AGENDA AND BUSINESS PAPER

Floodplain Risk Management Advisory Committee

To be held on
TUESDAY 7 MAY 2019
AT 8.30AM

Cnr Baylis and Morrow Streets,
Wagga Wagga NSW 2650
PO Box 20, Wagga Wagga

Phone: 1300 292 442
Fax: 02 6926 9199
Website: www.wagga.nsw.gov.au
FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE
AGENDA AND BUSINESS PAPER

TUESDAY 7 MAY 2019

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ACKNOWLEDGEMENT OF COUNTRY

APOLOGIES

CONFIRMATION OF MINUTES

CM-1 MEETING MINUTES - 5 FEBRUARY 2019

Recommendation

That the Minutes of the proceedings of the Floodplain Risk Management Advisory Committee held on 5 February 2019 be confirmed as a true and accurate record.

Attachments

1. Meeting Minutes - 5 February 2019

DECLARATIONS OF INTEREST
REPORTS FROM STAFF

RP-1  PROJECT UPDATES

Author:  Peter Ross  
Director:  Caroline Angel

Analysis:  This report is to provide an update on the following projects:  
• Wagga Wagga Major Overland Flow Flood (MOFF) Risk Management Study and Plan  
• Main City and North Wagga Levee Construction – Stage 1  
• Wagga Wagga Revised Floodplain Risk Management Study and Plan  
• Wagga Wagga Villages Floodplain Risk Management Study and Plan  

The following projects have been submitted for grant funding:  
• Humula and Mangoplah Flood Studies & Floodplain Risk Management Studies and Plans (comprises two applications)  
• Wagga Wagga Flood Warning System Improvements Investigation

Recommendation  
That the Committee receive and note the report

Report  

Project 1753 – Wagga Wagga Major Overland Flow Flood (MOFF) Risk Management Study and Plan

An application was made on 21 February 2019 for a variation to the existing approved grant funding for this project to undertake Australian Rainfall and Runoff 2016 (ARR2016) work on the existing flood model. The variation was for a three-month extension in time and an increase in Government funding to undertake the work. Formal advice received confirms that the three-month extension has been granted.

WMAwater have now completed the full update of the MOFFRMS&P to incorporate the ARR 2016 methodologies and revised Stage 1 and 2 reports based on the ARR2016 results.

WMAwater will be attending the Floodplain Risk Management Advisory Committee (FRMAC) meeting on Tuesday 7 May 2019 to advise of progress to date and to present and discuss Stage 1 and 2 reports with the Committee (Report 1 – Data Collection & Model Review Report and Report 2 – Flood Damages Assessment Report).
Project 1793 – Main City and North Wagga Levee

The upgrade of the remaining 6km of levee between Gobbagombalin Bridge and Hammond Avenue is the second part of this lengthy and complex project. The aim is to provide a 1 in 100-year flood protection to the city for the first time. Stage 2 works involve the extension and reinforcement of existing concrete retaining walls and installation of capped sheet piles.

The sheetpiles between Cadell Place and Johnston Street have been installed and adjusted for height. The capping of these piles should commence shortly.

The concrete wall extension along Cadell Place has been completed.

The carpark at Crampton Street has been reopened and the cribwall, stairs and footpath completed recently.

The Narrung St bank is nearing completion and the area along the dog track is on track for completion shortly.

The Wiradjuri Walking Track will be completely closed for several months in this section from 7 January 2019.

Residents and business operators affected by the works, or anyone interested in the Stage 2 levee project, are invited to attend a community information session to be held on 30 May 2019.

Council staff are working with the contractors to minimise disruptions as much as possible and thank residents and businesses for their cooperation throughout these works.

The Stage 2 upgrade is scheduled to take approximately 14 months, weather dependant.

Project 2000 – Wagga Wagga Revised Floodplain Risk Management Study and Plan

Updates to FRMS&P Mitigation Measures

Options PR1 & L4B

PR1: Undertake a feasibility study to investigate a Voluntary House Raising & Voluntary House Purchase Scheme in Wagga Wagga Study Area, in conjunction with, North Wagga Levee Upgrade to 5% AEP level of protection WITH an equivalent upgrade to Hampden Avenue (as embankment) and conveyance improvements through Wilks Park.

L4B: Undertake a feasibility study to investigate North Wagga Levee Upgrade to 5% AEP level of protection WITH an equivalent upgrade to Hampden Avenue (as embankment) and conveyance improvements through Wilks Park, in conjunction with, Voluntary House Raising & Voluntary House Purchase Scheme in Wagga Wagga Study Area.
Council has received grant funding from OEH to undertake the feasibility study of these two options. Development of the brief has commenced and it is proposed that it will be presented at the next FRMC meeting for consideration by the committee.

**RE1: Improve Flood Warning System**
Council has made a grant application to investigate options to improve our riverine flood warning system. The project will:

- review the current flood warning system
- assess and scope deficiencies in the current flood warning system
- make recommendations on additional infrastructure needs and any other improvements

**Project 18640 – Wagga Wagga Villages Floodplain Risk Management Study and Plan**

Stage 1 report has been submitted by GRCHydro and distributed to OEH, relevant Council staff and FRMAC members for comment. Council staff met with GRCHydro on Wednesday 17 April 2019. Responses to the questionnaire that had been sent to village residents was discussed and reviewed. GRCHydro requested further information in relation to:

- existing “levees” at the villages,
- cross drainage through levees
- access to community representatives that could be utilised as information conduits to the broader village communities
- levee inspection information
- possible draft DCP/LEP recommendations resulting from the MOFFS project
- comments received which refer to the Tarcutta By-pass and flooding.

GRCHydro then undertook an inspection of each of the villages.

**Project 19555 – Flood Mitigation Option Feasibility Study for North Wagga & Floodplain Residents**

Council staff are working on the development of the scope and brief for this project. Given the nature of the options to be investigated as part of the study, there is a level of complexity that needs to be fully considered and understood to ensure practical outcomes from the study.

As noted in Project 2000 above, it is proposed that the scope and brief for this project will be presented to the Committee for consideration at the next FRMC meeting.

**2019-2020 Floodplain Management Program**

A grant application has been submitted for Humula and Mangoplah Flood Studies & Floodplain Risk Management Studies and Plans (FRMS&P). The flood study will produce information on flood levels, velocities, flows, hydraulic categories and provisional hazard categories for a full range of flood events. The FRMS&P will assist Council in developing strategic plans for mitigating and managing the effects of existing, future and continuing flood risk.

For context, the following should be noted:
Humula is subject to flooding from the Umbango, Carabost & Murraguldrie Creeks. The Flood Intelligence Collection Report (2011) prepared by Bewsher Consulting on behalf of the SES identified that in October 2010 flood, it was found that the observed rainfall for Carabost and Humula stations in the Umbango catchment exceeded the 100 year ARI frequency for the 72 hour duration. However, the average return period for an 18 hour storm duration was 20-50 years.

Mangoplah floods primarily from Burkes Creek. Burkes Creek has had a telemetry gauge installed at Mangoplah since 2014 as part of The Rock Flood Warning System managed by Lockhart Shire Council. No major flood has occurred in Burkes Creek since this gauge was installed, so no records exist of past floods. However, based on the responses of the community questionnaires that was a part of the Flood Intelligence Collection Report (2011) prepared by Bewsher Consulting on behalf of the SES, no one in the Burkes Creek catchment could recall higher flooding than what occurred in October 2010. The height at Mangoplah was many metres higher than any previous known flood event. The subsequent March 2012 event peaked some 0.4m lower than the 2010 event.

At The Rock the 2010 flood event was determined to be equivalent to a 300yr ARI event whereas the March 2012 event was determined to be equivalent to a 500yr ARI event. This differential was determined to be due to the higher tributary flows experienced downstream of Mangoplah during the later event.

Financial Implications

The total project budgets, expenditure and commitments to date are as follows:

<table>
<thead>
<tr>
<th>Project name</th>
<th>Total Project Budget</th>
<th>Expended + Committed as at 30 April 2019</th>
<th>Budget Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wagga Wagga Major Overland Flow Flood (MOFF) Risk Management Study and Plan FM-0099 - (17826)</td>
<td>$220,001</td>
<td>$214,473</td>
<td>$5,528</td>
</tr>
<tr>
<td>Main City Levee Construction – Stage 1 (17843) *</td>
<td>$3,278,231</td>
<td>$3,561,894</td>
<td>$-</td>
</tr>
<tr>
<td>Wagga Wagga Villages Floodplain Risk Management Study and Plan FM-115 - (18640)</td>
<td>$198,000</td>
<td>$142,613</td>
<td>$55,387</td>
</tr>
<tr>
<td>North Wagga Flood Mitigation Study 2018-19-FM-0071 – (19555)</td>
<td>$234,000</td>
<td>$0.00</td>
<td>$234,000</td>
</tr>
</tbody>
</table>

*Main City Levee Construction – Stage 1 is showing expenditure at $3.562M, as the project includes expenditure incurred on the Kooringal Road Cycleway, which Council expects to receive approximately $157K in grant funding from the RMS, which will require 50:50 Council Reserves funding.
Policy and Legislation

The outcomes from the various studies will be very important in the terms of future amendments to the Council Local Environmental Plan and its Development Control Plan.

Link to Strategic Plan

Community Leadership and Collaboration
Objective: We are active community members
Outcome: We recognise we all have a role to play

Risk Management Issues for Council

There is a risk that the cost to carry out these projects could be more than was originally estimated. Therefore, Council would need additional funds to complete the works. However, some contingency was built into all of the estimates to reduce this risk.

Internal / External Consultation

The Office of Environment and Heritage have been heavily consulted throughout the process of planning and executing these projects.

NSW Emergency Management is the responsible funding body and receives quarterly status update reports.

NSW State Emergency Services and Bureau of Meteorology are consulted when required.

Each of these projects is managed using a project steering group made up of members from different areas of Council as per Councils project management methodology.

Council officers in various directorates are members of the project steering committees for each project.
QUESTIONS WITH NOTICE
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

PRESENT
Cr Vanessa Keenan
Cr Rod Kendall
Cr Tim Koschel
Partricia Murray
Ros Prangnell
Brian Mahony

Wagga Wagga City Council
Wagga Wagga City Council
Wagga Wagga City Council
Community Member
Community Member
Community Member

IN ATTENDANCE
Cr Greg Conkey OAM
Peter Thompson
Craig Bremen
Barry Griffiths
Steve Manwaring
Caroline Angel
Janice Summerhayes
Peter Ross
Darryl Woods
Mark Gardiner
Shauna Siregar
Kate Roberts
Adriaan Stander
Sam Robins
Logan Robinson
Erin Askew
Cath Goonan
Maree Ingram

Mayor
General Manager
State Emergency Service (SES)
State Emergency Services (SES)
Office of Environment and Heritage
Director Commercial Operations
Director Community
Manager Technical and Strategy
Senior Project Manager
Manager Environment & City Compliance
Engineer - Water & Waste Assets
Project Communications Officer
Strategic Planning Coordinator
Town Planner
Cadet Engineer
WMAtwater
WMAtwater
Administration Coordinator (Minute Taker)

The meeting of the Floodplain Risk Management Advisory Committee commenced at 8.30am.

ACKNOWLEDGEMENT OF COUNTRY
I would like to Acknowledge the Traditional Custodians of this Land, on which this meeting takes place and to pay my respects to Elders past and present.
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

BA-1 GENERAL MANAGER UPDATE

Recommendation:
On the Motion of P Murray and R Prangnell

That the Floodplain Risk Management Advisory Committee receive and note the update provided by the General Manager.

The Committee received a verbal report from General Manager Peter Thompson in respect to a meeting between representatives from the North Wagga Residents Association and Council staff on 4 February 2019. A range of matters relating to flooding in North Wagga and the process underway to look at mitigation measures were discussed at the meeting.

Attendees at the meeting included the following:

<table>
<thead>
<tr>
<th>NWRA</th>
<th>Wagga Wagga City Council</th>
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<tbody>
<tr>
<td>Dan Grentell</td>
<td>Mayor - Cr Greg Conkey OAM</td>
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<tr>
<td>Geoff Conway</td>
<td>Cr Vanessa Keenan</td>
</tr>
<tr>
<td>Maree Watt</td>
<td>General Manager - Peter Thompson</td>
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<tr>
<td>Jenny Wood</td>
<td>Director Commercial Operations - Caroline Angel</td>
</tr>
<tr>
<td>Robyn Dawson</td>
<td>Member for Wagga Wagga - Dr Joe McGirr</td>
</tr>
<tr>
<td>Elaine Fruze</td>
<td>Project Engineer - Shaula Siregar</td>
</tr>
<tr>
<td>Cheryl Conway</td>
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<tr>
<td>Fiona Ziff</td>
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<td>Laurie Blowes</td>
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Committee discussion held in respect to the meeting between North Wagga Residents Association and Council staff:

A suggestion was made by the Chairman of the Committee to call expression of interest from interested stakeholders in the North Wagga floodplain to join the Floodplain Risk Management Advisory Committee as co-opted members similar to that proposed for the Villages Floodplain Risk Management Studies and Plans to help with the education and engagement of the broader community of the North Wagga Floodplain.

BA - 2 EXPRESSIONS OF INTEREST - CO-OPTED COMMITTEE MEMBERS

Recommendation:
On the Motion of R Prangnell and B Mahony

The Floodplain Risk Management Advisory Committee will call for Expressions of Interest from interested stakeholders from the North Wagga Floodplain community to join the Floodplain Risk Management Advisory Committee as co-opted members to assist with the education and engagement
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

of residents within the broader North Wagga Floodplain community in respect to the processes involved with the development of the Flood Mitigation Option Feasibility Study for North Wagga and Floodplain Residents.

CONFIRMATION OF MINUTES

CM-1 MEETING MINUTES - 11 DECEMBER 2018

Recommendation:
On the Motion of B Mahony and P Murray

That the Minutes of the proceedings of the Floodplain Risk Management Advisory Committee Meeting held on 11 December 2018 be confirmed as a true and accurate record.

CARRIED

DECLARATIONS OF INTEREST

No Declarations of Interest were received.
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

REPORTS FROM STAFF

RP-1 PROJECT UPDATES

Recommendation:
On the Motion of B Mahony and R Prangnell

That the Committee
a receive and note the report
b endorse the inclusion of the additional recommendation for the Wagga Wagga Floodplain Risk Management Study and Plan, made at the 26 March 2018 Council meeting, as detailed in the body of this report

CARRIED

Discussion on the projects:

Project 1753 - Wagga Wagga Major Overland Flow Flood (MOFF) Risk Management Study and Plan

A presentation was made by WMAwater to the Committee on the progress of the MOFFRMS to date, including updating the MOFFS models to represent current conditions, tailwater sensitivity analysis, ARR2016 sensitivity assessment, and the flood damages assessment.

DW - Can you please confirm that flood pumps like 15a and those at Flowerdale Lagoon are not used in the modelling

CG - No pumps have been included in the modelling

EA - This decision was made based on the assumption that the pumps could fail.

DW - Even if we were to build redundancies into the pumps, they couldn’t be considered?

SM - Can Council guarantee that they won’t fail during power outages?

DW - Even if the mains fail the pumps have generator plug in capacity.

SM - This has not been considered before, will need to look at pump capacity.

DW - Looking at this, 15a has a very large capacity, will need to consider an upgrade of pumps at Flowerdale

SM - Need to err on safety side – have to look at worst case scenario.

DW - Flowerdale is a low lying area and water runs into the lagoon from the south and then out into residential areas to the north.
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

EA - There are no residential properties in these areas

DW - Council has been receiving a lot of calls from residents regarding insurance, especially in the Vestey Street area in relation to levels once the levee work has been completed. If the model is released as is there will need to be an explanation provided with the model on the assumptions made on which flood gates are open and which flood gates are closed.

EA - Floodplain levels need to be based on probable outcomes - based on conditions that exist now.

Note: This discussion related to the investigation into the appropriate tailwater level (i.e. in the Murrumbidgee River). The choice of tailwater affects flood depths in the city, as it determines how many levee pipe gates would be open or closed, thus controlling how floodwater (from local runoff) can drain from the city area behind the levee.

The investigation concluded that a 2 Yr ARI tailwater (i.e. 6.96 m at the gauge) should be used for all design flood events.

Cr Kennan – The manual gates/ automatic gates issue is similar to the pump discussion earlier.

EA – For a low flow riverine flood – all of the gates are open, the “low flow” riverine level is defined as a flat water level of 1.95 m at the gauge. At this level all levee gates are open (as per the current operational procedure).

Note: the flood model assumes that gates are either open or closed depending on the tailwater level and the current operating procedure. With the 2Yr ARI tailwater, 8 gates are assumed to be closed. It is noted that the modelling assumes no gates are accidentally jammed open or blocked with debris (though this is possible), as assuming that all levee pipes would be blocked would be a much too conservative and significantly overestimate flood depths behind the levee.

DW - Previously things have lodged in gate flaps, with the levee upgrade all gates will have non return flaps.

CG - Will gates 24 and 25 be non-return?

DW - Yes

EA - Gate closure timing in accordance with the current Wagga Flood manual - better operation procedures? WMAwatter are looking at this as a way to improve flooding outcomes.

Cr Keenan - Are all floodgates to be upgraded?

DW - Ones that are in reasonable condition will not be, others to be assessed.

EA - Can you provide us with the details of the ones that are being changed?

DW - Yes
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

CA - The upgrading of the gates was not part of the original scope of the levee project. Requested that it be done due to the poor condition of some of the gates.

CG - WMAtwater will come back to the committee on gate operational update.

AR & R Sensitivity Analysis

Initial work presented:

- WMAtwater completed a sensitivity assessment to determine how peak flood levels would change if ARR 2016 methodologies were to be used instead of ARR1987. The assessment was based on guidance available at the time (in late 2018).
- The assessment found that results using ARR2016 methodologies were generally within +/- 50 mm of the ARR 1987 results, or up to 0.3 m lower (usually in non-developed areas of flood storage).
- The sensitivity assessment concluded that the study continue using the ARR1987 methodology, as the peak flood levels did not show a consistent bias to either methodology, and the ARR 1987 results, being higher in some parts, could be considered a conservative approach.

Discussion on issues with ARR2016 catchment losses in relation to the Data Hub:

- WMAtwater were engaged by OEH to formulate guidelines to guide Councils on how to use the ARR2016 inputs. The guidelines are available on the OEH website.

- The new guidance was developed in response to work that found that the losses originally prescribed in the ARR 2016 Data Hub were overly high, which causes lower flood levels as more rainfall would infiltrate into the soil rather than contribute to flooding as runoff. The new guidance now requires continuing losses (derived from the ARR 2016 Data Hub) to be multiplied by a factor of 0.4, and that probability-neutral burst initial losses are to be used.

- This guidance was released in late January 2018, after the MOFFRMS ARR2016 Sensitivity assessment had been completed.

- Re-doing the assessment in accordance with new guidance involves a significant amount of work, involving many (hundreds) model runs and significant processing required for each design event and storm duration.

- EA - ARR2016 methodology is still evolving – what is State Gov/OEH comfortable with?

- SM - OEH generally encourages use of ARR 2016 methodologies as it is current best practise, gives the models greater longevity, and may help avoid challenges from developers in the future.

- EA - note that ARR2016 is designed to be used with ARR2016 inputs (not using losses derived from ARR1987 in combination with other inputs from ARR2016 Data Hub for example – becomes complicated when considering use of
Reports submitted to the Floodplain Risk Management Advisory Committee to be held on Tuesday 7 May 2019.

MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

'calibrated losses'. This does not apply here as the overland catchment models do not use calibrated losses (no stream gauge to calibrate to).

- RP - Public would be asking why Council is using [ARR] 1987 guidelines

- SR - Consider future flood impact assessments - would these be done in ARR1987 or ARR2016? ARR1987 not as defensible - could be challenged by developers who commission their own flood studies using ARR2016.

Resolution:

- With lower (factored) continuing losses, design peak flood levels produced using the revised ARR 2016 methodologies (and OEH guidance) could produce peak flood levels higher than those produced using ARR 1987 – Council and OEH need to know if this is the case before deciding which method to continue with.

- Re-do the sensitivity assessment using revised guidance for the 1% AEP event only, then present to Council and OEH to decide how to proceed.

- It is noted that this will delay producing design flood results, which are needed for the flood damages assessment, discussions regarding the FPA/FPL and assessment of mitigation options. However, other items (emergency response for example) could be progressed in parallel.

Flood Damage Assessments

Planning is the next step, WMAwater to engage with Council Planners and Council responders who are responsible for closing of roads, putting up of signs during flood events.

Questions:

S Robins - Is the current 150ml depth exclusion going to be the same logic for identifying flood planning level?

EA - This is up for discussion, WMAwater to provide a few options.

S Robins - There is a problem with the existing model in that it has issues when the buildings are blocked out due to the scale of the model, can this be addressed?

CG - LiDAR can be filtered to get rid of buildings to develop a digital elevation model. The Riverine model did not null out buildings, rather these were incorporated in the DEM using information from LiDAR. In the overland model, buildings are null out of the model to represent the obstruction they cause to overland flow.

SR – Need to have maps showing everywhere that is flooded regardless of buildings or no buildings

CG - We can smooth out floodplain areas, then use most appropriate area - interested in how water runs around buildings
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

SR - East Wagga – parts of east wagga are not impacted by 5% riverine flood but is impacted by the MOFFs 1% should we be imposing controls for the 1% MOFFs or do we need a 5% MOFFs? No response recorded to the above.

GC - Lake Albert is one of WMAtwater’s major concerns. Keeping Lake Albert full for recreation use - what effect will this have on flooding. May need a subcommittee down the track. Will start on some mitigation options.

SM - To maintain full supply level of the Lake you may need to build a structure downstream for surcharge. This was raised in a previous model.

PR - On the slide showing drainage paths in Wagga (table drains) Glenfield Drain is not shown.

CG - The example shown is from the Wagga North model domain. The Glenfield Drain has been captured in the City domain. Can any photos and videos of the recent storm event be supplied to WMAtwater?

SES - Currently undertaking a long term project - Response Planning - will involve Council/Community. Looking at new format for Flood plans - will look for involvement from Council.

Cr Keenan - Public Exhibition for the plan is scheduled for Sept/Oct, is there any chance of consultation with most affected stakeholders?

CG - Some consultation has already been done. The FRMA Committee will need to help with this. Community representatives to help communicate progress. Submissions have been received and follow up calls made. Need to keep the lines of communication open, draw on community connections more.

Cr Keenan - Why is there a separate report for Lake Albert?

CG - It formed part of the brief for the study at the time.

EA - There is pressure to further release land for development in Lake Albert area that is highlighted as a special area.

Project 1793 - Main City Levee and North Wagga Levee

Works are progressing as scheduled. There has been some pressure from the community in respect to access to Cadell Place and parking adjacent to impacted businesses. Timed parking alterations will be made. Staff have been engaging with affected businesses. Continued progress of the project will be weather dependant.

Project 2000 - Wagga Wagga Revised Floodplain Risk Management Study and Plan

There is confusion in respect to properties inside North Wagga levee and their eligibility for house raising assistance if North Wagga levee raised to 1 in 100 year.

Cr Keenan - There is potential for a combination.
MINUTES of the FLOODPLAIN RISK MANAGEMENT ADVISORY COMMITTEE held on Tuesday 5 February 2019.

SM - That is okay for the development of the scope until you get to the combined options. Serious consideration needs to be given to how the combination of Voluntary House Railing/ Voluntary House Purchase and the raising of the levee can be achieved.

Cr Keenan - Raise the levee or do Voluntary programs - is the solution a mixture of both?

SM - Can possibly do Voluntary House Raising as a project not as a scheme, however not all houses can be done at once for varying reasons.

CA - In finalising the last study, SES representatives placed emphasis on access as there is a false sense of safety in the community if the levee is increased. Floods at Lismore provided good evidence of people who thought they were safe.

EA - Substantial upgrade will be required for a 1 in 100 year levee - in some places this would be up to 900mm.

CA - Residents may not be aware of what the visual impact would be if the North Wagga levee went to a 1 in 100 year level

Cr Keenan - We need to get the community involved to make them aware of this

SM - A draft for the scope of the project will be tabled at the next meeting.

Project 18640 - Wagga Wagga Villages Floodplain Risk Management Study and Plan

Information packs in respect to the EOIs for co-opted members to be emailed to Committee members.

QUESTIONS/BUSINESS WITH NOTICE

BWN-1 Steve Manwaring - A new round of OEH grants have opened today. Council are encouraged to apply again for funding for projects that previous applications have been unsuccessful for such as Mangoplah and to submit applications for any newly identified projects.

The Floodplain Risk Management Advisory Committee rose at 10.40am.