



ACENZ / CCNZ  
Conference

Wellington Water  
Runway Trial



# Agenda

1. Context
2. Runway Approach
3. Trial project
4. Risk Management
5. Lessons Learnt
6. Where to from here?

# Safety Moment



Context



# W Wellington Water

porirua**city**



# Consultancy Panel

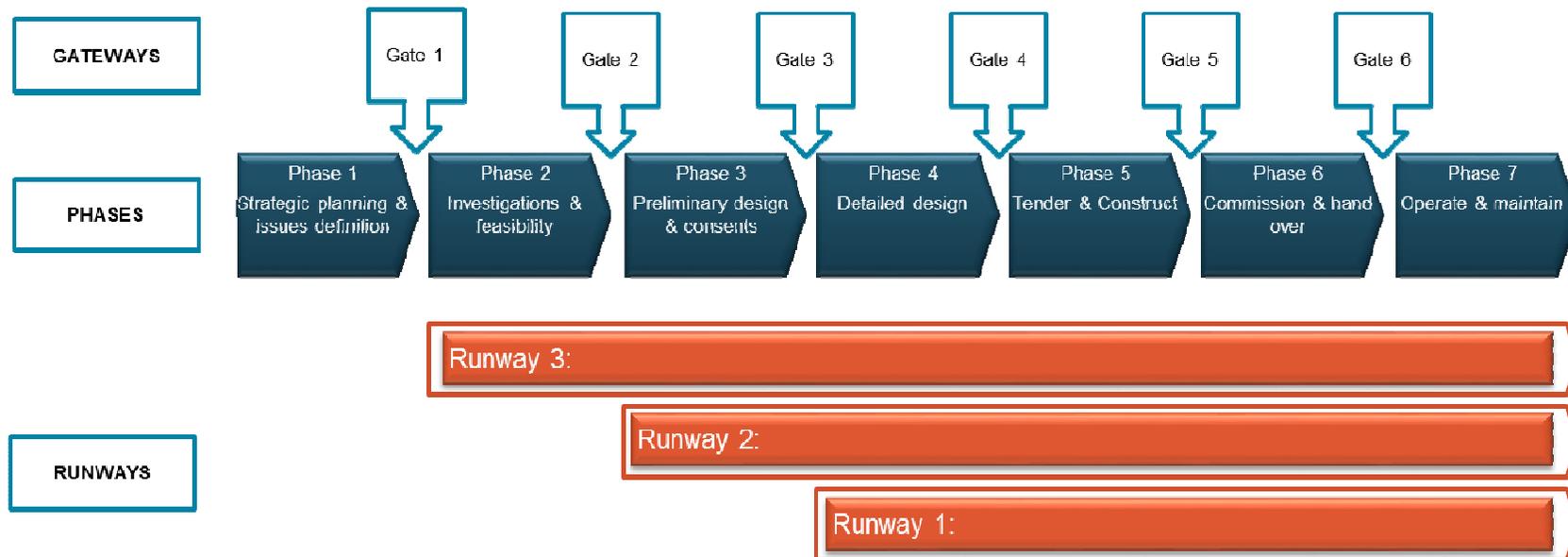


# Existing Wellington Water Lifecycle Phases and Project Gateways

INVESTIGATIONS	OPTIONEERING	DESIGN DEVELOPMENT	DETAILED DESIGN	PROCUREMENT	SITE HANDOVER	CONSTRUCTION	CLOSE-OUT
1 Brief Issue to Consultant	5 Develop Base Plan	13 Plan and Coordinate Further Investigations	23 Produce Final Design Drawings & Specification for Construction	29 Obtain Contract Number	40 Carry-out SiD Risk Workshop	48 Conduct Construction Quality and H&S Audits	58 Contractor Attribute Register Project Completion Evaluation
2 Meeting with Brief Originator, PM and Consultant	6 Implement Communications Plan	14 Complete Design Calculations	24 Develop and update: Programme, Project Risk & SiD Assessments, Cost Estimate, Communications	30 Obtain Approval to Advertise Tender	41 Contract Start-up Meeting	49 Implement Communications Plan	59 Capture and Communicate Learnings
3 Prepare Work Package	7 Site Investigation	15 Carry-out SiD Risk Workshop	25 Prepare Detailed Design Report	32 Advertise Tender	42 Issue Construction Drawings	50 Develop and update: Programme, Project Risk & SiD Assessments, Cost Estimate, Communications	60 Manage Defects Notification Period to Closure
4 Prepare GATE 1 Checklist and Obtain Work Package sign-off	8 Apply for ArchCheck (if appropriate)	16 Determine Preferred Alignment	26 Peer Review of Design Report	33 Manage Tender Process	43 Implement Communications Plan	51 Construction Supervision, including Contract Management and Quality Assurance	61 Issue Final Completion Certificate
	9 Complete Options Assessment	17 Produce Preliminary Design Drawings	27 Acceptance of Design Report from Design Manager	34 Evaluate Tenders	44 Prepare Contract Documents	53 Obtain sign-off on handover to N&CD group as necessary	62 Release Remaining Retentions
	10 Develop and update: Programme, Project Risk & SiD Assessments, Cost Estimate, Communications	18 Implement Communications Plan	28 Prepare GATE 4 Checklist and Obtain sign-off	35 Develop and update: Programme, Project Risk & SiD Assessments, Cost Estimate, Communications	45 Facilitate Site Induction	54 Prepare GATE 6 Checklist and Obtain Approval of Issue of Certificate of Practical Completion	63 Prepare GATE 7 Checklist and Obtain Approval of Project Closure
	11 Prepare Concept Design Report	19 Obtain All Required Consents / Authorities		36 Write Tender Recommendation Report	46 Award Possession of Site	55 Issue Practical Completion Certificate	
	12 Prepare GATE 2 Checklist and Obtain sign-off	20 Develop and update: Programme, Project Risk & SiD Assessments, Cost Estimate, Communications		37 Attend Tender board	47 Issue Permit to Work	56 Release Contractor's Bond	
		21 Prepare Preliminary Design Report		38 Prepare GATE 5 Tender Checklist and Obtain sign-off.		57 Release Half of Retentions	
		22 Prepare GATE 3 Checklist and Obtain sign-off		39 Award Tender			

What is a Runway Approach?

# Overview of Runway Approach



# Draft Wellington Water Project Runways

## WWL Draft Project Runways

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### Runway 1 - Single Option Clearly Defined



#### Runway 1

Water main renewal, simple sewer renewal in road reserve  
Same size or single diameter upsized  
Low delivery risk

### Runway 2 - Single Option Not Defined



#### Runway 2

Sewer renewal in private property, pipe alignment may change during design, Consents or reinstatement agreements required  
Reservoir strengthening, pump stations, new trunk pipework  
May be Moderate delivery risk

### Runway 3 - Complex Multi-Option



#### Runway 3

New reservoirs, Cross Harbour Pipeline, outfalls  
May be High delivery risk

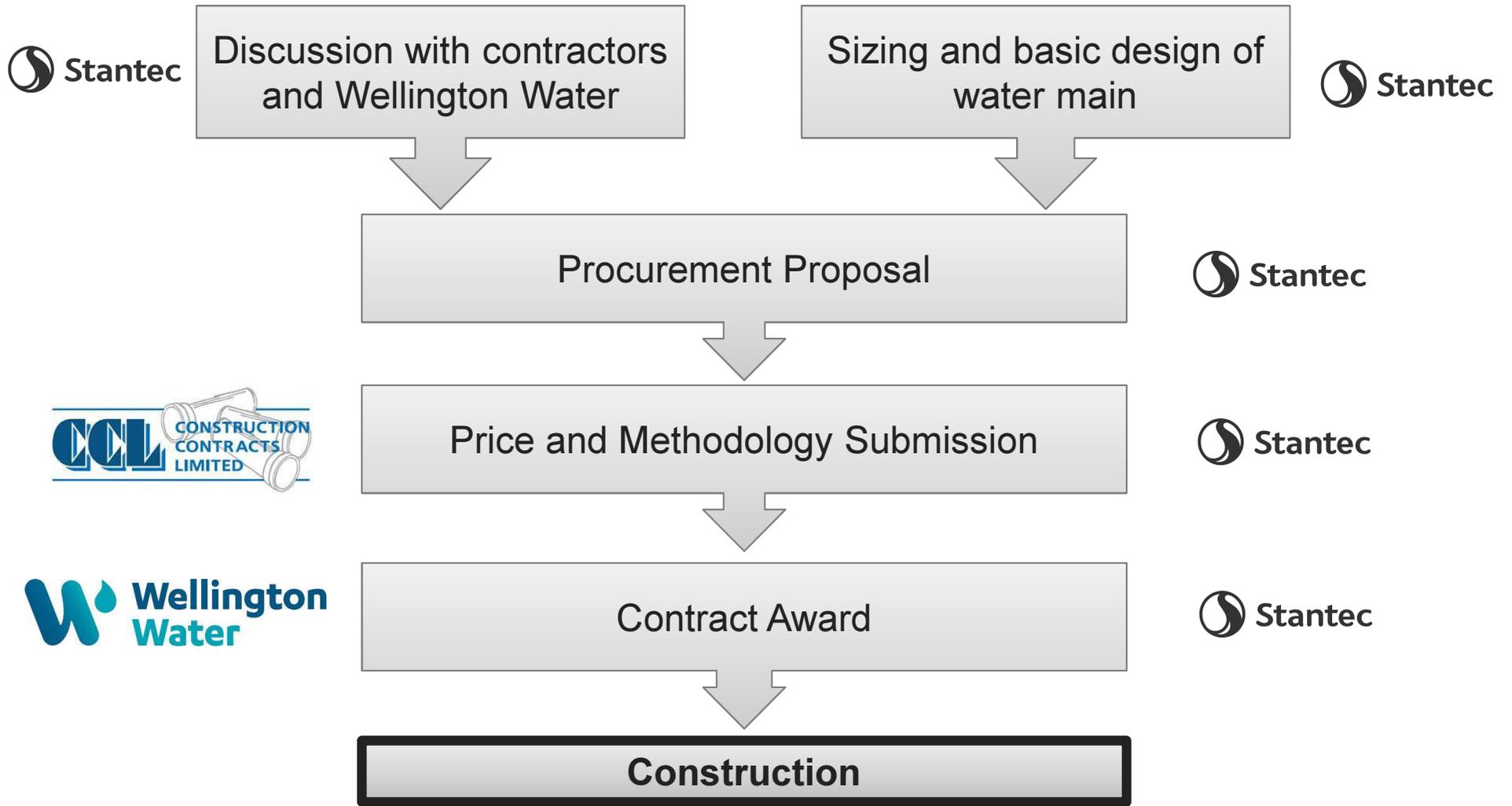
Trial Project  
Harbour View Road Watermain Renewal

# Scope

Replacement of 550m of 100mm dia. watermain with 180 OD PE100 and 350m of new 63OD PE100 ridermain



# Process Overview



# Construction

Services locate/markout



Site walkover



Stantec



Wellington Water



Potholing and initial alignment markout



Alignment walkover and agreement



Stantec



Wellington Water



Construction of water main



Risk Management

# Design Risk and Liability

- External Peer reviewer
- Liaison with Wellington Water
- Contractor not required to hold Professional Liability Insurance

# Value for Money

- Numerous historic tender submissions available to compare rates
- Open and honest tender negotiation process – clarification around items including traffic management
- Contingency/Provisional items



# Contractor Selection

- Track record
- Interest/Attitude
- Technical skill set – ability to give input

Lessons Learnt

# Lessons Learnt

- Biggest issue on site was traffic management and resident liaison
- Difficult to confirm alignment in 'one go'
- Contractor and contractor staff selection key
- Openness and honesty
- Consultancy cost reduced ~ 8 - 10% of contract value (Harbour View ~ 9%)
- Design and construction completed within 13 months

Where to from here?

# Approximate Business As Usual CAPEX Spend

	<b>CAPEX Budget Construction (2019/20) *</b>	<b>Approximate Associated Consultant Cost (15% CAPEX based on current average)</b>
Stormwater	\$6,800,000	\$1,020,000
Water	\$6,700,000	\$1,005,000
Wastewater	\$7,000,000	\$1,050,000
<b>TOTAL</b>	<b>\$20,500,000</b>	<b>\$3,075,000</b>

*\* Based on WWL CCP RFP Documentation*

# Potential Savings

	<b>CAPEX Budget Construction (2019/20) *</b>	<b>Estimated Percentage Runway Projects</b>	<b>Approximate Associated Consultant Cost (9% for runway, with remainder at 15%)</b>
Water	\$6,800,000	80%	\$693,600
Wastewater	\$6,700,000	50%	\$804,000
Stormwater	\$7,000,000	25%	\$945,000
			<b>\$2,442,600</b>

**Potential \$630,000 saving**

*\* Based on WWL CCP RFP Documentation*

# Programme Opportunities

- Lower risk of programme shift
- Ability to 'bundle' low risk projects
- More accurate programming for BAU projects → allow good forward visibility for consultants and contractors

# Draft Runway Selection Checklist

## **RUNWAY 1 TO MEET FOLLOWING CRITERIA:**

- Single option with single solution
- All work in road reserve
- Same pipe size or single diameter increase
- Watermain renewal or sewer renewal in road reserve
- Funding is certain

## **NOT A RUNWAY 1 IF:**

- Sewer renewal in private property
  - Resource or building consents needed
  - Private property approvals required
  - Risk of archaeological finds
  - Congested services
  - CBD location
- 
- Multiple options to be assessed
  - Complex or high risk project
  - High level of public interest
  - Possible public opposition to the project

Special Thanks to



and



Questions?



Without change there is no innovation, **creativity**, or incentive for improvement. Those who initiate change will have a better opportunity to manage the change that is inevitable.

**William Pollard**

