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Contact: Paul Wearne (02) 4224 4100

NSW Department of Planning and Environment
Strategies and Land Release
(Attention: Brent Mclean)
Level 5, 10 Valentine Avenue
PARRAMATTA NSW 2150

Dear Sir

EXPANDED BROADER WESTERN SYDNEY EMPLOYMENT AREA

I am writing in response to your letter received by the Environment Protection Authority (EPA) on 2 September 2014 seeking comment on the proposed expanded Broader Western Sydney Employment Area (Broader WSEA).

The EPA understands that the original Broader WSEA Structure Plan set aside approximately 1,200 hectares of land in Western Sydney for employment lands. The proposed expanded Broader WSEA increases the land set aside by an additional 4,537 hectares in an area that interfaces with the South West Growth Area and the recently announced second Sydney airport site at Badgerys Creek.

The EPA provided comment to Department of Planning and Environment's (DPE) in its submission on the original Draft Structure Plan for the Broader WSEA on 19 September 2013. The EPA considers this advice is still relevant in relation to the proposed expanded area. The EPA provides additional advice for DPE consideration (**Attachment A**) on the following key environmental issues:

- Air Quality
- Water Quality; and
- Waste Management.


The EPA recommends DPE take into account the EPA comments in both the attachment and our previous submission when assessing the Broader WSEA State Environmental Planning Policy (SEPP) and associated Development Control Plan. The EPA considers these key environmental issue are important in guiding the development of the Broader WSEA over its expected development life of 30 years. These comments also supported by and consistent with the objectives and actions in the *Draft Sydney Metropolitan Strategy*.

As previously indicated in the EPA submission on the Draft Structure Plan, air quality and its management is a significant issue for the Broader WSEA especially with the Western Sydney air shed already being compromised. In addition, due to the extent of land use change proposed within the Hawkesbury Nepean Catchment System which is already under pressure from urbanisation, water quality impacts require appropriate management as part of the strategic planning process.

The EPA would like to meet with DPE and representatives from the Office of Environment and Heritage (OEH) to discuss these matters further. In particular, as previously suggested, the EPA would like to discuss the establishment of a technical working group with representatives from EPA, OEH, DPE and other relevant Government agencies. This group could assist in the development of approaches and assessment methodologies on these and other key environmental issues to guide the future development of the Broader WSEA.

If you have any comments regarding this letter please contact Mr Paul Wearne on (02) 4224 4100.

Yours sincerely



7/10/14

PETER BLOEM
Manager Illawarra
Environment Protection Authority

Att

ATTACHMENT

1. AIR QUALITY

The Environment Protection Authority (EPA) recommends that the Broader Western Sydney Employment Area (Broader WSEA) should deliver the following environmental outcomes:

- *Maintain or improve air quality with reference to National Environment Protection Measures for Ambient Air Quality through best practice management of transport, industrial, commercial and domestic air emissions*
- *Incorporate strategies at all stages of planning and development to ensure air emissions do not cause adverse impact upon local and regional air quality, human health and community amenity; and*
- *Avoid land use conflict.*

1.1 Matters for Consideration

1.1.1 National Environment Protection Measure for Ambient Air Quality

The NSW Government delivers programs to meet the National Environment Protection Measure (NEPM) for Ambient Air Quality. The NEPM establishes a range of standards and goals for a number of key air pollutants, and includes the methods by which these pollutants are to be measured, assessed and reported. The intent is to provide ambient air quality that ensures adequate protection of human health and well-being. Health research indicates both photochemical smog (ground-level ozone) and particle pollution are associated with acute and chronic respiratory and cardio vascular conditions (such as bronchitis, asthma and heart attack). These pollutants are of particular concern in Western Sydney.

Since 2012, NSW has led national work on air pollution, particularly the review of air quality standards for particulate matter and emission reduction measures for particles. Scientific evidence suggests that any level of air borne particles is detrimental to human health, and long-term exposure to current levels of PM_{2.5}, is estimated to cause around 1,600 premature deaths per annum in Sydney, Melbourne, Brisbane and Perth. NSW is currently leading public consultation on an Impact Statement proposing variations to the particle standards. Full details of the Air NEPM changes under consideration are available at: <http://www.environment.gov.au/node/36901>.

Based on current scientific evidence it is proposed to vary the particle standards in the NEPM. Preferred options at this time include the introduction of an annual PM average standard, the adoption of PM_{2.5} standards as compliance standards and the consideration of an exposure reduction framework. The exposure reduction framework under consideration recognises that there is no safe threshold for particles and there is a need for continuous improvement to ensure PM levels reduce over time. While the EPA supports these approaches which are still under development, the Interagency Taskforce on Air Quality in the Hunter, which includes Department of Planning and Environment (DPE), has adopted the PM_{2.5} standards as a compliance standard for the Hunter's major population centres ahead of the variation.

The EPA would also support similar approaches to provide firm goals to inform planning and air quality management decisions in Western Sydney. In this regard, the EPA recommends that the outcome for any development associated with the Broader WSEA should be contributing to ensuring the following target for particulates is met for Western Sydney.

Reduce PM_{2.5} concentrations as measured at Western Sydney air quality monitoring stations to an annual average of less than or equal to 8µg/m³, consistent with the national advisory reporting standard for PM_{2.5}, as set under the National Environment Protection (Ambient Air Quality) Measure.

The EPA is able to have further discussion with DPE in the application of this target in relation to the proposed Broader WSEA.

1.1.2 Air Quality in Western Sydney

Air Quality & Emission Information

While much progress has been made in improving air quality across the Sydney region, there are two remaining air quality issues of significant regional concern. These are particle pollution and photochemical smog (ground-level ozone). These and other Air NEPM pollutants are monitored at sites throughout the Greater Metropolitan Region, including ten sites in Western Sydney – four in the north-west at Richmond, Vineyard, Prospect and St Marys and six in the south-west at Bringelly, Liverpool, Oakdale, Campbelltown West, Bargo and Camden.

Air pollution monitoring data are available from the OEH website at:

<http://www.environment.nsw.gov.au/aqms/index.htm>.

Air pollutant emissions in NSW are tracked through the EPA Air Emissions Inventory, with data available from the EPA website:

<http://www.epa.nsw.gov.au/air/airinventory2008.htm>.

Readily accessible information on emission sources is available at the scales of the whole Greater Metropolitan Region, individual regions including Sydney, local government areas and postcode level via the Air Emissions in My Community web-based tool, available at:

<http://www.epa.nsw.gov.au/air/airemissionsinmycommunity.htm>.

Particle Pollution

Particle pollution is a priority for Government and the community as exposure to particle pollution can be harmful to public health. There are feasible, cost effective actions available to governments, industry and the community to reduce particle emissions which can deliver substantial public health and economic gains. The EPA publication *Managing Particles and Improving Air Quality in NSW* outlines the evidence, the principles adopted by the EPA to manage particle pollution and a set of actions targeted to priority locations and sources to achieve the greatest public benefits. It is available at:

<http://www.epa.nsw.gov.au/air/20130784ManPartStr.htm>.

The national standard for particle pollution (as PM₁₀) can be exceeded on multiple days in a year, with up to 15 days per year in the last decade. Currently there is an advisory standard for fine particles (as PM_{2.5}). Exceedances of this advisory standard have occurred up to 14 days per year. In Western Sydney, significant particle pollution sources include wood heaters, non-road diesel equipment (for example, construction sector), industry and registered motor vehicles. Emissions of NO_x from these sources, and from commercial and industrial activities, also increase formation of fine particulates. Exceedances of the national standards for particles (PM₁₀ and PM_{2.5}) are also associated with extreme events such as bushfires and dust storms.

Diesel emissions have been identified as a significant public health issue requiring management strategies to be identified and implemented. In 2012, the World Health Organisation (WHO) declared diesel exhaust a human carcinogen. Following a major stakeholder workshop on diesel emissions and release of a background paper in June 2014, the EPA is developing a diesel emissions management strategy. As well as diesel emissions from shipping, locomotives and mining, it is exploring opportunities to reduce diesel emissions from EPA-licensed industry sectors, including the construction sector. Further information about diesel exhaust impacts and their management is available on the EPA's website at:

<http://www.epa.nsw.gov.au/air/managenonroaddiesel.htm>.

Ground-level Ozone

Photochemical smog (ground-level ozone) is a secondary pollutant formed in the atmosphere by the reaction of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in hot, sunny, still weather conditions. National ozone standards have been exceeded by up to 16 days per year in the last decade. The data show no clear trend for these exceedances. Gains have been made from technological improvements to vehicle emissions but other emissions related to increased population, for example, emissions from solvent based products, have grown in relative importance.

In the Sydney Region, registered motor vehicles and off-road engines are significant human sources of ozone precursor pollutants, contributing around 61 per cent of NO_x and 18 per cent of VOC. Other sources of ozone precursors include EPA-licensed industry, households and commercial businesses.

Impacts from Climate Change

CSIRO modelling shows that the conditions associated with climate change are likely to result in an increase in the frequency of dust storms and bushfires, leading to higher particle emissions and pollution levels. The conditions are also predicted to increase in the number of days exceeding the ozone standard in Sydney and the geographical extent of ozone impacts, as a result of increased temperatures.

1.1.3 Managing Air Quality for Western Sydney & Broader WSEA

With the proposed Western Sydney Employment lands involving a large area of land use change over the next 30 to 100 years, it is important to understand how these changes will influence regional air quality. This is particularly critical given:

- the challenges in meeting the current NEPM standards for particles and ozone and likelihood of new particle standards
- the further pressure on Western Sydney air quality from increased population, development and economic activity; and
- the potential for increased public health costs related to exposure of Western Sydney's increased population from the current population of 2 million people to 2.9 million people by 2031 to any future adverse air quality impacts.

The EPA has released a *Methodology for Valuing the Health Impacts of Changes in Particle Emissions* (Methodology). It is evident from the Methodology that increasing population density in polluted areas (increasing exposure of people to air pollution) proportionately increases the associated health impacts and costs. The Methodology is supported by an Air Quality Appraisal Tool that can be readily used to estimate the increased health impacts of increased population or air pollution emissions. The tool is designed for application in assessing the impacts and costs of new land use and transport proposals. The Methodology and Appraisal Tool are available at: <http://www.epa.nsw.gov.au/air/costcurves.htm>.

With the current challenges in meeting the NEPM, increased population and potential for increased health costs, it is important that any intensification of development in Western Sydney supports the NSW Government's strategies to improve Sydney's regional air quality. In particular, it needs to be demonstrated that the WSEA will meet the goal of improving or maintaining air quality (which is consistent with Objective 21 in the *Draft Metropolitan Strategy for Sydney*) and will be contributing to meeting the NEPM target for fine particulates for Western Sydney.

The NSW Government's *Inquiry into the Health Impacts of Air Pollution in the Sydney Basin* 2006 raised concerns regarding the location of proposed future development in Sydney, such as those in Western Sydney, in areas that are already considered air pollution 'hot-spots'. The Inquiry found that the extent of the air pollution issue, or mechanisms for mitigating the negative impact of development of the growth sector on air pollution levels, should be better identified and assessed as part of the strategic planning process.

In this regard, the EPA recommends that the aims of the SEPP should include the following:

- *To ensure air quality is maintained or improved to protect public health.*

Measures to protect air quality affect the activities of a number of government agencies that are involved in the design of transport and other infrastructure. In this regard, the EPA would like to work collaboratively with DPE and other agencies involved in the planning for Western Sydney in how this issue can be best addressed for the Broader WSEA. The EPA suggests setting up a working group that can consider how methods used to evaluate air pollution may be used to underpin planning for Western Sydney, in particular the Broader WSEA.

Development Control Plan

The EPA in its previous submission had detailed suggested DCP provisions and recommended approaches that could address air quality issues during precinct planning. The EPA considers this advice still relevant and should be considered by DPE. The EPA also provides the following additional approaches that should also be considered as part of the precinct planning process.

- Requiring assessment of the health impacts of any increased pollution from all stages of proposed development. This can be done using the Air Quality Appraisal Tool available at: <http://www.epa.nsw.gov.au/air/costcurves.htm>. The EPA can provide further information on this tool if required. As recommended in the *NSW Government's Inquiry into the Health Impacts of Air Pollution in the Sydney Basin 2006*, health costs and consequences of air pollution should be integrated during the planning and approval process.
- Strategies to minimise the adverse impact of air pollution upon human health, the environment and community amenity by minimising emissions of particles, NO_x and VOC, at all stages of development.
- Strategies and best practice management approaches to minimise particle and diesel emissions at all stages of development, including to reduce emissions and impacts from non-road diesel equipment used in construction. All applicable actions outlined in *Managing Particles and Improving Air Quality in NSW* should be supported and implemented: <http://www.epa.nsw.gov.au/resources/air/130784AirPartStr.pdf>.
- If there is significant interest in adoption of distributed power generation, including cogeneration any such proposals should meet best practice in relation to the management and control of ozone and particle precursors (NO_x, SO_x, VOC and particulates).
- Approaches, (such as buffer zones) that avoid land use conflicts should be identified and where industry already exists, for example, agricultural processing, appropriate staging of development and use of measures such as buffers to avoid land conflict should also be utilised.
- An integrated transport framework to reduce vehicle passenger and freight kilometres travelled including the establishment of public transport and freight rail during the initial stage of the Broader WSEA development; and
- An assessment of cumulative impacts of air pollution and how these can be mitigated.

Early Establishment of Public Transport and Freight Rail

NSW Government's Inquiry into the Health Impacts of Air Pollution in the Sydney Basin 2006 recognised the importance in reducing vehicle kilometres travelled in relation to improving Sydney's air quality. In particular, the Inquiry identified the need for clear public transport infrastructure objectives and performance indicators due to the air quality benefits provided by alternative transport options.

With the announcement of the Second Sydney Airport at Badgerys Creek and the proposed expanded Broader WSEA, there needs to be a clear strategic direction provided to guide infrastructure delivery to the area, as both these future land uses are inevitably linked. Currently corridors are being set aside for the proposed South Western (SW) Rail link. This future link will service these areas including the SW Growth area. An important initiative that will need to underpin the Broader WSEA is the integration of this rail infrastructure with the future SW rail line. The EPA recommends that an integrated transport planning framework should be developed that guides future precinct planning.

It is expected that the WSEA will become a major freight transport hub for Sydney to support employment growth and to service the increased population. In this regard, freight haulage by truck will be a significant activity generated by this proposal with freight being directed to this area from Ports.

It is important that the WSEA is fully integrated with the new rail and intermodal facilities early in development to reduce diesel vehicle kilometres travelled. Infrastructure NSW recommended in the *Infrastructure Strategy 2012-2032* "that the Maldon to Dombarton rail line would not be required for 10 years on current demand forecasts..." Completing rail links to Ports Botany and Kembla early during development and providing a link to the Broader WSEA would assist construction, foster businesses that utilise the freight link from Port Kembla, and help minimise diesel emissions from freight haulage.

The early provision of such rail would also provide public transport benefit for servicing the Broader WSEA and could deliver employment growth near the rail line thereby reducing private vehicle based travel to work.

2. WATER QUALITY

As previously indicated in the EPA's submission dated 19 September 2013, the EPA recommends the Broader WSEA should deliver the following environmental outcome.

- *To provide a healthy water environment that includes restoring or maintaining the community's uses and environmental values of waterways through the achievement of relevant NSW Water Quality Objectives.*

2.1 Matters for Consideration

Ensuring a Healthy Water Environment

A healthy water environment includes elements of water quality and quantity, riparian values, and aesthetic and urban amenity considerations. Healthy rivers and catchments are integral to the economy and lifestyle of the people of NSW and are essential for maintaining and improving the community uses and values of local waterways, including supporting more sustainable and liveable cities and communities. It is an important consideration in *NSW 2021* to 'protect our natural environment' and is recognised in Objective 22 in the *Draft Metropolitan Strategy*.

The entire area of the Broader WSEA is located within the Hawkesbury/Nepean catchment. As previously indicated development including urbanisation within this catchment is continuing to place pressure on the health of this waterway. There are several sources of pollutants within the catchment that can contribute to the degradation of the health of its waterways. This includes urban stormwater runoff, sewage and industrial discharges.

Although there have been some improvements in water quality in some areas and for some analytes along this waterway, improvement in water quality still has a long way to go before the NSW Water Quality Objectives (for example, ANZECC/ARMCANZ Guidelines) will be met. For example, despite decreasing trends in nitrogen levels at sites along the Hawkesbury-Nepean River, nitrogen levels often remain well above the ANZECC/ARMCANZ Guideline levels throughout the river system. In addition there are also emerging issues such as conductivity levels increasing at many sites. (*Hawkesbury-Nepean River Environmental Monitoring Program Final Technical Report*, DECC 2009)

With the proposal including an additional 4537 more hectares for employment growth over the next 30 years, the EPA considers it important that the SEPP and associated DCP contain appropriate water quality and flow provisions to ensure that the community's uses and values for waterways are considered in conjunction with future land use and infrastructure decisions.

Strategic Planning and Waterway Outcomes

Water quality and waterway health is closely linked to the surrounding environment and land use. EPA considers it appropriate that planning authorities adopt a risk-based approach to considering the link between urban development, waterway health and the community's uses and values of waterways. This approach can then consider land use scenarios and treatment measures required to achieve desired outcomes. By considering waterway health in combination with strategic planning decisions planning authorities can better manage the impacts of development while supporting locally relevant management objectives.

To help support this, the EPA has developed a risk-based decision framework for integrating water quality outcomes in the strategic planning process. This approach combines existing NSW Government policy and processes with contemporary catchment and ecosystem response modelling in a structured, risk-based decision making framework. This approach has been used in EPA's discussions with DPE regarding development of the Illawarra Regional Growth Plan.

The framework provides planning authorities with the ability to:

- gauge the potential impact on waterways of land use scenarios and assess trade-offs
- inform and support community and government decision making by providing a structured approach to considering waterway outcomes in planning decisions
- identify locations that are more suited to particular development types and densities, and where landscape conditions could minimise and resulting impacts on water quality
- drive cost-effective delivery of environmental outcomes; and
- support healthy communities by maintaining natural assets.

Due to the size of the proposed Broader WSEA and extent of land use change being proposed the EPA would welcome an opportunity to discuss potential application of the risk-based decision framework to this significant proposal to support consideration of water quality outcomes in the strategic planning process.

Integrated Water Cycle Management

As previously indicated by the EPA contemporary approaches such as Integrated Water Cycle Management, which includes Water Sensitive Urban Design, can provide a least cost approach to:

- meeting waterway health and urban amenity needs of the community
- the safe conveyance of local flood waters; and
- increased opportunities to reduce potable demand through the use of innovative lot and/or precinct scale alternative sources, including sewage effluent recycling and stormwater harvesting and use.

Sewage Management

The supporting information does include any information on the preferred options for sewage management, in particular whether any new sewerage scheme will be required. If connection to the existing system is proposed there will need to be consideration of available capacity to cater for additional load. It is important that environmental performance not be compromised by the potential for increased sewer overflows and discharges from existing sewage treatment plants. The EPA's policy is that for new systems there should be no pollution of waters as a result of overflows during dry weather and that overflows during wet weather should be minimised. Sewage overflows have been identified as one of the major contributors to diffuse source water pollution in urban environments.

There has been significant investment to consolidate sewerage infrastructure to reduce the environmental impact of sewage ocean and river outfalls, improve the quality of beaches and provide recycled water to industrial users in the region. There are a range of approaches for the provision of new sewerage infrastructure, including private sector involvement. In particular, since the introduction of the *Water Industry Competition Act 2006* (WICA) and its associated regulations there has been an increase in privately owned and operated sewerage management schemes being developed and constructed for new urban release areas across the Sydney Greater Metropolitan Region (GMR). The EPA considers that this trend may increase in the future.

The *Growth Centres State Environmental Planning Policy* also encourages water recycling and water reuse Initiatives. The EPA supports such initiatives, in particular proposed integrated approaches to managing sewage effluent and stormwater. The EPA also considers that there is considerable scope to apply such initiatives in the development of the employment lands.

The EPA advises that it is currently examining a potential framework for the regulation of nutrient discharges in the Hawkesbury-Nepean River system from STPs. The intent of this framework is to ensure that population growth in the catchment does not cause further deterioration in the condition of the river and its ability to meet the community's desired uses. The EPA is considering several options including a catchment based nutrient load limit. In the interim, the EPA recommends that the SEPP should include provisions that provide a development outcome that ensures any new sewage treatment scheme will achieve a no net increase in nutrient load to the river. Offsets and other measures such as integrated approaches to water management can be used to help achieve this outcome. In addition, any proposed discharge would need to be assessed in accordance with the ANZECC (2000) *Guidelines for Fresh and Marine Water Quality*

The EPA recommends that environmental provisions be provided in the DCP for new or augmented sewage infrastructure. Any sewage management proposal should meet the following environmental performance objectives.

- Protection of surface waters
- Protection of groundwater
- Protection of lands
- Protection of plant and animal health
- Prevention of public health risks
- Conservation and reuse of resources; and
- Protection of community amenity.

The following guidelines should be consulted for further information on achieving these outcomes:

- *National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management* (ARMCANZ/ANZECC 1997):
<http://www.environment.gov.au/water/policy-programs/nwqms/>
- *National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water* (ARMCANZ/ANZECC 2000):
<http://www.environment.gov.au/water/policy-programs/nwqms/>; and
- *Environmental Guidelines for the Utilisation of Treated Effluent by Irrigation* (NSW DEC 2004):
<http://www.environment.nsw.gov.au/resources/water/effguide.pdf>.

The EPA also recommends the inclusion of the following note to alert determining authorities and proponents that EPA licensing may be required for the construction and operation of sewage infrastructure

Note: Any development proposing a new sewage treatment system or augmentation to an existing sewage treatment system licensed by the EPA (including construction of sewage reticulation) should investigate whether licensing is required under the Protection of the Environment Operations Act 1997.

3. WASTE MANAGEMENT

The EPA recommends the Broader WSEA should deliver the following environmental outcomes:

- *Provides sound waste management strategies at a local level which are implemented to achieve the NSW Waste Avoidance and Resource Recovery Strategy (WARR Strategy) addressing the waste management hierarchy of :*
 - *avoidance of unnecessary resource consumption*
 - *resource recovery (including reuse, reprocessing, recycling and energy recovery); and*
 - *disposal*
- *Compliments NSW Government's Waste Less, Recycle More initiatives and EPA waste and recycling programs.*

3.1 Matters for Consideration

NSW Government and EPA Waste Management Initiative

A NSW 2021 (NSW Government, 2013) Goal is 'to increase opportunities for people to look after their own neighbourhoods and environments.' The target relating specifically to address growth in the Broader WSEA is to increase recycling to meet the 2014 NSW Waste Recycling Targets set by the WARR Strategy.

NSW State Plan 2021 Goal 23 requires an increase in recycling to meet the 2014 NSW waste recycling targets. In this regard, increased recycling limits the amount of space required for landfill and turns waste into a valuable resource.

NSW State Plan 2021, Goal 23 also requires that by 2016, NSW will have the lowest litter count per capita in Australia. The cost to the community of littering goes beyond visual pollution. Greater respect for neighbourhoods by disposing of rubbish properly leads to improved safety, limits health impacts and protects the natural environment.

The above NSW State Plan goals should underpin the delivery of waste management strategies at a local level.

The EPA recently announced the *Waste Less, Recycle More: Waste and Resource Recovery Initiative*. This initiative is a five year \$465.7 million waste and recycling agenda for NSW that will deliver economic, employment and environmental benefits for local communities and will transform waste and recycling in NSW. The package focuses on the following key areas:

- waste and recycling infrastructure package
- supporting local communities
- combating illegal dumping
- tackling litter
- improving the operation of the waste levy.

The above new initiative includes a Waste and Recycling Infrastructure Package that commits \$250 Million over five years to assist in the planning and implementation of key infrastructure. This includes new large-scale waste and recycling infrastructure to support communities that pay the waste levy, recycling facility upgrades, drop-off centres, food and garden organics processing, and recycling innovation, as well as support for businesses to increase recycling on site.

In addition, the initiative also provides approximately \$138 Million over five years to help Councils support their own waste and recycling initiatives for their local communities, and makes available at least a further \$219 Million in contestable grants.

As part of the above initiatives the Western Sydney Regional Organisation of Councils Ltd (WSROC) has recently obtained grant monies to develop and implement a regional waste strategy within the next four years. The WSROC includes Auburn, Bankstown, Blacktown, Blue Mountains, Fairfield, Hawkesbury, Holroyd, Liverpool, Parramatta, and Penrith LGAs. It is anticipated that this strategy will identify the range of wastes managed and handled across the LGAs including waste management and recycling constraints, identify opportunities for their improvement, and to provide key recommendations to inform the EPA and Councils on future infrastructure needs and improvements.

Due to the expected increase in employment, population and housing growth over the next 20 years the management of waste presents a significant challenge for Western Sydney. The exhibited Broader WSEA information does not appear to provide any discussion or strategic vision on how this will be achieved. The Broader WSEA provides an opportunity to include appropriate provisions to guide the management of waste to accommodate future growth, especially future waste and recycling infrastructure needs for the Sydney GMR.

For example, to reduce waste disposed to landfill the EPA recommends that a review be undertaken of existing waste and resource recovery infrastructure. This would include the need for any new waste and recycling transfer stations, material recycling facilities (MRFs), drop-off facilities for hazardous materials, construction and demolition waste management sites during construction and waste disposal facilities. The EPA recommends that DPE should consult WSROC as such new infrastructure could be sited in the Broader WSEA.

In addition the EPA considers the Broader WSEA provides an opportunity to identify and foster emerging recycling activities such as composting and alternative waste processing facilities. Traditionally development proposals for such activities have resulted in community outrage as they have been located in areas in close proximity to communities. However precincts could be identified in the Broader WSEA as hubs for these new emerging industry types which would also compliment the recently announced *Waste Less, Recycle More* initiatives.

Development Control Plan

The EPA has developed information to improve waste management associated with new development.

The *Waste Not Development Control Plan Guideline* (EPA 2008) provides suggested planning approaches and conditions for planning authorities to consider at the development application phase in relation to waste minimisation and resource recovery. This includes consideration of demolition and construction waste and the provision of facilities and services to allow the ongoing separation, storage and removal of waste and recyclables. A copy of the guideline can be obtained at the following site: (<http://www.epa.nsw.gov.au/resources/warr/08353SiteWasteMin2.pdf>).

DPE should consult this guideline to assist in guiding the development of suitable waste management provisions in any proposed DCP. These provisions should include but not necessarily be limited to:

- *Any waste generated during demolition and construction needs to be classified in accordance with the EPA's Waste Classification Guidelines and managed in accordance with that classification; and*
- *Waste management planning for the new development needs to consider the State Plan targets for waste reduction and resource recovery, along with any regional waste management strategies.*

A key component of the above guideline includes the requirement of developers to submit a plan showing estimates of waste generation during demolition, construction and ongoing use of the site, as well as details on how these wastes will be sorted, stored and removed for recycling and/or disposal.

The EPA also recommends the following guidelines be considered in the development of waste management strategies:

- *The Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities* (EPA, December 2012). This guide can be accessed at: <http://www.epa.nsw.gov.au/warr/BPGuideCIFacilities.htm>
- *The Better Practice Guide for Multi-Unit Dwellings provides waste management strategies for multi-unit residential developments* (DECC, 2008). This guide can be accessed at: <http://www.epa.nsw.gov.au/warr/BetterPracticeMUD.htm>; and
- *The Better Practice for Public Place Recycling* (DEC 2005) provides information on standards for recycling systems in public places, such as parks, shopping centres, footpaths, bus-stops, etc. This guideline can be accessed at: <http://www.epa.nsw.gov.au/warr/publicrecycling.htm>.

