with the Local Government Official information and Meetings Act 1987 (the Act) and have determined that we are able to grant your request in full.

You have confirmed that you required the Project Management Plans (PMPs) for Martin Street, Logan Street and Gibbon Street.

These are attached in our email to you.

Pursuant to [Section 7\(2\)\(a\)](#) and [Section 7\(2\)\(b\)\(ii\)](#) of the Act, some of the information within those PMPs has been redacted as they contain personal information about private individuals as well as commercially sensitive information. A full breakdown of the redacted sections is listed in the Appendix to this letter.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Ngā mihi

[REDACTED]

Team Lead, Communications and Engagement

For the latest news and updates, follow us on our social channels:

 /wellingtonwater  @wgtnwaternz & @wgtnwateroutage  @wellington_water

www.wellingtonwater.co.nz

Our water, our future.

Appendix

Martin Street:

- **Page ii ‘Project Management Plan Approval’ Table** – Section 7(2)(a)
- **Page ii ‘Wellington Water Approval of Consultant Fee Allocation’ Table** – Section 7(2)(a)
- **Table 2, 4, and 5** – Section 7(2)(a)
- **Table 6, 7 and 8** – 7(2)(b)(ii)
- **Activity Brief, Page i, ‘People involved’** – Section 7(2)(a)
- **Activity Brief, Page 13, ‘Total Cost estimate’ and ‘Physical Works estimate’** – 7(2)(b)(ii)
- **Activity Brief, Page 16, Table 7** – Section 7(2)(a)
- **Activity Brief, Page 17, Table 8** - Section 7(2)(a)
- **Activity Brief, Appendix A ‘ABC Form’** – Section 7(2)(a)
- **Activity Brief, Appendix B ‘Cost Estimate’** – Section 7(2)(b)(ii)
- **Activity Brief, Appendix B ‘Consultancy Fee Estimate and Work Breakdown Structure’** – Section 7(2)(a)
- **Activity Brief, Appendix D ‘Fee Cover Letter’ Page 1** – 7(2)(b)(ii)
- **Activity Brief, Appendix D ‘Fee Cover Letter’ Page 2** – Section 7(2)(a)

Logan Street

- **Page i ‘People Involved’ Table** – Section 7(2)(a)
- **Page i ‘Wellington Water Approval of Connect Water Fee Allocation’ Table** – 7(2)(b)(ii)
- **Page 14, ‘Project Cost Estimate’** – 7(2)(b)(ii)
- **Page 14, Table 6** – 7(2)(b)(ii)
- **Page 15, ‘2021/22 Financial Year Budget’** – 7(2)(b)(ii)
- **Page 15, Table 7** – 7(2)(b)(ii)
- **Page 16, Table 8** – 7(2)(b)(ii)
- **Page 17, Table 9** – 7(2)(b)(ii)
- **Page 19, Table 10** – Section 7(2)(a)
- **Page 23-25, Table 12** – Section 7(2)(a)

Gibbon Street

- **Page i, ‘Project Management Plan Approval’ and ‘Wellington Water Approval fee Allocation’** – Section 7(2)(a)
- **Table 3** – Section 7(2)(a)
- **Table 4** – Section 7(2)(a)
- **Table 6** – Section 7(2)(a)
- **Table 7** – 7(2)(b)(ii)
- **Table 8** – 7(2)(b)(ii)
- **Table 9** – 7(2)(b)(ii)

For the latest news and updates, follow us on our social channels:

 /wellingtonwater
  @wgtnwaternz & @wgtnwateroutage
  @wellington_water

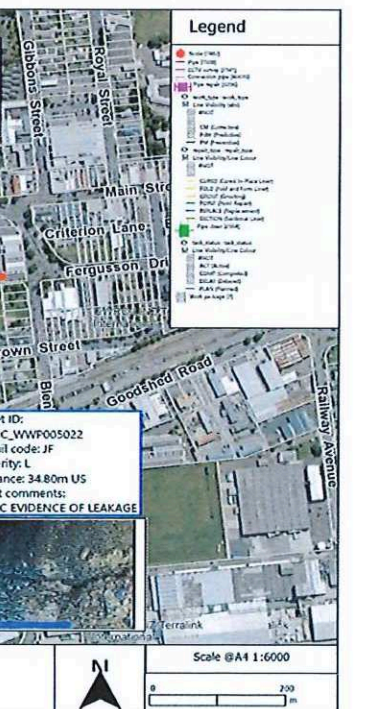


Table of contents

1	Purpose of plan	1
2	Project description	2
2.1	Wellington Water service goals	2
2.2	Project Purpose.....	2
2.3	Project objectives.....	3
2.4	Project scope.....	4
2.5	Project deliverables	5
2.6	Project team.....	6
2.7	Project records.....	6
2.8	Project reporting.....	6
3	Programme.....	7
3.1	Key milestones and schedule management	7
4	Project change	7
5	Stakeholder engagement	8
5.1	Internal stakeholders	8
5.2	External stakeholders.....	9
5.3	Internal Project Communications and Reporting	9
6	Financial.....	10
6.1	Fee Proposal.....	10
6.2	Consultancy Budget Estimate	11
6.3	Budget and financial management.....	13
7	Health and Safety	13
7.1	Safety in Design.....	13
7.2	Safety in Design Health and Safety Risk Assessment.....	13
7.3	Health and safety monitoring and reporting	14
8	Environmental Risks	14
9	Risk management	15
10	Reference documents	15

1 Purpose of plan

The purpose of the project management plan is to outline the delivery of the proposed Martin Street Wastewater Renewals, which has the aim of providing a long-term solution for wastewater drainage in Martin Street.

This plan describes the tasks required to progress the project through the investigation, design, tendering process, construction monitoring, construction administration and handover phases to Wellington Water. Project governance, reviews, reporting and resource allocation also form part of the plan.

The plan should be read in conjunction with the information given in the Appendices, including:

- Wellington Water Activity Brief for the Martin Street Wastewater Renewals, in Appendix A
- The whole of Project Fee Estimate and Work Breakdown Structure in Appendix B
- Delivery Programme in Appendix C
- Fee letter in Appendix D

This plan is a live document and is subject to change. The plan needs to be updated as the project enters each stage.

1.1 Runway Approach Consideration

We considered Runway approach for this project, but at this stage, the project does not meet following Runway approach criteria:

- All proposed work is not in the road reserve.
- We cannot confirm the pipe replacement size (same pipe size or single diameter increase). The UHCC Catchment Plan Change 50 pipeline capacity (obtained from Wellington Water) indicates that the pipeline is under capacity. Wellington Water needs to undertake further modelling to determine the upgrade pipe size to meet the year 2043 wastewater flows.
- Currently unable to assess the risk of any archaeological finds.
- Private property approvals are required.
- No information is available for the location of the existing services.

2.3 Project objectives

- To address existing capacity constraints, including allowances for identified growth in the catchment.
- To confirm the preferred option, including methodology for replacement or lining of the sewer mains in Martin Street.
- To provide cost estimates following the Wellington Water cost estimation manual for identified remedial options.
- To prepare a draft design report for review by Wellington Water and incorporate any recommended changes in the final design report.
- To prepare construction documents and monitor construction works.

2.3.1 Design criteria

The Design and construction of the sewer mains are to be following the following standards:

- Regional Standard for Water Services, 2019.
- Regional Specification for Water Services, 2019.
- National Code of Practice for Utility Operators Access to Transport Corridors, Nov.2011.
- Wellington Water H&S Standards, Policies and Procedures.

The Design for the renewal of the sewer mains needs to:

- Be a seismically resilient pipeline, and network configuration (in relation to the pipeline) to an importance level agreed with Wellington Water.
- Achieve a life expectancy of a nominal structural and operational life of 100 years or, if otherwise, to be specified in the Detailed Design Report.
- Consider how the network will continue to operate during construction.

The following outcomes are also required to be considered:

- No wastewater overflows to the environment during construction.
- Existing network operation and whether any changes to the existing network are required as part of the renewal.
- Meet all Council's and Wellington Water's standards, procedures and operations personnel requirements.
- Comply with Wellington Water's Health & Safety requirements.
- Meet the Council's service standard requirements.
 - a) Wastewater service available at least 99.9% of the time
 - b) Interruptions to the wastewater service to individual properties won't exceed 24 hours at any time.
- Cause the minimum practical disruption and inconvenience to the community.
- Achieve a high standard of public relations.

2.4.3 Stage 2 – Tendering and Construction Monitoring

17. Liaise with WWL to confirm timing for carrying out the renewal works considering the UHCC road reseal program, preferred project packaging, and obtain approval to proceed with the works.
18. Prepare the tender documents, including drawings and specification.
19. Manage the tender process.
20. Provide an arithmetic check/schedule of prices breakdown, including all tenders received to WWL in Microsoft Excel format.
21. Assess the tenders, including making a recommendation for the award of the construction contract, and contract award via Wellington Water.
22. Carry out contract administration and monitoring.
23. Progress reporting to WWL.
24. Contract administration during the defect's liability period.
25. Review as-built drawings and submit to WWL.
26. Prepare the project completion report.

2.5 Project deliverables

2.5.1 Deliverables

- Project Management Plan (PMP), updated at each stage.
- Monthly WWL reports and project server updates.
- Communications plan updated at each stage.
- Safety in Design and Project Risk Registers (updated at each stage).
- Survey report.
- Cost estimates following the Wellington Water Cost Estimation Manual.
- Preliminary design drawings and options report for WWL review and approval.
- Final design report.
- Tender document and drawings.
- Construction drawings.
- Construction monitoring and administration reporting.
- Weekly reports to the Engineer to the Contract during the construction period.
- As-built drawings.

3 Programme

3.1 Key milestones and schedule management

We attached a full project schedule in Appendix C.

We propose the following Project Activity Dates as a result of the development of this Project Management Plan:

Table 3: Project Activities

	Start Date	Finish Date
Project Management Plan	12 October 2020	11 November 2020
WWL approval of PMP	12 November 2020	25 November 2020
Stage 1 Investigation and Design		
Investigation and Design	26 November 2020	29 March 2021
Stage 2 Tendering and Construction		
Procurement	30 March 2021	26 May 2021
Construction (commencing 21/22 FY)	5 July 2021	15 December 2021

We have provided the milestones in Table 3 within the submitted programme. The delivery dates align with timeframes provided in the PMP for Martin Street wastewater upgrades.

4 Project change

The project will follow the Wellington Water PMO required process for project change.

We will notify the Wellington Water of any significant issues or risks that could impact the project scope or budget.

5.2 External stakeholders

Table 5: External stakeholders

Name	Contact details	Stakeholder	When to contact
UHCC or i)	@uhcc.govt.nz @uhcc.govt.nz	Client council	Project Initiation
Taranaki Whānui	@portnicholson.org.nz or portnicholson.org.nz	Local iwi	Project Initiation
Ngāti Toa	ngatittoa.iwi.nz	Local iwi	Project Initiation
Residents connected to the wastewater mains	Various – TBC	Customers	Throughout the project
Nearby residents in close proximity to work site and may be impacted by construction	Various – TBC	Local Residents	Prior to and throughout construction phase

5.3 Internal Project Communications and Reporting

In keeping with the consultancy panel approach, we will work closely alongside Wellington Water to develop the project to ensure it meets the proposed objectives.

We will maintain communication with the Wellington Water at least monthly and the Project Sponsor and elevate issues or risks as required.

6.2 Consultancy Budget Estimate

We present our consultancy budget estimate for PMP in the table below. We provide our fee estimate breakdown in Appendix B.

Table 7: Consultancy Budget Estimate

Project Phase	Scope	Consultant Fee Estimate	Consultancy Estimate as given in Project Forecast with allocation Year, includes 3% Panel Fee
Planning and PMP	PMP preparation		
Stage 1- Investigation and Design	Project management, communication, H&S plan, SID, site investigation, liaison with property owners, survey, liaison with WWL modelling team, preliminary design, ops meeting, WWL approval, detailed design and cost estimates.		
Stage 2- Tendering Process, Construction Monitoring and Administration	Project management, tender preparation, tender evaluation and reporting to WWL, Construction monitoring and administration, defects of liability administration and project completion report for WWL.		
Subtotal			
Contingency on sub total (20%)			
Panel Management on total fee (3%)			Included above
Provisional Sum-Underground service locations			
Total Fee Estimate (ex gst)			

6.2.1 Assumptions

Assumptions made in preparing the above consultancy fee estimates:

- We have based the fee estimate on the Activity Brief included in Appendix A, and the project scope as outline in Section 2.4 above.
- The fee estimate allows 40 hours for the survey to collect manhole lid, pipe invert levels and pipe data.

6.3 Budget and financial management

Table 8: Summary of the current project cost estimate

Stage/ Item	Cost Estimate (Expected)	2020/2021 Consultancy Estimated budget	2021/2022 Consultancy Estimated budget	2020/2021 WWL Budget	2021/2022 WWL Budget
Planning and PMP				Incl. below	
Stage 1- Investigation and Design					
Stage 2-Tender, Construction Monitoring and Administration					
3% Management Fee				Incl. above	
20% Contingency					
Provisional Sum				Incl. above	
Subtotal Consultancy (incl. prov. sums)					

7 Health and Safety

7.1 Safety in Design

We will follow the Wellington Water Safety in Design Process (HSP-26) and undertake Safety in Design workshop following completion of preliminary design.

We will invite Wellington Water to the workshop. The SID register will be reviewed with Wellington Water to ensure capturing of operational and maintenance hazards relating to the project.

7.2 Safety in Design Health and Safety Risk Assessment

Following Wellington Water PMP approval, we will prepare a Safety in Design (SID) and Health and Safety (H&S) risk assessment. The SID and H&S risk assessment are living documents, and we will update these risks throughout the project.

9 Risk management

We will prepare the Project Risk Register at the initiation of the project to identify the risk and suggested risk control measures. These project risks (that may include budget, resources, programming, cost estimate and other risks that may impact on the project) shall be considered and managed during the project. The Risk Register is a live document that will be reviewed and updated at each key stage/ subsequent phases of the project.

Wellington Water identified the initial project risks as follows:

- Inaccurate cost estimation.
- Inadequate funding.
- Unavailability of accurate as-built.
- Delayed design reporting.
- Local residents opposing the rehabilitation works.
- Availability of suitably skilled contractor during tendering.
- Trench over break due to poor soils.

10 Reference documents

The list below are relevant reference documents for the project:

- Martin Street Wastewater Renewals Activity Brief.
- CCTV log sheets
- ABC scoring tool
- Pipe repairs records
- Pipe cleaning records
- Long section drawings
- Manhole survey log sheets
- Access to Wellington Water ArcGIS maps, for information on greenfield development and forecast of population growth.
- HCC spreadsheet for Population forecast and Dwellings, dated 03-3-2020
- Project Server Page (access to be provided).

Activity brief

Council: Upper Hutt City Council

Suburb(s): Wallaceville

Activity code: TBC

Activity name: Martin Street Wastewater Renewals

Date: 07/10/2020

Table of contents

1	Purpose of activity brief	1
2	Activity definition	1
2.1	Activity business case (ABC) form	1
2.2	Investment area	1
2.3	Customer outcomes and service goals	1
2.4	Service objectives and performance measures	2
2.5	Service goal risk score	2
2.6	Background	3
2.7	Activity objective.....	11
2.8	Performance requirements and design criteria	11
2.9	Scope of work	12
2.10	Key dates	13
2.11	Level 2 cost estimate	13
3	Significant risk	13
3.1	Health and safety	13
3.2	Environmental risks.....	14
3.3	Project risks.....	14
4	Considerations.....	15
4.1	Design considerations	15
4.2	Communication considerations	15
4.3	Other considerations	15
5	Stakeholders.....	15
5.1	Internal stakeholders	15
5.2	External stakeholders.....	17
6	Existing information	17
7	Document location and links.....	17
7.1	Where project documents are stored	17
7.2	Approved products, standards and specifications.....	18
7.3	Other relevant documents.....	18

1 Purpose of activity brief

The purpose of this activity brief is to outline the requirements for the detailed design and construction of the proposed sewer renewal works at Martin Street, Wallaceville, in Upper Hutt.

2 Activity definition

2.1 Activity business case (ABC) form

The ABC form that initiated this activity brief is:

- ABC title: AI00106
- ABC Name: Wastewater main in Martin Street in failing condition.

To see the full details of the ABC form, refer to Appendix A: ABC form.



2.2 Investment area

The investment area for this activity is Upper Hutt City Council wastewater network renewals.

2.3 Customer outcomes and service goals

The primary and secondary customer outcomes and service goals linked to this activity are shown in the table below.

Table 1: Customer outcomes and service goals

Primary customer outcome		Outcome 1: Safe and healthy water
Primary goal		1.4 We minimise public health risks associated with wastewater and stormwater
Secondary customer outcome		Outcome 3: Resilient networks support our economy
Secondary goal		3.4 We provide reliable services to customers

2.6 Background

2.6.1 Why is this activity needed?

In 2019, as part of the CCTV condition assessment programme for wastewater pipes, inspections totalling approximately 1362m were made in Wallaceville, Upper Hutt, on Martin St, Melrose St and Richmond Street. The CCTV inspection revealed that the pipes are in very poor condition. 25 wastewater pipe blockages were recorded in the UHCC Hansen system over 20 years.

Renewing the sewer main will protect the health of the residents by preventing any exposure to leaking sewage due to defects in the sewer main from blockages that can occur when wastewater ragging catches on displaced joints and cracked pipes. It will also stop potential contamination of the groundwater from this source as the wastewater pipes are no longer water-tight.

The renewal will provide reliable assets and will improve the level of service provided to the Martin Street residential area, the community and the environment.

2.6.2 What is the problem?

The CCTV inspection carried out in 2019 assessed 772m of wastewater pipes servicing 83 properties with structural grade 5. Figure 1 and Table 4 present a summary of the assets inspected and the numbers of structural condition faults. These show multiple structural defects with the most frequent types being circumferential cracks, faulty joints, and surface damage.

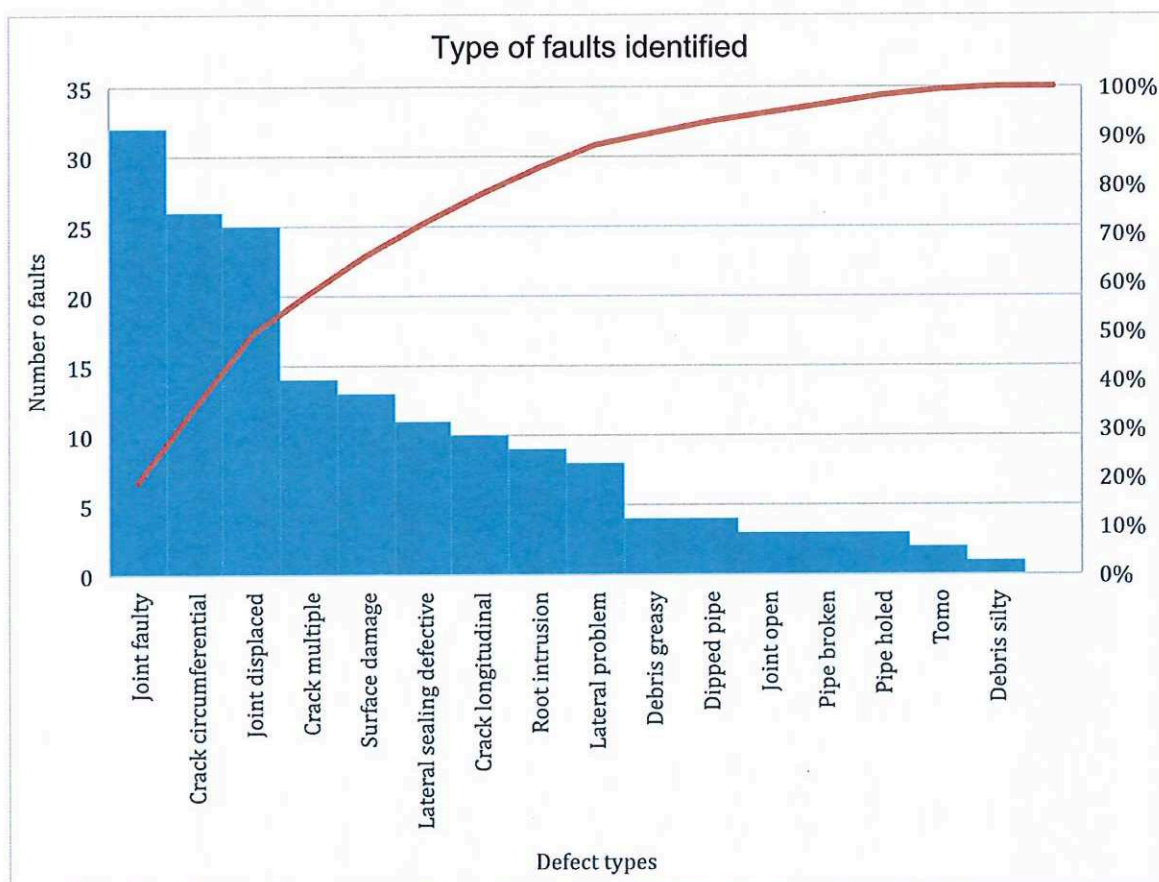


Figure 1: Numbers and percentages of fault types

2.6.3 Location map

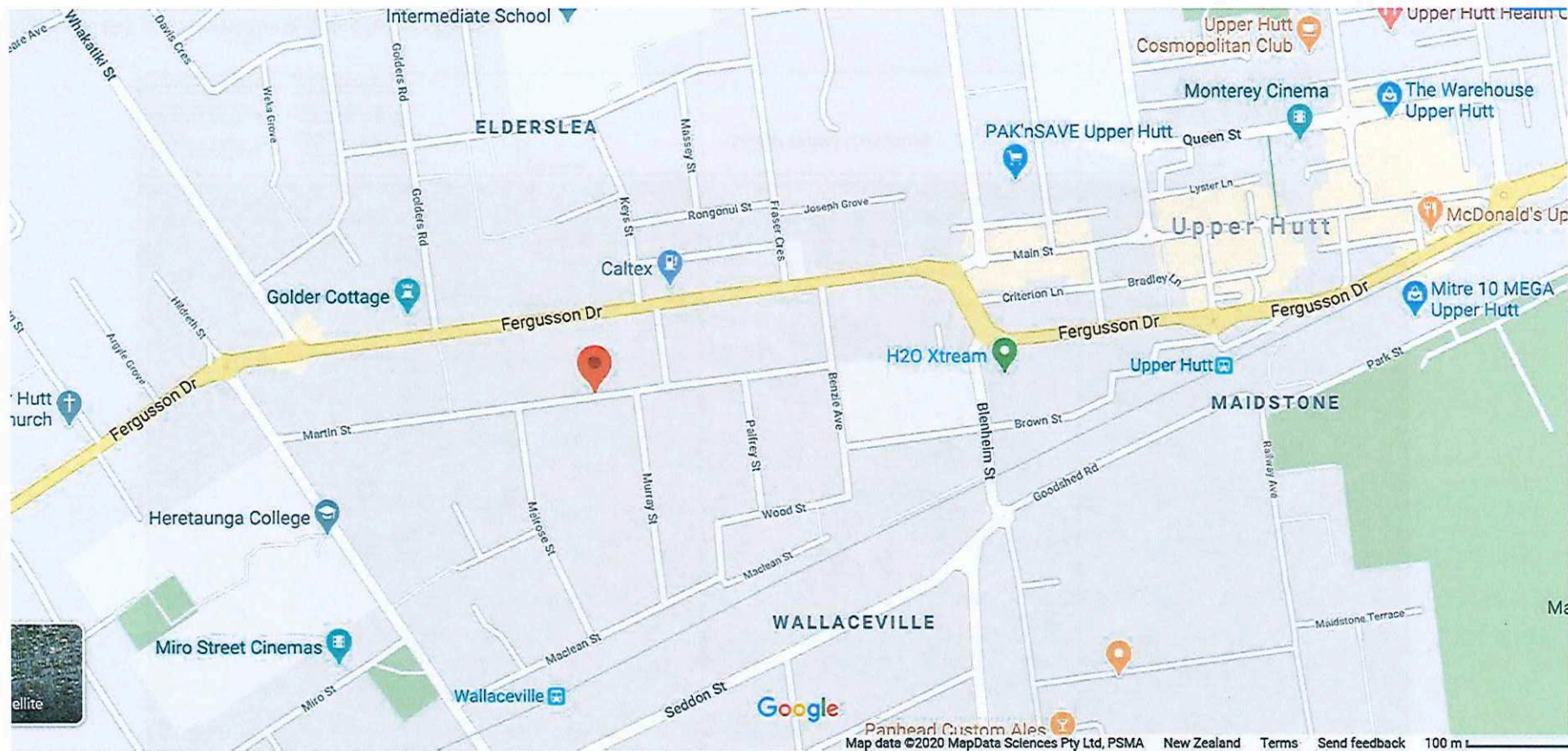


Figure 2: Project location plan

2.6.5 Photos of Assets

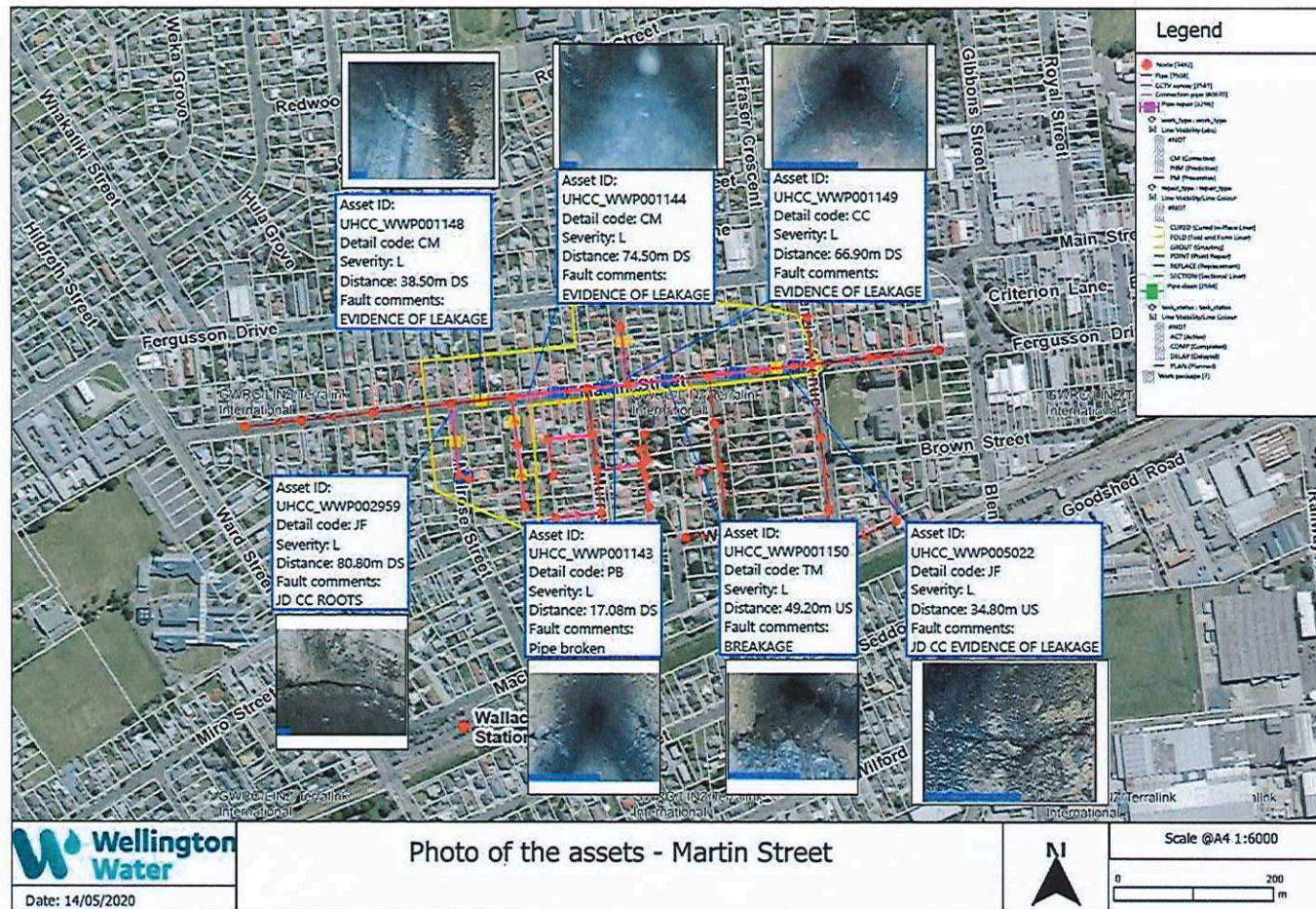


Figure 4: CCTV photos of indicative faults in the asset

Table 6: List of pipes for renewal

Asset ID	Upstream Node ID	Downstream Node ID	Repair Length (m)	Repair type	Comments
UHCC_WWP005023	UHCC_WW002721	UHCC_WW005129	22.24	REPLACE	Seven CC's throughout pipe. JF's throughout. Repair not viable due to spread of faults. Full section to be replaced.
UHCC_WWP005022	UHCC_WW005129	UHCC_WW002727	49.84	CURED	Joint fracture defects present throughout pipe. Cracking issues also present. Pipe lining is recommended
UHCC_WWP001151	UHCC_WW002727	UHCC_WW002729	58.23	REPLACE	Multiple joint issues along pipe. 11 CC faults also present. Due to number of defects, the pipe will require replacement.
UHCC_WWP001150	UHCC_WW002729	UHCC_WW002738	103.72	REPLACE	Pipe is in poor condition. A tomo is present at 21m. The pipe needs replacement.
UHCC_WWP001143	UHCC_WW002738	UHCC_WW002744	51.07	REPLACE	A significant number of cracking issues along pipe section. Minor fault already fixed 8m to 11m from USMH. Pipe replacement is recommended
UHCC_WWP002959	UHCC_WW002756	UHCC_WW002399	91.1	CURED	Multiple instances of cracking, both longitudinal and horizontal. Pipe lining is recommended.
UHCC_WWP001144	UHCC_WW002744	UHCC_WW002397	95.86	REPLACE	Multiple instances of cracking, both longitudinal and horizontal. Pipe condition is poor and will require full replacement.
UHCC_WWP003808	UHCC_WW002763	UHCC_WW002756	12.88	CURED	Pipe suffers from multiple JF's throughout pipe. A small dipped section is situated 7-9m from DSMH. Pipe replacement through pipe bursting is recommended.
UHCC_WWP001149	UHCC_WW002687	UHCC_WW002738	73.69	CURED	Multiple joint issues throughout the pipe. Multiple cracking issues 67m to 72m from USMH. Pipe lining is recommended.

2.7 Activity objective

This project is to carry out the replacement and lining of the sewer mains in Martin Street in Upper Hutt City, to maintain reliable wastewater services and minimise public health risk from discharges.

2.8 Performance requirements and design criteria

The design and construction of the sewer mains is to be in accordance with the following standards:

- Regional Standard for Water Services, 2019.
- Regional Specification for Water Services, 2019.
- National Code of Practice for Utility Operators Access to Transport Corridors, Nov.2011.
- Wellington Water H&S Standards, Policies and Procedures.

Key Design Criteria

The design for the renewal of the sewer mains needs to:

- Be a seismically resilient pipeline and network configuration (in relation to the pipeline) to an importance level agreed with Wellington Water.
- Achieve a life expectancy of a nominal structural and operational life of 100 years or, if otherwise, to be specified in the Detailed Design Report.
- Consider how the network will continue to operate while the construction is completed.

The following outcomes are also required to be considered:

- No wastewater overflows to the environment during construction.
- Existing network operation and whether any changes to the existing network are required as part of the renewal.
- Meet all Council's and Wellington Water's standards, procedures and operations personnel requirements.
- Comply with Wellington Water's Health & Safety requirements.
- Meet Council's service standard requirements.
 - Wastewater service available at least 99.9% of the time
 - Interruptions to the wastewater service to individual properties won't exceed 24 hours at any time.
- Cause the minimum practical disruption and inconvenience to the community.
- Achieve a high standard of public relations.
- Work within the agreed budget for the work and consider effects on maintenance and operation costs.
- Comply with legislative, consent and Council requirements, including compliance with the District Plan.

- Assess the tenders including making a recommendation for award of the construction contract.
- Provide an arithmetic check/schedule of prices breakdown, including all tenders received to WWL in Microsoft Excel format.
- Carry out contract administration and monitoring.
- Progress reports and other reporting to WWL.
- Contract administration during the defects liability period.
- Prepare as built drawings and submit to WWL in the format compatible with UHCC GIS.
- Prepare the project completion report.

2.9.2 Key activities out of scope

Another key activity that is known and may affect or influence this project is the Wellington Water, Upper Hutt City wastewater network model. The consultant does not have to develop this model but should use it, where applicable, to understand the hydraulic capacity requirements of the renewal.

2.10 Key dates

The project has been proposed for inclusion in the 2021 LTP. This will be in consultation with the Programme Management Team, subject to budget availability.

2.11 Level 2 cost estimate

2.11.1 Total cost estimate

The level 2 total (95th percentile) cost estimate is

The cost estimate is based on the template in the [Cost Estimation Manual](#).

For a breakdown on this estimate, refer to Appendix B: Cost estimate.

2.11.2 Physical works estimate

The level 2 physical works estimate is \$ \$.

2.11.3 Contingencies

A 20% allowance has been made for project contingencies. A 30% allowance has been made for funding risks.

3 Significant risk

3.1 Health and safety

An initial safety in design health and safety risk assessment has been undertaken.

To see this initial risk assessment, refer to Appendix C: SID H&S risk assessment.

The known significant health and safety hazards and issues, as identified in the assessment are:

4 Considerations

4.1 Design considerations

Design considerations include:

- Carry out the renewal works preferably within the existing location of the sewer mains when the pipes are in the local corridor.
- Any works that may be required within the private property boundaries.
- Overhead power lines in Martin Street, and nearby streets.
- Seismic risk and resilience.
- The proximity of the works to residential dwellings may restrict the hours/days permitted to work.
- The health and safety of the workers, operations and maintenance personnel and the public shall be considered in the design.
- Install and connect new laterals from the property boundary to sewer mains.

4.2 Communication considerations

- Communications will be key during any investigation works and during construction. During this options stage, key stakeholders will need to be identified and kept on a register, refer to the Table 6 and Table 7.

4.3 Other considerations

- The project is to be completed as a single physical works contract.
- Consultant to make sure that all the legislation and Code of Practice requirements are followed during the project implementation period.
- Consultant to ensure that all laterals from the main to the property boundary will be replaced when carrying out the renewal works.
- As-built is to be submitted in a format compatible with Wellington Water and Upper Hutt City Council requirements.

5 Stakeholders

5.1 Internal stakeholders

The internal stakeholders for this activity are shown in the table below.

5.2 External stakeholders

The external stakeholders for this activity are shown in the table below.

Table 8: External stakeholders

Name	Contact details	Stakeholder	When to contact
UHCC or	@uhcc.govt.nz @uhcc.govt.nz	Client council	Project Initiation
Taranaki Whānui	@portnicholson.org.nz or reception@portnicholson.org.nz	Local iwi	Project Initiation
Ngāti Toa	@ngatitoa.iwi.nz	Local iwi	Project Initiation
Residents connected to the wastewater mains	Various – TBC	Customers	Throughout the project
Nearby residents in close proximity to work site and may be impacted by construction	Various – TBC	Local Residents	Prior to and throughout construction phase

6 Existing information

- [CCTV Log sheets](#)
- [Asset photos](#)
- [ABC Scoring Tool](#)
- [Pipe repairs records](#)
- [Pipe cleaning records](#)
- [Long Section Drawings](#)
- [Manhole Surveys Logsheets](#)

7 Document location and links

7.1 Where project documents are stored

When the project for this activity brief is initiated, Wellington Water will provide the project manager with a link to the project server site.

All documents relating to the project, including this activity brief, shall be stored in the project server site.

Key project documentation is saved in the following Woogles location:

[Martin Renewals Project Technical Brief](#)

Appendix A: ABC form

Title	AI00106
Problem / Opportunity Statement	Wastewater pipes are in poor condition. Structural condition of the pipes proposed for renewal are 5 or over and have number of faults including cracks and holes and not worth of repairing the pipes. Further details of pipes in poor condition can be found in ABC folder. Failing wastewater pipes currently causing wastewater leaks and potential for pipe collapse and service interruptions. There were 25 wastewater pipe blockage issues, within last 20 years, recorded in Hansen
Proposed Activity	Replace 312 m and line 421m of 150mm ,diameter concrete wastewater pipe to minimise potential public health and safety issues related to any pipe failing due to poor condition of existing pipes.
Benefits / Outcomes	Stop service disruption and minimise public health and safety risk. The pipe renewal will minimise wastewater leaking into water table and will help to improve our service goals
Council	UHCC
Water	Wastewater
Asset Class	Reticulation
Asset Site	Wastewater
Primary Service Goal	1.4 Public Health
Secondary Service Goal	3.4 Reliability
Risk of doing nothing	The pipes are in very poor condition. There are number of pipe faults including cracks and holes that can cause contamination of ground water by exfiltration and restrict pipe capacity by infiltration. If renewal will not be completed within approximately 5 years' time period the pipe will further be deteriorated and could collapse at the end resulting service disruption, wastewater overflows and public health and safety risk.
Funding Source	Council CAPEX
Estimated Cost	
Estimate Type	0
Decision Urgency	Medium
Activity Priority	Medium Term 4-10 years
Sponsor	[]
Process Status	Closed - In Tactical Plan

Appendix B: Cost estimate

Project Cost Estimate

Project Name:	Martin Street
Project Phase:	Project Brief
Base Date of Estimate:	Sep-20

Phase & Task	Base Estimate	Contingency	Total
Development			
Consultancy Fees	3% \$	\$	\$
Site Investigations			
Other Costs (Legal, Land, etc...)			
Total Project Development	\$	\$	\$
Consenting			
Consultancy Fees	3% \$	\$	\$
Site Investigations			
Consenting Fees, Community Engagement			
Other Costs (Legal, Land, etc...)			
Total Consenting	\$	\$	\$
Detailed Design			
Consultancy Fees	6% \$	\$	\$
Site Investigations			
Other Costs (Legal, Land, etc...)			
Total Detailed Design	\$	\$	\$
Procurement			
Consultancy Fees	1% \$	\$	\$
Other Costs (Legal, Land, etc...)			
Total Procurement	\$	\$	\$
Construction			
Consultancy Fees	5% \$	\$	\$
Other Costs (Legal, Land, etc...)			
Physical Works			
Pipelines	\$	\$	\$
Pipe Bursting/Directional Drilling/CIPP Lining Extras	\$ -	\$ -	\$ -
Manholes	\$ -	\$ -	\$ -
Sumps	\$ -	\$ -	\$ -
Ancillary Items	\$	\$	\$
Misc Installation	\$	\$	\$
Job Specific Lump Sum	\$ -	\$ -	\$ -
	\$	\$	\$
Environmental Compliance	1% \$	\$	\$
Contractors Risk	2% \$	\$	\$
Sub Total	\$	\$	\$
On-site Overheads	9%		
Off-Site O/H & Profits	10%		
Total Physical Works	\$		
Total Construction	\$		
Base Estimate			
Base Estimate	\$		
Contingency	20% \$		
Expected Estimate	\$		
95th Percentile Estimate			
Funding Risk	30% \$		
95th Percentile Estimate			

Appendix B: Consultancy Fee Estimate and Work Breakdown Structure

Appendix C: Programme

Appendix D: Fee Cover Letter

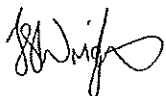
Assumptions and Exclusions

We based our fee on acceptance of the following assumptions and exclusions:

1. We have established the fee estimate on the Activity Brief included in Appendix A, and the project scope as outline in the PMP.
2. We have assumed that no more than 40 hours will be required for the survey to collect manhole lid, pipe invert levels and pipe data.
3. Wellington Water will provide all necessary information, including the Hydraulic capacity for 2019 and 2043 from UHCC Catchment Plan Change 50 to enable design.
4. Project Management reporting consists of Monthly Reports to PMO, including Project Server updates.
5. Our scope and fee proposal is as described within the Project Management Plan for this project. Any change to the agreed scope resulting in additional work will be considered a variation to the fee proposal.
6. We have based the fee estimate on known Wellington Water processes. The inclusion of or change in any process resulting in increased consultant time will be deemed a change in scope, and a further fee will need to be approved.
7. The current plan in the activity brief is to complete the project investigation, design, tender and award within 2020/21 financial year. Construction will commence in financial year 2021/2022. We based our fee proposal on the current agreed panel rates (2020/2021).
8. Draft communications plan assumes the existing Wellington Water communication plan template will be used.
9. Our programme to commence and complete the works is subject to the date we receive the approved PMP from WWL. Any delays in obtaining the approved PMP may delay the project delivery dates.

This offer is valid for 30 days. We trust the above meets with your satisfaction. Please do not hesitate to contact the undersigned should you require any clarification.

Yours sincerely



Project Manager, Water NZ
Stantec New Zealand

Encl: Programme Management Plan including Work Breakdown Schedule



Project management plan

Council: Upper Hutt City Council

Suburb(s): Ebdentown

Project name: Logan Street Wastewater Main Renewal

Project code: OPC101025




Start date: November 2021

End date: March 2025

**Consultant
organisation:** Connect Water

Document Control

People involved

Activity	Title	Name	Electronic signature	Date
Prepared by	Project Manager			10 Nov 2021
Connect Water Approval	Team Lead			10 Nov 2021
Approved by	Wellington Water		 <small>Digitally signed Date: 2021.11.17 13:52:30 +13'00'</small>	17/11/2021

Recommended for approval

Revision history

Date	Version number	Description of change
9 Nov 2021	0.1	Initial for WWL review
10 Nov 2021	1.0	Final

Wellington Water Approval of Connect Water Fee Allocation


PMP Version	Project Phase	Fee Estimate (excl. GST)	Prov. Sums (excl. GST)	Total Fee Approved (excl. GST)	WWL Approval Name and Signature	Date
0.1	2 Develop (complete) 3 Consent 4 Detailed Design 5 Procurement 6 Construction 7 Project completion Total Fee (excl. GST)	-	-	-	 <small>Digitally signed by Date: 2021.11.17 13:53:27 +13'00'</small>	17/11/2021

Table of contents

1	Introduction.....	1
2	Project Description	3
3	Scope of Works.....	5
4	Programme.....	13
5	Financial Management	14
6	Quality Management.....	18
7	Resources	19
8	Communications Management	20
9	Risk Management.....	21
10	Procurement Management	22
11	Stakeholder Management.....	23
12	Change Management	26
13	References.....	27

List of tables

Table 1:Customer outcomes and service goals
Table 2:Service objectives and performance measures
Table 3 Logan Street Wastewater Renewal - Number of Properties Served
Table 4: Logan St Wastewater Renewal – Work Breakdown Structure
Table 5: Logan Street Wastewater Renewal - Milestone Dates
Table 6: Level 1 Project cost estimate (as per Activity Brief)
Table 7: Connect Water Fee Proposal
Table 8: Provisional Sum Estimates
Table 9 Financial Year Forecast
Table 11:Connect Water Project Team
Table 12:Key Project Risks
Table 13:Stakeholder Register

List of appendices

Appendix A: SID H&S risk assessment
Appendix B: Programme
Appendix C: Cost Estimate
Appendix D: Connect Water Fee Estimate
Appendix E: Organisation Charts
Appendix F: Communications Protocol
Appendix G: Risk Register

1 Introduction

The purpose of this Project Management Plan is to outline what is to be achieved by the project, how and when it will be achieved, who will be involved and how it will be managed.

This Plan should be read in conjunction with the Logan Street Wastewater Main Renewal Activity Brief (Activity Brief), dated 26 August 2021.

This project does not include investigation of the redirection of sewer mains from Main Street into Logan Street. This work was completed by Connect Water in May 2021 as part of a separate project.

This plan is a live document and is subject to change. It will be updated as the project progresses.

1.1 Project Purpose

The purpose of the project is to renew the deteriorating sewer mains to:

1. Maintain reliable wastewater services.
2. Protect the health of the residents by preventing any exposure to leaking sewage due to defects in the sewer mains.

1.2 Project Objective



The objectives of this project are to:

- Renew the five sections of poor condition wastewater main on Logan Street to increase the level of wastewater services for customers connected to this main
- To reduce the risk of wastewater discharging to the surrounding environment

1.3 Service Goals

Wellington Water Ltd.'s (WWL) service goals that are supported by this project are shown in Table 1. Opportunities for improving the resilience of the network will also be pursued.

Table 1: Customer outcomes and service goals

Primary		Outcome 1: Safe and healthy water	1.4 We minimise public health risks associated with wastewater and stormwater
Secondary		Outcome 3: Resilient networks support our economy	3.4 We provide reliable services to customers

1.4 Service objectives and performance measures

The primary and secondary service goal objectives and performance measures proposed for the project are shown in Table 2.

Table 2: Service objectives and performance measures

Primary service objective	The public is protected from direct exposure to untreated wastewater onto land
Primary performance measure	Number of dry weather blockages that result in discharge to land.
Secondary service objective	Customers have access to reliable water and wastewater services
Secondary performance measure	Number of wastewater blockages reported.

1.5 Strategic Objectives

With regards to Wellington Waters five strategic priorities as per the *Our Water Our Future 2020-23 Statement of Intent*, the project is aligned with the following:

1.5.1 Priority 1: Looking after the existing three waters assets

This project includes renewal of existing assets that are damaged and not performing to the required standard. This will provide a resilient network and protect both the environment and the public from the adverse effects of exposure to wastewater.

1.5.2 Priority 4: Improving water quality

The leakage of wastewater into the environment could potentially compromise the quality of water in the water ways. Providing new sewer mains will reduce the risk of contamination from this source.

2 Project Description

2.1 Location

The site is located on Logan Street in Ebdentown, Upper Hutt. Figure 1 shows the site location.



Figure 1 Logan Street Wastewater main renewal site (Subject pipes highlighted in cyan)

2.2 Project background

Wellington Water has identified five sections of wastewater main which need renewal on Logan Street, Ebdentown in Upper Hutt. The five sections of wastewater main proposed for renewal have been identified by CCTV as Asbestos Cement (AC) pipes that were constructed in the 1960s and 1990s. CCTV inspections of the Logan Street wastewater mains were undertaken on Tuesday 26 June 2018. The CCTV inspections identified various faults within the pipes and recommended their renewal due to poor condition.

Upstream of the five sections identified for renewal, the wastewater main begins on Queen Street and services approximately nine commercial properties before turning onto Logan Street. On Logan Street the main services approximately 20 residential properties and four commercial properties at

the upstream end. The quantity of connected properties has been assumed from the WWL GIS and is not the number of connected laterals.

The number of properties serviced by the five sections recommended for renewal are shown in Table 3.

Table 3 Logan Street Wastewater Renewal - Number of Properties Served

Asset ID of Pipe	Number of Properties connected	Cumulative No. Properties connected
UHCC_WWP002966	2	2
UHCC_WWP004839	2	4
UHCC_WWP004840	2	6
UHCC_WWP002965	4	10
UHCC_WWP002964	7	17

The poor condition wastewater mains are at risk of failing, resulting in discharge to land and causing service disruptions to customers. They are also likely to be enabling both infiltration of ground water and exfiltration of wastewater. Exfiltration of wastewater has adverse impacts on the receiving environment, while infiltration of groundwater contributes to a reduced effective capacity of the downstream wastewater network, increasing the risk of wastewater overflows.

Renewal of these wastewater mains, by repair or replacement, is required to maintain reliable wastewater services and to avoid discharges of wastewater to land. Connect Water will confirm the suitability for repair or replacement and the subsequent methodologies during the design phase of this project.

3 Scope of Works

The project scope includes investigation, design and construction phase services for the renewal of wastewater mains in Edbentown, Upper Hutt.

The scope of work is to:

- renew the five sections of wastewater pipe on Logan Street identified by WWL as requiring renewal.
- renew laterals up to the property boundary as specified by UHCC lateral renewal policy
- Inspect and carry out subsequent repair/renewals on adjacent manholes.

The design for the renewal of the wastewater network needs to:

- Achieve a nominal structural and operational life expectancy of 100 years, otherwise to be communicated to WWL and specified in design.
- Consider how the network will continue to operate while the construction is completed.

The following outcomes are also required to be considered:

- No overflows to the environment during construction.
- Network operation and if any changes to this are required as part of the renewal.
- Meet all Council's and Wellington Water's standards, procedures, and operational requirements.
- Comply with Wellington Water's Health & Safety requirements.
- Meet Council's service standard requirements.
- Cause the minimum practical disruption and inconvenience to the commercial and residential customers connected to the pipes being renewed and the wider community.
- Achieve a high standard of public relations.
- Work within the agreed budget for the work and consider effects on maintenance and operation costs.

The performance requirements and design criteria should include, but are not limited to the following documents and standards:

- Regional Standards for Water Services (current).
- Regional Specification for Water Services (current).
- Wellington Water H&S Standards and Procedures.
- National Code of Practice for Utility Operators Access to Transport Corridors
- Any by-laws or requirements specified by the Upper Hutt City Council (UHCC).
- NZ Standards and Legislation relating to the scope of work.

3.1 Project Life Cycle & Runway

The Typical Wellington Water Business As Usual (BAU) Project Life Cycle is as follows:

1. Phase 1 *Define*
2. Phase 2 *Develop*
3. Phase 3 *Consent*
4. Phase 4 Detailed design
5. Phase 5 Procurement
6. Phase 6 Construction
7. Phase 7 Completion.

The project has been set up as a Runway 1 project due to the following:

1. All works are in public road reserve
2. An experienced contractor will be utilised
3. A change in pipe size is not anticipated
4. No resource consents are anticipated.

Given the above, the following project phases will not be used:

1. Phase 2 & Gateway 2
2. Phase 3 & Gateway 3.

The requirement for further investigations (CCTV and/or potholing) will be confirmed in the early stages. If required, further investigations will be undertaken during Phase 4: *Detailed Design*.

3.2 Project Phases

The following outlines the project phases and activities proposed to be carried out for each.

3.2.1 Phase 2 Develop

Phase 2 is proposed to include the preparation of this Project Management Plan (PMP) and Gateway 1 only.

This Project Management Plan (PMP) was prepared further to the scope of work outlined in the activity brief and discussions with project stakeholders, including:

1. Wellington Water– Network Development & Delivery and Customer Operations Group.
2. Connect Water teams including survey, geotechnical, planning, cost, archaeological and communications (Latitude as Connect Water's communications consultant partner).

3. Other Connect Water team members – regarding lessons learnt from similar, recent projects.

Requirements were also obtained from the sources listed in Section 13.

Once this project management plan has been approved by WWL via Gateway no. 1 form, the required resources will be mobilised to progress the renewals.

3.2.2 Phase 4 Detailed Design

During the detailed design stage, Connect Water will:

1. Review as-built drawings, CCTV footage and recommendations, GIS Information, modelling reports and information provided in the activity brief and attachments.
2. Carry out a site visit
3. Site investigations – includes dipping of 5 of the 6no. manholes (excluding Queen Street roundabout) to confirm pipe slopes. A provisional sum is included in case further investigations are required (refer 5.4.1)
4. Prepare desktop geotechnical assessment as per the WWL Global dewatering consent
5. Complete a Customer Impact Assessment (CIA) to determine how the works could impact on customers. Consideration to also be given to short term impacts from the construction phase through to long term impacts associated with operating and maintaining the assets.
6. Prepare a briefing document for the Contractor Panel so that a contractor can be allocated to the project and early contractor involvement (ECI) can commence
7. Update the CIA on how any proposed works methodology could impact WWL customers, road users, pedestrians and local businesses.
8. Undertake inspection and investigation into location of laterals to confirm those required for replacement up to the property boundary.
9. Undertake inspection and investigation of the manholes to confirm renewal works required.
10. Undertake a review of the renewal alignment options, future growth, hydraulics and pipe capacity requirements
11. Discuss and agree with the contractor and COG the construction methodology options including how risks will be managed (for e.g. working with AC pipe), keeping service to properties during construction, long term operation and maintenance
12. Prepare and submit a draft design report, drawings and Cost Estimates in accordance with WWL cost estimation manual.
13. Obtain any necessary consents, property access agreements and other approvals as required.
14. Prepare and implement a communications plan.
15. Undertake a Safety in Design (SiD) and risk workshop with the contractor, NET, COG and other Wellington Water Staff as required. Update the SiD Register and Project Risk Register.

16. Prepare final design report including drawings and Level 4 cost estimate in accordance with WWL cost estimation manual. Submit report to peer reviewer.
17. Submit preliminary corridor access notification to UHCC Corridor Manager and arrange meeting to discuss traffic management and reinstatement
18. Liaise with UHCC and the Contractor on the proposed design and programme
19. Respond to peer reviewer and update report prior to submittal to Wellington Water Design Manager
20. Receive Wellington Water feedback and incorporate into Report.

3.2.3 Phase 5 Procurement

During the procurement phase we will:

1. Liaise with Wellington Water to confirm construction programme
2. Prepare tender documents including conditions of contract, drawings, specification and schedule of prices
3. Prepare engineers estimate
4. Prepare Gateway 4 *Request for Tender* form and obtain Wellington Water approval
5. Issue the tender documents to the Contractor and manage the tender process, including preparing responses to tender queries
6. Provide an arithmetic check/schedule of prices breakdown, including all tenders received to WWL in Excel format
7. Negotiate with tenderer to seek compliant tender with no tender tags
8. Prepare tender evaluation report including a recommendation for award of contract.
9. Preparation of contract documents for signing, collate executed copies and distribute
10. Prepare Gateway 5 *Contract Award* form and obtain Wellington Water approval.
11. Carry out activities required under the Communications Plan e.g. letter drops.

3.2.4 Phase 6 Construction

1. Contract administration and construction monitoring during the construction period over an estimated construction period of 12 weeks (CM3 level with on average twice weekly site visits).
2. Monthly health and safety audits
3. QPulse reports as required
4. Review as-built mark-ups produced by the Contractor
5. Closeout of Defects Lists

6. Prepare Gateway 6 *Construction Completion* form and obtain Wellington Water approval
7. Issue Practical Completion Certificate(s) and manage return of the Contractors Bond
8. Contract administration during the Defects Notification Period.

3.2.5 Phase 7 Complete

1. Prepare the project completion report.
2. Settle final account with Contractor and issue Final Completion Certificate(s).
3. Prepare Gateway 7 *Final completion checklist* form and obtain Wellington Water approval.

3.3 Communications

Communication with the customers is an important aspect of this project especially considering that the works extend into a busy part of the neighbourhood. Connect Water will prepare a communication plan to guide customer communications for the project.

The tasks planned include:

- Customer Impact Assessment to determine how works could impact the customers
- Preparation of Communications Plan for Wellington Water approval
- 1no. letter drop to advise residents of upcoming works
- Coordination with Customer Hub and WWL communications team incl. website updates.

It is assumed that further letter drops during the construction phase will be carried out by the Contractor.

3.4 Deliverables

The deliverables for the project include the following:

1. Project Management Plan
2. Gateway 1 checklist
3. Project communications plan
4. Design Report
5. Desktop geotechnical assessment
6. Safety in Design workshop and health & safety risk assessments
7. Drawings
8. Level 4 cost estimate
9. Tender documents (contract & specifications)
10. Engineers estimate and schedule of prices

11. Gateway 4 checklist
12. Tender evaluation report
13. Gateway 5 Checklist
14. Contract documents & IFC drawings – draft and executed
15. Gateway 6 checklist
16. Project completion report
17. Gateway 7 checklist.

An investigations contract will be prepared if required based on the standard minor works version in Wooglee.

3.5 Constraints

1. Tendering and construction to occur in 2022/23 financial year
2. High level of Traffic and Pedestrian management required for work near to town centre (Queen Street roundabout)
3. Working adjacent to commercial buildings may place constraints on the project if additional measures are required to reduce impact on businesses such as limited working hours or special access.

3.6 Relevant Standards

Relevant legislations, standards, codes of practice and processes include the following:

1. Regional Standard for Water Services, (current version)
2. Regional Specification for Water Services, (current version)
3. National Code of Practice for Utility Operators Access to Transport Corridors, (current version)
4. National Code of Practice for Utility Operators Access to Transport Corridors, Hutt Valley Local Conditions (current version)
5. Wellington Water H&S Standards, Policies and Procedures
6. Health and Safety at Work Act (current version)
7. Health and Safety at Work Regulations (current version)
8. Wellington Water Safety in Design Process (HSP-26)(current version).

3.7 Safety in design

A Safety in Design Workshop will be held during Phase 4 Detailed Design. Following the construction phase, the SID H&S assessment will be reviewed with Wellington Water so that operational and maintenance hazards relating to the project are captured and transferred prior to project closure.

The current safety in design assessment for the project can be found in Appendix A.

3.8 Work breakdown structure

The Work Breakdown Structure (WBS) in Table 4 is based on WWLs standard project lifecycle and has been decomposed to the work package level.

Project costs and time have been estimated at the work package or activity level.

As the project progresses, the WBS will be used as follows:

- To assess scope related change requests.
- As part of change control.
- To control scope creep.
- As a communications tool.
- To help new team members to understand their roles.

Table 4: Logan St Wastewater Renewal – Work Breakdown Structure

WBS code	Naming Structure
1	Logan Street Wastewater Mains Renewals Project
1.1	Phase 1: Define
1.1.1	Activity Brief
1.2	Phase 2: Develop
1.2.1	Project Management Plan
1.2.2	Project management
1.3	Phase 3 – Consent NOT USED
1.4	Phase 4 – Detailed Design
1.4.1	Project kick-off meeting
1.4.2	Site visit
1.4.3	Existing information collection and review (incl. CCTV)
1.4.4	Early contractor involvement
1.4.5	Communications plan
1.4.6	Geotechnical desktop investigation
1.4.7	Site investigations (Provisional) & review

WBS code	Naming Structure
1.4.9	Preliminary notification to UHCC Corridor Manager
1.4.10	SID H&S and Risk workshop & assessment
1.4.11	Level 4 Cost estimate
1.4.12	Drawings
1.4.13	Design report
1.4.14	Technical specification
1.4.15	Project management
1.5	Phase 5 - Procurement
1.5.1	Tender documents
1.5.1.1	Conditions of tendering & contract
1.5.1.2	Technical specifications
1.5.1.3	Drawings
1.5.1.4	Schedule of Prices
1.5.1.5	Engineers Estimate
1.5.2	Solicitor's certificate
1.5.3	Tender checklists
1.5.4	Tender evaluation report
1.5.5	Contract Documents
1.5.6	IFC drawings
1.5.7	Project management
1.6	Phase 6 - Construction
1.6.1	Construction
1.6.2	MSQA
1.6.3	As-built drawings
1.7	Phase 7 Project Closure
1.7.1	MSQA
1.7.2	Project completion report

4 Programme

The programme for the project was prepared further to consultation with stakeholders and is based on the WBS in Table 4. Table 5 summarises the key milestone dates, assuming Gateway 1 *PMP approval* is obtained by 12 November 2021. The proposed programme can be found in Appendix B.

Note: activities post-Gateway 4 - *Request for Tenders* will commence in the 2022/23 financial year, as requested by WWL Programme Lead. However, this could change depending on progress of other projects in the Long-Term Plan.

Table 5: Logan Street Wastewater Renewal - Milestone Dates

Milestone Name	Target Date	Comments
Gateway 1 PMP approval	12 Nov 2021	
Gateway 2 Preferred option	N/A	Not used
Gateway 3 Consent	N/A	Not used
Gateway 4 Request for tenders	1 May 2022	
Gateway 5 Contract award	1 July 2022	
Contractor mobilisation to site (start)	15 August 2022	
Gateway 6 Construction completion	1 December 2022	
Gateway 7 Final completion	1 December 2024	

Project server will be updated to reflect the proposed programme once it has been approved. The programme will be monitored through regular progress meetings to ensure the project is still on track. It is the project managers responsibility to give early warning of potential programme slippage and to take corrective actions as necessary.

Any required amendments to the programme due to scope changes or unforeseen risks that result in delay of a project milestone by more than one week, shall be managed through the change management process.

5 Financial Management

5.1 Approach

Project costs will be managed in accordance with Wellington Waters Cost Estimation Manual. Given the nature of the project, the General Approach will be used in preparation of cost estimates and calculation of contingency and funding risk values at each stage of the project life cycle.

5.2 Project Cost Estimate

The level 1 estimates as per the Activity Brief (excl. WWL management fee) were as follows:

Expected Estimate:

95th Percentile estimate:

Note these estimates were based on key assumptions including

1. The existing pipe is Asbestos Cement that will be removed, and the new pipe laid in the same trench.
2. One manhole will be replaced
3. All laterals will be replaced to the property boundary by open trenching
4. Cost escalation applied up to the 2nd Quarter of the 2022/23 financial year.

The Level 1 project cost estimate has been amended to include a calculated consultant fee (see section 5.4). The updated cost estimate is summarised in Table 6. For a breakdown of the cost estimate refer to Appendix C.

The project cost estimate will be updated as the project progresses as follows:

1. Phase 4 (detailed design) - level 4
2. Phase 5 (Procure) – Engineers Estimate.

The full level 1 cost estimate can be found in Appendix C.

Table 6: Level 1 Project cost estimate (as per Activity Brief)

Item	Estimate \$ (excl. GST)
Physical works	
Consultants' fees	
Escalated Base Estimate	
Contingency	
Expected Estimate	
Funding risk	
95 th Percentile Estimate	

5.3 2021/2022 Financial Year Budget

The 2021/22 financial year budget for design up to Gateway 4 is Costs, Contingency, Funding Risk and WWL management fee.

This includes Provisional

5.4 Connect Water Fee Proposal

Table 7 sets out the Connect Water Fee estimate for approval under this version of the PMP. Once this fee estimate is approved, a Project Change Request will be prepared so that Wellington Waters budgets can be updated to suit.

Following are the assumptions made in preparing these fee estimates:

1. One tender document and one main contractor
2. The Runway 1 approach, as detailed in section 3.2, is adopted.

The full fee estimate breakdown is provided in Appendix D.

Table 7: Connect Water Fee Proposal

Project Phase	Scope	Connect Water Fee Estimate \$ (excl. GST)
2 Develop	Project management plan (<i>complete</i>)	-
4 Detailed Design	Detailed design (excl. Provisional sums)	
5 Procure	Tender documents, tender evaluation & award	
6 Construct	MSQA	
7 Project Closure	Closeout of project	
Subtotal		
Contingency (10%)		
Subtotal		
Panel Management Fee (2.15%)		
Total (excl. GST)		

5.4.1 Recommended Provisional Sums

The provisional sums recommended for the project include the following:

1. Additional investigations - the requirement for additional investigations will be confirmed during the detailed design stage. This may include topographical survey, CCTV or potholing
2. Asbestos-related services – The requirement for additional asbestos-related services will also be confirmed during the detailed design stage. This may include (but not be limited to) the following scope:

- a. Preparation of specifications/requirements - incorporating the current Wellington Water requirements including HSEP-0001 and HSEP-0026 - and any other requirements for the asbestos pipe cut-in and removal
- b. review tenderer submission requirements on their capability/license and approach for managing asbestos
- c. review the contractor asbestos removal control plan (or their plans to manage the risks for less than 10m² removal)
- d. provide construction phase H&S monitoring on the asbestos management
- e. for class B removal, provide the inspection and clearance cert (and air monitoring if any).

Provisional sums will only be included in the project with the Programme Leads agreement. The programme impacts will also be assessed.

Table 8 shows the provisional sums included.

Table 8: Provisional Sum Estimates

Phase / Timing	Scope	Cost Estimate \$ (excl. GST)	Wellington Water Approval
Phase 4	Additional Investigations		
Phases 4, 5 & 6	Asbestos related services		
Provisional Sum Subtotal (excl. GST)			

5.5 Financial Year Forecasts

The project forecast of the Level 1 cost estimate by financial year is summarised in Table 9. Note:

1. At the request of WWL, activities up to Gateway 4 - Request for Tender - are to be completed in the 2021/22 financial year and subsequent activities are to commence in the following financial year.
2. The values in Table 9 were taken from the Level One cost estimate and do not include the detailed fee estimate in Table 7.
3. 8% WWL management fee (MF) applied.

Table 9 Financial Year Forecast

Financial Year	Consultancy (CO)	Provisional Costs (PC)	Physical Works (PW)	Contingency (CG)	Funding Risk (FR)	WWL Mgmt Fee (MF)	Total
21/22			-				
22/23							
23/24	-	-	-	-	-	-	-
24/25		-	-				
Total							

5.6 Project Server

A project server site has been set up for the project. Likewise, one project code has been set up in order to manage the finances for the project.

Upon approval of the PMP, project server will be updated and every month thereafter to reflect the latest financial information and project forecasts.

6 Quality Management

Quality will be managed according to Connect Water standard quality procedures, including validation of all inputs and verification of all deliverables.

Peer reviews will also be carried out on key deliverables. The intention of the peer review is to ensure that the design meets the brief, a Safety in Design risk assessment has been completed and the design meets the necessary standards. The peer reviewer for the project will be confirmed.

7 Resources

The key members of the Connect Water project team are shown in Table 10. The project organisation chart is included in Appendix E.

Table 10: Connect Water Project Team

Name	Project role	Responsibilities	Contact Details
	Project Manager	1. Key client contact 2. Project integration to achieve objectives 3. Civil design WPM	@beca.com
	Design verifier	Design support & verification	@beca.com
	Civil Engineer	Civil/hydraulic design	@beca.com
	Cost manager	Cost management	
	Communications Subconsultant	Preparation, implementation and closure of public communications plan for project	@latitudesc.co.nz
	Engineer to Contract	As per NZS3910	@beca.com
	Engineer's Representative	As per NZS3910	@beca.com
	Engineer's Representative's Assistant	As per NZS3910	@beca.com

8 Communications Management

Communications for the project will be managed as follows. Refer Appendix F for the communications protocol for the project.

8.1 Project records

Project records will be stored in the project folder on Wellington Waters Woogles site, as per the Woogles checklist.

8.2 Project reporting

Connect Water will prepare a brief monthly report as per the standard template and upload it to the project documents section of the Woogles project page.

8.3 Meetings

A Kick-off meeting with WWL will be held at the start of Phase 4.

Meetings will be held with the design team to track progress and facilitate communications.

Minutes of all meetings will be taken and uploaded to Woogles within 48 hours of the meeting.

Meetings will be held with the Programme Lead on a monthly basis to track progress.

9 Risk Management

A risk register was prepared during preparation of this PMP (refer Appendix G). The top five project risks currently identified for this project are listed in Table 11 in order of descending residual risk score. The project risk register will be updated on a regular basis as risks change, are mitigated or removed and as new ones arise.

Table 11:Key Project Risks

1. Postponement or cancellation of project due to lack of available budget

If the budget is not approved or gets reassigned to a higher risk project, the work will not be able to go ahead, and existing issues/risks will remain. Costs will increase the longer the project is delayed. Note construction is currently programmed for 2022/2023 financial year and cost escalation has been allowed for. Proposed to accept risk. Consultant to identify and communicate risk of inaction to client. Follow Cost Estimation manual to ensure appropriate levels of contingency and funding risk are included, if deviation is required it is to be discussed with WWL. Early contractor involvement. Continue to GW4.

2. Pipes not achieving minimum cleansing velocities

Flat pipe gradients may make achieving minimum cleansing velocities unachievable. Undertake hydraulic calculations to confirm risk. If velocities cannot be achieved, given the difficulty and expected cost to deepen the network or install a pump station, it is proposed to accept the risk. Flushing will be required on a regular basis.

3. Service Strike

If underground services are struck and damaged during construction, consequences could include delay to programme, compromised safety of staff/public, cost to repair may be high, impact on customers due to loss of service. Risk will be mitigated by using Beforeudig, topographic survey, potholing & service location investigation to identify underground services that require relocation or protection, use trenchless methodologies where feasible, maintain existing alignment where possible

4. Incorrectly identified Asbestos Cement Pipes

Current information indicates that the pipe material for the existing sewer main is asbestos cement. The Regional Specification does not allow for pipe bursting or slip-lining of AC pipe, which limits the construction methodology to open trenching. This is the most expensive, slowest and most hazardous method. If it turns out that the existing pipe is not AC, then an opportunity for providing a cost-effective, quicker and safer solution will be missed. It is proposed to engage with the allocated contractor and COG early to identify less invasive renewal methods and reduce costs. Should this require an exception to the Regional Specification, then this will be discussed and agreed with WWL.

5. Asbestos released into atmosphere during removal of pipes

If the existing sewer main is indeed made of asbestos cement, then the project should be allocated to a contractor that has experience with and is qualified in, asbestos removal, as it is a hazardous material. It is proposed to engage with the allocated contractor and COG early to identify less invasive renewal methods and reduce costs. Should this require an exception to the Regional Specification, then this will be discussed and agreed with WWL. The Contractor will prepare a Site-Specific Health & Safety Plan that details the hazards and controls. A Provisional Sum has been included for the additional services related to this aspect, should they be required.

10 Procurement Management

Due to the nature of the works, it is proposed to procure a contractor for the project through WWLs Contractor panel that is qualified to work with asbestos, as it is a hazardous material.

Contractor engagement will start at an early stage during phase 4 in order to confirm the construction methodology and any additional investigations required.

If any further Investigation works are required (for e.g. potholing), depending on the nature of the work they will be procured either via minor works contract or via purchase order. Note at this stage no potholing during investigations is proposed, as the existing alignment is expected to be feasible.

If any early procurement is required for long lead items, this will be dealt with through an early procurement memo (note a PCN may be required).

11 Stakeholder Management

The initial project stakeholder register is shown in Table 12. This was based on the Activity Brief. Once the Contractor for the project is known, they will be added to the list.

Stakeholders will be contacted so that their requirements can be incorporated into the project. They will also be contacted at key points throughout the project.

Table 12:Stakeholder Register

Name	Contact details	Role	When to contact
	@wellingtonwater.co.nz	Investigations Engineer	<ul style="list-style-type: none"> • Design/technical queries • Risk workshop • During safety in design • During design development
	@wellingtonwater.co.nz	Wastewater Principal Engineer	<ul style="list-style-type: none"> • Design/technical queries • Risk workshop • During safety in design • During design development
	@wellingtonwater.co.nz	Investigations Team Lead	<ul style="list-style-type: none"> • Only if something needs escalating
	@wellingtonwater.co.nz	Manager – modelling	<ul style="list-style-type: none"> • Modelling enquiries • Request updates to modelling
	@wellingtonwater.co.nz	Wastewater Chief Advisor	<ul style="list-style-type: none"> • Change to scope of works • Only if something needs escalating • PCR approval

Name	Contact details	Role	When to contact
	wellingtonwater.co.nz	Operations representative (Planning Engineer – Pomare)	<ul style="list-style-type: none"> • During safety in design • During design development • Operations & maintenance requirements
	@wellingtonwater.co.nz	Programme Lead (HCC & UHCC)	<ul style="list-style-type: none"> • Gateway approvals • PMP approval • Monthly progress reports • If any changes to scope, cost, risk or programme are expected, should be advised • PCN and PCR approval.
I	@wellingtonwater.co.nz	Service planning representative	<ul style="list-style-type: none"> • If there is a change to the primary or secondary: • customer outcome • service goal • service objective • performance measure.
	@wellingtonwater.co.nz	Design Team Lead	<ul style="list-style-type: none"> • Completion of design reports
	wellingtonwater.co.nz	Customer hub	<ul style="list-style-type: none"> • For updates on things that could affect the customer
TBA	TBA	Contractor	<ul style="list-style-type: none"> • To discuss construction methodology • Safety in design

Name	Contact details	Role	When to contact
UHCC or)	uhcc@govt.nz uhcc@govt.nz	Client council	<ul style="list-style-type: none"> Project Initiation
Taranaki Whānui	portnicholson.org.nz or reception@portnicholson.org.nz	Local iwi	<ul style="list-style-type: none"> Project Initiation
Ngāti Toa)	ngatitoa.iwi.nz	Local iwi	<ul style="list-style-type: none"> Project Initiation
Residents and businesses connected to the wastewater mains	TBC	Customers	<ul style="list-style-type: none"> During Construction Planning and onwards
Nearby residents in close proximity to work site and may be impacted by construction	TBC	Local Residents	<ul style="list-style-type: none"> During Construction Planning and onwards

12 Change Management

The project will follow the WWL change control process as a “business as usual” project. Some common examples of changes are:

1. Additional requirements or functionality not originally included in the project scope or agreed during project planning (“gold-plating”)
2. Design criteria changes late in the design process
3. Design standards being updated or additional requirements from stakeholders
4. Work outside or changes to the defined project boundary
5. Re-packaging of project into separate phases.

If a potential change arises, the project manager shall:

1. Study the change and assess any impacts, including inter alia cost, programme, risk, quality, resources, customer satisfaction. This will likely require discussion with the team (integrated change control)
2. Discuss options and impacts with the Programme Lead
3. If the change impacts scope, project budget or programme by more than 1 month, a Project Change Request (PCR) form must be created from within the Projects Woogles site
4. If the change will impact the agreed fee, a Project Change Notice (PCN) will be used. Note some changes may require the use of both a PCR and PCN
5. If the change is approved, the PMP, project server and any other affected documents must be updated, and the approved changes communicated to all affected stakeholders. If not approved, this should also be communicated.

13 References

1. Engineering New Zealand Construction monitoring services.
2. Greater Wellington Selected Land Use Register (online)
3. National Code of Practice for Utility Operators Access to Transport Corridors, (current version)
4. Upper Hutt City Council *Land Use Strategy Upper Hutt 2016 – 2043* (adopted September 2016)
5. Wellington Water *Activity Brief Logan St Wastewater Main Renewal* Dated 26 August 2021 V1.0
6. Wellington Water *Cost Estimation Manual* Rev. 0 dated 22 June 2019 (or current version)
7. Wellington Water *Global Dewatering Consent Geotechnical Protocols* October 2017
8. Wellington Water *Our Water Our Future 2020-23 Statement of Intent*
9. Wellington Water *Runway Approach*
10. Wellington Water *Safety in Design Process* (HSP-26 dated 15 June 2016)

Appendix A: SID H&S risk assessment

[Woogle Link](#)

Appendix B: Programme

[Woogle Link](#)

Appendix C: Cost Estimate

[Woogle Link](#)

Appendix D: Connect Water Fee Estimate

[Woogle Link](#)

Appendix E: Organisation Charts

[Woogle Link](#)

Appendix F: Communications Protocol

[Woogle Link](#)

Appendix G: Risk Register

[Woogle Link](#)

Project Management Plan – Gibbons St/Blenheim St Local Wastewater Upgrades

Council: Upper Hutt City Council

Suburb(s): Ebdentown and Upper Hutt CBD

Project name: Gibbons St/Blenheim St Local Wastewater Upgrades

Project code: OPE102640

Start date: 01/01/2020

End date: 21/10/2021

Consultant organisation: GHD





Document control

Revision history

Date	Version number	Description of change
13/01/20	00.1	For approval

Project Management Plan Approval

Activity	Title	Name	Electronic signature	Date
Prepared by	Project Manager	■■ ■■		13/01/2020
GHD Approval	Project Lead	■■■■■ wn	pp. 	17/01/2020
Approved by	Wellington Water Programme Lead	■■■■■ ■■■■■		

Wellington Water Approval Fee Allocation

PMP Version	Project Phase	Fee Estimate (ex gst)	Prov. Sums (ex gst)	Total Fee Approved (ex gst)	WWL Approval Name and Signature	Date
00.1	2	■■■■■	-			

Table of contents

1	Purpose of Plan	1
2	Project Description	1
1.1	Wellington Water service goals	1
1.2	Project Purpose	1
1.3	Project Objectives	1
1.4	Design Criteria and Constraints	3
1.5	Project scope	5
1.6	Provisional scope	7
1.7	Project deliverables	7
1.8	Project delivery approach	7
1.9	Work breakdown structure	8
1.10	Project team	9
1.11	Project records	10
1.12	Project reporting	10
2	Programme	10
2.1	Key milestones and schedule management	10
3	Project Change	10
4	Stakeholder Engagement	10
4.1	Stakeholder analysis	10
4.2	Communications and engagement	11
5	Procurement	12
6	Financial	12
6.1	Fee Proposal	12
6.2	Budget and financial management	13
7	Health and Safety	14
7.1	Safety in design	14
7.2	Safety in design health and safety risk assessment	14
7.3	Health and safety management	15
8	Quality	15
9	Environment	15
10	Risk management	15
11	Reference documents	16

List of tables

Table 1 - Asset information of the proposed wastewater upgrades at Gibbons St/ Blenheim St

Table 2: Work breakdown structure

Table 3: Project team

Table 4: Wellington Water Project team

Table 5: Key milestones and schedule management

Table 6: Stakeholder analysis (to be updated following preparation of comms plan)

Table 7 - Fee Proposal

Table 8 – Summary of current project cost estimate

Table 9: Budget

List of appendices

Appendix A: Programme

Appendix B: Fee Estimate and Work Breakdown Structure

Appendix C: SID H&S Risk Assessment

Appendix D: Project Risk Register

1 Purpose of Plan

The project management plan provides a comprehensive baseline of what has to be achieved by the project, how it will be achieved, who will be involved and how it will be managed.

This plan should be read in conjunction with the:

- Upper Hutt City Council: Gibbons St/ Blenheim St Local Wastewater Upgrades - Project Design Brief

This plan is a live document and is subject to change. It will be updated as the project progresses.

2 Project Description

1.1 Wellington Water service goals

Wellington Water service goals for this project are:

1.4 We minimise public health risks associated with wastewater and storm water		The primary goal for this project is to maintain wastewater services to protect public health. Any pipe failure will result in loss of service to a large number of customers and also create a public health risk as wastewater will not be safely conveyed and will back up to private/ public properties and commercial /industrial area.
3.3 We plan to meet future growth and manage demand		The secondary goal future growth and manage demand. This project is to provide hydraulic capacity for future developments.
3.2 We provide three water networks that are resilient to shocks and stresses		The tertiary goal provide three water networks that are resilient to shocks and stresses. This project is also improve the seismic resilience to a critical wastewater trunk main in Upper Hutt City.

1.2 Project Purpose

Wellington Water requires the wastewater pipework through Gibbons St and Blenheim St to be upgraded to improve resilience and capacity. The pipeline shall be sufficiently sized to accommodate future flows.

1.3 Project Objectives

The required outcome is a well designed and constructed local gravity network using the approved materials and construction methods to:

- Meet all Upper Hutt City Council's and Wellington Water's standards, procedures and operation personnel requirements.
- Comply with Wellington Water's Health and Safety requirements.

- Meet the requirements of the project design brief.
- Cause the minimum practical disruption and inconvenience to the community.
- Achieve a high standard of public relations.
- Within the agreed budget and timeframe for the work.
- Comply with all the legislative and Upper Hutt City Council requirements.
- Ensure an easily maintainable and operable network.

The details of pipe sections to be renewed are given in the below table.

Table 1 - Asset information of the proposed wastewater upgrades at Gibbons St/ Blenheim St

Asset ID	Street Name	Start Node	End Node	Inst Date	Pipe Dia mm	Pipe Type	Length (m)	CCTV Tape Number	Pipe Cond
10482	Blenheim St	BLNH0036SM	BLNH0020SM	1/01/1973 *	225	AC	103.18	304_45	5.4
11605	Blenheim St	BLNH0020SM	BLNH0016SM	1/01/1973 *	225	AC	65.39	304_46	5
10959	Blenheim St	BLNH0016SM	FERGU0808SM	10/04/1962	225	AC	64.78	304_47	4**
10668	Fergusson Dr	FERGU0808SM	FERGU0802SM	27/2/1986 *	225	CC	56.53	304_58	5
11659	Fergusson Dr	FERGU0802SM	FERGU0809SM/1	1/01/1980 *	225	AC	54.42	304_57	5
11660	Main Street	FERGU0809SM/1	MAIN0002SM/2	1/01/1980 *	225	AC	42.49	304_55	5
11658	Gibbons St	MAIN0002SM/2	GIBBO0002SM	28/03/1958	225	AC	49.34	304_51	5
10929	Gibbons St	GIBBO0002SM	GIBBO0012SM	1/01/1964	225	AC	54.82	304_52	5
12413	Gibbons St	GIBBO0012SM	GIBBO0016SM	1/01/1964	225	RCRRJ	33.51	304_53	2**
10560	Gibbons St	GIBBO0016SM	GIBBO0016SM/1	1/01/1964	225		27.61	304_56	4.8
12432	Gibbons St	GIBBO0016SM/1	GIBBO0028SM	1/01/1964	225	RCRRJ	42.31	304_60	5
12433	Gibbons St	GIBBO0028SM	GIBBO0042SM	19/08/1958	225	RCRRJ	98.01	304_61	5
12434	Gibbons St	GIBBO0042SM	MCPAR0047SM	1/07/1958	225	RCRRJ	98.76	304_62	5

**Engineer's judgement * installation date recoded in Hansen seems to be incorrect

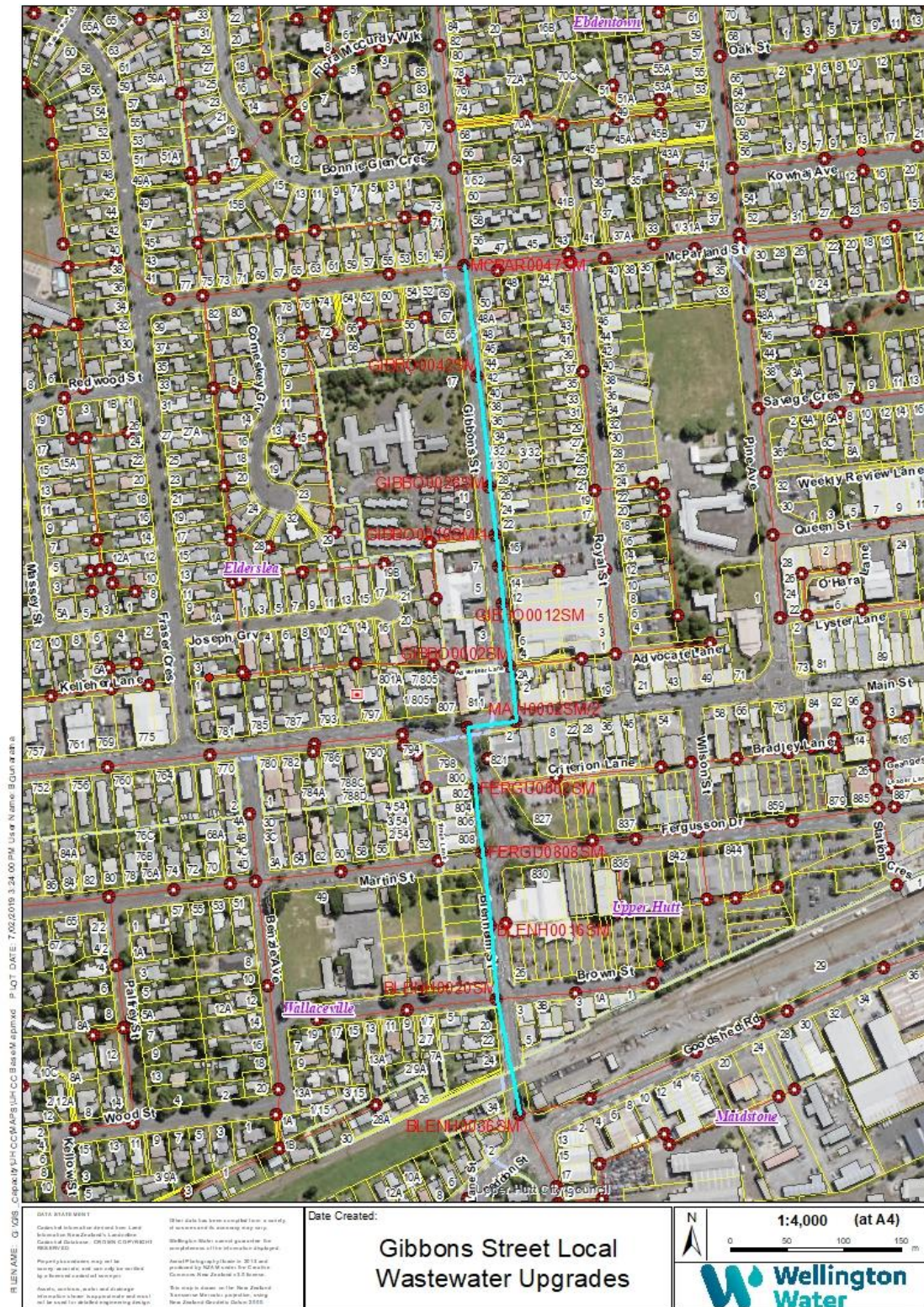


Figure 3:– Proposed pipe upgrades at Gibbons Street, Upper Hutt

1.4 Design Criteria and Constraints

The design considerations include:

- Construction within the carriageway and within railway corridor
- Any works that may be required within the private property boundaries (in particular the connection of existing sewer laterals)
- Overhead power poles and structures in Gibbons St, Fergusson Dr , Main Street, Blenheim St and nearby streets
- Cross rail corridor (plus consideration to overhead power and crossing arms)
- Seismic risk and resilience
- Future developments
- The proximity of the works to residential dwellings may restrict the hours/days permitted to work.
- The proposed alignments shall be selected to minimise the impact and disruption to parking, traffic and residents
- The health and safety of the construction workers, operations and maintenance personnel and the public shall be considered in the design
- Clearances to other underground services
- Clearance to KiwiRail overhead power
- Making connection to the existing sewer mains.
- Minimise impacts on the businesses and other activities in the area due to construction works
- Construction of a diversion structure at MCPAR0047SM. Please refer to the design details of Gibbons Street trunk wastewater upgrades.

Other Considerations:

If works is required within the private properties and then specific consultation with property owners is to be completed. Consultation with KiwiRail and obtain necessary access permits. Consultant to make sure all the legislation and Code of Practice requirements are followed during the project implementation period.

All the public sewer service laterals are to be replaced up to the property boundary according to the Upper Hutt City Council's policy. Connection of the new lateral to the existing private property lateral will require a sound portion of pipe, which may require replacing the existing property lateral further into the private property boundary.

The existing wastewater monitor at GIBBO0042SM to be removed before pipe upgrades. Flow monitor is managed by Mott MacDonald Ltd.

As-built is to be submitted in a format compatible with Wellington Water and Upper Hutt City Council formats. A new as-built system is being developed by WWL and cognizance of this is important.

1.5 Project scope

The scope of work for the consultant to undertake includes (but is not limited to) the following items:

1 General

- 1.1 Liaise with all necessary parties including Upper Hutt City Council (UHCC) and Wellington Water.
Special consideration is to be given to the UHCC roading department. There may be some relationship issues from the previous Gibbons St job which resulted in some quality and relationship issues. This needs to be included in the comms plan.
- 1.2 Obtain Wellington Water approval before starting further stages of work.
Includes PMP sign-off
- 1.3 Project management and reporting.
Reporting includes Project server updates and monthly spreadsheet reporting.
- 1.4 Future growth information will be provided by Wellington Water to assist in sizing of the replacement pipes
Assumes WWL will be able to provide us with model results that are alluded to in the brief. We can either extrapolate growth based on Forecast.ID or RSWS ultimate development figures. Sizing of pipes will be standard RSWS methods.

2 Investigation and Design (Develop Phase)

- 2.1 Consultant to review available as-built drawings and GIS information.
- 2.2 Liaise with other service providers. *(B4UDig and WWL GIS)*
- 2.3 Liaise with Wellington Water Land Development Team for understanding future developments in the catchment.
- 2.4 Liaise with different businesses who have a significant discharge to the sewer through Wellington Water Land Development Team.
There may be some tradewaste information also which details volumes and quality of effluent expected. Leon Chen or Richard Manson at WWL is a good contact for this info.
- 2.5 Liaise with Upper Hutt Roding Team
This will require some planning to mitigate relationship issues from previous project. Ensure included in comms plan
- 2.6 Liaise with KiwiRail and also check current grant to occupy rail corridor (Please check with UHCC Records)

Will also see if existing pipe is in railway sleeve and whether this can be reused.

Otherwise new sleeve to KiwiRail guidelines will be thrust under railway.

2.7 Obtain preliminary works Access Permits from the RCA Corridor Manager and Kiwi Rail.

2.8 Liaise and consult with the road corridor manager to maximise the available working hours and minimise health and safety risks for construction as is reasonably practicable.

There is likely to be some night-work at critical intersections. Specifically the Main St / Fergusson Dr intersection, and maybe when thrusting under the railroad corridor.

2.9 Complete all investigations, inspections and site surveys necessary to prepare the draft design report; including arranging any CCTV required confirming pipe condition.

2.10 Complete a Concept Design report.

This report will require sign-off and will detail where pot-holing and Geotech is required to confirm alignments etc (to be carried out in detailed design phase). Concept report will confirm viability of project and better evaluate risks.

2.11 Safety in design investigations and liaison with all affected parties.

Stakeholders to include operations and investigation team.

2.12 Carry out a Customer Impact Assessment.

Includes UHCC and KiwiRail as well as property owners/occupiers

2.13 Prepare and submit the draft design report to Wellington Water for comment before starting the detailed design.

Draft design report to go through external reviewer also. Identify where potholing may be required prior to detailed design stage. Contractor should also be approached with draft design for constructability input.

2.14 Obtain any necessary consents and agreements.

No resource consent required (unless well pointing), but KiwiRail permission required as well as UHCC roading.

2.15 Consider existing long term wastewater flow monitoring data and CCTV survey results

2.16 Prepare the final design report including construction drawings and construction cost estimates to Level 4 accuracy.

Gateway 4 signoff

3 Tendering and Construction Monitoring (Procurement Phase)

3.1 Liaise with Wellington Water to confirm timing for construction giving consideration to UHCC road reseal program, preferred project packaging for construction, and obtain approval to proceed with construction.

3.2 Prepare the tender documents including construction drawings and specification.

3.3 Manage the tender process and contract award via Wellington Water.

3.4 Assessment of tenders including a recommendation for award of contract.

3.5 Provide an arithmetic check/schedule of prices breakdown, including all tenders received to Wellington Water in Microsoft Excel format.

3.6 Carry out contract administration and construction monitoring.

Assumes daily visits for MSQA. Site visit docs to be stored on Woogle.

3.7 Progress reports and other reporting to Wellington Water.

Stored on Woogle with links

- 3.8 Contract administration during the defects liability period.
- 3.9 Prepare as built drawings and submit to Wellington Water Ltd in the format compatible with Upper Hutt City Council GIS.

There is a new As-building format being rolled out from WWL. This may take some time to adjust to, so early consideration (prior to works beginning) is required to ensure appropriate details are asked for during the construction phase.
- 3.10 Prepare the project completion report.

1.6 Provisional scope

Not applicable.

1.7 Project deliverables

1.7.1 Deliverables

- 1. Preliminary works Access Permits from the RCA Corridor Manager and Kiwi Rail
- 2. Draft Design Report
- 3. Customer Impact Assessment
- 4. Draft design report
- 5. Detailed Design report
- 6. Gateway 4 signed off form
- 7. Design drawings
- 8. Safety in Design Risk Assessment
- 9. Project Risk Assessment
- 10. Tender documents
- 11. Tender evaluation
- 12. As-builts
- 13. Project completion report
- 14. Gateway 6 signed off form

1.7.2 Provisional Deliverables

Not applicable.

1.8 Project delivery approach

- 1. Update project plan and convene design team (3WL)

2. Develop Comms plan (GHD)
3. Desktop study for services and existing network.
4. Field investigations.
5. Scope works required for pipework upgrades. Includes hydraulic design.
6. Develop design for works.
7. Arrange for peer review and finalise design.
8. Agree physical works cost and programme with allocated Capex Panel member.
9. Undertake construction.
10. Close-out project.

1.9 Work breakdown structure

The work breakdown structure is shown in the following table and on the fee breakdown in Appendix B.

Table 2: Work breakdown structure

WBS code	Naming Structure
01000	Phase 1 – Define Scope
02000	Phase 2 – Develop Design
	Provide requisite administrative project documentation
	Obtain as-builts and any future growth information from Wellington Water.
	Carry out site visit to confirm alignment
	Perform preliminary design
	Provide Preliminary Design Wellington Water ratification
03000	Phase 3 – Consent
	Obtain preliminary works Access Permits from the RCA Corridor Manager
	Obtain consent from Kiwi Rail
04000	Phase 4- Detailed Design
	Perform detailed design
	Provide Detailed Design Wellington Water ratification
	Obtain external peer review
	Provide engineering estimates
05000	Phase 5 – Procurement
	Compile tender documentation and manage tender process
	Carry out pre-construction procedures and documentation

WBS code	Naming Structure
06000	Phase 6 – Construction
	Monitor construction and commissioning
	Post-practical completion documentation
	Provide as-built drawings and PS4

1.10 Project team

The GHD project team is shown in the following table.

Table 3: Project team

Project role	Name	Phone and email
Project Director/Reviewer	██████████ (GHD)	██████████ ██████████@ghd.com
Project Manager	██████████ (3WL)	██████████ ██████████@3wl.co.nz
Lead hydraulic/mechanical design	██████████ (3WL)	██████████ ██████████@3wl.co.nz
Hydraulic/mechanical design	██████████ oriya (3WL)	██████████ ██████████@3wl.co.nz
Lead Geotechnical Engineer	██████████ (GHD)	██████████ ██████████@ghd.com

Table 4: Wellington Water Project team

Name	Contact details	Role	When to contact
██████████	██████████@wellingtonwater.co.nz	Programme Lead	Project management issues
██████ ██████	██████████ ██████████@wellingtonwater.co.nz	Engineer - Development	- Scope change - Gateway 4
████ ██████	██████████ ██████████@wellingtonwater.co.nz	Chief Advisor, Wastewater	Specialist policy advisory
████ ██████	██████████ ██████████@wellingtonwater.co.nz	Utilities Planning Engineer	Specific technical advice

1.11 Project records

Project records will be stored in the project folder on the following Wellington Water's Woogle site:

<https://woogle.wellingtonwater.co.nz/PWA/GibbonsStr/default.aspx>

1.12 Project reporting

GHD will prepare a brief monthly report and upload it to the project documents section of the Woogle project page.

We will also update project server to reflect the latest financial information and project forecasts on or before the 20th of each month.

2 Programme

2.1 Key milestones and schedule management

A full project schedule is located within Appendix A.

Table 5: Key milestones and schedule management

Milestone Name	Target Date
Phase 1: Define	31/03/2019
Phase 2: Develop	19/02/2020
Phase 3: Consent	
Phase 4: Detailed design	22/07/2020
Phase 5: Procure	07/10/2020
Phase 6: Construct	20/04/2021

3 Project Change

The project will follow the Wellington Water change control process as a “business as usual” project.

Any significant issues or risks that arise, which could impact the project scope or budget will be flagged to the Wellington Water Programme Lead.

4 Stakeholder Engagement

4.1 Stakeholder analysis

The stakeholder analysis is shown in the following table.

Table 6: Stakeholder analysis (to be updated following preparation of comms plan)

Stakeholder Name	Contact	Impact	Influence	What is important to stakeholder	How could stakeholder contribute to project?	How will stakeholder be engaged?
		<i>How much does the project impact them?</i>	<i>How much influence do they have over the project?</i>			
██████ ██████ (Programme Lead)	WWL	High	High	Delivery of the project outcome in line with the technical brief	Provide input on project progress	Regular progress reports
████ █████ (Customer Planning)	WWL	High	High	Minimise disruption to public	Provide input on design and customer impact	At kick off, through SiD workshop during design development and at design completion
████ ██████ (Utilities Planning Engineer)	WWL	High	High	Network operation and ongoing maintenance issues.	Provide input on design.	At kick off meeting, design reviews and Safety in Design workshops
████ █████ (Team Leader, Utilities North)	WWL	High	High	Serviceability of design	Provide input on design and operations during works	At kick off meeting, design reviews and Safety in Design workshops
WWL Customer Hub	WWL	Medium	Medium	High standard of communications throughout the project	Input on communications plan for all phases of project	Inform via email prior to construction initiates
UHCC Council	UHCC	High	High	Minimise disruption to public	Input on communications plan for network shutdowns	Inform via email prior to construction initiates
Residents within supply zone	Letter drops	High	Low	Minimise disruption to public	Input on communications plan for network shutdowns	Letter drops prior to construction

4.2 Communications and engagement

The neighbourhood around the site is a mixed residential and commercial area and so will have a high number of customers affected by the project, through construction noise. Communications to local residents to inform them of these disruptions will be performed through several different channels, including letter drops and through social media.

5 Procurement

A designated contractor for these works has not been assigned yet through Wellington Water's contractor panel arrangement.

Agreement on price and delivery will be as per Wellington Water guidance on contractor panel engagements.

6 Financial

6.1 Fee Proposal

6.1.1 Consultancy Fee Estimate

The table below sets out the GHD Fee estimate for approval under this version of the PMP. A full fee estimate breakdown is provided in Appendix B.

Table 7 - Fee Proposal

Project Phase	Scope	Fee Estimate (\$)
	Phase 1 – Define	
	Phase 2 – Develop	
	Phase 3 – Consent	
	Phase 4 – Detailed Design	
	Phase 5 – Procurement	
	Phase 6 – Construction	
Subtotal (excl 3%)		
Panel Management Fee (Incl. 3%)		
Contingency (10%)		
Total (ex gst)		

6.1.2 Assumptions

The list below outlines assumptions made in preparing the above consultancy fee estimates:

- Building consent is not required for any of the piped infrastructure
- Ground is not contaminated
- A new casing on a new alignment will be required under the railway corridor as existing casing, if there is one, is likely to be too small to be reused for new pipe.
- Future demands and downstream effluent levels/capacities are available from the model

- Resource consent is not required for any of the piped infrastructure (not withstanding and discharge consent possible for construction activities)
- Existing pipe is decommissioned in-situ and pipe is not removed
- Drilling/jacking of casing under Kiwirail land is carried out during working hours (similar to recent Johnsonville project)
- Ground conditions are suitable for a flexible pipe solution (PE/PVC/DICL)
- Some night work required when crossing major intersections, otherwise the majority of trenching/laying is during normal working hours
- Potholing of key locations carried out during detailed design
- Time for Kiwirail induction has been included
- Drilling specification has been allowed for should Kiwirail request one
-
- Panel peer review fees are direct charge to WWL and through direct WWL engagement
- WWL to provide all SCADA and existing as-builts at initial stage of project where available

Exclusions:

6.1.3 Risk associated with the GHD Fee

- TBC

6.2 Budget and financial management

Table 8 – Summary of current project cost estimate

Stage/ Item	Cost Estimate (Expected)
Consultancy	
Subtotal Consultancy (incl. prov sums)	██████
Physical Works	
Construction	██████
Subtotal Physical Works	██████
Wellington Water management fee (5%)	██████
Contingency (30%)	██████
Funding risk (22.5%)	██████
Total Project Estimate	██████

* - Rough Order estimate with low certainty

The project budget as currently shown on project server is shown in Table 9.

Table 9: Budget

Financial Year	Project budget (from the Project Initiation Form)
2019/ 2020	
2020/2021	
Total	

7 Health and Safety

7.1 Safety in design

The project will follow the Wellington Water Safety in Design Process (HSP-26). Safety in design workshops will be held at the following points:

- During Preliminary Design to develop the initial SID register.
- During the Detailed Design Stage.
- Following contract award to include the contractor and review the work methodology and planning to confirm safety risks.

Following the construction phase, the SID register will be reviewed with Wellington Water to ensure operational and maintenance hazards relating to the project are captured and transferred prior to project closure.

7.2 Safety in design health and safety risk assessment

An initial safety in design (SID) health and safety (H&S) risk assessment relevant to the work has been completed. The SID H&S risk assessment is attached in Appendix C. The SID H&S risk assessment is a living document and will be updated throughout the project.

To see the latest SID H&S risk assessment, go to the [Wooglee Project Site Page](#).

Known health and safety hazards and issues are:

- Working at height/depth (at manholes)
- Confined spaces in manholes and trenches
- Traffic vehicle movements (risk of collision)
- Working within the railway corridor

- Overhead services; power, telecom (risk of electrocution) and associated support structures
- Underground services: power, telecom, gas, sewer, stormwater and water
- Pedestrians and cyclists
- Excavation collapse risk.
- Working with live sewer mains (including sewer gases) and biological contamination
- Heavy vehicle movements delivering and servicing commercial properties including Pack & Save

7.3 Health and safety management

The health and safety objectives for the project are

- Compliance with the Health and Safety at Work Act 2015
- Compliance with the Health and Safety at Work Regulations 2016
- Comply with health and safety directives issued by Wellington Water
- Compliance with the Regional Specification and Standard for Water Services (May 2019)

8 Quality

The overarching project quality objective is for the outcome stated in 1.4 to be delivered in a safe and cost effective manner.

The key tools for delivering this will be the Wellington Water Regional Standard and Specification during design, design reviews, and MSQA during construction.

Quality documentation will be made available in the project server site, and any breaches reported to the PMO by exception.

9 Environment

The overall project environmental objective is to leave the environment in the same if not better state.

This will be achieved through consideration of environmental impacts during design development, and ensuring any potential effects at construction are mitigated and managed appropriately.

Environmental management documentation will be made available in the project server site, and any breaches reported to the PMO by exception.

10 Risk management

The key project risks currently identified for this project are listed below. Complete project risk register is attached in Appendix D.

KEY RISKS	
RISK 1	Work on private land. There is a segment of pipe that crosses private Kiwi Rail property. Liaison with Kiwi Rail will be required.
RISK 2	Issues with local residents. Residents and businesses may oppose the upgrade and extend timeframes.
Risk 3	Availability of accurate as-builts. Inaccurate as-builts may result in extended timeframes due to additional work during construction.
Risk 4	Existing relationship issues with UHCC roading team. Need to be managed and mitigated early in the project.
Risk 5	Kiwirail will only allow work during the Block of Line period resulting in project delays
Risk 6	Trenchless pipe-jacking under the railway is unsuccessful due to obstruction or grade issues.

11 Reference documents

The list below are relevant reference documents for the project:

- Upper Hutt City Council: Gibbons St/ Blenheim St Local Wastewater Upgrades - Project Design Brief.

Appendix A: Programme

Appendix B: Fee Estimate and Work Breakdown Structure

Appendix C: SID H&S Risk Assessment

Appendix D: Project Risk Register