20 April 2007

MORNINGTON PENINSULA Shire

COMMITTED TO A SUSTAINABLE PENINSULA

Flood Management & Drainage Strategy
Melbourne Water
P O Box 4342
MELBOURNE, VIC 3001

Attn: Mr Bruce Rush

Dear Mr Rush,

RE: PORT PHILLIP AND WESTERNPORT REGION FLOOD AND DRAINAGE STRATEGY

Please find attached Mornington Peninsula Shire's submission to the Flood and Drainage Strategy Discussion Paper.

Thank you for the opportunity to provide feedback and comment on these important issues. I would like to express my appreciation for the inclusive manner in which you have undertaken your consultation thus far. I look forward to being further involved in this process as the draft strategy is developed.

For further information please contact **Glen McAliece, Drainage Engineer** on Ph: 5950 1291 or 0409 794 791.

Yours faithfully,

Bruce Douglas
Director – Sustainable Infrastructure
Mornington Peninsula Shire

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Introduction

The Mornington Peninsula Shire welcomes the opportunity to provide this submission to the Port Phillip and Westernport Region Flood Management and Drainage Strategy Discussion Paper. Melbourne Water should be congratulated for taking this important first step in improving the management of stormwater and associated flooding within the Greater Melbourne region. The consultative approach that has been undertaken by Melbourne Water in the lead up to the release of the Discussion Paper should also be applauded and it is hoped that the submission provided will be reflected in the draft strategy to be released later this year.

Background – Mornington Peninsula Shire

Municipal Overview

Mornington Peninsula Shire Council is a large municipality (720 square kilometres) located 50 km to the south of Melbourne. The municipality includes all of the Mornington Peninsula and supports a variety of land uses including residential, agricultural, commercial and industrial areas.

Urban areas within the municipality are divided into more than 20 townships. Many of these townships are located on or near the coastline and are bordered by rural areas. The urban development boundaries within the municipality are fixed, with many of the townships approaching full development. The major area of residential growth is occurring in Mornington and Mount Martha.

Large parts of the municipality support a variety of agricultural industries that includes grazing, market gardens, orchards, vineyards and poultry producers. A major industrial precinct is located at Hastings and includes the BHP Western Port Works, the Esso/BHP Petroleum Complex and an area proposed to be developed as a major port and freight handling centre.

Catchment Characteristics

The Shire is characterised by a high number of small catchments draining over relatively short distances to Port Phillip, Western Port or Bass Strait. With a few exceptions, the catchments of the waterways are contained within the municipal boundaries. Typically the upper reaches of the catchments are either in rural or undeveloped areas, with urban areas along or near the coast. The character of the waterways varies significantly over the municipality, reflecting the variations in geology and land use.

The waterways vary from the flood plains on the eastern side of the municipality, to the short steep waterways that characterise the escarpments of Mt Martha and Mornington. On the Nepean Peninsula, stormwater infiltrates into the groundwater table via soakage pits. As a result this area does not contain any significant overland drainage lines.

Flooding on the Peninsula is predominantly as a result of overland flows however, as the impacts of global warming increase, it is likely that the coastal fringe will be affected by coastal and tidal inundation. A number of photographs have been included as attachments to this submission to highlight the extent and nature of flood events which have occurred recently within the Mornington Peninsula Shire.

Discussion

Issue 1: An agreed approach to managing existing regional flood problems

The Mornington Peninsula Shire strongly agrees that there needs to be an agreed approach to managing regional flood problems.

Although detailed analysis of flooding within the Shire has not been undertaken, it is estimated that there are some 8,000 properties in the shire at the risk of flooding in up to a 1% annual exceedence probability event. More than 2,000 of these contain buildings or dwellings at risk of flooding above floor level.

Overland flows, or flash flooding, are by far the most common cause of this flooding. As documented in the discussion paper, most people living in those areas are unaware of the flood risk. In most cases, flash flood events occur with little warning, last only an hour or less, are relatively shallow, slow moving and pose little risk of drowning. However, there may be some areas where the combination of the depth and velocity at which the water is flowing poses a threat to human safety.

It is acknowledged that riverine flooding is a serious issue within the Port Phillip and Westernport Catchment. However, so too are overland floods and coastal inundation. Therefore it is important that the draft strategy identifies and addresses all of the components of flooding in the Greater Melbourne region.

Council agrees that flood managers face a series of challenges. It is agreed that there is a need to:
- understand the extent and impacts of flood risk
- agree what are intolerable and tolerable levels of flood risk or protection
- develop and implement a decision-making framework to remove intolerable risks
- identify and ensure there is a plan to deal with residual flood risks.

On the other hand Council believes that it would not be reasonable to focus resources only to address intolerable flood risk. There is a need to address remaining tolerable risks. All stakeholders should be involved in determining what is tolerable and intolerable risk.

The Strategy should address the issue of a reasonable time frame in which to remove intolerable risks. Obviously there is a balance between time to address the issues and the financial capacity of the community to meet the costs of the program

In the development of the strategy it would be reasonable to consider the acquisition of private properties that are considered to be at extreme or intolerable risk.

Issue 2: Completing the knowledge base

The discussion paper outlines the factors that need to be addressed in order to complete the knowledge base. Council recognises that floods affect people in different ways depending upon their health, well being, economic status and other personal circumstances.

It is agreed that determining the impact of an emergency on a community is a complex task. There is no agreed process or tool for determining the social impacts of flooding on the community.

As detailed in the discussion paper there are a number of questions to be considered in relation to this issue. Comments on these are:

• ***Is there a need for an ongoing flood impact research program?***
As discussed in recent workshops there is a demonstrated need to obtain information to determine the social impacts of flooding and its effects on communities

• ***What are the research priorities e.g. high risk areas, post event evaluation?***
Initially it would appear that an evaluation of high risk areas should be undertaken however Council would support initiatives which enabled rapid evaluation of social impacts after significant events

• ***Who is best placed to co-ordinate such a program?***
It is appropriate that such a program be undertaken on a regional or state basis subject to national consistencies. In this situation, coordination is probably best undertaken by the Emergency organisations however it is essential that all stakeholders continue to be involved. This would include Local Government, Government agencies and non government organisations such as Red Cross.

Flood mapping to identify risks

The discussion paper outlines the statutory obligations of Melbourne Water with regard to floodplain mapping and the need for mapping to facilitate flood management planning.

Council agrees that flood mapping is of vital importance for:
• Land use Planning Policy and Controls
• Emergency Response, and
• Mitigation priorities

The situation within Mornington Peninsula Shire reflects the situation outlined in the discussion paper. Unfortunately little mapping has been undertaken in the Shire and information has not been included in planning schemes or well communicated to the public. In addition to mapping of urban areas. mapping is not complete for all rural waterways, for flooding where the catchment area is less than 60 hectares, or for areas that may be subject to coastal or tidal inundation.

Council agrees that the identification and accurate mapping of flood risk areas is a critical foundation for the development of drainage and flood management activities. Council recognises that flood modelling and mapping is an expensive and specialised activity. We agree that issues associated with the collection and public release of such information need to be carefully managed. It is essential that the scope of the task is recognised in the draft strategy and that the justification for the declaration of flood levels is clearly outlined. In this way the funding required to complete this task, across the entire Port Phillip and Westernport catchment, can be more readily justified to all concerned.

Not all agencies are appropriately resourced to undertake flood mapping and therefore some may require additional support and assistance to complete this essential task.

Whilst some agencies have expressed concerns regarding potential liability issues and other obligations associated with the collection of flooding information through mapping exercises there is an obvious need to determine those areas liable to flooding and the impacts of this flooding. It is paramount that the flood modelling be undertaken to appropriate standards to withstand public scrutiny.

As stated in the discussion paper, Melbourne Water's floodplain management functions, outlined in the *Water Act 1989*, include finding out how far floodwaters are likely to extend and how high they are likely to rise. Council believes that Melbourne Water is the appropriate organisation to manage and co-ordinate flood mapping projects.

However, it is also acknowledged that stakeholders will need to cooperate with Melbourne Water to:

- Resource and fund mapping programs for the region.
- Prioritise areas for additional flood mapping

Issue 3: Potential long term future pressures on existing drainage systems

The Mornington Peninsula Shire has previously identified that the *redevelopment of existing urban areas* will progressively increase pressure on the municipality's existing drainage infrastructure. As stated in the Discussion Paper, Melbourne 2030 – Planning for Sustainable Growth, will result in an increased density of existing residential areas to prevent the ongoing spread of urban areas.

Melbourne 2030 identifies a defined urban growth boundary within the Mornington Peninsula Shire. This boundary will result in 70% of the Shire retaining its rural function and only 30% being defined as an urban area. Therefore by far the majority of development and growth on the Mornington Peninsula within the next 25 years will occur within the existing townships. The drainage infrastructure within these areas is in some places already reaching its capacity in high intensity rainfall events.

As cited in the Discussion Paper increased numbers of dwellings in a defined urban area may result in increased hard surfaces coverage. This in turn is likely to result in an increase in runoff volumes and an increase in peak flows. This increased runoff could potentially result in a reduction in drainage infrastructure performance and therefore ultimately significantly increase the risk of flooding. For a municipality such as the Mornington Peninsula Shire whose drainage infrastructure is already reaching its capacity, it is vital that this increase in flood risk be assessed and understood before the majority of these developments are undertaken.

This likely increase in long term future pressures on existing drainage systems further highlights the importance of *'completing the knowledge base'*, not only for regional drainage areas but also for local drainage systems. This information will allow sensible decisions to made at the local government level with regard to appropriate developments. The planning permit process will also allow certain conditions to be placed on developments which are likely to impact the existing drainage infrastructure so that these impacts can be minimised. However, these conditions can only be placed on development permits if there exists adequate information to support these kinds of decisions, i.e. detailed flood mapping. Such information will also aid in obtaining the support of VCAT.

It is also worth noting, for inclusion in the draft strategy, the benefits of on-site detention and the mechanisms available to drainage management authorities so that this can be achieved. Local Government requires support and guidance from State Government and Melbourne Water to be able to assess all of the options available to reduce pressures on existing drainage infrastructure in the face of increasing development. On-site detention is one such method that can be employed, and at the least should be explored fully in the draft strategy as a mechanism to reduce future flood risk.

Mornington Peninsula Shire supports the work being done by Melbourne Water to prepare for significant redevelopment of particular urban areas. Council requests that improved information sharing between Melbourne Water and Local Government be included as an action in the draft strategy. Perhaps a listing of studies undertaken by Melbourne Water, including those studies planned for the future, could be made available to Local Government authorities, even if those studies only assess regional drainage characteristics.

The potential impact of climate change also requires detailed assessment in the draft strategy. The Mornington Peninsula Shire contains extensive low lying coastal areas which could be subject to coastal inundation as a result of storm surges. Higher intensity rainfall events are also a likely impact of climate change and the extent of this increase in intensity should also be assessed as part of the preparation work undertaken for the draft strategy. At the very least the draft strategy should include a spatial map of the greater Melbourne region identifying those areas susceptible to coastal inundation.

Issue 4: Enhanced community education, flood awareness and preparation

Whilst all agencies involved in flood risk assessment, flood prevention and flood management should be involved in community education, awareness and preparation, the responsibility for these activities is best placed with the agency who would respond to a major flood event. This would be the SES.

The process employed by the CFA to prepare and educate the community on fire risk would serve as an ideal example of how this may be done for flood awareness and risk. This campaign is actively supported by several authorities, including Local Government but it is primarily driven by the CFA.

The Mornington Peninsula Shire agrees that the incorporation of flooding overlay maps into the planning scheme is a valuable tool in raising community awareness of flooding issues. This action does make flooding information readily accessible to the community and does ensure that site constraints and development requirements are flagged to both existing and potential developers and property owners. This information could enable the preparation of additional education material to be conveyed to these areas. Such overlays also allow the requirements for minium floor levels to be placed on new developments under the building permit conditions.

It therefore follows that accurate and detailed information is required for flood overlays to achieve their intended purpose. This again highlights the importance of completing the knowledge base and undertaking detailed flood mapping within the Greater Melbourne region. Many municipalities, including the Mornington Peninsula Shire, do not have flood overlays within their planning schemes that accurately reflect existing flood risks and accurate flood mapping would resolve this issue.

Issue 5: Agreed responsibilities and improved collaboration between flood management agencies

The discussion paper does highlight the need for greater collaboration between flood management agencies. The consultative process employed by Melbourne Water as part of the preparations for the Discussion Paper provides an example of how this can be done. All agencies have met and discussed these issues and there has been effective information sharing and collaboration as a result.

This discussion between the various agencies has highlighted the need to clarify roles and responsibilities in relation to the management of stormwater. Improved coordination between the agencies has also been identified as important in enhancing and streamlining the management of future storm events.

The draft strategy should assess the potential for streamlining of the planning permit application process. This could include exemptions subject to conditions which would minimise referral to the relevant flood management authority. A set of prior agreements between Local Government Authorities and regional drainage authorities could be put in place to govern the need to refer applications. Where applications relate to minimal building extensions or where floor levels of a development are above flood level, these applications could be easily processed by the Local Government Authority according to the pre-determined agreements.

Mornington Peninsula Shire supports the review of legislative responsibilities for drainage across the various acts and agencies and would request that Local Government be fully involved in this review. The likely impact at the Local Government level should be fully understood before any legislative changes are implemented.

Local Government for the most part does have the expertise to manage local drainage. The issue is the need for additional support, both financial and technical, from other agencies to support this work.

It can be said that no single agency currently has the resources to manage flood risk entirely and therefore improved collaboration and increased clarity of roles and responsibilities are the keys to more organised and effective flood mitigation and management.

Mornington Peninsula Shire requests that there be transparent processes put in place to determine the ongoing priorities, for both flood mapping and capital works. This will enable all stakeholders to understand where the priorities lie and for what reasons.

Conclusion

Once again, the Mornington Peninsula Shire congratulates Melbourne Water for taking this important first step in improved flood management across the Greater Melbourne region. The consultative way in which this work has been done should also be applauded and would serve as a fine model for other State Government departments.

Of all the issues raised in the Discussion Paper, the Mornington Peninsula Shire believes three to be of utmost importance:

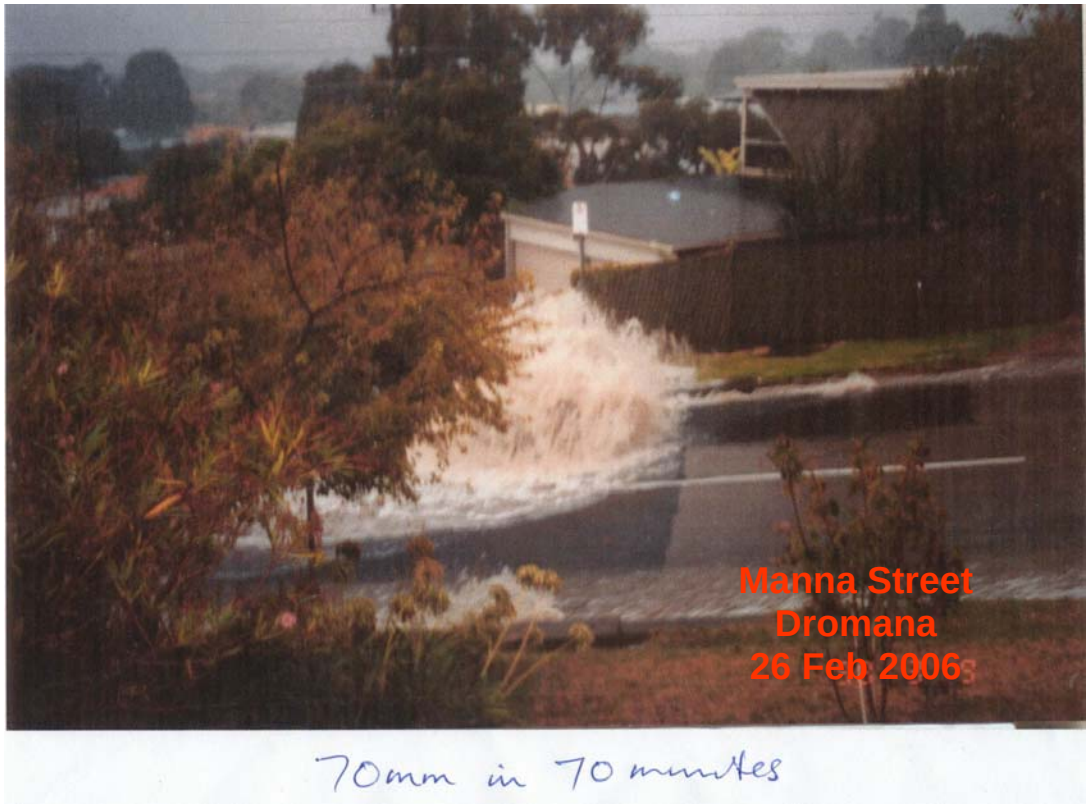
1. ***Completing the knowledge base***
   This work will enable priority works to be identified, flood risks to be clarified, additional overlays to be included in the planning scheme, control of inappropriate development and educational and awareness campaigns to be undertaken. It is vital that this work be done at both the regional and local level to enable flood risk management to receive the priority it deserves.

2. ***Assessing the likely impacts of climate change***
   This work will provide some clarity in understanding what these impacts may be and therefore support those agencies that need to plan for and accommodate these changes in their infrastructure systems. It is acknowledged that this is an inexact science and the exact impacts are unlikely to be known with confidence. However, some attempt should be made to quantify what these impacts may be. As the science improves further iterations can be made to improve the accuracy of the predictions.

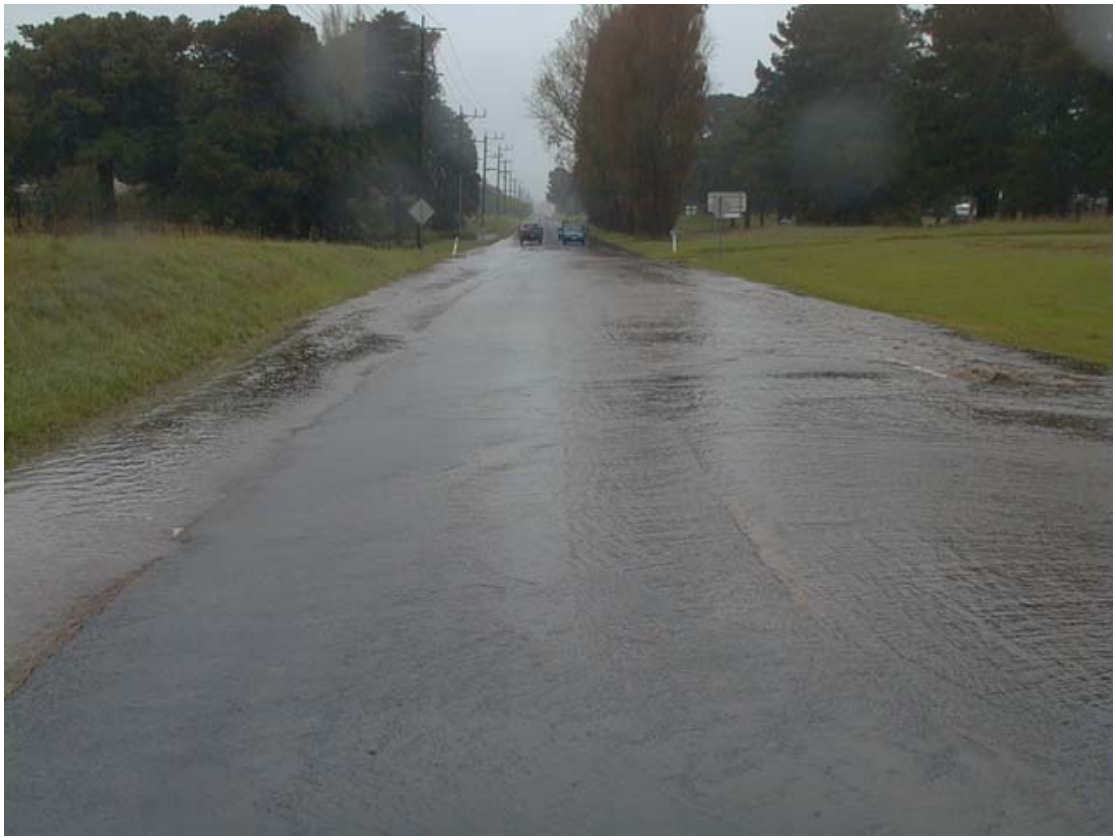
3. ***Collaboration and clarity between agencies***
   The workshops undertaken in the lead up to the release of the discussion paper highlight the importance of cooperation between all agencies involved in stormwater management and flood mitigation and management. It is only through such cooperation that effective partnerships can be established. Clarification of roles and responsibilities will also enhance such collaborative working partnerships.

The Mornington Peninsula Shire would be pleased to participate in further workshops and discussion in the lead up to the release of the draft strategy, and we would be more than happy to provide further clarification of this submission upon request.

Attachment: Recent Flooding Events within Mornington Peninsula Shire



Boneo Road, Rosebud (2003)



Boneo Road, Rosebud (2003)

David MacFarlan Reserve, Sorrento, (February 2005)

Kangerong Ave, Dromana (1997)