Planning Scheme Amendment C2228 to the Casey Planning Scheme (Planning Scheme)

29th March 2018

Expert Evidence Report of Leigh Holmes

1.0 Introduction

1. I, Leigh Holmes, Civil Engineer, am a Principal with Spiire Australia, working at their Melbourne office at Level 4, 469 LaTrobe Street. I have been with Spiire since mid-2006.

2. I am a qualified civil engineer with 14 years' experience in the land development and stormwater industry in Melbourne. During my career, my role has encompassed design and project delivery of water engineering elements of residential and industrial subdivisions, preparation of stormwater management strategies, design of stormwater harvesting schemes, waterway and wetland design, training through Clearwater and integrated water management strategies. My curriculum vitae is provided in attachment 1.

3. I have been engaged by King & Wood Mallesons to prepare an expert witness report within the scope of my expertise as above relating to the Planning Scheme Amendment C2228 to the Casey Planning Scheme. My instructions on this matter have been as follows:

    - Review and comment on the Melbourne Water Drainage Strategy applicable to the Minta Farm Precinct Structure Plan

2.0 Background

In compiling my expert evidence report I have considered the following information/documents:

- All submissions to the Planning Scheme Amendment C2228 to the Casey Planning Scheme
- Draft Alluvium drainage strategy work on behalf of Melbourne Water

3.0 Intent of Expert Evidence Report

The main issues I will address are as follows:

- Review and comment on the appropriateness of the Minta Farm Drainage Investigations
- I will not be addressing the appropriateness of the existing dams/lakes and in particular the existing flora and fauna.
- Furthermore, it is assumed that the water balance of the existing lakes and existing levels of the lakes have been considered by Alluvium. This information was not available for review at the time of this report.

4.0 Review of the Melbourne Water Development Services Strategy

- I understand the Minta Farm property (referred to know as the "subject site"") has two land owners, The Minta Farm Group owning the northern titles and Stockland owing the southern title. Title boundaries are important in the setup of Drainage Schemes and/or strategies.

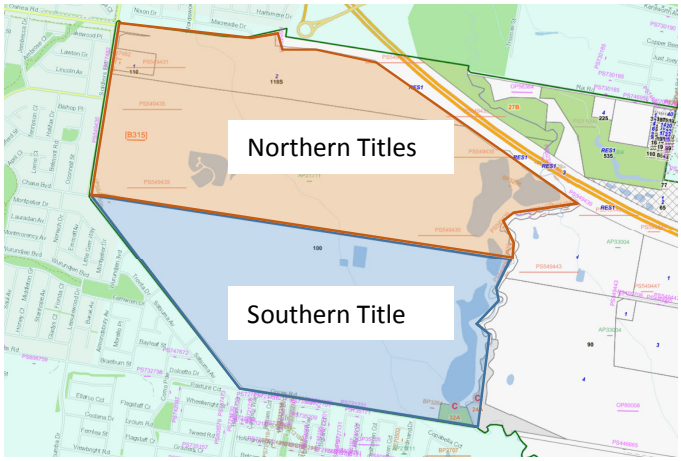

Figure 1 – Minta Farm Title Boundaries (source: lassi)

- The majority of the subject site is not within a Melbourne Water Development Services Scheme (DSS).

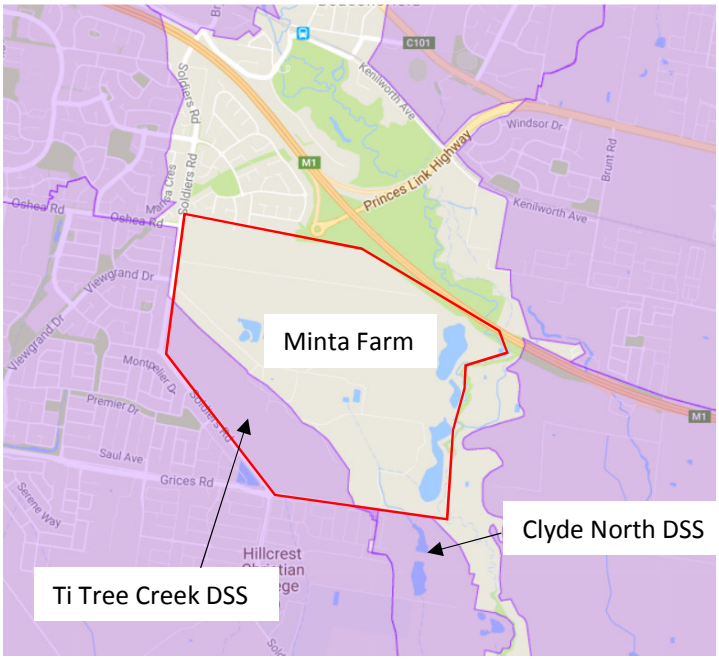

Figure 2 – Melbourne Water Development Services Scheme Boundaries (Source: Melbourne Water)

- The southern title is included within the Ti Tree Creek DSS in the south western corner. This component of the subject site is not under review as I am comfortable with the intent of the scheme in this area.

- The southern title also is included in the Clyde North DSS in the south-east corner of the subject site, see figure 3 below. Whilst figure 2 actually shows the DSS boundary outside the Minta Farm boundaries, there is obvious refinement to the boundaries required. This portion of the catchment will be reviewed at design development phase as it could be excised from the Clyde North DSS and included in the overall Minta Farm drainage scheme or strategy.

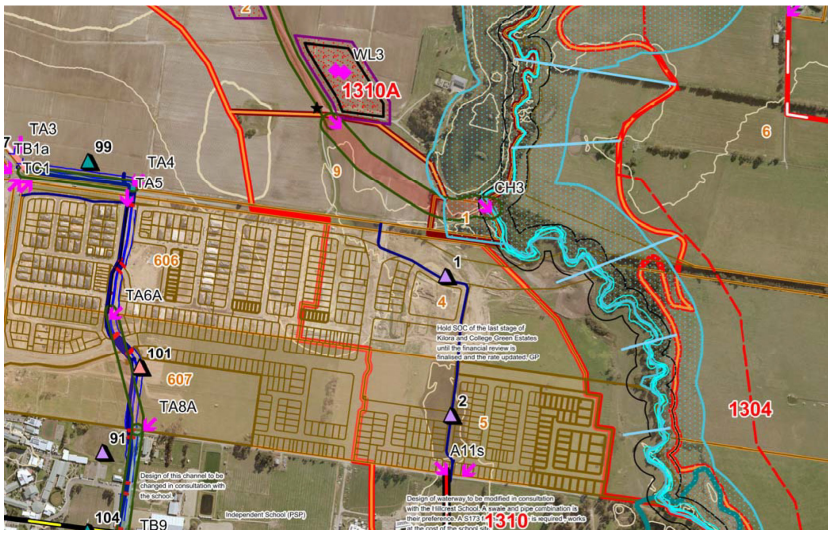

Figure 3 – Detailed Clyde North DSS showing scheme boundary within the Minta Farm property

- Based on the new drainage scenarios put forward by Alluvium It is unclear as to whether the majority of the catchment will be included in a DSS or as strategy outside a DSS now. The relevance of this is whether the land owner/s will pay contributions to Melbourne Water or fund the assets within their respective land holdings themselves.

- The key differences between a scheme compared to a strategy outside a DSS is as follows:

Table 1 – Key differences between DSS and a strategy outside DSS

	Strategy outside DSS	Drainage Scheme (DSS)
Development Contributions	No	Yes
MW reimburse drainage assets	No	Yes
5% Administration Fee applicable	Yes*	No, included in contributions generally 9% in a DSS
Influenced by external catchment flows	No	Yes
More than one land owner involved	No	Yes

* There is no formal policy regarding Administration fees outside DSS's, however has recently been discussed by Melbourne on other strategy areas.

Additional notes on DSS vs strategy outside DSS:

- The planning and provision of new infrastructure to support greenfield development within Melbourne Water's operational boundary (waterway management district) is usually managed using a development services scheme. A development services scheme comprises a drainage strategy for an area together with a pricing arrangement that allows Melbourne Water to require developers to contribute to the cost of the construction of works by Melbourne Water in connection with a development. Planning permit referrals received from councils under the Subdivision and Planning and Environment Acts are one trigger for this process
- Generally a strategy outside a DSS would apply when there is a majority land owner or preferably one within the subject catchment.
- A DSS is coordinated by Melbourne Water and development contributions are applicable across the catchment
- Melbourne Water will reimburse the construction of nominated scheme infrastructure
- A strategy outside a DSS does not require pay contributions and Melbourne Water do not reimburse stormwater infrastructure
- An administration fee may be applicable to a strategy outside a DSS, payable to Melbourne Water

The scenarios Identified by Alluvium on behalf of Melbourne are as follows:

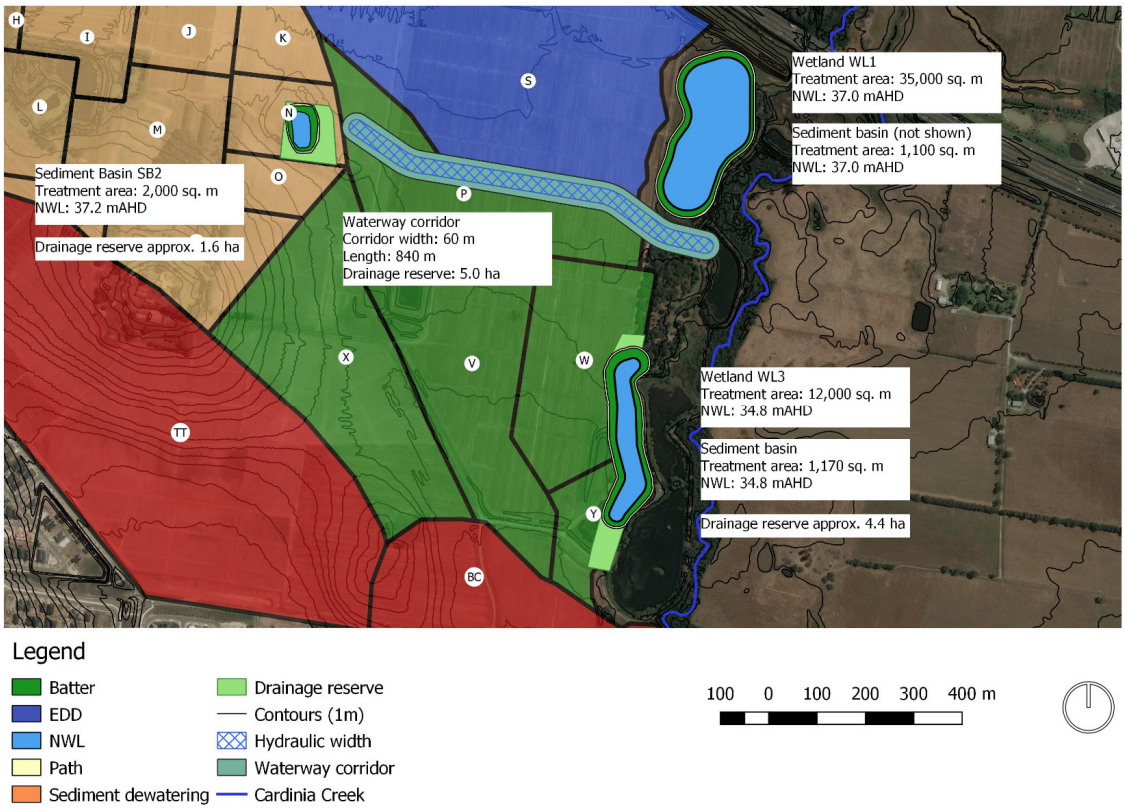

Figure 2 – Scenario 1

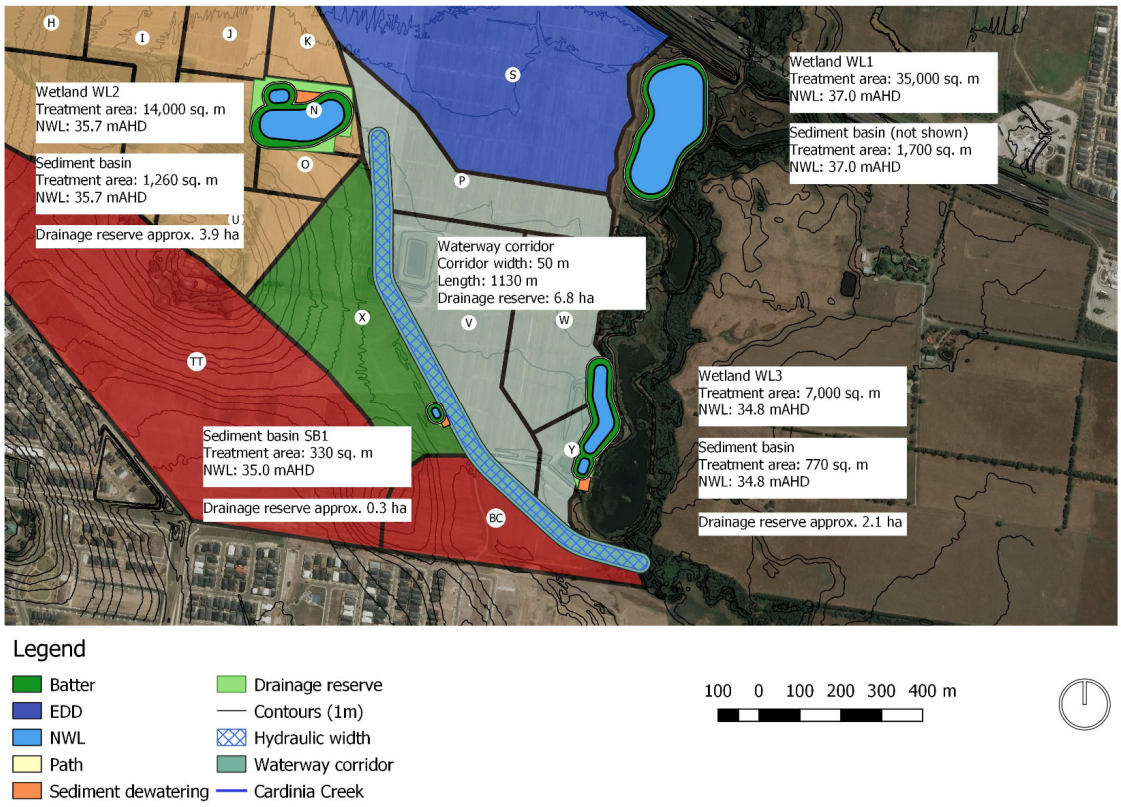

Figure 2 – Scenario 2

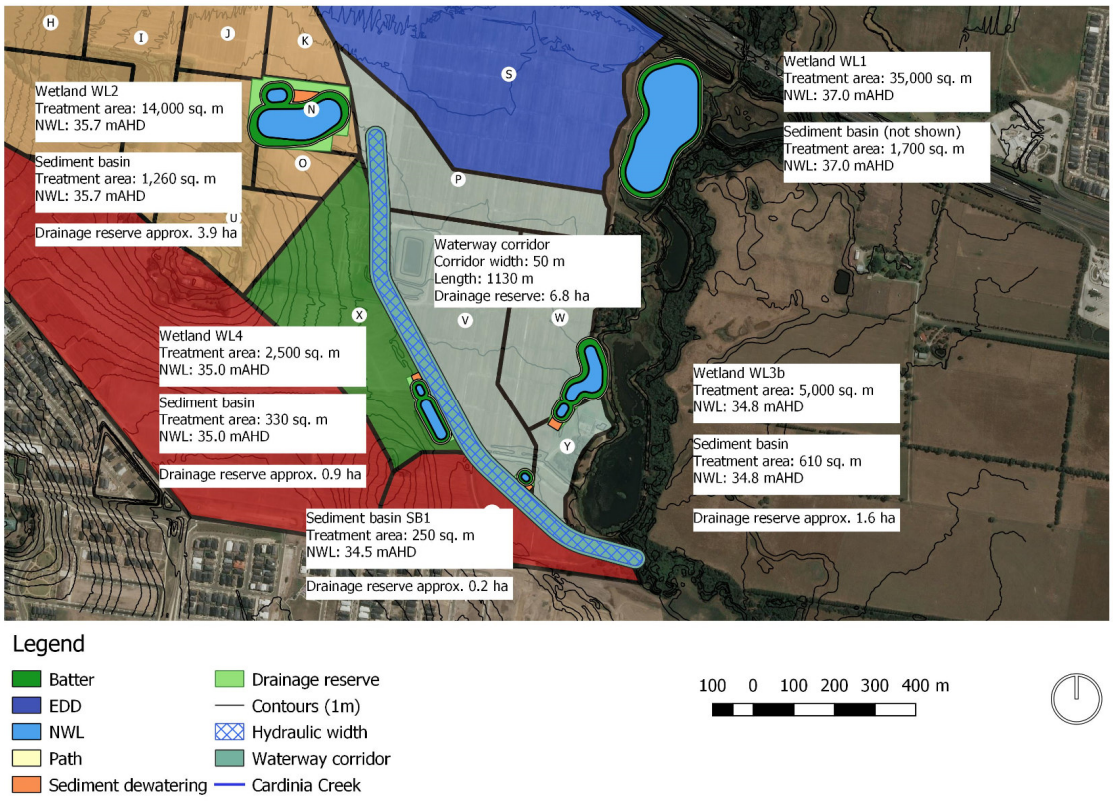

Figure 3 – Scenario 2b

- For the purposes of this review I will refer to scenario 2 and 2b as just scenario 2. The key difference between 2 and 2b are as follows:
    - 2b avoids demolition of the existing dwelling on Cardina Creek through means of meandering a wetland around the property.
    - Scenario 2 has a wetland on top of the existing dwelling
    - Scenario 2b has a 0.3 ha increase in total footprint of drainage infrastructure, compared to Scenario 2.
    - I would suggest option 2 is utilising WL3 to treat flows off the waterway, whereas option 2b treats most of the flows to best practise guidelines before discharging into a waterway. This is not entirely clear based on the level of documentation provided at the time of expert evidence statement.
- The waterway widths are different between scenario 1 & 2. I would expect all scenarios to have a similar waterway width of approximately 50m.
- Scenario 1 would aim to keep the east-west waterway within the northern title boundary and hence the northern title would be able to manage all their own stormwater flows without flows crossing title boundaries.
- Scenario 2 would see the northern title treat their own water quality within the northern title boundary, however the stormwater flows would be conveyed through the southern title.
- In scenario 1 the drainage configuration would work best as a drainage strategy and would enable both southern and northern titles to develop with minimal coordination between the two titles.

- Scenario 1 has approx 1 hectare less of water quality assets. This equates to a saving of approx $2,000,000 in wetland costs

- Scenario 1 has approx 200m less of waterway. This equates to a saving in approx $700,000 in waterway costs

- Scenario 1 will have more yield loss for the northern title whereas scenario 2 will have more yield loss in the southern title. Overall Scenario 1 has 2.1 hectares less of drainage infrastructure footprint than Scenario 2 across the two land holdings.

- The southern title has significantly less catchment area contributing to the waterway in scenario 2, however would need to give up approximately double the amount of land due to conveyance of stormwater flows via the waterway from the northern titles. The southern title is also required to pay drainage contributions to both the applicable Melbourne Water DSS's.

- Both scenario 1 & 2 are feasible from an engineering stand point. Scenario 2 waterway alignment does follow a natural valley, however given the very flat nature of land directly adjacent to Cardina Creek the waterway can be engineered to appropriately function in both scenarios.

- There is potential for the Clyde North DSS to form part of the Minta Farm Strategy for the southern title if additional fill was placed in this area, however there is allowance in the downstream properties to receive flows from this small catchment if it were deemed most viable.

- In a strategy outside of the DSS catchment 'U' as indicated on the Alluvium scenarios could be directed easterly to ensure the southern title deals with its own stormwater flows and hence this is conveyed towards WL3 in scenario 1,

5.0 Recommendation

- Scenario 1 should be adopted and thereby a strategy outside of a DSS could apply over these applicable catchments areas.

- It would enable independent development of both the southern and northern titles with minimal coordination whereas scenario 2 would require more coordination.

- Scenario 1 has less land take and based on my high level costs an overall saving of $2,700,000 in infrastructure costs would be applicable in comparison to scenario 2.

- Whilst scenario 1 will see more yield loss in the northern title, this should be deemed the most equitable solution given the northern title contributes significantly more catchment area to the drainage infrastructure than that off the southern title.

- In scenario 1 the waterway width should be reviewed to see if this can be reduced to 50m. This would aid the northern title in increasing their development yield.

5.0 Expert Declaration

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

Attachment 1 - CV

LEIGH HOLMES

PRINCIPAL

INTEGRATED WATER

QUALIFICATIONS

Bachelor of Engineering, Civil (Honours), Victoria University, 2004

ACCREDITATIONS

MIEAust, RBP

AFFILIATIONS

Engineers Australia Member

Stormwater Victoria

VBA

Leigh leads Spiire's Water Engineering team with over 14 years' experience as an engineer in the urban stormwater management space.

Recognising that management of urban stormwater is an evolving space, Leigh ensures he's at the forefront of industry change through his involvement with Stormwater Victoria, consultation with authorities and research bodies.

Leigh's core expertise lies in:

- Urban stormwater management
- Integrated water management strategies
- Flood modelling
- Water sensitive urban design and stormwater harvesting
- Asset management.

Having been involved in some of Victoria's most innovative stormwater and wastewater projects, Leigh and Spiire have received multiple Stormwater Victoria/Australia accolades.

MAJOR PROJECTS

Airport Drive and Steele Creek North Stormwater Enhancement Project, Melbourne Airport

Tullamarine, 2010–2016

- *2016 Stormwater Australia Awards: Excellence in Infrastructure – Winner.*
- *2015 Stormwater Victoria Awards: Excellence in Infrastructure – Winner.*

Leneva Whole of Water Cycle Management Plan, North East Water

Leneva, 2015–2016

- *2015 Stormwater Victoria Awards: Excellence in Strategic and Masterplanning – Highly Commended.*

Woodlea Estate Stormwater Strategy and Infrastructure Design, Mirvac and VIP

Rockbank, 2012–ongoing

VCAT & Panel Hearings

6 Chilcote Ave, Malvern - Drainage Expert Evidence at VCAT
Alfred Rd, Werribee - Drainage Expert Evidence at VCAT
Carrol Lane, Greenvale - Drainage Expert Evidence at VCAT
Mcherson's PSP - Drainage Expert Evidence at Panel
Quarry Hills PSP - Drainage Expert Evidence at Panel
Monbulk Soccer Club - Drainage Expert Evidence at Panel
RRL Compensation for Amex - Drainage expert evidence & Affidavit