



SRNR Complex Project Management Plan

Project:

Ipswich Integrated Catchment Plan

Author:

Nicole Borkowsky

Title:

Project Officer - Integrated Catchment Planning

Ipswich City Council	
Team:	Strategy Team
Branch:	Sport Recreation and Natural Resources Branch
Department:	Infrastructure and Environment Department

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Contact for enquiries and proposed changes

If you have any questions regarding this document or if you have a suggestion for improvements, please contact:

Project Manager: Phil Smith

Phone: 07 3810 7022

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Introduction

1.1 Purpose of this Document

The purpose of this document is to outline how the Ipswich Integrated Catchment Plan will be implemented, and to detail how the project will be delivered within the desired funding and timing.

2 Project Purpose

The Ipswich Integrated Catchment Plan will produce an overarching investment strategy to manage current and future flood risk.

The plan will adopt an integrated catchment management approach over and above those associated with traditional flood risk investigations, bringing in a range of considerations and actions to ensure the natural functions of the floodplain are preserved, water quality improved and sediment load reduced, and ecological diversity increased within the catchment.

More specifically, the plan will incorporate a suite of risk management measures including the identification of physical mitigation options, land use planning, community awareness and resilience, emergency management, landscape management, property specific, ecosystem health and water sensitive urban design measures.

2.1 Background

In partnership with other catchment stakeholders, Ipswich City Council has played a significant role in the recently completed Brisbane River Strategic Floodplain Management Plan (BRSFMP); one of the largest floodplain management studies to be carried out in Australia to date. The BRSFMP is the culmination of a wider regional project (the Brisbane River Catchment Flood Study), which was undertaken as a direct result of the Queensland Flood Commission of Enquiry.

The BRSFMP includes a suite of recommendations and actions, a number of which are specific to Ipswich City Council. The primary responsive action for ICC is the production of a Local Floodplain Management Plan. For Ipswich, this plan will be the Ipswich Integrated Catchment Plan (the IICP)

Ipswich City Council has been closely involved in the completion of the BRSFMP. Council has also developed a Catchment Action Plan for the Bremer River on behalf of the South East Queensland Council of Mayors and is currently undergoing a review of local waterway studies and models including for the Bremer River. These studies and plans will inform the development, actions and prioritisation process from the IICP, along with other studies, plans and strategies including;

- ICC Floodplain Management Strategy
- ICC Waterway Health Strategy
- Ipswich Integrated Water Strategy
- Lower-Brisbane and Mid-Brisbane Catchment Action Plans
- Local flood studies
- Queensland Flood Commission of Enquiry

ICC, as an advocate of integrated water planning and management, have identified an opportunity to develop this plan beyond the basic flood mitigation purpose. As such, the plan will go above and beyond to integrate actions from across the catchment management space.

2.2 Corporate Objectives

This PMP and project outcomes align with and aim to deliver upon the following corporate objectives and strategies:

CORPORATE DOCUMENT	OBJECTIVES WHICH ARE ADDRESSED/TARGETED IN THIS PROJECT
5 Year Corporate Plan and Advance Ipswich Community Plan	<p>Goal 2 - Plan and develop a vibrant and sustainable City that accommodates the needs of a diverse and growing population and economy.</p> <p>Strategy 1 - Develop a compact, sustainable, mixed use urban form that supports community and economic development.</p> <p>Key Action - Limit urban development to a defined urban footprint thereby protecting important natural environmental areas, waterways, rural areas and scenic landscapes.</p>
5 Year Corporate Plan and Advance Ipswich Community Plan	<p>Goal 3 - Create a city that values its past and embraces opportunities to work together for the betterment of the community.</p> <p>Strategy 1 Inform, educate and celebrate with the community those elements of our history that have shaped our identity.</p> <p>Key Actions –</p> <ul style="list-style-type: none"> • Develop a clear understanding of what unites us and forms the city's identity. • Strengthen Council's branding of Ipswich to align with our identity and changing communities. • Implement a regular program of community opinion surveys to track changes in the values that impact Council's policy development and service delivery. <p>Strategy 2 - Invest in data collection, analysis and targeted research to provide the evidence base for development of strategy and resource allocation.</p> <p>Key Action – Develop greater understanding of community needs through community engagement, research and analysis to inform program, service and facility planning and delivery.</p> <p>Strategy 3 - Adopt and deliver an explicit Community Development framework tailored to the needs of our varied communities.</p> <p>Key Action – Facilitate capacity building through a comprehensive community development training program (leading to Increased resilience through strength of community leadership).</p>

CORPORATE DOCUMENT	OBJECTIVES WHICH ARE ADDRESSED/TARGETED IN THIS PROJECT
	<p>Strategy 8 - Develop greater community resilience and readiness.</p> <p>Key Actions –</p> <ul style="list-style-type: none"> • Work in partnership with other levels of government and other agencies to ensure effective responses to disasters and emergencies. • Develop and provide information to the community regarding effective responses to disasters and emergencies. • Facilitate capacity building and leadership to enhance emergency management resilience in the community. • Use Planning Scheme provisions to appropriately manage the risks arising from natural and other hazards.
5 Year Corporate Plan and Advance Ipswich Community Plan	<p>Goal 4 - Important areas of native habitat and vegetation are conserved, the city's important waterways are protected and their water quality enhanced, and the city responds appropriately to climate change and uses resources prudently.</p> <p>Strategy 2 - Waterways are protected and managed to achieve enhanced environmental, ecological and water quality outcomes.</p> <p>Key Actions –</p> <ul style="list-style-type: none"> • Work in partnership with property owners, community groups and government agencies to protect and better manage important waterways, wetlands and groundwater resources. • Ensure effective catchment and floodplain management. <p>Strategy 4 - Strategy 4 Use resources efficiently and sustainably.</p> <p>Key Action - Water is treated as a precious resource within a total water cycle management framework.</p>

3 Scope of Project

3.1 In Scope

The following are within the scope of the project:

- Provide an Ipswich-wide baseline risk assessment
- Define how the IICP relates to other planning and implementation activities using an integrated catchment management approach.
- Use the principles for integrated catchment management outlined in the QAO report;
 - Recognise and balance the relationships between cause and effect impacting on ecosystems within a catchment.
 - Coordinated approach from all levels of government.
 - Community and private enterprise engagement.

- Identify potential options for mitigating/managing risk in the areas of;
 - General Floodplain Management
 - New or improved infrastructure
 - Property Specific Actions
 - Land Use Planning
 - Emergency Management
 - Community Awareness and Resilience
 - Integrated Storm water Management
 - Ecosystem Health
- Assess, appraise, select and prioritise actions for future investment.
- A Communications and Engagement Strategy.
- Regional connection to the Brisbane River Strategic Flood Risk Management plan and priority outcomes.

The IICP report is intended to contain details for the following:

- Summary of work to date
- Local context and policy context
- Integrated catchment management methodology and approach
- Current flood risk
- Future flood risk including climate change adaptation – CC incorporated in the modelling
- Risk Reduction
- Residual risks
- Mitigation options
- Coordinated approach including links with existing State and local government activities
- Outputs:
 - a. Risk management responses standards
 - b. Mapping
 - c. Data
 - d. Hazard drivers
 - e. Community messaging
- A set of recommendations
- Implementation/Investment strategy

A detailed project scope is provide in Attachment A.

3.2 Out of Scope

The following are outside the scope of the project:

- On-ground infrastructure works
- Dam operations will not be considered as part of this project
- Existing asset condition will not be considered as part of this project

3.3 Related Projects

The following projects have been identified as being related to the Integrate Catchment Plan

- Ipswich City Council Planning scheme review

- Ipswich City Council Waterway Health Strategy
- Brisbane River Strategic Floodplain Management Plan (State project – complete) and relevant State-led recommendations;
 - Brisbane River Regional Cumulative Impact Assessment
 - Warrill Creek Dry Flood Mitigation Dam Feasibility
 - Assessment of regional evacuation capability
 - State guidelines to support the identification of ‘fair and reasonable’ immunity for evacuation routes.
 - Consultation with the Department of Defence regarding a levee for the Amberley RAAF Air Base.
 - Disaster data information framework to provide all stakeholders with access to consistent and up-to-date disaster data for the region.
 - Development of a real-time regional hydraulic modelling system and incorporate outputs into a regional flood intelligence system to share information.
 - Development of regional reference material including a compendium of current activities and learnings, toolkit of activities and guidelines for communication and engagement.
 - Evaluation of community awareness and resilience activities relating to flood, and share learnings from the evaluation to inform continual improvement in suitability and effectiveness.
 - Development of regional guidance for delivering consistency in local provision of online flood awareness mapping, property-scale flood information, place-based installations, and community facing language and messaging.
 - Undertake local geomorphological studies to identify key catchment processes and issues, and assess current conditions and pressures.
 - Update catchment and receiving water quality modelling to estimate other (non-flood) benefits to waterways.

3.4 Constraints

The following constraints have been identified;

- Local flood modelling/flood studies must be complete in order for the project to proceed.
- The project must be delivered by 30 June 2020 to meet NDRP requirements.

3.5 Urgency

Council has been granted funding under the National Disaster Resilience Program (NDRP) for the delivery of this work. In order to claim the full funding amount, the project must be complete by 30 June 2020.

3.6 Assumptions

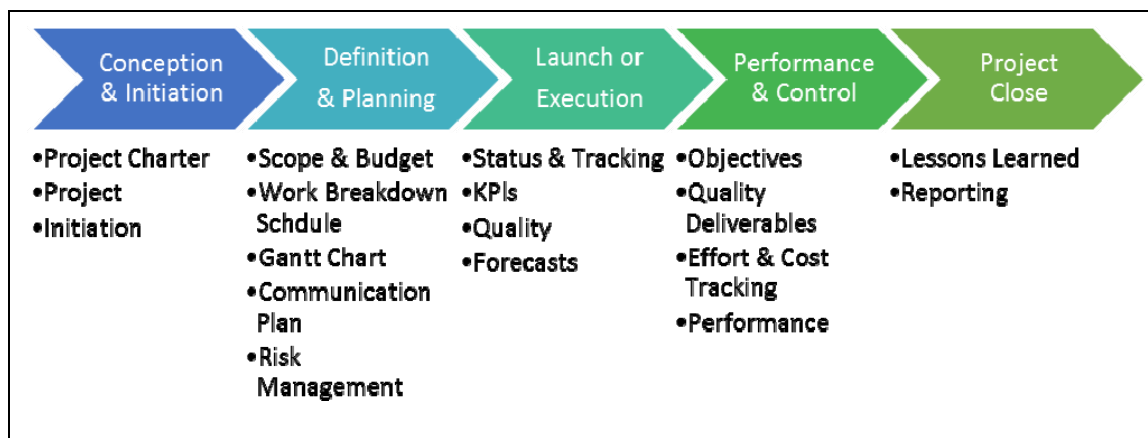
The following assumptions have been made in the development of this project plan;

- A multi-disciplinary approach will be employed throughout the project with appropriate input from the necessary areas within Council.
- Council officers undertaking tasks that contribute to delivery of the project will have the capacity to do so within the required time frames.
- All necessary data and resources are available and adequate, and will be provided by internal partners as required within the timings allowed (noting that internal partners have had input into the project scope and schedule).
- The project Steering Committee will provide governance and oversight of the project.

4 Business Process

4.1 Project Management Principles

This Complex Project Management Plan is based on the PMBOK project management principles (A Guide to the Project Management Body of Knowledge (PMBOK Guide) 5th Ed. (5th ed.).) As such, the following five phases have been used to structure, define and manage this project.



5 Governance

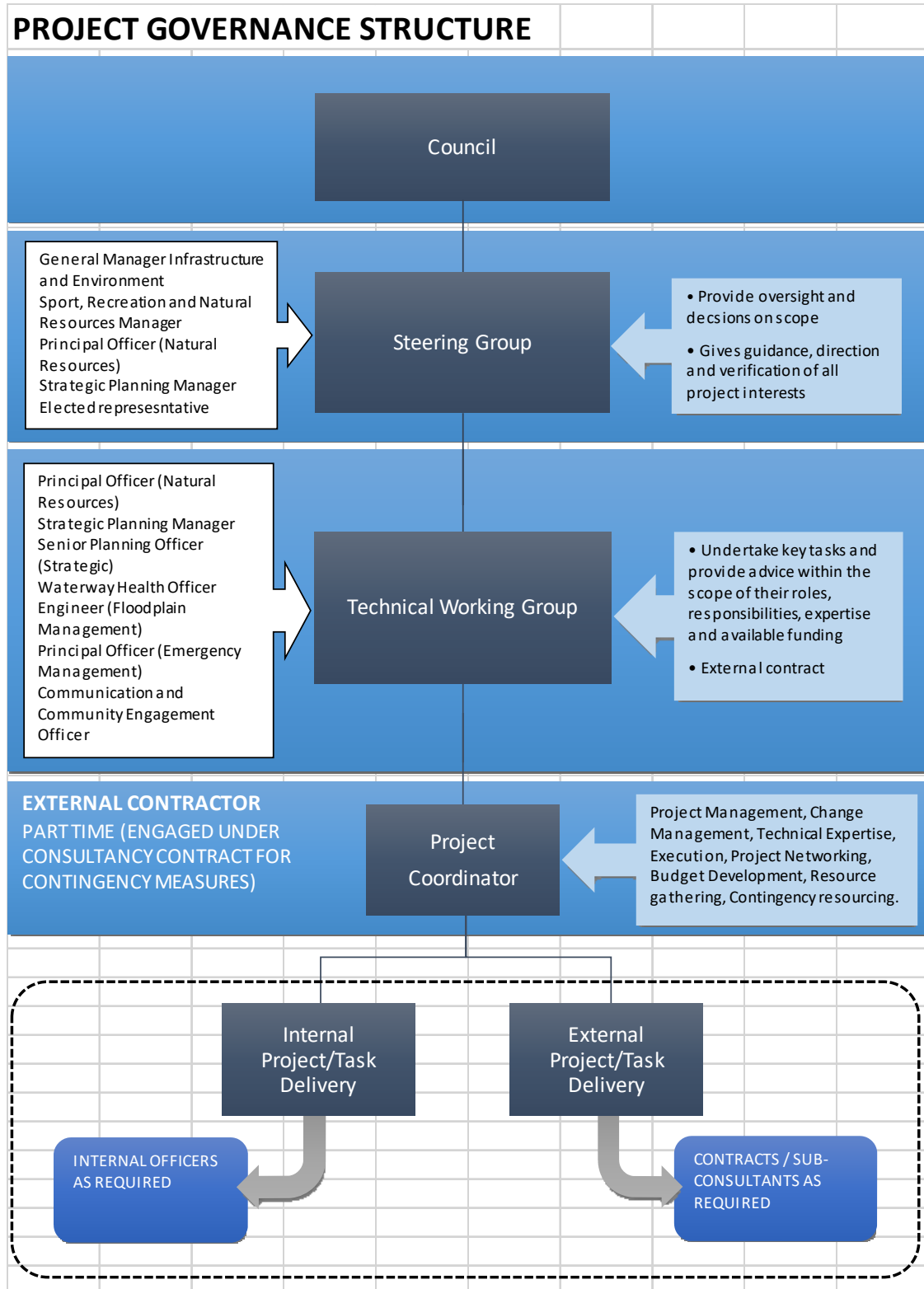
5.1 Key roles

The key project management roles are;

Project Customer	Council
Project Sponsor	Sport, Recreation and Natural Resources Manager
Project Director/Concept Manager	Principal Officer (Natural Resources)
Project Manager	Waterway Health Officer
Steering Committee	<p>Sport, Recreation and Natural Resources Manager, Infrastructure and Environment Department</p> <p>Principal Officer (Natural Resources), Infrastructure and Environment Department</p> <p>General Manager, Planning and Regulatory Services</p> <p>General Manager, Infrastructure and Environment</p> <p>Elected Representative (Relevant portfolio holder)</p> <p>State Government Representatives and Queensland Reconstruction Authority (non voting – consultative role).</p>
Technical Working Group	<p>Principal Officer (Natural Resources), Infrastructure and Environment Department</p> <p>Strategic Planning Manager, Planning and Regulatory Services</p> <p>Senior Planning Officer (Strategic), Planning and Regulatory Services</p> <p>Waterway Health Officer, Infrastructure and Environment Department</p> <p>Engineer (Floodplain Management), Infrastructure and Environment Department</p> <p>Principal Officer (Emergency Management), Infrastructure and Environment Department</p> <p>Communication and Community Engagement Officer, Infrastructure and Environment Department</p>

5.2 Project Organisation Structure

The project governance and organisation structure is shown in the diagram below.



6 Stakeholder Impacts and Influence

The following stakeholders have been identified for the Ipswich Integrated Catchment Plan.

Stakeholder Category	Specific stakeholders	Impact of and Influence on the project
Internal	<p>Ipswich City Council and Committee</p> <p>Ipswich Integrated Catchment Plan Steering Committee</p> <p>Ipswich Integrated Catchment Plan Technical Working Group</p> <p>Council's Communications and Media, Community, Cultural and Economic Development</p> <p>Coordination and Performance department</p>	<p>Ultimate approval/decision making</p> <p>Oversight and guidance of the project</p> <p>Undertake key tasks</p> <p>Provide advice and assistance to the project when required</p>
	<p>Government departments, Government owned corporations, Government agencies</p> <p>Department of Natural Resources and Mines and Energy (DNRME)</p> <p>Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP)</p> <p>Department of Local Government, Racing and Multicultural Affairs (DLGRMA)</p> <p>Department of Environment and Science (DES)</p> <p>Department of Housing and Public Works (HPW)</p> <p>Department of Transport and Main Roads (DTMR)</p> <p>Queensland Fire and Emergency Services (QFES)</p> <p>Queensland Police Service (QPS)</p> <p>Department of Communities, Disability Services and Seniors (DCDSS)</p>	<p>State Government Departments will;</p> <ul style="list-style-type: none"> - Produce material that will be used by the project (e.g. guidance material, regional assessments etc.). - Set any relevant State requirements. - Require reporting of actions from Flood Commission of Enquiry and Brisbane River Strategic Floodplain Management Plan. - Administer NDRP funding (QRA) - Department of Defence will have an interest in any proposed measures that impact Amberly Air Base. <p>Whilst the outcomes will be relevant and dependant upon the above the impact of these agencies, and their influence on the delivery of the project plan are considered to be low.</p> <p>Local Government Agencies will;</p> <ul style="list-style-type: none"> - Share established material or processes that could be of benefit to the project. - Seek regional consistency maintained

Stakeholder Category	Specific stakeholders	Impact of and Influence on the project
	<p>Department of Defence (DoD)</p> <p>Queensland Reconstruction Authority (QRA)</p> <p>Brisbane City Council (BCC)</p> <p>Lockyer Valley Regional Council (LVRC)</p> <p>Somerset Regional Council (SRC)</p> <p>Scenic Rim Regional Council (SRRC)</p> <p>The Bureau of Meteorology</p> <p>Seqwater</p> <p>LGAQ</p> <p>Queensland Urban Utilities</p> <p>Council of Mayors (SEQ)</p> <p>Sensitive Stakeholders</p> <p>Property owners who have experienced flooding, or who are at risk of flooding</p> <p>Property owners within riparian corridors</p> <p>Elected Representatives</p> <p>Federal Elected Representatives</p> <p>State Representatives</p> <p>Local Council Representatives</p> <p>Local Community</p> <p>The community within the ICC Local Government Area. This will include both Engaged Public Members (those impacted by flood) and Complacent Public Members (those who are unaware of the impacts).</p> <p>Waterway and Catchment Groups</p> <p>Healthy Land and Water</p> <p>Ipswich Rivers Improvement Trust</p> <p>Scenic Rim Rivers Improvement Trust</p> <p>Bremer River Network</p>	<p>and no adverse impacts beyond LGA boundaries.</p> <p>BoM – supply if forecast information for use in emergency management.</p> <p>Seqwater – information and measures that could potentially affect dam operations.</p> <p>Utilities providers - information and measures related to their infrastructure.</p> <p>SEQ Council of Mayors - project integration with Catchment Action plans.</p> <p>Both the impact of the project on the above organisations and their influence on the project are considered to be very low.</p> <p>Property owners and the community;</p> <ul style="list-style-type: none"> - Input to the project (engagement to determine awareness and resilience and opinions on possible types of new infrastructure). - Potential use of project outputs/information to increase awareness and resilience. <p>Elected representatives will seek to ensure the views/interests of their constituents are heard and taken into account.</p> <p>Property owners, the community and elected representatives have the potential to have considerable influence on the project. The impact could be both positive and negative depending on the effectiveness of engagement. The impact of the project could also be high, but this should be a positive impact.</p> <p>Waterway catchment groups - project integration with Catchment Action plans and other waterway strategies/plans.</p>

Stakeholder Category	Specific stakeholders	Impact of and Influence on the project
	<p>Brisbane Catchments Network</p> <p>Industry, Commercial and Business groups</p> <p>ARTC</p> <p>Planning Institute of Australia</p> <p>Urban Development Institute of Australia</p> <p>Property Council of Australia</p> <p>Australian Property Institute</p> <p>Australian Institute of Architects</p> <p>Engineers Australia</p> <p>Insurance Council of Australia</p> <p>Ipswich Chamber of Commerce</p>	<p>Both the impact of the project on other the above organisations and their influence on the project are considered to be very low.</p> <p>Other industry, commercial and business groups may use outputs/information produced by the project and may provide useful information to the project.</p> <p>Both the impact of the project on other the above organisations and their influence on the project are considered to be very low.</p>
Media	<p>Ipswich First</p> <p>Courier Mail</p> <p>The Queensland Times (Ipswich)</p> <p>The Advertiser</p> <p>River 949</p> <p>Moreton Border News</p> <p>ABC Local Radio</p>	<p>Local media has the potential to have considerable influence on the project. If properly engaged, this will be a positive impact.</p>

7 Scope

A detailed project scope is provided in Attachment A.

8 Risks

8.1 Level Assessment

For a project of this nature, risk management needs to be integrated into the life of this project and regularly monitored and updated.

A risk assessment has been carried out in accordance with Council's Enterprise Risk Management Framework.

8.2 Key Risks

The main project risks to Council are related to time delays and internal and external stakeholder support. The highest residual risk level is M-12. This level of risk is tolerable if all reasonably practicable steps are taken to reduce it. The escalation point for medium risks is to Officer, Supervisor/Team Leader or Manager.

The following table identifies the major risks or uncertainties that may be encountered during the project.

Risk	Initial Risk Level	Controls and Treatments	Revised Risk Level
Not receiving timely Steering Committee and Council approvals	M-9	Establish agreed Terms of Reference (ToR) for the Steering Committee Formalised agreement milestones such as meeting minutes Early Council approval (submit committee reports and or briefings to the steering committee)	L-5
Supplier unable to meet required timeframes	M-13	Due diligence in procurement process Effective contract management – Monitor and control project schedules and milestones Identify and raise issues around time slips early	M-12
Relevant or required outputs or findings not meeting with the timing/milestones of the planning scheme.	M-12	Continually monitoring and align where possible. Regular meetings and updates between planning representatives of working groups and prioritisation of work related to or required for the planning scheme early in the project.	M-9
Project team unable to meet required timeframes	M-15	Established multi-disciplinary team Utilisation of external expertise Monitor and control project schedules and milestones Identify and raise issues around time slip and scope creep early	M-11
Sub-optimal community input into the project	M-13	Early internal engagement. Input/advice from community engagement experts Thorough and appropriate community engagement strategy	M-11
Internal disagreement	M-15	Early internal engagement. Input/advice from community	M-11

recommendations/outcomes of project		engagement experts. ToR to include agreed decision making process. Escalation of issues for resolution.	
Project team fatigue/burn out	M-14	Business planning and succession planning Recruitment, knowledge sharing. Established multi-disciplinary team Procure external resources including Project manager and working team	M-11

9 Program

9.1 PROPOSED DELIVERY

Task	Proposed Start/End Date
Initial project approval	30 June 2018
NDRP Funding Approval	26 June 2018
Committee approval of Project Management Plan and scope	18 June 2019
Procurement	1 June – 31 July 2019
Project Execution and Control	1 August 2019 – 30 June 2020
Project Close Finalisation reports and acquittal	1 July – 31 August 2020
Committee Approval of Plan	September 2020

10 Cost

The table below provides an estimate of budget for each project phase. The project costs will be finalised following receipt of contract tenders for elements of the work that are to be out-sourced.

Project Phase	Total (\$) ex. GST
Internal project management and co-ordination	\$180,000
Technical analysis and reporting by expert consultants	\$460,000
Sub Total	\$640,000
Contingency	\$100,000
Total Project Cost	\$740,000
Amount of any funding/contributions approved to date	\$190,000 (NDRP approved

	June 2018)
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11 Human Resources

The human resources required by Council to deliver this project are listed in the table below, along with the means of obtaining these resources.

ICC Internal Project HR Requirements	Means of Obtaining Resources
Project Co-ordinator	Contractor/Contingent Worker
Project Manager	Internal Staff
Manager	Internal Staff
Principal	Internal Staff
Flood Engineer	Internal Staff
Waterway Health Officer	Internal Staff
Emergency Management Officer	Internal Staff
Strategic Planner/s	Internal Staff
Communications and Engagement Officer	Internal Staff

12 Communication Strategy

12.1 External to the Project

External project communication will be managed as per the project communication and engagement table below.

A full external project communication plan will be produced in conjunction with the Communications and Engagement Officer and relevant branches within Council.

12.2 Internal to the Project

Internal project communication will be managed as per the project communication and engagement table below.

A full internal project communication plan will be produced in conjunction with the Communications and Engagement Officer and relevant branches within Council.

12.3 Communication and Engagement Template

The table below has been developed in line with the Sport, Recreation and Natural Resources Branch Communication and Engagement Toolkit, which is designed to identify a project's individual communication and engagement needs.

This information will be used to inform the more detailed project communication plans.

Stakeholder Type	Stakeholder	Engagement type	Methods	Evaluation data
Internal				
	Ipswich City Council and Committee	Collaborate	Committee Reports	Stakeholder Feedback
	Ipswich Integrated Catchment Plan Steering Committee	Collaborate	Steering Committee Meetings	
	Ipswich Integrated Catchment Plan Technical Working Group	Collaborate	Project Meetings	
	Communications and Media Branch	Collaborate	Working /Task and Finish Groups	
	Marketing and Events Branch	Collaborate	Working Groups/Task and Finish Groups	
	Community Engagement Branch	Collaborate	Working Groups/Task and Finish Groups	
External				
State and Federal Government Departments and Authorities	DNRME	Consult	Consultative workshops, one-on-one meetings as required, correspondence including as a consultative member of the steering committee	Stakeholder Feedback
	DSDMIP	Consult		
	DLGRMA	Consult		
	DES	Consult		
	HPW	Consult		
	DTMR	Consult		
	QFES	Consult		
	QPS	Consult		
	DCDSS	Consult		
	QRA	Collaborate	Working groups & partnerships as required, correspondence including as a consultative member of the steering committee	
DoD	Consult	One-on-one meetings		
Local Government Agencies	BCC	Consult	Consultative workshops, one-on-one meetings	Stakeholder
	LVRC	Consult		
	SRC	Consult		

	SRRC	Consult	as required, correspondence	Feedback
Other Government Organisations	BoM	Consult	Consultative workshops, one-on-one meetings as required, correspondence	Stakeholder Feedback
	Seqwater	Consult		
	SEQ CoM	Consult		
	Utilities providers	Consult		
	LGAQ	Share	Email updates	
Waterway and Catchment Groups	Healthy Land and Water	Consult	Consultative workshops	Stakeholder Feedback
	Ipswich Rivers Improvement Trust	Consult		
	Scenic Rim Rivers Improvement Trust	Consult		
	Bremer River Network	Consult		
	Brisbane Catchments Network	Consult		
Community	Property Owners	Consult	Surveys/polls, Community engagement platform, Information sessions (community events)	Survey Responses
	General community	Consult		
	Federal Members	Consult	Correspondence as required	Stakeholder Feedback
	Local Members	Consult		
	Councillors	Consult		
	Industry, Commercial and Business groups	Planning Institute of Australia	Share	Email updates
Urban Development Institute of Australia		Share		
Property Council of Australia		Share		
Australian Property Institute		Share		
Australian		Share		

	Institute of Architects			
	Engineers Australia	Share		
	ARTC	Consult	One-on-one meetings as required, correspondence	
	Insurance Council of Australia	Consult		
	Ipswich Chamber of Commerce	Consult		
Media	Ipswich First	Share	Media Releases	Survey responses and stakeholder feedback
	Courier Mail	Share		
	The Queensland Times (Ipswich)	Share		
	The Advertiser	Share		
	River 949	Share		
	Moreton Border News	Share		
	ABC Local Radio	Share		

13 Procurement Management

Recruitment through the vendor panel is proposed as per the project plan and in line with anticipated value of over \$200,000 and in line with a requirement for innovation and the specific skills required. Partnering within organisations is encouraged to ensure the best mix of diverse skills.

Procurement will be in accordance with ICC procurement policy and procedures. A detailed procurement plan will be produced upon approval of the project plan.

A full procurement plan will be developed in conjunction with the Procurement Team.

14 Quality

The quality of the project will be ensured through management and ongoing appraisal against the objectives and points outlined this plan and supported by regular project meetings and reporting, and diligent project controls. With specific attention paid to the delivery of the project requirements in line with the scope, the schedules and budgeted costs.

Progress will be assessed when presented to the Technical working group and by the project manager who are experienced and qualified in is area. If deemed to be required there may be room for peer review

15 Integration

The requirements of all knowledge areas within Council have been taken into account in the preparation of this project management plan. It provides a means of integrating these requirements, allowing them to be progressed with cohesive inter-relationships. Ongoing integration will be

ensured through management against this plan and supported by regular project meetings and reporting, and diligent project controls.

16 Swot Analysis

A SWOT analysis was undertaken to identify the project's strengths, weaknesses, opportunities and threats.

The strengths are areas of high performance, which will be maintained and used to take advantage of identified opportunities, and minimise the threats.

By identifying weaknesses before inception through the below assessment, the project can target these areas for improvement or put in place mitigation options. Focussing on these areas for improvement also helps to avoid or counteract threats to the project. By highlighting the opportunities presented by the project and the organisation.

The results of the SWOT analysis undertaken for this project are provided below.

Strengths	Weaknesses
Extensive local knowledge	Limited capacity within the organisation to deliver additional projects
Desire and ability to innovate and implement change	Stability/certainty of Council and organisational structure and future resourcing as a result
Holistic approach to catchment planning	Unsurely about the level of executive level buy-in/support
Dynamic/Agile	Lack of redundancy/succession planning within the project team
Diverse range of capability	Documented processes and data management
Capability	Competing priorities
	Capacity and commitments of internal staff and consultants

Opportunities	Threats
Community support and interest in the area of flood and catchment management	Political uncertainty
Momentum/structure/learnings/best practice from regional studies.	Growth, development and associated pressures
Freedom to innovate	Climate uncertainty
Cost efficiency through synergy	Financial/budgetary uncertainty in the face of operational budget cuts
Integrated, multi-benefit outcomes	Lack of buy-in across jurisdictions and different levels of government
Improve integration internally and across	Lack of engagement and support from other

jurisdictions and different levels of government	external stakeholders (e.g. Seqwater, Urban Utilities,
Challenge industry and lead best practice	Lack of support for the delivery of specific measures.
Implementation through industry investment (growth and development)	

Attachment 1: Project Scope

Ipswich Integrated Catchment Plan

Project Scope

General

The project will be overseen and guided by a local Steering Committee with representation from relevant sections of council, such as engineering, land use planning, natural resources, emergency management and community disaster resilience. Consideration will also be given to allow periodic input from other relevant stakeholders.

Community consultation and engagement is an important part of the project. Without community input, there is the potential that risk may not be adequately identified and described, that management measures and opportunities may be missed, and that preferred options may not be supported by the community.

The project will be developed cognisant of all appropriate frameworks, legislation, standards, strategies, policies etc. These will include, but will not be limited to;

- All relevant legislation, standards and guidelines
- Brisbane River Flood Study and Strategic Floodplain Management Plan (BRSFMP)
- Queensland Flood Commission of Enquiry
- ICC Floodplain Management Strategy
- ICC Waterway Health Strategy
- Ipswich Integrated Water Strategy
- Lower-Brisbane and Mid-Brisbane Catchment Action Plans
- Local Corridor Plans
- Local flood studies

The plan is required to support, but not be limited to, the vision of regional consistency established in the BRSFMP, and maintain consistency with BRSFMP outcomes while including other inundation mechanisms (local catchments and overland flow).

Location

Bremer and Brisbane Catchments and sub-catchments within the Ipswich Local Government Area.

External Supplier/s

The successful tenderer will be required to assemble a multi-disciplinary team with demonstrated specialist knowledge and experience across the following areas.

- Integrated Catchment Planning
- Waterway Health
- Floodplain management
- Flood Engineering
- Natural Resource Science including;
 - Environmental science
 - catchment rehabilitation
 - Ecology
 - River/corridor management
- Integrated stormwater management incorporating water sensitive urban design
- Strategic/land use planning

- Emergency Management – in particular data analysis and flood intelligence and planning
- Community disaster resilience
- Community engagement
- Geographical Information Systems
- Cultural heritage
- Economics

Technical Tasks

The following technical tasks will be in scope for the successful tenderer. All work will be required to be undertaken in consultation with the internal Technical Working Group and Steering Committee.

Current and Future Flood Risk and Flood Damages

- Data analysis to include potential hydraulic risk, exposure, vulnerability, isolation and relative time to inundation.
- Floor levels to be determined from LiDAR and algorithms.
- Analysis and mapping of current flood studies data for rates of rise and relative travel time between reporting locations.
- Mapping of current flood studies data covering hydraulic hazard at designated likelihoods and flood risk.
- Vulnerability Analysis/Community profiling.
- Link to the Community Awareness and Resilience work package to undertake engagement with the community and consultation with relevant stakeholders to confirm local 'tolerability' to flood risk, and test acceptability of possible flood risk mitigation options, including the broad range of option types covering infrastructure, land use planning, disaster management, community awareness and property-specific measures.
- Mapping of flood exposure and community vulnerability.
- Shrinking island, isolation and evacuation route closure mapping for the selected likelihood conditions.
- Run climate change and future development sensitivity scenarios.
- Assess the impact of climate change and future development scenarios through difference mapping.
- Populate full property database – update existing BRSFMP database with additional property floor levels and more refined information on local sensitive institutions, local critical infrastructure etc. in all relevant areas.
- Estimate flood damages for current and future conditions using the BRSFMP methodology.

New or Improved Infrastructure

- Identify physical options that can be implemented at the local scale to address local catchment management issues. Draw on suggestions from local communities and relevant stakeholders, other Council studies/plans/strategies.
- Develop Multi Criteria Analysis (MCA) system criteria and weighting.
- Undertake multi-criteria analysis. This is to be modified from the BRSFMP MCA to include Integrated Stormwater Management and Ecosystem Health in the evaluation criteria and recognise the integrated catchment management focus of the IICP.
- Determine options to undergo further analysis.
- Where relevant to do so, test suites of options, e.g undertake a hydraulic assessment to understand the combined impact of options.
- High level concept design and costing for options to be analysed.
- Hydraulic modelling of options to be analysed (current and future).
- Flood damage calculations for modelled options.

- Cost benefit analysis (including tangible and intangible costs) using the updated property damage database along with hydraulic impact modelling. Benefits to be extended to include environmental, social and cultural benefits of IICP measures. It is noted that some options will be difficult or impossible to cost for the purposes of a benefit cost analysis, and therefore need particular attention in the MCA process.
- Review MCA to include results of the cost benefit analysis and issues highlighted in the production of concept designs/feasibility stage when prioritising actions.
- Include preferred regional infrastructure solutions (identified in BRSFMP including SO3, SO5 and SO7) in MCA and prioritise against other local options.
- When examining potential options review and produce more detailed feasibility assessment/preliminary design of potentially viable options, including optioneering with stakeholders, to optimise design for maximum benefit / least cost.

Property Specific Actions

- Economic assessment of property-specific options for mitigating existing flood risk, residential property buyback / voluntary purchase, retrofitting/grants, voluntary house raising, and flood-proofing for a range of AEPs where flood risks are high and other alternative options are not feasible. This should include, but not be limited to;
 - Benefit cost analysis to establish the financial merits of property specific actions.
 - Assessment of property specific options using the same MCA process and criteria as per the physical options.
 - Examine existing models and learnings and cost benefit.
- Make recommendations related to property specific measures.

Land Use Planning

- Define vulnerability
- Peer review of Council prepared overlay codes (to check integration with LFMP/IICP and provide feedback)

Emergency Management

- DM 3.1 - Identify (rainfall and stream) gauges to be included in the Bureau's forecast network based on the Queensland Flood Gauge Network Review.
- DM3.2 Review stream gauge classifications and amend where necessary
 - Review provided gauge reference areas to determine if these polygons require modification to better suit local conditions and evacuation policies, or to address multiple sources of flooding. New gauges may have the effect of reducing the size of adjacent areas, and subsequently improving the strength of the relationship between flood behaviour at the gauge and within the reference area.
 - Produce new forecast location diagrams for any additional forecast gauge locations.
 - Update time to inundation mapping for new/revised gauges.
- Use results of regional and local scale assessments to identify regions of similar risk and develop/revise emergency alert polygons for these locations (GIS work only) in line with QFES Emergency Alert Manual.
- Assess critical infrastructure within the Study Area and evaluate the interconnectedness of the infrastructure? Identify options for improving the resilience of critical infrastructure and evacuation routes
- Develop draft material for inclusion in updates of local disaster management plans/relevant documents. To including creation of GIS layers from latest data that can be queried and accessed for DM/other Council purposes.

- Consider options for combining data from separate sources (e.g. separate models) to provide a single source of truth for EM.
- Using the AIDR Evacuation Planning handbook, undertake evacuation capability assessments to identify constraints taking into account population, road/route capacity, the timeframe for route utilisation, local factors such as local flooding, culvert capacity etc., alternative route availability, route destinations, flood warning, warning dissemination, active evacuation and shelter. Particular focus on Goodna and Karalee.
- Use outputs from evacuation capability assessment to inform isolation assessment and consider options to manage isolation risk, including pre-emptive evacuation. See also point above.
- Identify regions which may require pre-emptive or early warning and / or evacuation. Tools may include relative time to inundation mapping, road inundation data, local knowledge and Council's existing WaterRIDE system.
- Allowance to assess outputs of regional evacuation capability assessment when available and highlight additional/updated local work if required.
- Develop draft material for inclusion in updates of local scale evacuation plans. To including creation of GIS layers from latest data that can be queried and accessed for DM/other Council purposes.
- Review of best practice in the area of fast-onset flooding and flood warning systems. Where assessments indicate the potential for fast-onset flooding, consider and make recommendations related to flash flood warning systems in consultation with Council.
- Review and make recommendations for development/update of flood intelligence utilising new information including (at least) information on inundation, isolation and disruption to community services.
- Identify and review recent/new BoM products and services and make recommendations for ICC utilisation of these new inputs.
- In undertaking the items above consider;
 - all sources of flooding, and the potential for concurrent flooding from multiple flood sources (including joint probability analysis);
 - Consider the types of response triggered by the various flood sources (and potential overlaps); and
 - Consider the likely scale / extent of impacts caused by each of the flood sources.
- Provide documented processes for all analysis/work undertaken to enable replication in future as necessary.
- Integrate with all hazards approach.

Community Awareness and Resilience

- Maintain consistence with State wide Get Ready Campaign.
- Extend the regional approach to Community Resilience in Local strategies.
- Catalogue current awareness and resilience activities being undertaken within the local area, and state / regional scale activities which affect the local area.
- Refine demographic data identified through the regional-scale vulnerability assessment to develop sub-local area community profiles. These refinements may be informed by local knowledge of relevant stakeholders engaged with the community.
- Review BRSFMP market research and identify any additional research required.
- Prepare specific questions and undertake market research to establish baseline level of awareness and resilience and establish community appetite for strategy and activities developed.
- Reviewing market research results to determine baseline level awareness and community appetite for identified (local-scale) community awareness and resilience activities. Incorporate results into strategy/plan.

- Informed by the above and outputs of earlier work packages, undertake a gap analysis to identify regions, communities, types of flood risks etc. where additional community awareness and resilience building is required/recommended.
- Undertake case study for the suburb of Goodna and establish suburb specific recommendations on how to build community resilience. Consider how this integrates with QERMF.
- Prepare material for community activities (e.g. Information sessions) to discuss regional flood management options and allow for one officer to attend these with Council.
- Expand on BRSFMP review of industry best-practice and current activities to identify local scale effective approaches that can be enacted improve community awareness and resilience.
- Develop objectives for a regional community resilience and awareness strategy/plan
- Prepare stakeholder and community engagement plans (sub regional/based on communities). These plans should determine and implement tasks required to;
 - Support, identify and up-skill community leaders as part of a community led program to assist with disseminating information, resilience planning and activities, and communication of local conditions;
 - Continue implementation of a suite of activities targeting vulnerable communities at the local Level;
 - Investigate options for enhancing volunteer connection and coordination strategies at a regional level;
 - Utilise existing community events/networks to support community resilience;
 - Investigate options for sharing flood histories through place-based installations and regional/local community events;
 - Support community-led initiatives using community development approaches and community development training;
 - Build on existing continuity planning resources with a local program assisting businesses, organisations and community groups.
- Review work of other Councils (e.g. BCC) in relation to disaster messaging with a view to maintaining regional consistency in messaging facilitated by regional resilience and disaster management groups. Consider and document agreements for shared use.
- Identify opportunities for presenting material/information/online data in collaboration with other local/State Government stakeholders may be investigated. Ensure consistency with existing resources available through LGAs or other stakeholders.

Integrated Stormwater Management

- Summary/assessment of traditional stormwater management approaches.
- Investigate options for alternative, integrated stormwater management approaches (in line with foundation principles of water sensitive urban design).
- Evaluate these options for ICC and make recommendations for implementation.
- Modelling as required.
- Include in MCA/structural options analysis.

Ecosystem Health

- Identification and evaluation of landscape management/catchment management/ecosystem health activities, including actions/recommendations from existing documents/strategies/plans.
- Analysis, monitoring and evaluation of landscape managed activities (if required).
- Investigation (audit/assessment) of current water diversion/water use and the impacts on water quality (and flooding).

- Investigation/analysis of alternative methodologies that promote waterway health. For example, hydraulic impacts on sediment load transport, the impacts of tidal constrictions, residency time – how does the way the water moves effect the water quality?
- Investigate/identify a suite of measures to improve ecosystem health (consider flora/fauna, cultural heritage, social connection) including, but not limited to, revegetation, habitat connections etc.
- Damage assessment of soil erosion.
- Modelling as required.
- Include in MCA/ options analysis.
- Consider catchment scale impacts of land use changes and landscape management.

Input Data Required

The following information will be provided to the successful tenderer by Council.

- Flood models and model outputs.
- Full BRSFMP Data pack.
- Relevant information from draft Local Planning Scheme.
- Potential hydraulic risk matrix from planning scheme.
- Building footprints, liDAR and algorithms to estimate floor levels.
- Regional Cumulative Impact Assessment (when available).
- Road network/Evacuation routes and network data.
- Specific design requirements (size, extent, configuration, design life etc.) that may be relevant for the selected infrastructure options.
- Regional Evacuation capability assessment (when available).
- Critical and sensitive infrastructure information (note that some of this is sensitive and can only be accessed from Council offices)
- State BRSFMP actions
- HLW model of waterway health for SEQ – stability of waterways
- GIS layers from catchment condition assessment
- Stream Power (from Flood Models)

Project Management

The following workshops and meetings will be required from the successful tenderer at a minimum.

- Workshops: six workshops to be facilitated and minuted at a Council venue in Ipswich. Agenda, pre reading material and workshop notes to be prepared by consultant.
- Meetings:
 - Two-hour project meetings to be held fortnightly – chaired by Council, minuted by consultant.
 - Five two-hour meetings with other jurisdictions to review activities for potential application in ICC/integrate with ICC activities.
- Project Reporting: At each project meeting, provide a project status report covering for each task;
 - percentage complete;
 - projected completion date (with comparison to baseline);
 - planned spend, actual spend, projected spend;
 - budget spent to date, delays, variations, risks and issues; and
 - general update on resourcing, quality, scope, risks and issues.

Project Outputs

The following project outputs will be required from the successful tenderer at a minimum.

- For each discreet task or sub project or work package within the scope, present a report/chapter for the work undertaken and outputs.
- Consideration should be given to minimum review periods for Council of 2-4 weeks.
- Complete and final evidence report comprised of all work package chapters.
- Graphic designed Integrated Catchment Plan (digital and hard copy with GIS/Spatial data if and when required?)
- Clear summary of the LFMP output
- Investment strategy/Prioritised implementation plan to be detachable from IICP including viable funding options and detailed method (annex).
- All data, models, algorithms/scripts etc. produced by the project.