## Attachment: Submissions Review, Amendment C58sgra, Coleraine Flood Investigation

	Details of Objection	Response from Flood Consultant	Response from CMA	Outcome
Submission 1 Property Address: 66 Whyte Street, Coleraine	1. No obvious cooperation with the Dept concerned with the continuing work around 'diverting' the water in Bryans Creek.  We were astonished to learn that the Dept we were speaking with had no knowledge of the investigations or possible proposed work regarding the Creek diversion.  2. No form of compensation will be available to affected land holders.  A staff member from your Dept informed us that no compensation will be offered to affected property owners. Having purchased our property only 2 years ago, we are extremely anxious that our future financial security will be severely compromised.  3. Rates and Shire charges will also not be altered to show the obvious loss of land value if this Amendment should proceed.  This seems extremely unjust, and we would hope that if this Amendment is passed that a dialogue can be opened up to reassess this situation.	Items 2 and 3 talk to the same issue with regards to a point of view that the Amendment will result in a loss of land value and an expectation that Council will provide compensation. The submitters do not explain why they consider the implementation of the overlays will decrease the value of their property and provide no evidence to support the assertion. The submitters do not argue that their property is flood free and hence it is assumed the concern does not pertain to the property being incorrectly identified as flood prone. The Amendment does not alter the flood risk to the property (the implementation of the overlays confirms existing flood risk), and hence Council is not changing the flood risk. Therefore there does not appear to be grounds for compensation in this regard. It is presumed that submitter's concern relates to potential impact on property value at time of sale, and/or ability to develop or limitations on the development of the land.  3. The value of a property is dependent on many factors	1. This statement appears to be related to potential mitigation works and possibly the options considered by the flood investigation. No work has been proposed. Only options considered. Diversion of Bryan Creek was not an option considered. Any consideration of mitigation works is irrelevant to application of planning controls as controls must account for the risk in the present day. Mitigation works can take years to implement, if they are implemented at all. If mitigation works are implemented then it is appropriate to implement a deletion amendment for any land that is no longer within the 1% AEP flood extent.  2. Perceptions around land value are typically raised as an issue in flood related PS amendments. The application of controls does not alter the flood risk profile of land in any way. They simply identify flood risk that may not have been clearly understood prior to their adoption in the planning scheme. The effect on land values – whether real or perceived, isn't a factor in the consideration of application of flood	Floodway Overlay removed from 66 Whyte Ftreet, Coleraine No Change to the Amendment C58sgra recommended.
	4. Why has the strong suggestions from many members of this community to clear the Creek of the choking reeds and weed to allow proper flow, not been listened to?  Residents old and new, have commented on the uninhibited growth of reeds and weed in	to the development and increased flood risk to surrounding properties. Therefore I cannot conceive of an argument in this situation that the implementation of the LSIO requires compensation for a perceived decrease in value from an undefined loss of development opportunity. Finally, it is my understanding that the Planning and Environment Act 1987 does not provide for compensation because of the implementation of overlays. I am not a	consideration of application of flood risk related development controls. Local Government is required by Victorian Policy (13c of the Victorian Floodplain management Strategy) to ensure their planning scheme contains the appropriate zones and overlays to reflect the 1% AEP flood risk. It is understood that	

and along Bryans Creek. In just the 2 years we have resided in Coleraine the uncontrolled growth has made an obvious and serious impact on the natural watercourse.

5. Is it not reasonable to suggest that the relatively low-cost of dredging and clearing work to the Creek be trialed first?

Seeing old photographs of Bryans Creek, and listening to older members of our community who recall their younger days spent beside the Creek, it appears that the Creek actually had sandy banks and clear, running water. In fact, the very reason that Coleraine exists is because fresh, clear free running water was so readily available! Surely and attempt to clear the waterway would be a reasonable and sensible suggestion?

Insufficient ready access to information concerning this Amendment.

A significant lack of professional assistance when attempting to source information on the Amendment.

planner or lawyer, so Council may wish to seek separate advice on this.

With regards to items 3 and 4 above, clearing of the creek was investigated and is documented in detail in the Study.

- 4. The community was consulted extensively through the course of the Study on mitigation options, including clearing the creek, and provided input on the decision making.
- 5. Five potential physical works options were investigated using the hydraulic model and Benefit versus Cost analysis. The options assessed were those ranked highest by the community at the second community engagement session and through discussion with the Project Reference Group (PRG) comprised of representative from Southern Grampians Shire, Glenelg Hopkins CMA, DELWP, VICSES, CFA, Coleraine Development Association, and consulting firms Venant Solutions and Utilis. The options investigated in detail were:
- Raising the Bryan Creek walking track to create a levee;
- Raising Turnbull St to create a levee;
- Lengthen the Glenelg Highway bridge to increase its flow capacity;
- Removal of vegetation in the creek channels; and
- Modifications to the Young Street and Robertson Street drain.

The assessment found that the Bryan Creek walking track option would have a Benefit to Cost Ratio (BCR) of around 1.0 and the Young Street and Robertson Street Drain option a BCR of around 2.7, and hence both options were recommended for a more detailed assessment. The removal of vegetation had a BCR of about 0.3 which means for each dollar invested there is only a return of about 30 cents in reduced flood damages.

Aside from the economic analysis, a number of other constraints were identified with the option to clear vegetation including:

compensation is not payable for application of planning controls over land unless there is an associated compulsory land acquisition – as per *The Planning and Environment Act* 1987 – the exact legal nature of this should be checked.

- 3. No Comment
- 4. Clearance of vegetation from a waterway is not a consideration in terms of the application of flood related planning controls. Such works do not provide for permanent mitigation of risk due to the ever changing nature of vegetation. Also, it has been shown that vegetation removal from waterways generally provides little or no benefit with regard to floods as large as the 1%AEP event due to the sheer volume of water involved which will exceed the capacity of the waterway in any case. This was assessed as an element of the flood investigation for Coleraine which showed clearly that vegetation clearance from Bryan Creek would have little or no effect on the extent of the 1%AEP flood in Coleraine – which is the flood extent represented by the proposed LSIO.
- 5. The cost versus benefit of removal of vegetation from Bryan Creek was assessed as an element of the Coleraine flood investigation (see Coleraine Flood Investigation Flood Damages and Mitigation (options) report. This assessment showed that the costs associated with removal of vegetation outweighed the benefits in the context of large floods in Bryan Creek.

- Substantial alteration to the aesthetics of the system and parkland and reserves (including along the walking track);
- Reduced environmental habitat for wildlife;
- Potential increase in scour of the waterway and banks (a significant concern when dealing with sandy loam soil conditions); and
- Because of the regenerative abilities of the vegetation (particularly reeds and rushes) the reductions will diminish over time as they regrow – this effect was factored into the economic analysis.

Even if the Study recommended vegetation clearing as a mitigation option, the analysis on the flood model found that the flood levels and extent would not reduce sufficiently such that the property would be flood free in the 1% AEP event. The analysis showed that the rear low-lying area of the property would remain inundated and hence much of the property would still be covered by the LSIO.

Dredging was not one of the eight mitigation options raised by the community or the project reference group and hence was not investigated. I have investigated dredging options on a number of other floodplains and on each occasion they have not been a viable option for the following reasons:

Reduces flooding on some parts of the floodplain but worsens it on other parts:

This occurs because more water is retained within the creek along the reach where the dredging occurs but results in more water spilling out further downstream past where the dredging stops;

The dredged area will keep silting up:

- This requires regular maintenance dredging which reduces the BCR;
- The maintenance dredging may not have been done prior to a flood arriving and hence the benefit of the dredging may not eventuate;
- Require in-perpetuity funding for maintenance dredging which cannot be guaranteed and hence any benefits cannot be reflected in an LSIO.

## On the basis of the above, I do not recommend consideration of dredging as a flood mitigation option. Submission 2 As Southern Grampians Shire is aware Wannon Water requests that a "Minor Utility Installation" Contrary to the impression given by Minor Utility Wannon Water will has a number of key as per Clause 73.03 of the Southern Grampians Planning Flood Consultant's response - the Installation is Wannon overlays don't establish a permit trigger Sewerage assets located within these Scheme be exempt from requiring a planning permit for already exempted Water for the kind of works Wannon Water is identified overlays, including the Coleraine works within the Overlays to allow Wannon Water to under cl.62.02-1 concerned about. The exemption Water Reclamation Plant and the Whyte Street install and replace underground pipes and other minor and including Wannon Water is seeking is built in to Sewerage Pump Station. Wannon Water installation. exemptions Minor cl.44.03 (FO) and cl.44.04 (LSIO) and would ask that a "Minor Utility Installation" as Utility Installation in cl.62.02, and this cannot be changed Table to Clause 73.03 lists the following as a Minor Utility per clause 73.03 of the Southern Grampians the Schedules is without amendment of cl.44.03 and Installation: Planning Scheme be exempt from requiring a beyond the scope of cl.44.04 themselves to expressly require this planning planning permit for works within the Overlays, a permit for "a pumping station required a) sewerage or water mains; scheme similar to the way it is for a number of Zones to serve a neighbourhood". amendment. within the Planning Scheme. This would allow b) storm or flood water drains or retarding basins: Wannon Water to install and replace At present, the CMA is of the opinion that c) flow measurement device or a structure to gauge the existing planning permit exemptions underground pipes and other minor installation No Change to the waterway flow; for the type of buildings and works required to continue to provide water and Amendment undertaken by water authorities are sewerage services to the town of Coleraine. C58sgra d) siphons, water storage tanks, disinfection booster acceptable. The CMAs experience is Without this exemption minor works required to recommended. stations and channels: that Water Authorities are typically maintain services could be impacted with cognisant of: higher community costs and delays to works e) gas mains providing gas directly to consumers; and may impact our ability to undertake flood risk associated with emergency works. f) a sewerage treatment plant, and any associated existing and proposed new disposal works, required to serve a neighbourhood; infrastructure; and the CMAs Floodplain g) a pumping station required to serve a neighbourhood: Management Authority function in providing advice on h) power lines designed to operate at less than 220,000 managing flood risk. volts but excluding any power lines directly associated with an Energy generation facility or Geothermal energy Water Authorities therefore typically seek extraction; or advice directly from the CMA in relation to managing flood risk to their i) an electrical sub-station designed to operate at no more infrastructure. In addition, Works on than 66,000 volts but excluding any sub-station directly Waterway approval form the CMA is associated with an Energy generation facility or often required for new infrastructure such Geothermal energy extraction. as pump stations (often near waterways and therefore in the floodplain) and underground pipe crossings of

		Many of these installations have the potential to alter flood behaviour and hence potentially cause adverse impacts. Therefore it is recommended that an exemption to Clause 73.03 not be provided. The requirement for Wannon Water to undertake works within flood overlays would not be particular to Coleraine, and similar other water authorities would also face similar issues. Therefore it is recommended that further discussions be held with Wannon Water to identify if other mechanisms exist that may assist Wannon Water in undertaking their work efficiently without increasing the flood risk to other users of the floodplain.	waterways. These mechanisms also accounts for flood risk.  To sum up, Flood Consultant's comment isn't valid in CMA's opinion as:  • the exemption already exists and cannot be changed via this amendment; and  • the exemption is acceptable from a flood risk management perspective as the risks associated with such works are appropriately managed via the CMAs flood risk advice and Works on Waterways functions.	
Submission 3  Department of Transport	The flood mitigation works outlined within the Coleraine Flood Investigation report (Venant Pty Ltd 2018) and the subsequent review of the Land Subject to Inundation Overlay, as well as the Floodway Overlay, must not increase the risk to or flow of flood water over the assets managed by the Department of Transport (DoT). Prior to any mitigation works commencing, it is expected that further consultation with DoT occurs where work abuts or impacts on these assets. We appreciate the opportunity to engage in this process.	The DoT require that that the implementation of the LSIO and FO as well as any flood mitigation works do not increase the risk to or flow of flood water over assets managed by the DoT.  The Amendment seeks to incorporate the LSIO and FO into the Planning Scheme. The LSIO and FO identify existing flood risk and do not alter flood behaviour. Therefore their implementation into the Planning Scheme will not increase flood risk to DoT assets.  The Amendment does not contemplate the implementation of flood mitigation works identified in the Study, and hence there is no risk to DoT assets from mitigation works.	There are no plans to implement any flood mitigation works and even if there were, the application of planning controls must be "blind" to prospective controls and account for the present-day flood risk. DoTs comment therefore has no bearing on the proposed adjustment of the flood controls.	No Change to the Amendment C58sgra recommended.

## Abbreviations:

Glenelg Hopkins Catchment Management Authority Land Subject to Inundation Overlay Floodway Overlay Annual Exceedance Probability Benefit Cost Ratio GHCMA

LSIO

FO

AEP

BCR