



RFQ 2025.13
Volume 1 - Specification

**FEASIBILITY STUDY - TURF CLUB
DETENTION BASIN AND MCGOWAN ST
LEVEE, COOTAMUNDRA**

Version 1.1

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Cootamundra Gundagai Regional Council

FEASIBILITY STUDY - TURF CLUB DETENTION BASIN AND MCGOWAN STREET LEVEE, COOTAMUNDRA

Volume 1 - Specification

1. INTRODUCTION

Cootamundra Gundagai Regional Council (the Council) has received financial support from the State Floodplain Management Program, managed by the Department of Climate Change, Energy, the Environment and Water (DCCEEW), to prepare a feasibility study for Cootamundra Turf Club detention basin and McGowan St levee feasibility study.

The primary objective of the *Flood Prone Land Policy* outlined in the *Flood Risk Management Manual* is to reduce the impacts of flooding and flood liability on communities and individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods, utilising ecologically positive methods wherever possible. In doing so, community resilience to flooding is improved.

Through DCCEEW and the NSW State Emergency Service (SES), the NSW Government provides specialist technical assistance to local government on all flooding, flood risk management, land-use planning matters and flood emergency management.

The NSW Government provides the Flood Risk Management Manual (NSW Government 2023) and its supporting toolkit to assist councils to meet their obligations through the preparation and implementation of floodplain risk management plans, through a staged process. Figure 1 below shows the FRM process which sits within the FRM Framework as outlined in the Manual. The Manual and toolkit documents the process for plan preparation, implementation and review.

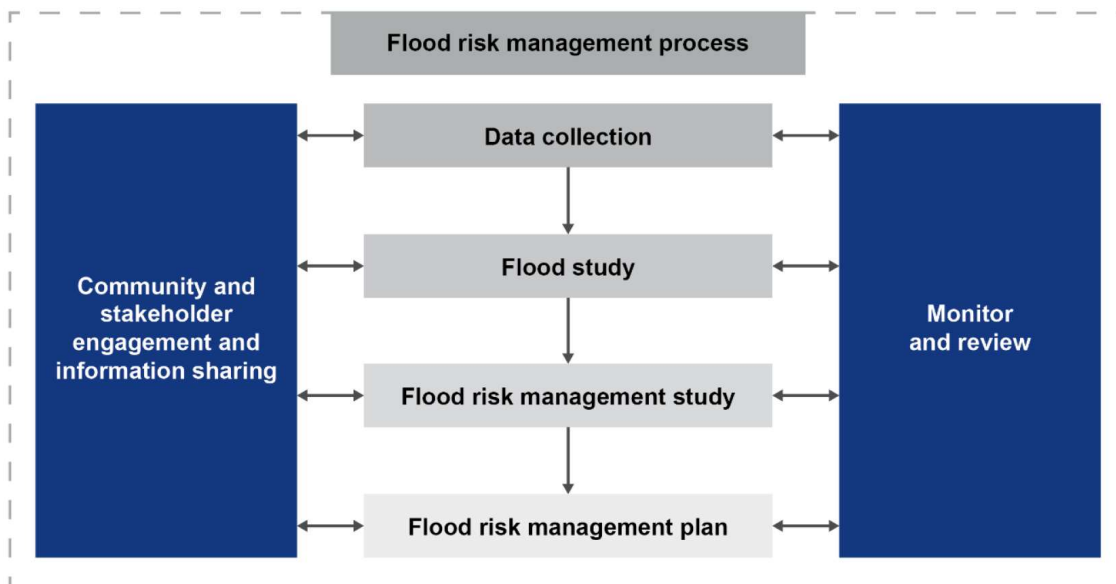


Figure 1 The flood risk management process in New South Wales

Council adopted the Cootamundra Floodplain Risk Management Plan and Study (FRMS&P) in August 2023 and is now progressively implementing the recommendations from the Plan.

One of the high priority actions recommended by the FRMS&P is to investigate the feasibility of constructing a detention basin at the Cootamundra Turf Club and a levee at McGowan Street, Cootamundra.

2. BACKGROUND

Cootamundra (local area population 6782) is located on the western slopes of the Great Dividing Range. The catchment is generally rural in nature, with considerable clearing of the lower slopes and flat land immediately upstream of the town. The land use within the catchment consists primarily of rural agricultural land, supporting livestock (cattle and sheep) and dryland cereal crops (wheat and other grain) with low or medium density residential development in town. Elevations in the upper catchment are between 400 to 500 m AHD, reducing to 300 to 350 m AHD, closer to town. Slopes of between 1% and 3% are present in the upper catchment however this slope reduces to 0.5% and lower immediately upstream and through the town.

Cootamundra is located primarily on Muttama Creek but the confluence with major tributary Jindalee Creek is located within the airport precinct on the north-west side of Town (see Figure 2). Cootamundry Creek also flows around the periphery of the Town on the southern side. As such, flooding in Cootamundra can be as a result of any/all creeks flooding or from major overland flow flooding resulting from local intense storms.

Jindalee Creek has a catchment area of 54 km² to its confluence with Muttama Creek. Muttama Creek has a catchment area of 116 km² to this confluence. Cootamundry Creek joins Muttama Creek downstream of town with a catchment area of 62 km². Muttama Creek then flows south to join the Murrumbidgee River upstream of Gundagai.

Jindalee, Muttama and Cootamundry Creeks have well defined channels, particularly in the upper reaches. Muttama Creek becomes less well defined as the slope flattens through the township. The lower reaches of Jindalee Creek have also been modified to direct flooding around the airstrip.

With Muttama Creek effectively bisecting Cootamundra, there are a number of creek crossings through the town. Four main road bridges span Muttama Creek within the Town and there are also several low level causeways that are flooded in frequent events.

Cootamundra has a long history of flooding since its colonist settlement in 1847. The town was first gazetted as a municipality in 1884, and the earliest records available describe a catastrophic flood in 1885 and significant events thereafter in 1903, 1919, 1952, 1956, 1974, 1983 and 1984. A flood event occurred in September 2016 and more recently in October 2022.

The flooding event that occurred on the 31 October 2022 resulted in evacuation orders being issued for the properties and streets around Muttama Creek due to the possible flash flooding from 9pm that day. More than 400 properties were evacuated, and more than 100 properties and around 25 streets were reported to be impacted. The NSW SES (State Emergency Service) responded to 34 storm and flood rescues overnight including 1 for evacuation assistance.

Rainfall records indicate that the catchment was very wet prior to the October 2022 event and therefore losses due to infiltration were likely low. Recorded rainfalls for the critical duration (6 hrs) were equivalent to a 5% AEP in the Jindalee Creek catchment and a 20% AEP in the Muttama Creek Catchment. This rainfall resulted in flood levels through the Town equating to slightly above the 5% AEP design event.

A flood study for Cootamundra was completed by Council in 2021 and the Cootamundra Floodplain Risk Management Study and Plan (FRMS&P) followed in 2023.

The FRMS&P included a range of measures the address the flood risks at Cootamundra. This included the Turf Club Detention Basin (Option FM01) and the McGowan Street Levee (Option FM02a). Council subsequently obtained NSW Floodplain Management Program grant funding to complete a feasibility study for these options.

Figure 2 shows the Study area

Figure 3 shows an overview of the location of the options

Figure 4 shows the impact that the basin option alone would have on flooding behaviour from a 1% AEP storm event

Figure 5 shows the impact that the levee option alone would have on flooding behaviour from a 1% AEP storm event

Figure 6 shows the impact that the basin option and levee option combined would have on flooding behaviour from a 1% AEP storm event

Further details of the initial assessment can be sourced from the Cootamundra FRMS&P (2023) report.

3. OBJECTIVE

The primary objective of this project is to assess the feasibility of two flood modification measures identified in the Cootamundra Floodplain Risk Management Plan and Study (FRMS&P). When these options are combined, there may be significant benefits.

- Option FM01 - Turf Club Detention Basin – Aim: To reduce peak flood levels in a 1% AEP event in Cootamundra by diverting water into a Retarding basin at the Cootamundra Turf Club located upstream of the Town. The option involves construction of an inlet and a 2m high embankment around the Turf club.
- Option FM02a - McGowan Street Levee - Aim: To protect the properties located at McGowan Street and within Cutler Avenue Hotspot in a 1% AEP event. The option involves construction of a 1620m long and 0 – 2.5m high embankment.

4. SCOPE

4.1 Overview

The Turf Club Detention Basin and the McGowan Street levee are discussed in Section 8.4.2 and 8.4.3 of the Cootamundra FRMS&P (2023) report. At the end of Section 8.4.3, the report discusses the benefits of a combined option consisting of both flood modification measures, noting: “These options should be considered together as part of a feasibility study, as reduced flood levels resulting from the Turf Club Basin, could reduce the design requirements for the levee. “

A summary of the scope of works includes:

- Data Collection and Review
 - Collect available data and review
 - Collect additional data emanating from review
- Land Owners and Agency Consultation
 - Initial Consultation
 - Concept Design Consultation
- Preferred Option Selection
 - Utilities and constraints assessment
 - Levee freeboard assessment
 - Preliminary Hydraulic & Economic analyses
 - Preliminary assessment of levee and basin options
 - Development of preferred levee and basin option
- Concept Design of Preferred Option
 - Develop Concept design plans
 - Hydraulic and Economic assessments
 - Preliminary Environmental Assessment
 - Finalise Concept design
- Feasibility Assessment Report
 - Development of Feasibility Assessment report incorporating all elements of the investigation

- Meetings
 - Meetings with Council’s Technical Sub-committee and with impacted land owners
- Reports
 - Progress Reports (monthly)
 - Prepare Draft and Final Reports
 - Printing of Final Reports

A detailed description of the scope of works includes the following sections.

4.2 Technical considerations specific to Turf Club Basin Options

Concept design considerations include

- Hydraulic modelling to confirm the sizing of the key elements including the stage/storage relationship for the Turf Club Basin,
- Assessment and determination of concept design options, costing and cost/benefit analysis,
- Analysis of post-basin flood levels at downstream locations,
- Consultation with representatives from Cootamundra Turf Club to determine the optimal basin configuration including extent of excavation and filling, and inlet and outlet configurations. There may be opportunities to raise and improve the turf club surface. Furthermore, if both the basin and the levee are constructed concurrently, there may be the opportunity to source filling for the levee from excavation at the basin.
- Concept design options for various basin configurations
- Preliminary environmental assessment,
- Approvals from Crown lands
- Requirements of Dam Safety Committee.
- **Geotechnical Investigations.** Sufficient geotechnical investigation shall be carried out to determine foundation material properties and the suitability of site material for use as bank fill:
 - The consultant should allow for up to 5 core samples across the proposed basin area to an approximate depth of 2m into natural material to assess top soils, compaction, adequacy of foundation materials, propensity for shrinkage or other defect and sufficient bearing capacity.
 - Samples, if needed, should be taken from the potential slip circle failure zone for those areas susceptible to instability.
 - Additional bore holes and tests may be nominated by Council to determine the suitability of proposed borrow pits. The principal Consultant and/or geotechnical consultant may nominate additional or alternate sample points if considered more appropriate. A separate price should be quoted for any additional sampling if required.
 - All site work should be carried out in accordance with the SAA Geotechnical Site Investigation Code (AS1726-1993).
 - Laboratory testing should be in accordance with the relevant parts of the SAA “Methods of Testing Soils for Engineering Purposes (AS1289)” in most cases or in accordance with best accepted practice.
 - The geotechnical investigation will form the basis for determining:
 - Recommended side slopes and crest width of basin walls, type of stabilisation and protection (if required) and assessment of borrow material,

- The adequacy of the bearing capacity of soil and basin wall foundations and whether any long term serviceability issues, such as differential settlement, are likely to arise
 - Recommended methods to stabilise the areas within the slip circle failure zone (if required)
 - Construction options – including required degree of compaction and moisture content for basin wall material if a suitable borrow pit is located
 - Any potential construction constraints
- **Hydraulic Modelling**
 - Utilising existing LiDAR information and any additional survey, sizing of the key elements including the stage/storage relationship shall be developed for the basin.
 - Utilising this information and available data, the consultant will refine the hydrological and hydraulic modelling undertaken in the Cootamundra FRMS&P (2023) to determine optimal basin sizing, basin outlet options and post-basin flows for the 20, 10, 5, 2, 1, 0.5 and 0.2% AEP storm events as well as the PMF.
 - Hydraulic modelling shall be undertaken to assess the impacts of basin failure(s) on downstream assets and communities.
 - In addition, utilising the outputs hydraulic models developed in previous studies, the consultants shall analyse the impacts on flood levels post-basin for the 20, 10, 5, 2, 1, 0.5 and 0.2% AEP design storm events as well as the PMF.
 - The analysis is to include:
 - the impact of post-basin flows on flood levels and extents downstream,
 - the impact of post-basin flows on flood levels and extents upstream,
 - the impact of post-basin flows on time of rise of floodwaters at downstream locations,
 - the extents and period of inundation within the basin, and
 - the impact of basin failure on flood levels, velocities, extents and time of rise downstream.
 - In assessing the impacts above, consideration is to be given to the economic impacts for use in the economic assessment of the basin.
 - Third party impacts on properties located in areas that are newly flooded post-basin needs careful attention and assessment.

4.3 Technical considerations specific to Levee Options

Concept design considerations include:

- limited geotechnical inspection of project areas and borrow areas. There may be options to use the Turf Club basin as a borrow area.
- Land matters and preliminary environmental planning overview
- assessments and determination of design parameters, including design flood levels, levee freeboard, costings, cost:benefit analysis
- concept design options, costings based on nominated freeboard and recommendations
- concept designs for the design flood event.
- **Levee freeboard assessment**

- A levee freeboard assessment is to be completed according to agreed standards. To provide reasonable certainty that the chosen level of protection is realised, levees are provided with additional height, or freeboard, above the estimated level of the design flood. The freeboard compensates for uncertainties in the estimated design flood profile due to such things as:
 - Wave action
 - Wind set-up
 - Local hydraulic effects
 - Computational uncertainties in flood level estimates
 - Settlement of the levee over time
 - Defects in the levee
 - Climate change
 - When considering the freeboard requirements for a levee it needs to be recognised that it is highly unlikely that maximum values for the various factors that are allowed for will be required at a particular location at the same time. Accordingly a joint probability analysis is required to reflect the likely probabilities of the various factors combining during the design flood for a particular levee system. It also needs to be recognised that the individual allowances and combination probabilities can vary for different sections of a levee system.
- **Geotechnical investigations.**
 - Sufficient geotechnical investigations shall be carried out along the preferred levee alignments to ensure the future structural stability of the flood mitigation option as required, as well as for any borrow areas that may be required.
 - All site work should be carried out in accordance with the SAA Geotechnical Site Investigation Code (AS 1726 – 1993).
 - Laboratory testing should be in accordance with the relevant parts of the SAA “Methods of Testing Soils for Engineering Purposes (AS 1289)” in most cases or in accordance with best accepted practice.

4.4 Services and Constraints Considerations

Council owns and operates the road reserve, water, sewer and stormwater assets within the Local Government Area (LGA). The successful consultant will be provided with the existing construction plans and spatial data for roads, water, sewer and stormwater that are located within close proximity to the proposed levee alignments. Council does not guarantee however the accuracy of these construction plans and/or spatial data and the successful consultant should, in their quotation include due process to confirm the location and accuracy of these assets.

Other utilities such as gas supply, electricity supply and telecommunications are managed by various utilities providers in the Cootamundra Gundagai Regional Council LGA and it is expected that the successful consultant will consult with these utility providers in order to determine the locations of utilities within the proposed levee corridors and borrow pit sites in order to identify any at risk utilities and to propose mitigative measures that can be adopted within the design process or construction methodology to effectively remove the risk entirely or reduce the risk to an acceptable level for all concerned parties.

Council expects that the successful consultant will manage the necessary processes and works required to obtain the information and data relating to the utilities, including;

- engagement, management and payment of a survey sub-consultant (if required),
- consultation with land owners to obtain access to the areas being surveyed.

The necessary works will be completed by the successful consultant and supplied to Council.

4.5 General Concept Design Requirements – Basin and Levee

The Consultant shall provide concept design options, the associated costing and a cost/benefit analysis. This includes:

- limited geotechnical inspection of project areas and borrow areas (if required),
- land matters and preliminary environmental planning overview
- assessments and determination of design parameters, including design flood levels, costings, cost:benefit analysis
- concept design options for the design flood event.

A flood damages assessment was completed as part of the previous FRMS&P project and the database is available on the NSW Flood Data Portal for download with appropriate permissions required for access. It is expected that this flood damages database will be updated if required then utilised in the cost/benefit analysis phase of the project.

Concept designs for the basin options are to address basin capacity, borrow material, utilities, land tenure, side slope and crest width of basin walls, outlet configurations, Dam Safety Committee requirements and any stabilisation or protection of adjacent soils. Mitigation of adverse environmental impacts is to be addressed.

As a minimum the Council requires layout plans, longitudinal sections of basin walls and typical cross sections prepared to concept level of detail. A concept-level bill of quantities is to be provided.

This stage will include presentation to Council's Technical Review Committee on flood/hydrological rationale, justification for design parameters, options developed, concept designs, environmental planning overview, concept level cost estimates of alternatives, cost:benefit evaluation of alternatives and recommendation of the most suitable option.

Following consideration of the above and the consultant's recommendations, Council will determine the preferred option.

Sufficient survey work is required to prepare concept level of detail. Consultants are to examine the level of survey detail already at hand and specify in their proposals the extent of additional survey work proposed.

4.6 Economic Assessment

An economic appraisal will follow the technique of a cost - benefit analysis. The analysis will be of all options shown and will rank them in terms of what is the most economic.

Economic Analysis will involve:

- (i) The Initial Economic Appraisals:

Identification of various options involved with the project and estimating the associated costs and benefits for each feasible option.

- (ii) Identification, quantification and sensitivity analysis of key variables, including:

- alignment,
- Levee freeboard requirement
- height of levees, sizing of culverts and respective capital costs,
- maintenance costs of different options,
- damage estimates for varying flood inundation levels including residential, commercial and industrial damage,

- (iii) An evaluation matrix based on quantified benefits and costs. (Note: costs are to be total project costs, not just construction costs.)

- (iv) Preliminary report on the various options.

- (v) Quantification of third party impacts and corresponding mitigation measures to offset any adverse impacts.
- (vi) Final report on the option determined as most suitable by Council and other relevant Government Departments.

All economic appraisals must be undertaken by a suitably qualified professional or economist in accordance with NSW Treasury Guidelines.

4.7. Preliminary Environmental Assessment

The consultant is to undertake a Preliminary Environmental Planning Overview (PEPO) to determine any environmental considerations, whether an environmental assessment is adequate or whether a REF is required. The overview is to address:

- (i) Description of the proposal, to include any possible staging of works, methods of excavation and construction, transportation of materials, type of machinery used, hours of operation and final form of the proposal.
- (ii) impacts of noise and dust on surrounding land uses (including; transportation of materials), measures to mitigate these during and after construction.
- (iii) Visual impacts.
- (iv) Impact on existing land uses, including tenure issues
- (v) Impacts on flora and fauna
- (vi) Any needed sediment and runoff control both during and after construction
- (vii) Flood related issues, including changes to the existing flood regime, third party impacts and final runoff and drainage patterns
- (viii) Whether Consultation with or works approvals are required from any Government agencies:

4.9 Feasibility Assessment Reporting

A Feasibility Assessment Report will be prepared that incorporates all aspects of the investigation including:

- Outcomes of all Consultations;
- Utilities and Constraints assessment;
- Details of geotechnical assessments and surveying completed.
- Sizing of the key elements including the stage/storage relationships for the Turf Club Basin
- Levee freeboard assessment;
- Hydraulic analysis including design flood height assessment, third party impacts and internal drainage issues;
- Assessment of alternative basin configuration options
- Preferred basin option selection
- Assessment of alternative levee options;
- Preferred levee option selection;
- Concept designs of preferred basin option
- Concept designs of preferred levee option;

- Economic assessment of preferred option;
- Preliminary Environmental Assessment of preferred option; and
- Concept Design reporting, including:
 - Details of survey and investigation works undertaken.
 - Details of hydraulic and hydrological analysis.
 - Land matters and third party impacts.
 - Suggested construction alternatives.
 - Concept design options.
 - Cost estimate of detailed design, construction works and total project costs suitable for concept level of detail.
 - Economic appraisals, including cost benefit ratios, risk potential etc.
 - Concept design report recommendations.
 - Summary of findings from the geotechnical investigation will be included as an annexure to the concept design report.

5. DELIVERABLES

The study shall produce the following products as a minimum:

- Feasibility Assessment Report
- Study Materials as Detailed in 8.3.

Upon acceptance of the proposal, the Consultant shall provide a final copy of the program and timetable of major tasks for completion of the study.

6. AVAILABLE DATA AND INFORMATION

The Consultant is to collect, compile and assess all data and information relevant to this Review.

The following information will be made available to the consultant free of charge:

- The *Cootamundra Flood Study (2021)* report prepared by WMAwater obo Council. This includes all the handover data including the hydrologic and hydraulic modelling files.
- The *Cootamundra Floodplain Risk Management Study and Plan (2023)* report prepared by WMAwater obo Council. This includes all the handover data including updated hydrologic and hydraulic modelling files.
- The *Cootamundra Voluntary Purchase Feasibility Assessment (2023)* report prepared by WMAwater obo Council.
- The *Cootamundra-Gundagai Regional Flood Emergency Sub Plan (2023)* report prepared by the NSW SES.
- The historical Cootamundra Local Flood Plan (2007) report prepared by NSW SES.
- The *Jindalee Levee Owners Manual (2019)* draft report prepared by Public Works Advisory.
- The *Jindalee Levee Audit (2019)* draft report prepared by Public Works Advisory.
- The *Cootamundra Flood Study (1986)* report prepared by the Water Resources Commission. PDF copy only.
- The *Cootamundra Floodplain Management Study (2001)* report prepared by Willing & Partners Consulting Group. PDF copy only.
- The *Cootamundra Floodplain Management Plan (2001)* report prepared by Willing & Partners Consulting Group. PDF copy only.

7. CONSULTATION

7.1 Technical Sub-Committee

The Consultant shall attend and present at meetings of Council's Project Technical Sub-Committee (TSC). These meetings will be held at Council's Cootamundra office. Consultants are to make allowance for attending three (3) TSC meetings, which would most likely be held at Cootamundra.

Consultants are to provide a preliminary consultation program. This program will be tabled for discussion at the first meeting of the TSC, held shortly after the project commences.

7.2 Other Consultation

Consultation by consultants should include (but not limited to) the following key stakeholders:

- (i) Appropriate officers of Council
- (ii) Department of Climate Change, Energy, the Environment and Water (DCCEEW)
- (iii) NSW State Emergency Service (NSW SES)
- (iv) Landowners impacted by and adjacent to the proposed structures. The consultant will consult with impacted land owners on two occasions:
 - Initial Consultation at the commencement of the project
 - Consultation once concept design plans are prepared.
- (v) The levee project is adjacent to a rail line. The consultant will consult with United Group Regional Linx, who are the rail infrastructure managers for the Country Regional Network.

Consultants will need to demonstrate how they intend to consult with these bodies and in particular the types of issues that will need to be addressed.

8. PROGRAM AND REPORT

8.1 Program

The study is to be completed (including delivery of the final Flood Warning System Review report) within a period of twelve (12) months from the date of the acceptance letter.

The twelve (12) month duration includes a period of two (2) weeks for review of the draft Feasibility Assessment report by Council and the TSC and a requirement that the final report be delivered within two (2) weeks of Council's provision of consolidated comments to the Consultant on the draft report.

Consultancy proposals are to provide a 'time-line' of the key activities. The agreed 'timeline' will be confirmed as part of Council's acceptance of the Consultancy proposal. Once this 'timeline' has been agreed, the consultant shall notify Council as soon as any variation becomes apparent.

8.2 Reports

The following reports are to be presented as a minimum:

- Draft Feasibility Assessment Report
- Final Feasibility Assessment Report

Upon acceptance of the proposal, the Consultant shall provide a final copy of the program and timetable of major tasks for completion of the study. The Consultant is to provide a brief progress update to Council's representative on a monthly basis.

The format of the final report is not rigid, but it shall clearly indicate the stated recommendations, with supporting facts, figures and arguments.

The consultant shall be responsible for the preparation and printing of all documentation. Front covers of documents shall bear the logo of Council with appropriate acknowledgments inside the body of the report to the DCCEEW.

Other documentation requirements are listed below:

- A4 sized paper (text), A4 or A3 minimum for accompanying plans
- All Reports and documents shall be produced in electronic formats in addition to hard copies using Microsoft Word, Spreadsheets (Excel) and /or pdf formats.
- Coloured graphics and maps, where available
- Electronic copies of all progress, draft and final reports
- 5 hard copies of the final report, plus one unbound reproducible copy and an electronic copy.

8.3 Hand-Over of Study Material

The consultant is to provide the following at hand-over:

- All relevant data and information in a format compatible with Council's GIS system, arranged in a suitable file structure.
- Copy of final reports including figures, inserts, maps, scanned documents and other graphics.

The consultant should provide all digital / electronic items requested on an appropriate electronic file storage medium.

The Consultant will also be required to upload the project handover data to the NSW Flood Data Portal (<https://flooddata.ses.nsw.gov.au/>) upon completion in compliance with DCCEEW requirements under a Creative Commons Attribution licence (see below).

The Consultancy Agreement must contain clauses including the following information or an equivalent which does not place any additional restriction on use by the State or use of specific information under creative commons. Table 14 column 4 identifies Intellectual Property Cases 1 and 2 which are defined as follows.

Case 1 - all clauses apply –which involves making information available under creative commons as outlined in Clause 1.7 and Schedule A below.

Case 2 – clauses 1.1 to 1.6 apply

1 **Intellectual property**

- 1.1 *In this clause, Intellectual Property includes all statutory, legal, equitable and other proprietary rights and interests, including without limit, in copyright, patents, registered and unregistered trademarks, registered designs, circuit layouts, trade secrets, semiconductor or circuit layout rights, trade, business or company names, or other proprietary rights, or any rights to registration of such rights existing in Australia, whether created before or after this agreement.*
- 1.2 *The consultant indemnifies Council, the Department of Planning, Industry and Environment (NSW Government) and their employees and agents against any action, costs, expenses, losses or damages suffered or incurred by all, or any more of them, arising out of, or in any way in connection with:*
 - (a) *any breach by the consultant or its employees or its agents of the consultant's obligations under clause 1.2, and*
 - (b) *any infringement by council or NSW Government of third party Intellectual Property rights in its use of the Project Materials.*
- 1.3 *The consultant warrants that:*
 - (a) *in carrying out the Project, it will not infringe any Intellectual Property rights, and*
 - (b) *any report by the Recipient will not contain anything that, to its knowledge, is libellous or defamatory.*
- 1.4 *Subject to clause 1.5:*
 - (a) *The consultant grants to the council and the State, at no cost, a perpetual, irrevocable, worldwide, royalty-free non-exclusive licence, including the right to sub-license, to use, reproduce, modify, adapt, publish and communicate to the public, the Project*

Materials (to avoid doubt, including for the purpose of making the Project Materials freely available to the public or any section of it, whether in hard copy or on-line and including use and modification of any models and copying photographs), and

(b) To ensure compliance by the consultant with clause 1.4(a), if the consultant engages a third party to create the Project Materials the consultant must ensure that the terms of its engagement provide that the third party:

(i) assigns Intellectual Property in such materials to the council immediately on creation of the materials; and

warrants that it has the legal authority to comply with the obligation referred to in clause 0(b)(i).

1.5 *To the extent that the consultant cannot take ownership of Intellectual Property in any Incorporated Existing Materials:*

(a) the consultant must ensure that relevant third parties grant to the council and State, at no cost, a perpetual, irrevocable, worldwide, royalty-free, non-exclusive licence, including the right to sub-licence, to use, reproduce, modify, adapt, publish and communicate to the public, the Incorporated Existing Materials for any Non-Commercial Purpose (to avoid doubt, including for the purpose of making the Incorporated Existing Materials freely available to the public or to any section of it, whether in hard copy or on-line and including use and modification of any models and copying of photographs); and

(b) if any of the Incorporated Existing Materials are included in the materials referred to in clause 1.7, the Recipient must ensure that relevant third parties make those Incorporated Existing Materials available to the public under a Creative Commons Attribution 4.0 licence.

1.6 *This clause 1 survives termination or expiry of this agreement.*

1.7 *To make the required information available under a Creative Commons Attribution 4.0 licence the Consultant must insert a copyright notice into the deliverables indicated below in accordance with the form and instructions in Schedule A. The Consultant must particularise New Contract Material and Existing Contract Material, as specified in the instructions in Schedule A. The deliverables this refers to are as follows:*

(i) project report(s) and associated figures (excluding any sections highlighted as confidential by the council);

(ii) spatial flood extent layers for key events; and

(iii) any other data and tools noted as IP Case 1 in Column 4 of Table 14 or otherwise advised by council to the consultant

SCHEDULE A

This copyright notice is to be incorporated into the Deliverable Services. It can be downloaded MS Word format from: <https://goo.gl/dsuQD5>. It should replace any other copyright notice in the document(s), which are generally located inside the front cover.

Instructions

1. *Ensure that the hyperlink under the Creative Commons Logo is maintained.*

<https://creativecommons.org/licenses/by/4.0/>

2. *Replace [Title of document] [Year] with the appropriate content*

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10. GENERAL

10.1 Council's Authorised Representatives

The study will be administered by Council. Personnel authorised to issue instructions in regard to this study are:

Name: Mike Brearley, Councils External Project Manager, Telephone: 0407 953 249.

E-mail: mike@mbaconsult.com.au

Name: Bimal Shah, Interim Manager Engineering, CGRC, Telephone: 1300 459 689

E-mail: bimal.shah@cgrc.nsw.gov.au

DCCEEW is a member of Council's TSC. DCCEEW's representative on this project is Steve Manwaring (steve.manwaring@environment.nsw.gov.au; 02 6229 7170; 0475 835 886). DCCEEW's role on the committee is to provide technical and policy advice. Council may request, at any time, the advice and support of DCCEEW in any aspect of the study.

NSW SES is also member of Council's TSC. NSW SES's representative on this project is Joshua Stanbury (joshua.stanbury@ses.nsw.gov.au; 02 4226 0275; 0478 281 649).

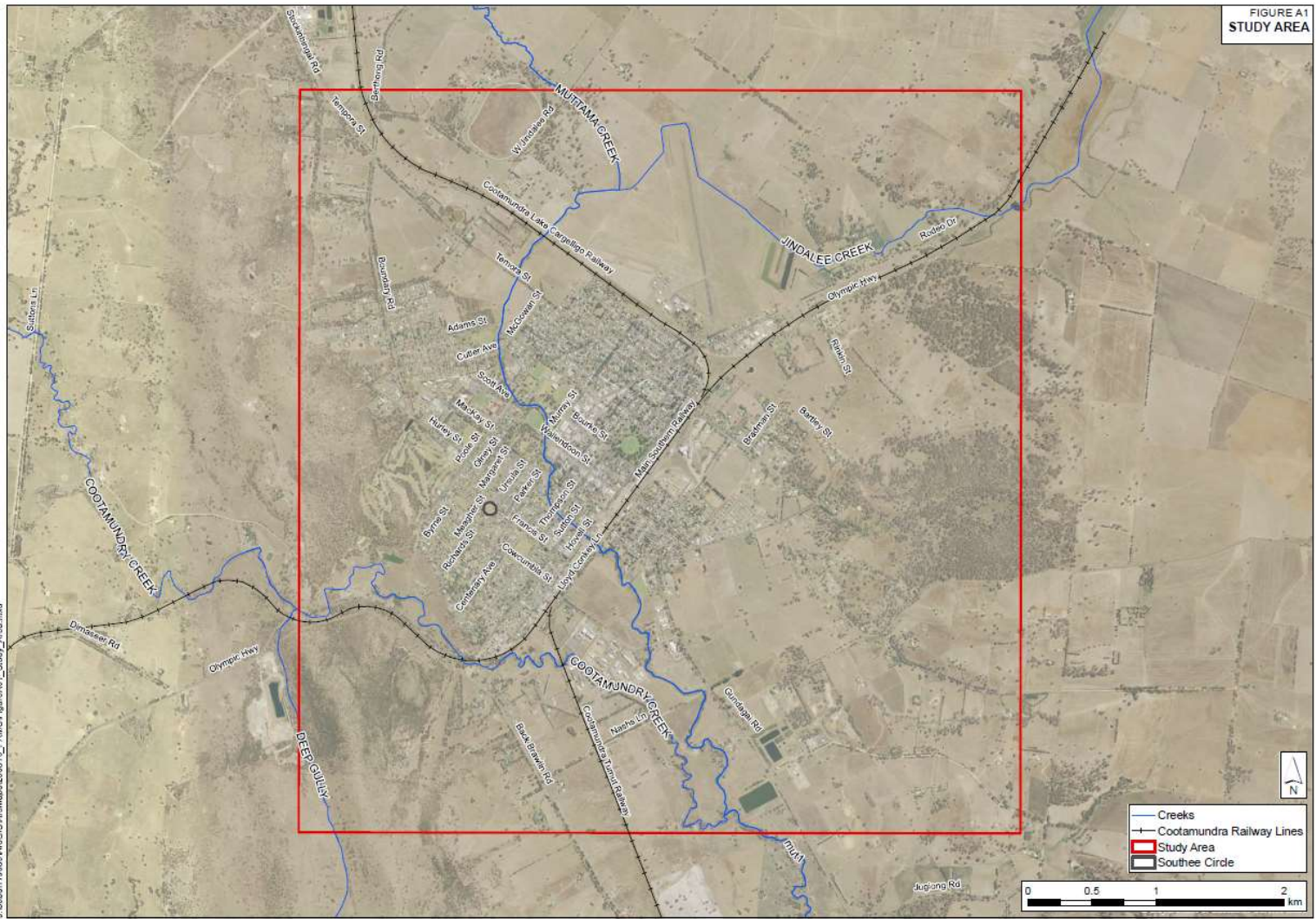


FIGURE A1
STUDY AREA

FIGURE 2 COOTAMUNDRA – STUDY AREA
Source: Cootamundra FRMS&P (2023) report.

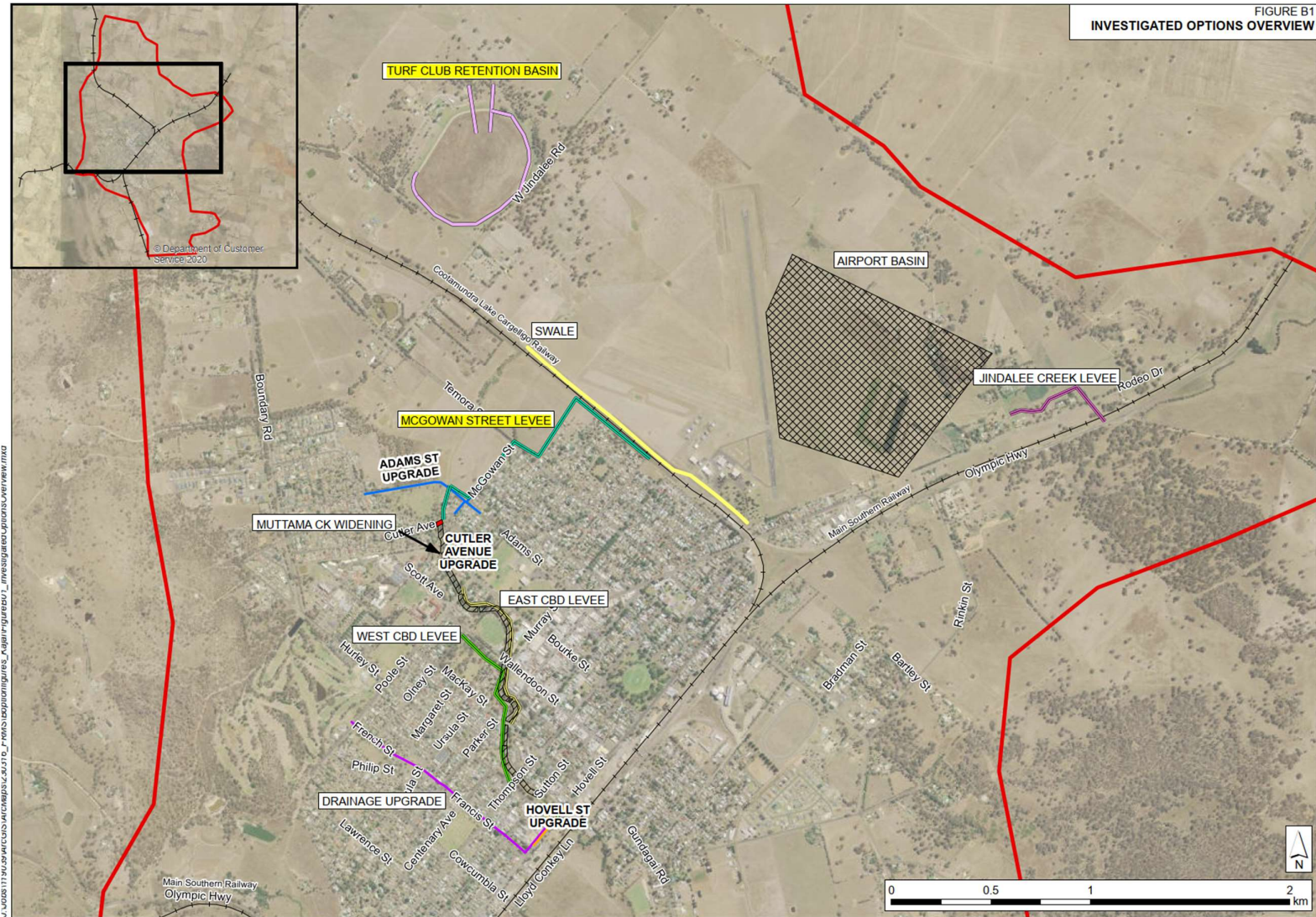
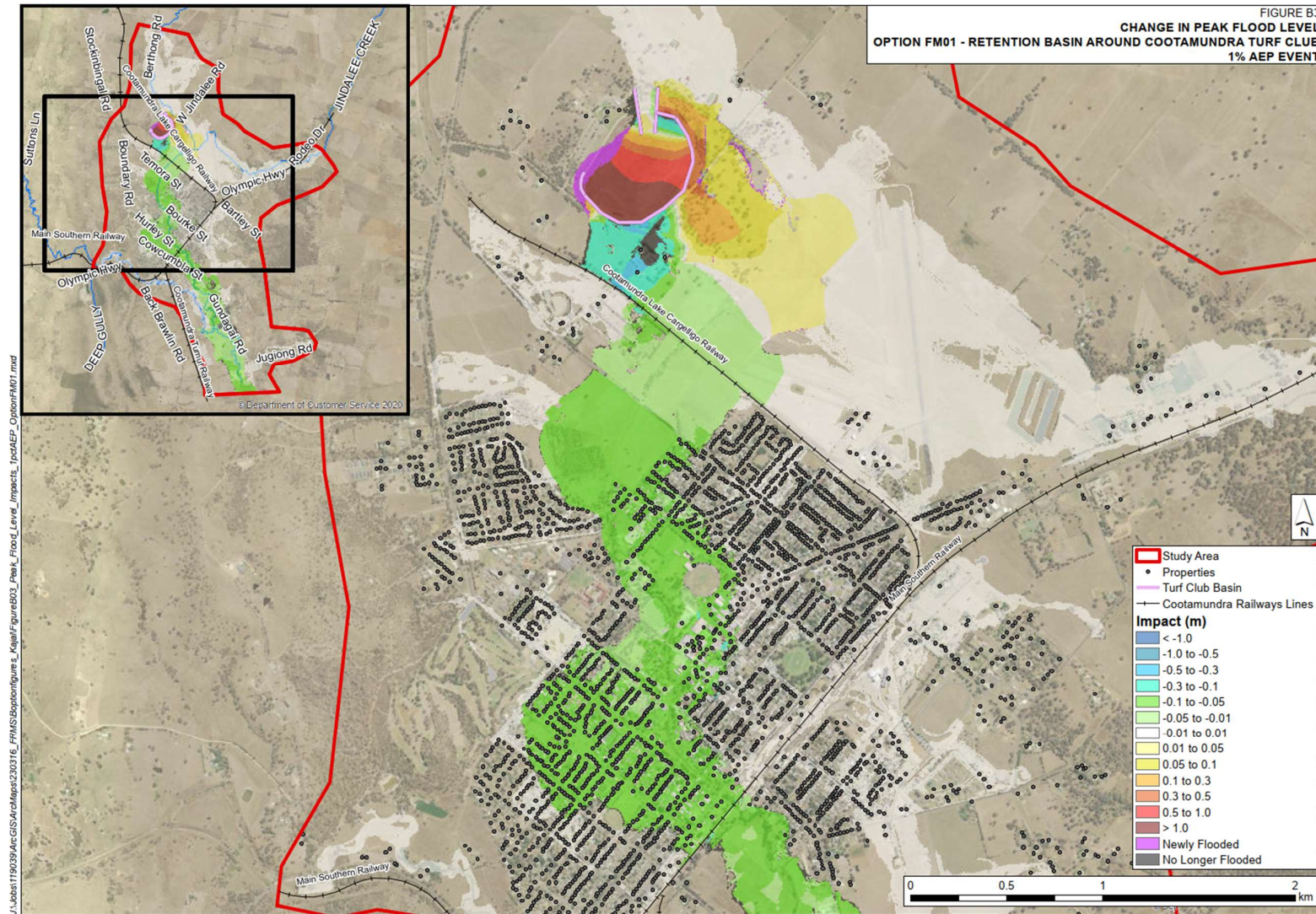


FIGURE 3 COOTAMUNDRA OPTIONS OVERVIEW – TURF CLUB BASIN AND MCGOWAN ST LEVEE HIGHLIGHTED

Source: Cootamundra FRMS&P (2023) report.



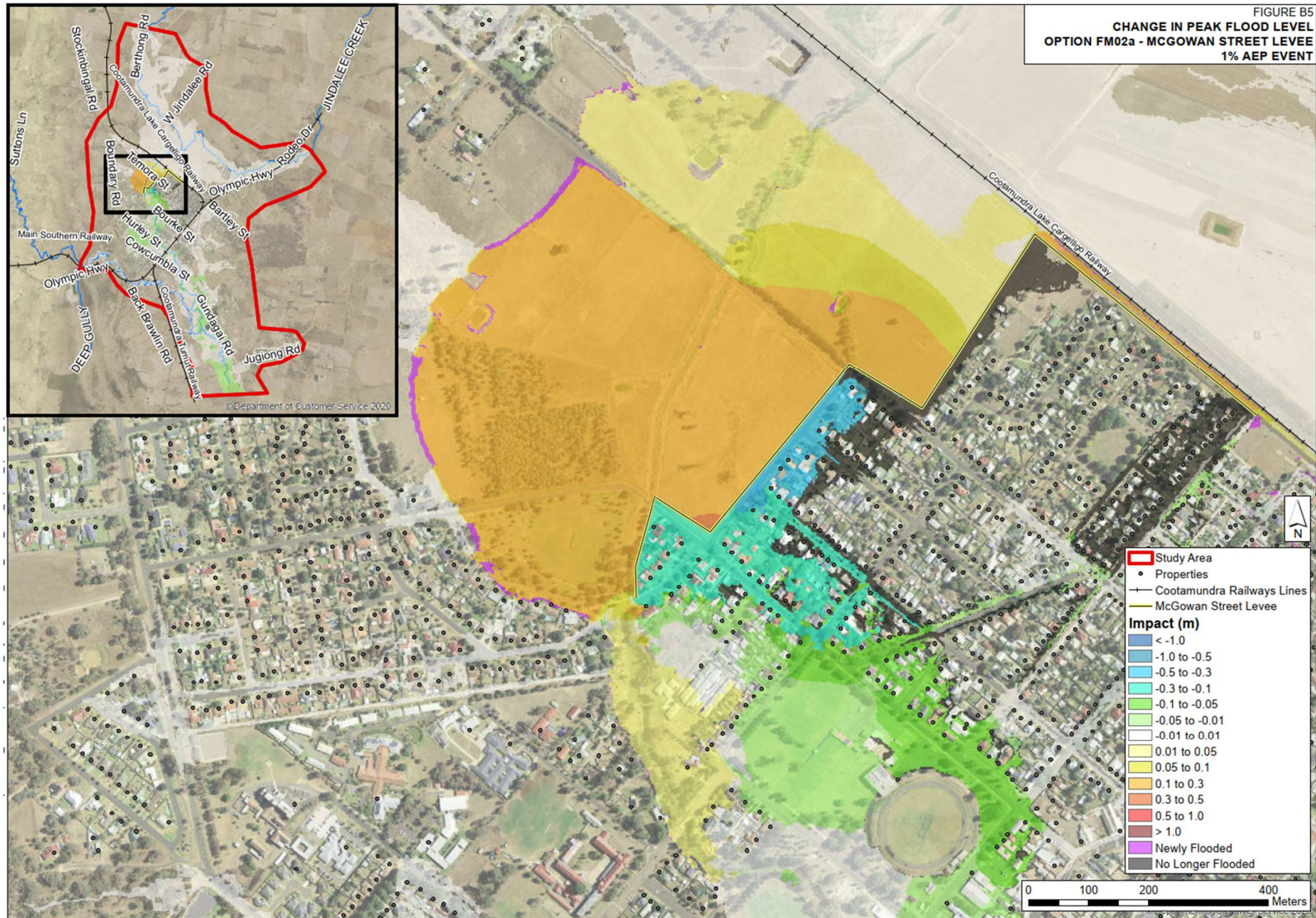


FIGURE 5 MCGOWAN ST LEVEE ALONE – CHANGE IN 1% AEP FLOOD LEVEL

Source: Cootamundra FRMS&P (2023) report.

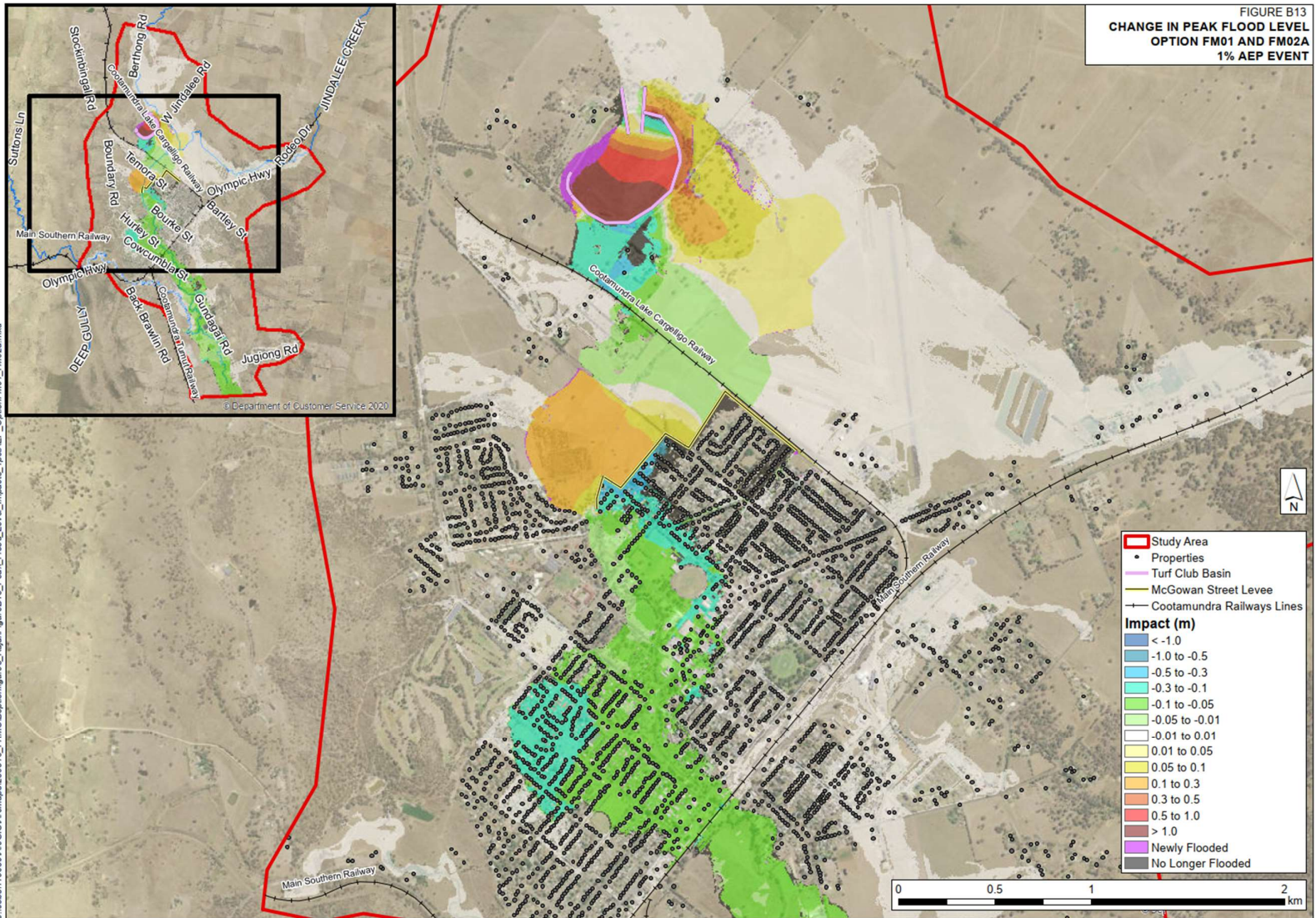


FIGURE 6 TURF CLUB BASIN AND MCGOWAN ST LEVEE - CHANGE IN 1% AEP FLOOD LEVEL

Source: Cootamundra FRMS&P (2023) report.