**Project Charter**

Recovery GIS

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**Review Process**

This document has been reviewed by:

|  |  |
| --- | --- |
| **Reviewer** | **Focus of review** |
| Stephen O’Leary | Content Review / Modifications |
| Julie Gardyne | Recovery Team Manager |

**Contributors**

The following have contributed to this paper:

Stephen O’Leary Team Leader GIS

Casey Box GIS Technician

Sulata Ghosh GIS Technician

Ethan Hohneck GIS Consultant – Emtel

Martin Roundill GIS Consultant – Emtel

**Sign Off**

Project Charter approved by:

|  |  |  |
| --- | --- | --- |
| **Name/Position** | **Signature**  | **Date** |
| Julie Gardyne |  |  |
|  |  |  |
|  |  |  |

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**Glossary of Terms**

Architecture The structure of a System or IT Service including its relationship of components to each other and the environment they are in

AGOL ArcGIS Online web mapping tools

Aspatial Data Data stored in a database with no spatial attributes

Geocortex the web GIS software application used as the GIS Web Viewer

GIS Geographic Information Systems, Council mapping and spatial services

Operation day-to-day management of a live Service

Performance a formal measure of what is achieved by a system, team or person

RDBMS Relational Database Management System

Recovery GIS A GIS service offered to assist the Recovery Team

Recovery Team A team created to manage clean up and recovery of the Whakatane District Flooding Event

Service a Service is a means of delivering value by facilitating outcomes that the customer wishes to achieve

Service Catalogue a document which details the live Services including deliverables and contact points

Service Design a stage in the development of a Service including the constitution of people, processes, and tools that will deliver the Service

Spatial Data Data that defines a geographic location, e.g. Property Boundary

Web Map Apps Web Mapping Applications that deploy spatial and aspatial data to users via a web browser

## Executive Summary

This Project Charter establishes the foundation for analysis, design, and management of the Recovery GIS project. The GIS Department, who manage and facilitate the GIS, have been tasked to provide a more centralised GIS system encompassing data that is relevant to the Recovery Team.

## Overview

Whakatane District Council is in the process of managing the GIS as part of the overall Recovery phase of the Whakatane District Flooding Event that occurred in April 2017. The GIS team has a number of technologies that can be utilised to provide a sound robust centralised system.

The system will provide means to disseminate appropriate information to targeted users; within council users will have access to pre-defined relevant datasets, subsets of this information may be available to external clients via a form of security. The system will also include an easy to operate map viewer with analytical tools and report builder. A key function needed will be the ability to create and capture data in the field. The Recovery GIS system will ensure that this is handled via a number of web map apps that have been used and tested in the past.

This charter will define a number of phases to enable this implementation.

## 1.2 Approach

The planned approach is to review activities that the Recovery Team are using now and in the future and assess what GIS needs they may need. This will entail sitting and discussing with the sub teams in the Recovery Team ensuring their needs are documented and included.

Before sitting with the Recovery Team GIS need to provide the following:

* A list of existing services that GIS provide daily and during a Civil Defence emergency.
* A Spatial Data Catalog of existing data.
* An Aspatial Data Catalog that has an existing relationship to the GIS data.
* A list of staffing resources available for this project.

Once we have analysed the needs of the Recovery Team we then start to build & organise the GIS Data Infrastructure to handle the deployment and capture of relevant data.

Ongoing Analysis, Monitoring, and Management processes are reported on during and after the duration of the project. This will provide System Stabilisation.

The approach will include addressing a series of questions to drive the change forward:

* Stage 1 - Analysis & Design
	+ Where are we now?
	+ Where do we need to be?
	+ Do we already have tools and services to deliver what is needed?
	+ How do we get there?
* Stage 2 – Implementation
	+ Build the infrastructure needed and related data where needed.
	+ Deploy and test web apps and viewers needed.
	+ Train users in the use of the technology.
* Stage 3 - Monitoring
	+ Are we following the plan?
	+ Does the Plan need to be changed?

Below is a System Diagram outlining the approach that will be taken to build the Recovery GIS.

**Define Spatial Data Sets**

**Define Web Map Apps**

**Define Recovery GIS Services**

**Report to Recovery**

**Analyse Existing GIS**

**Interview Recovery about needs**

**Document Interviews**

**Analyse Interviews**

**Build & Source relevant info**

**Show Recovery new system**

**Make changes where needed**

**Show Recovery new system**

**Train relevant staff**

**WHAKATANE DISTRICT COUNCIL RECOVERY GIS**

**Define Recovery Needs**

##  Cost/Benefit Analysis

 The benefits to be obtained through this project are:

1. Delivery of an optimal Recovery GIS Service that meets present and future business needs.
2. Creating a more accessible, accurate, and responsive Recovery GIS.
3. Following this Project, ensuring that future incidents and disasters are supported by a centralised GIS with supporting technologies.
4. Be at the forefront of GIS Service Delivery in a Natural Disaster.
5. Quality Assurance will be an ongoing task to ensure the continuity of the services is kept to a high standard.
6. Day to day management of the Councils GIS system will ensure that the Recovery GIS has the most up to date data available.
7. External Clients will experience a secure ease-of-access web portal to council information.

## 1.4 Dependencies

The success and completion of the Recovery GIS rely on a number of factors including:

1. In-house knowledge of both the current GIS System and the current spatial data.
2. Integration to other non-spatial data sources e.g. Hansen, SPM, and Ozone, with GIS spatial data will depend on the data integrity of the non-spatial data sources.
3. Existing Web Mapping Applications all sharing centralised data.

This project is therefore required to ensure:

1. These dependencies are identified.
2. A baseline of understanding is developed for those areas directly impacting/interfacing with the Service.
3. Recommendations and assumptions for those wider organisational factors that will influence the success of this Service.
4. Communication and workshops to include information such as data integration with GIS spatial data.

## 1.5 Timeframe

Below is a summarised timeframe for the project.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Date** | **Project Scoping** | **Documentation Creation & Signoff** | **Build Process & Interviews** | **Testing Phase** | **Training** | **Rollout** | **Support** | **Monitoring** |
| 01/05/2017 |   |   |  |  |  |  |  |   |
| 02/05/2017 |   |   |  |  |  |  |  |   |
| 03/05/2017 |   |   |  |   |  |  |  |   |
| 04/05/2017 |   |   |   |   |  |  |  |   |
| 05/05/2017 |   |   |   |   |  |  |  |   |
| 08/05/2017 |   |   |   |   |  |  |  |   |
| 09/05/2017 |   |  |   |   |  |  |  |   |
| 10/05/2017 |   |  |   |   |  |  |  |   |
| 11/05/2017 |   |  |   |   |  |  |  |   |
| 12/05/2017 |   |  |   |   |  |  |  |   |
| 15/05/2017 |   |  |   |   |  |  |  |   |
| 16/05/2017 |   |  |   |   |  |  |  |   |
| 17/05/2017 |   |  |   |   |  |  |  |   |
| 18/05/2017 |   |  |   |   |  |  |  |   |
| 19/05/2017 |   |  |   |   |  |  |  |   |
|  |  |  |  |  |  |  |  |  |
|  |   | Near Completion |  |  |
|  |   | In Progress |  |  |  |
|  |   | Yet To Start |  |  |  |

## Purpose

This document outlines activities to be undertaken to achieve the creation of the Recovery GIS.

This Project Charter identifies:

* Recovery Team Business objectives & needs
* Business outcomes to be achieved
* High level activities and individual tasks
* Resource requirements
* Risks

The Project Charter serves as the core document for governance purposes.

The Project Charter establishes the framework through which the evaluation, modification and implementation of the Recovery GIS will be managed. In particular, it identifies:

1. The rationale for the Project – why we need to implement the Project.
2. What is in scope and what is out of scope for the Project?
3. How the Project will be assessed as a success.
4. The structure of the Project and resource requirements.
5. Roles and responsibilities in relation to the Project.
6. How the Project will be implemented.
7. Risks relating to the Project.
8. Financials.

## Project Mission Statement

The Project will deliver a robust, data rich, and accurate Recovery GIS system that meet the present and future needs of Whakatane District Council while ensuring that data flow and data management is ahead of the wave.

## Goals and Objectives

The goals and objectives of the Project include:

* The GIS Department will identify regional and national trends in GIS relating to services needed post a Civil Defence emergency.
* Identify current clients and define their information needs and business requirements.
* Define GIS offerings to support identified trends and client requirements.
* Map present GIS processes as well as and Data Catalogues and record anticipated future GIS process revisions.
* Determine roles required for GIS Team Process delivery.
* Define tools and resources required for provision of GIS offerings.
* Implement identified revisions and systems.
* Effect Organisational Change.

The following objectives will meet the goal of this Project:

|  |
| --- |
| **Objective 1:** To transform the current GIS system to incorporate a centrally located Recovery GIS service that will meet the needs of the business |
| **Delivery Method** | * Clear definition of the project details and how the project relates to services needed post the Civil Defence emergency
* Clear identification and application of constraints
* Design workshop plans to ensure Business Requirements are correctly captured
 |
| **Success Criteria** | * Business Processes identified with associated requirements and dependencies for the GIS Team
* Success criteria for the Service are clearly defined and business led
 |
| **Measure** | * The project charter is signed off by the Recovery Team
 |
|  |
| **Objective 2:** To deliver high-quality Recovery GIS service and support to the Recovery Team for all spatial related services |
| **Delivery Method** | * Clear, logical process to be followed i.e. business need > requirements > Service
* Clear, logical process to be followed i.e. business need > requirements > Support
 |
| **Success Criteria** | * Documentation can be traced back to business need
* Clarity of effort required to deliver the Recovery GIS services & support
* Team engagement and support
 |
| **Measure** | * Project Charter signed-off
 |

## Scope

The scope defines what is included and excluded from this Project.

## 5.1 In Scope

This Project will:

1. Analyse the needs, in relation to GIS, of the Recovery Team and all identified stakeholders.
2. If needed make changes to team design and individual member role and responsibilities relating to managing and administering the new service.
3. Analyse the existing GIS system and applications to determine if a Recovery GIS can in fact be incorporated as a service.
4. System Implementation and Data Management processes.
5. Testing the implementation.

## 5.2 Not in Scope

This Project specifically excludes:

1. The analysis, identification or implementation of any tools, techniques or frameworks required to support or enable the underlying Design e.g. procurement of software to manage Incidents or implementation of a Project Management or Change Management framework.
2. The implementation of an interface or requirements outside of the team boundary that are considered necessary for a successful Service.
3. SLA’s/investigation/documentation of any other IT-related activity outside of the GIS team.

## Critical Success Factors

The following were identified as the critical success factors for this project:

| **Critical Success Factor** | **This means……** |
| --- | --- |
| Organisational Commitment | That WDC leadership and Recovery Team staff fully support the Project and commit appropriate resources |
| Organisational Change Management | That due consultation and consideration is given to altering processes, procedures, and systems, and that affected parties are engaged. |
| Clear Organisation Data Ownership and Responsibility | That clarity and agreement is reached regarding departmental data ownership and responsibilities |
| Establishment of Institutional Data Architecture | That the GIS Teams requirements are duly considered for institutional data structures and associated information architectures |

##

## High Level Project Plan

## 7.1 Approach and Work Plan

A detailed approach and work plan will be developed. It is intended that all phases listed below are completed in a timely efficient manner. Some of the Phases have already started and are nearing completion, as listed below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Phase** | **Description** | **Status** | **Date** | **Comments** |
| 1 | Analyse & engage stakeholders to determine business requirements of the Recovery GIS service (will require interviewing key stakeholders) | 10% |  2/05/2017 | GIS Staff have been working closely with Recovery Team. |
| 2 | Analyse the existing GIS system as well as the Civil Defence GIS System to determine how to centralise all information to assist the creation of the Recovery GIS service | 40% |  2/05/2017 | Analysis on the existing systems is underway. |
| 3 | Design & build the new Recovery GIS service | 0% |  3/05/2017 |  |
| 4 | Create the processes needed for the GIS Team to manage and administer the new service | 0% |   |  |
| 5 | Design the processes to create service additions to the service when requested e.g. new survey forms | 0% |   |   |
| 6 | Test the new service | 0% |   |   |
| 7 | Train Stakeholders in using the service | 0% |   |   |
| 8 | Rollout the new service | 0% |  |  |
| 9 | Support, administer, manage the new service | 0% |   |   |

Key Resources
**GIS** – GIS Team, **RT** – Recovery Team, **IT** – Information Technology.

| **Task** | **Comment** | **Start** | **Resource** |
| --- | --- | --- | --- |
| **Phase One****Analyse & engage Stakeholders** | Work with Recovery Team to determine business needs relating to the new Recovery GIS service |  | GIS, RT |
| **Milestones** | Needs assessment documented |  |  |
| **Phase Two****Analyse existing GIS** | Analyse the existing GIS system and the Civil Defence system to determine if adding a centrally located Recovery GIS will be attainable |  | GIS |
| **Milestones** | Technology and data location analysed |  |  |
| **Phase Three****Design & build Recovery GIS** | Design & build the new Recovery GIS, web mapping applications needed, spatial data needed and stored centrally, linked data integrated |  | GIS, RT, IT |
| **Milestones** | Recovery GIS designed and Built |  |  |
| **Phase Four****Create management processes** | Create the management process for managing the new Recovery GIS |  | GIS |
| **Milestones** | GIS engagement in Recovery GIS role defined. |  |  |
| **Phase Five****Create processes to manage service additions** | Ensure that additions to the Recovery GIS are well documented, scoped at the time of addition, and designed to Stakeholder specification, created to the specification, tested, and rolled out |  | GIS, RT |
| **Milestones** | Change Management adopted and documented by LS & RT |  |  |
| **Phase Six****Testing** | Perform rigorous testing of the Recovery GIS service  |  | GIS |
| **Milestones** | Testing completed and signed off by LS & RT |  |  |
| **Phase Seven****Stakeholder Training** | Train all Stakeholders in the use of the Recovery GIS service where it directly relates to their role in the Recovery Team |  | GIS, RT |
| **Milestones** | Recovery Team Staff trained |  |  |
| **Phase Eight****Rollout** | Go live with the new Recovery GIS service |  | GIS, RT |
| **Milestones** | New service is live |  |  |
| **Phase Nine****Support and management** | Continue to support the Recovery Team throughout using the Recovery GIS, manage all data for the service |  | GIS |
| **Milestones** | Recovery GIS is operational on a daily basis and supported by the GIS Team |  |  |

## Project Timeline

A high level project timeline has been included in this document under section 1.5.

## 7.3 Other Considerations

*Issue Management*

To be managed within individual phase and Project methodologies, specifically issues register and resolution.

*Communications Management*

To be managed within individual phase and Project methodologies, specifically communications plans and resulting documents.

*Quality Assurance*

To be undertaken within individual phase and Project, specifically by the GIS team.

*Training*

To be detailed within individual phase and Project, specifically within project planning.

## 7.4 Deliverables

Deliverables will be established for each Project phase.

| **Task** | **Comment** |
| --- | --- |
| Phase 1 | **Analyse & engage Stakeholders*** Interview key members of the Recovery Team to determine their needs
* Document all findings
 |
| Phase 2 | **Analyse existing GIS*** Create existing architecture diagrams of the GIS & Civil Defence systems
* Create the Recovery GIS inside the existing architecture
* Document findings
 |
| Phase 3 | **Design & build Recovery GIS*** Build the Recovery GIS service
* Document the findings
 |
| Phase 4 | **Create management processes*** Create the GIS Team management process needed to manage the new Recovery GIS service
* Document and issues, new roles, resources needed
 |
| Phase 5 | **Create processes to manage service additions*** Document a process to manage change and additions to the new Recovery GIS service
 |
| Phase 6 | **Testing*** Create a testing process
* Document all tests
* Report any issues
* Return to phase 3 if necessary to adjust the service design
 |
| Phase 7 | **Stakeholder Training*** Create training material for the new Recovery GIS service
 |
| Phase 8 | **Rollout*** Create a rollout process and promote it to the Recovery Team
 |
| Phase 9 | **Support and management*** Document the level of support and management by the GIS Team
 |

## Roles

## 8.1 Roles and Responsibilities

The matrix below shows a summary of roles and responsibilities for this project.

The table below defines the roles and responsibilities along with the responsible persons:

|  **Role** | **Person** | **Responsibilities** |
| --- | --- | --- |
| **Project Sponsors** | Julie GardyneRecovery Team Manager | * Own responsibility for the project and make final decisions to fulfill the primary responsibilities as outlined
* Maintain the final authority to set priorities, approve scope
* Promote the project throughout the Recovery Team.
 |
| **Project Functional Team**  | Stephen O’LearyTeam Leader GISCasey Box & Sulata GhoshGIS TechnicianGIS ConsultantsEmtelEagle Technology | * Manage & organise in workshops/interviews
* Identify business requirements
* Report and identified requirements to Project Sponsor
* Transfer business knowledge to other project team members
* Participate in the validation of Business Requirements and other project deliverables
* Implement the project.
 |
| **Recovery Team**  | Staff Members | * Participate in workshops/interviews
* Participate in training
 |

## 8.2 Reporting and Control

 For reporting and control purposes the following is to be followed for this project:

1. Phase completion report to Team Leader GIS and Project Sponsor.
2. Overall project completion report to Stakeholders.

## 8.3 Governance

 This Project Charter underpins good project governance through the definition of how the project will be managed and controlled. This ensures that the project delivers the required changes according to a clear business case, with the required level of quality, in a given timescale and within an allocated budget.

In particular, governance for this project is ensured by the Project Sponsor.

1. The definition and agreement of the Project Charter as the reference point for the project. Once approved at project initiation a subsequent version will be updated.
2. End of Stage Assessment – has the stage been successful? Is the project still on course? Are the risks under control?
3. Project Closure – did the project deliver the required products? Were the objectives delivered? What lessons were learnt?

## 9. Risk Management

The following describes the risks identified for this project.

* Availability of internal resources due to business-as-usual workload.
* Timeling required to deliver the Recovery GIS service.

The success of this project depends on the management of the following risks.

| **Ref** | **Risk** | **Probability** | **Impact** | **Risk** | **Consequence** | **Mitigation Plan** | **MitigatedProbability** | **MitigatedImpact** | **MitigatedRisk** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Recovery GIS Service Implementation | High | High | High | Organisational workload. Internal resource availability.External resource availability. | Current staffing resources have been initiated to handle the workload.Outsource phases to external GIS Consultants. | Medium | Medium | Medium |
| 2 | Post System Stabilisation and Monitoring | High | None | Medium | Resource availability and associated budgeting. | Depending on the findings of the analysis performed resources will be allocated to make suggested changes. | High | Low | Low |
| 3 | “Scope Creep” | High | High | High | Project fails to meet timeline. | Project is bound to stay within the phases of this document. | Medium | Medium | Medium |
| 4 | Data Integrity of the non-spatial data sources. | High | High | High | If non-spatial data sources have low data integrity then integration may be effected. | Analyse the non-spatial data sources to determine the level of integration that will occur. | Medium | Medium | Medium |
| 5 | Data Maintenance of Spatial Data by the Recovery Team. | High | High | High | Technology may cause issues with data capture. | Ensure thorough testing is performed on data capture technology. | Medium | Medium | Medium |

## 10. Assumptions and Constraints

 Factors that could have an impact on the outcome of this project needs to be identified and documented.

## 10.1 Assumptions

 The following assumptions are made for this project:

1. The Recovery GIS service will fit in with the existing centrally located GIS system.
2. The existing Civil Defence Cloud GIS System will be merged in with the existing centrally located GIS system.
3. Spatial Data Services will be deployed to Cloud GIS System from the centrally located GIS system.
4. All Spatial Data will be managed by the GIS Team in the existing centrally located GIS system.

## 10.2 Constraints

 The following constraints were identified:

1. Business As Usual (BAU) may affect the delivery time frame of the project.
2. Recovery Team availability.
3. Consultant availability.

## 11. Estimated Project Costs

The following estimated costs have been identified:

|  |  |  |  |
| --- | --- | --- | --- |
| **Cost Component** | **Time (Hours)** | **Cost $** | **Confidence** |
| Pre-Project Planning & Charter | 10 |  $ 1,500.00 | 100% |
| GIS Consultants | 120 |  $ 18,000.00  | 85% |
| GIS Staff Time (not BAU) | 120 | N/A | 85% |
|  |  |  |  |
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|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| **TOTALS** | **250** |  **$19,500.00**  |  |