Environmental Assessment Requirements

Section 5.16 of the *Environmental Planning and Assessment Act 1979*

Application Number	SSI-8609189
Project	Upper South Creek Advanced Water Recycling Centre
Location	Kemps Creek
Proponent	Sydney Water
Date of Issue	
General Requirements	The Environmental Impact Statement (EIS) must be prepared in accordance with Part 3 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (the EP&A Regulation). The onus is on the Proponent to ensure legislative requirements relevant to the project are met. In particular, the EIS must include, but not necessarily be limited to, the following: (a) an executive summary; (b) a full description of the Upper South Creek Advanced Water Recycling Centre (the project), including: i. the design for the project that is proposed to be constructed and operated. ii. all components, disturbance areas, materials, activities, site preparation and construction infrastructure (e.g. storage compounds, dirty water areas, roads, concrete batch plants) required to construct the project (including any ancillary development that may require separate approvals). iii. the operation of the project, and associated water infrastructure that is proposed to be constructed. iv. likely staging or sequencing of the project, including construction, operation, maintenance, decommissioning and rehabilitation. v. site plans, maps, drawings and diagrams at an adequate scale with dimensions in an electronic format that enables integration with mapping and other technical software, showing: i. the location and dimensions of all project components. ii. existing infrastructure, land use, and environmental features. iii. the development corridor that has been assessed and consideration of design options. iv. the likely interactions between the project and any other existing, approved, proposed, reasonably foreseeable development in the vicinity of the site, including an assessment of the cumulative impacts on the environment. (c) a summary of the strategic need with regard to its State significance and relevant State Government policy including: i. NSW State Infrastructure Strategy: South Creek Corridor Strategy ii. Western Sydney Aerotropolis Plan (WSAP) iii. Western Sydney Aerotropolis Discussion Paper on proposed State Environmental Planning Policy (SEPP); iv. Western Sydney Aerotropolis DCP v. Wianamatta-South Creek Precinct Plan

vi. Kemps Creek Precinct Plan

(d) a statement of the strategic objective(s).

(e) a description of how alternatives to and options within the project were analysed and optimised to inform the selection of the preferred alternative / option. The description must contain sufficient detail to enable an understanding of why the preferred alternative was selected over other options(s) considered for achieving the project strategic objective.

(f) the statutory context of the project (as a whole) including:
   i. how it meets the provisions of the *Environmental Planning and Assessment Act 1979* (the EP&A Act) and the EP&A Regulation.
   ii. a list of any approvals that must be obtained under any other Act or law before the project may lawfully be carried out.
   iii. identification of the existing environmental planning instruments and other current government strategic plans and policies relevant to the project and land subject to the project (including State environmental planning policies, land use and infrastructure strategies and local strategic planning statements).

(g) an assessment of the likely impacts of the project on the biophysical and socio-economic environment, focusing on the specific issues identified below and any other significant issues identified, including:
   i. a description of the existing environment likely to be affected by the project using relevant and adequate data.
   ii. an assessment of the potential impacts of the project, including any cumulative impacts, and taking into consideration relevant guidelines, policies, plans and industry codes of practice.
   iii. a description and details of how the project has been designed to avoid, minimise and offset impacts (through design, or construction or operation methodologies).
   iv. a description of how any residual impacts will be managed or offset, and the approach and effectiveness of these measures.

(h) a chapter that synthesises the environmental impact assessment and provides:
   i. a succinct but complete description of the project for which approval is sought.
   ii. a description of any uncertainties that still exist around design, construction methodologies and/or operational methodologies and how these will be resolved in the next stages of the project.
   iii. a compilation of the impacts of the project that have not been avoided.
   iv. a compilation of the proposed measures associated with each impact to avoid or minimise (through design refinements or ongoing management during construction and operation) or offset these impacts.
   v. a compilation of the outcome(s) the proponent will achieve.
   vi. the reasons justifying carrying out the project as proposed, having regard to the biophysical, economic and social considerations, including ecologically sustainable development and cumulative impacts.
   vii. a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS.

The EIS(s) must only include data and analysis that is reasonably needed to

	make a decision on the project. Relevant information must be succinctly summarised in the EIS and included in full in appendices. Irrelevant, conflicting or duplicated information must be avoided. While not exhaustive, Attachment 1 contains a list of some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of the project.
Key Issues	The level of assessment of likely impacts should be commensurate with the significance, degree or extent of impact within the context of the proposed location and surrounding environment. The assessment must have regard to applicable NSW and Commonwealth Government policies and guidelines. In particular, the EIS must address the following: **Water–** including**:** 1. Describe background conditions for any water resource likely to be affected by the development, including: a) existing surface and groundwater. b) hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations. c) Water Quality Objectives (as endorsed by the NSW Government (www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters. d) indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government. e) Consideration of the Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions. 2. Assess the impacts of the development on water quality, including: a) the nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction. b) identification of proposed monitoring of water quality. c) if the proposal will achieve a neutral or beneficial effect (NorBE) on water quality within the declared Sydney Drinking Water Catchment (SDWC). 3. Assess the impact of the development on hydrology, including: a) water balance including quantity, quality and source. b) effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas. c) effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems. d) impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches). e) changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.

f) mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.
g) identification of proposed monitoring of hydrological attributes.

4. Map:
   a) rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method).
   b) wetlands as described in s4.2 of the Biodiversity Assessment Method.
   c) groundwater.
   d) groundwater dependent ecosystems.
   e) proposed intake and discharge locations.

5. Demonstrate that the project is consistent with the Environment Protection Authority's (EPA) framework for regulating nutrient discharges in effluent from STPs discharging to the lower Hawkesbury Nepean River (EPA 2019) including:
   a) obtain prior agreement from the EPA on the approach and study design where site specific studies are proposed to tailor the guideline values to reflect local conditions.
   b) specify the location of discharge points, including but not limited to the Nepean River, Warragamba River and South Creek release location(s) for dry and wet weather justifying why the location was selected over other potential discharge points, including discussion of waterway characteristics at each point (eg depth, salinity, hydrodynamics) and consideration of the relative water quality risks.
   c) provide consideration of management measures including, but not necessarily limited to, options for storage capacity at Upper South Creek STP or elsewhere, improvement to sewers to increase capacity or reduce wet weather infiltration.

6. Provide a detailed analysis of discharges into Warragamba River including e-flow needs going back 20 years. This analysis needs to consider:
   a) whether the discharge at the Nepean River is adequate for replacement or supplementing e-flows
   b) how the discharge will affect the health of the river
   c) the need for flow releases for dilution flow for downstream wastewater treatment plants
   d) the need to maintain dam releases for extraction at the North Richmond Water Filtration Plant.
   e) if the proposal will change any requirements on WaterNSW to deliver e-flows. If any changes to WaterNSW's current e-flow regime are required, they must be assessed for risks and opportunities in consultation with WaterNSW. This includes changes to dilution flows/ requirements
   f) impacts to the proposal's outlet infrastructure if WaterNSW may, at any time, be required to spill water from the dam and outline what assumptions have been made on flood inundation levels and water velocity at this location.

7. Consult/coordinate with the Department of Planning, Industry and Environment (and Planning Partnership Office) in respect to environmental impacts on the South Creek catchment and the

Wianamatta South Creek program. This includes:

a) integrating with a blue-green infrastructure delivery strategy to enhance and protect the South Creek catchment.
b) address the potential for dry weather releases and consider the amount of treated water to be released into South Creek.
c) assess the potential impacts on the quantity and quality of surface and groundwater resources along South Creek, including the implications of dry and wet weather flows from the project.
d) details about how the project will be designed, operated and maintained to ensure post-development flows do not exceed pre-development flows into and through the Pipelines Corridor and additional surface and groundwater entering the Pipelines Corridor must be prevented.

Biodiversity– including:

8. An assessment of the biodiversity values and the likely biodiversity impacts of the project in accordance with the *NSW Biodiversity Conservation Act 2016*, the Biodiversity Assessment Method (BAM) and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method and including:
    a) impacts to Commonwealth listed species and ecological communities, where relevant; and
    b) impacts of changes to the operational regime of any reservoirs.
9. A strategy to offset any residual impacts of the project in the medium to long term.
10. An assessment of the impacts on groundwater dependent ecosystems.
11. Assessment of any impacts on the Lansdowne Reserve biobanking site.
12. An assessment of the direct and indirect impacts of the project on aquatic ecology, including key fish habitat and threatened species of fish, populations and ecological communities listed under the *Fisheries Management Act 1994* (FM Act) and any downstream or upstream impacts, including cumulative aquatic ecological impacts within the catchment (considering existing or proposed developments that may impact aquatic ecology in the catchment).

Aquatic and Riparian Biodiversity and Ecology – including:

13. Assessment of aquatic, riverine and riparian biodiversity and ecology that addresses all direct, indirect, and prescribed impacts of the project on Key Fish Habitat and associated flora and fauna, riparian zones, threatened species, populations, and communities for the construction and operation of the asset.

    The assessment must comply with requirements outlined in the Policy and Guidelines for Fish Habitat Conservation and Management (2013) and the FM Act (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively) and must be prepared in consultation with, and have regard to the requirements of DPI Fisheries.

14. Assessment of impact of changes to inundation behaviour on aquatic ecosystems upstream and downstream from the Water

Recycling Centre and associated pipelines.

15. An assessment of likely significant impacts on listed threatened species, populations or ecological communities, in accordance with Part 7A of the Fisheries Management Act, 1994, including:
    a) assessment of the impacts according to the 'Seven-Part Test"
    b) consideration of NSW DPI threatened species indicative distribution maps for species, populations and ecological communities likely to be present.

16. Development of an Aquatic Biodiversity Offsets Strategy that is consistent with the Policy and Guidelines for Fish Habitat Conservation and Management (2013) and the NSW Biodiversity Offsets Policy for Major Projects that addresses direct, indirect, and prescribed impacts of the project during construction and operation, focusing on protecting and improving the biodiversity and conservation of aquatic environments and associated riparian zones in the medium to long-term. The strategy must be prepared in consultation with, and have regard to, the requirements of DPI Fisheries.

17. Description of the type and extent of any dredging or reclamation activities within 'water land' as defined under the FM Act. This assessment must be prepared in consultation with, and have regard to the requirements of DPI Fisheries.

18. Development of suitable fish passage mitigation strategies (including potential offsets) to the satisfaction of NSW DPI Fisheries that align with the NSW DPI Fisheries Fishway Design Guidelines (2015) and the Policy and Guidelines for Fish Habitat Conservation and Management (2013).

19. A description and assessment of how the project will be managed over the full range of operating conditions, and how this relates to aquatic biodiversity mitigation and offsetting strategies.

Aboriginal Cultural Heritage – including:

20. Identifying and describing the Aboriginal cultural heritage values that exist across the whole area that will be affected by the project and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH 2010), and be guided by the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011) and consultation with Heritage NSW.

21. Consulting with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.
22. Assessing and documenting impacts to Aboriginal cultural heritage values in an ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any

conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to Heritage NSW.

23. The ACHAR must outline procedures to be followed if Aboriginal objects are found at any stage of the life of the [development/project] to formulate appropriate measures to manage unforeseen impacts.

Non-Aboriginal Heritage – including**:**

24. A Statement of Heritage Impact (SOHI) should be prepared for the project by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual. The SOHI is to address the impacts of the project on the heritage significance of the site and adjacent areas and is to identify the following:
    a) all heritage items (state and local) within and near the site, including built heritage, landscapes and archaeology, and includes detailed mapping of these items, and assessment of why the items and site(s) are of heritage significance
    b) assesses the project's impact on the heritage significance of heritage items or potential heritage items on, and near the development site. Documentary evidence should also be provided by an appropriately qualified Structural Engineer, with experience in heritage buildings, confirming that any affected heritage item is capable of withstanding the proposed works
    c) addresses the project's compliance with policies of relevant Conservation Management Plans for the affected sites;
    d) the impacts of the proposal on heritage item(s) including visual impacts, along with photomontages; and
    e) any attempts to avoid and/or mitigate the impact on the heritage significance or cultural heritage values of the site and the surrounding heritage items; and
    f) justification for any changes to the heritage fabric or landscape elements including any options analysis.

25. A historical archaeological assessment prepared by a suitably qualified historical archaeologist in accordance with the guidelines Archaeological Assessment (1996) and Assessing Significance for Historical Archaeological Sites and Relics (2009). This assessment should identify what relics, if any, are likely to be present, assess their significance and consider the impacts from the project on this potential archaeological resource. Where impact is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. If harm cannot be avoided in whole or part, an appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations or salvage programme.

Land – including:

26. An assessment of the impacts of the project on soils and land capability of the site and surrounds, including:
    a) verifying the risk of acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Risk Map) within, and in the area likely to be impacted by, the project.
    b) assessing the impact of the project on acid sulfate soils

(including impacts of acidic runoff offsite) in accordance with the current guidelines.

c) assess whether the land is likely to be contaminated and identify if remediation of the land is required, having regard to the ecological and human health risks posed by the contamination in the context of past, existing and future land uses. Where assessment and/or remediation is required, the Proponent must document how the assessment and/or remediation would be undertaken in accordance with current guidelines.

d) assess whether salinity is likely to be an issue and if so, determine the presence, extent and severity of soil salinity within the project area.

e) assess the impacts of the project on soil salinity and how it may affect groundwater resources and hydrology.

f) assess the impacts on soil and land resources (including erosion risk or hazard). Particular attention must be given to soil erosion and sediment transport consistent with the practices and principles in the current guidelines.

g) Assess the potential for asbestos contamination around the Core Park area, Megarritys Creek, Warragamba Viewing Platform and Eighteenth Street, and long-term monitoring requirements and potential for remediation works.

Agricultural Land – including:

27. Identify potential impacts of the proposed development on the operations of impacted agricultural industries and detail the mitigation measures to enable the agricultural industries to continue to operate. This could be detailed in a Land Use Conflict Risk Assessment (LUCRA) in consultation with DPI Agriculture.

28. Consult with the owners / managers of affected and adjoining neighbours and agricultural operations in a timely and appropriate manner about the project, the likely impacts and suitable mitigation measures or compensation.

Flooding– including:

29. Mapping the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
    a) flood prone land.
    b) flood planning area, the area below the flood planning level.
    c) hydraulic categorisation (floodways and flood storage areas)
    d) flood hazard.

30. The Proponent must assess and (model where required) the impacts on flood behaviour during construction and operation for a full range of flood events up to the probable maximum flood (taking into account sea level rise and storm intensity due to climate change).

31. Modelling must consider and document:
    e) existing council flood studies in the area and examine consistency to the flood behaviour documented in these studies.
    f) the impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood, or an equivalent extreme flood.
    g) impacts of the development on flood behaviour resulting in

detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazard categories and hydraulic categories

h) relevant provisions of the NSW Floodplain Development Manual 2005.
i) consideration of scenarios where the pipelines are shut down or used infrequently.
j) impacts to South Creek under all scenarios, specifically where South Creek and the Warragamba Pipelines intersect.
k) consideration of backflow impacts during flood events.
l) assessment of the hydrological flows into South Creek from both wet and potential dry weather flows, including consideration of the effects on downstream receiving environments, specifically the Warragamba Pipelines infrastructure (footings etc).

32. The EIS must assess the impacts on the proposed development on flood behaviour, including:
    a) whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
    b) consistency with Council floodplain risk management plans.
    c) consistency with any Rural Floodplain Management Plans.
    d) compatibility with the flood hazard of the land.
    e) compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
    f) whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
    g) whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses.
    h) any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the NSW SES and Council.
    i) whether the project incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the NSW SES and Council.
    j) emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the NSW SES.
    k) any impacts the development may have on the social and economic costs to the community as consequence of flooding.

Transport – including:

33. Assessment of the construction transport and traffic (vehicle, pedestrian and cyclists) impacts, including, but not necessarily limited to:
    a) construction schedule (stages and timing)
    b) route identification and scheduling of transport movements
    c) the number (daily and peak), frequency and size of construction related vehicles (passenger, commercial and heavy vehicles, including spoil management movements), including consideration of heavy vehicles participating in the

Safety, Productivity and Environment Construction Transport Scheme

d) details of construction site access arrangements and swept path details for relevant turning movements
e) construction worker parking
f) the nature of existing traffic (types and number of movements) on construction access routes (including consideration of strategic freight routes, peak traffic times, sensitive road users and parking arrangements)
g) access constraints and impacts on public transport, pedestrians and cyclists
h) the need to close, divert or otherwise reconfigure elements of the road and cycle network associated with construction of the project
i) mitigation of construction vehicle and excavation work on the classified road and rail network.

34. Assessment (including traffic modelling) of the operational transport impacts of the project, including:
    a) forecast travel demand and traffic volumes for the project and the surrounding road, cycle and public transport network;
    b) travel time analysis;
    c) performance of key interchanges and intersections by undertaking a level of service analysis at key locations;
    d) wider transport interactions (local and regional roads, cycling, public and freight transport);
    e) induced traffic and operational implications for public transport (particularly with respect to strategic bus corridors and bus routes) and consideration of opportunities to improve public transport;
    f) impacts on cyclists and pedestrian access and safety;
    g) opportunities to integrate cycling and pedestrian elements with surrounding networks and in the project;
    h) impacts on future transport corridors including Greater Sydney Metro, M12 Motorway, the Northern Road, Elizabeth Drive and the Outer Sydney Orbital; and
    i) impacts on the M7 Motorway (including any proposed vegetation removal, excavation, construction access, etc).

35. Civil plans showing details of excavation and utility works within/across the classified road and rail corridors. It is noted that the current design proposes micro tunnelling under the road surface. Any works impacting on a classified road will need to be reviewed for concurrence under the Roads Act, 1993.

36. Preparation of a draft Construction Traffic Management Plan to demonstrate the proposed management of the impact of the proposal on road, rail, pedestrian and cyclist corridors and facilities. The Construction Traffic Management Plan should detail construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control.

37. Assess the project impact on the 24-hour operations of Western Sydney International (Nancy-Bird Walton) Airport (Airport) considering the projects location within a flight path for the future Airport and airport safety matters.

Noise and Vibration – including:

38. An assessment of construction and operational noise and vibration

impacts in accordance with relevant NSW noise and vibration guidelines. The assessment must include consideration of impacts to sensitive receivers, infrastructure, heritage and include, as relevant, the characteristics of noise and vibration (for example, low frequency noise).

39. Details and justification of proposed noise mitigation and monitoring measures.

Air – including:

40. An air quality impact assessment (AQIA) for construction and operation of the project in accordance with the current guidelines.

41. The Proponent must ensure the AQIA also includes the following:
    a) demonstrated ability to comply with the relevant regulatory framework, specifically the *Protection of the Environment Operations Act 1997* and the Protection of the Environment Operations (Clean Air) Regulation (2010);
    b) a cumulative local and regional air quality impact assessment, including consideration of the impacts associated with cogeneration of energy.

Social – including a Social Impact Assessment, that:

42. Identifies and assesses the potential social impacts of the project, from the points of view of the affected community/ies and other relevant stakeholders, i.e. how they expect to experience the project.

43. Assesses the significance of positive, negative and cumulative social impacts considering likelihood, extent, duration, severity/scale, sensitivity/importance, and level of concern/interest.

44. Includes mitigation measures for likely negative social impacts and any proposed enhancement measure.

45. Provides details of how social impacts will be adaptively monitored and managed over time.

Visual – including:

46. An assessment of the visual impact of the project and any ancillary infrastructure during construction and operation on:
    a) views and vistas;
    b) key sites and buildings;
    c) heritage items including Aboriginal places and non-Aboriginal heritage; and
    d) the local community.

47. Artist impressions, perspective drawings and view analysis of the project to illustrate how the project has minimised the visual impact through design and landscaping.

48. Provide details of proposed landscaping and identify how the project will enhance the Western Parklands City landscape vision.

Public Domain and Recreation – including:

49. Assessing project impacts to the Western Sydney Parklands including:
    a) addressing the relevant objectives, strategic directions, land use opportunities and key management priorities of State

Environmental Planning Policy (Western Sydney Parklands) 2009, the Western Sydney Parklands Plan of Management 2030, the Western Sydney Parklands Southern Parklands Framework and the Western Sydney Parklands Design Manual

b) consulting with the Western Sydney Parklands Trust on the appropriate route, maintenance and access requirements for the project within the Parklands.

Public Safety – including:

50. A Health Impact Assessment of the project in accordance with the current guidelines.

51. An assessment of the likely risks of the project to public safety including flood risk, subsidence risks, bushfire risks and the handling and use of dangerous goods.

52. Provide detailed modelling that considers the impacts of potential leaks of the brine pipeline in Western Sydney Parklands including an assessment of minor leaks to catastrophic failure and outlines emergency protocols and incident management strategies to mitigate damage.

53. Outline how the proposal has considered WaterNSW's 'Guidelines for Development Adjacent to the Upper Canal and Warragamba Pipelines' and include all practical measures to prevent damage to WaterNSW water supply infrastructure from construction or operation of the project.

Waste – including:

54. Details of the predicted waste generated from the project during construction and operation, including:
    a) classification of the waste in accordance with the current guidelines.
    b) estimates / details of the quantity of each classification of waste to be generated during the construction of the project, including bulk earthworks and spoil balance.
    c) handling of waste including measures to facilitate segregation and prevent cross contamination.
    d) management of waste including estimated location and volume of stockpiles.
    e) waste minimisation and reuse.
    f) lawful disposal or recycling locations for each type of waste and contingencies for the above, including managing unexpected waste volumes, excessive stockpiling of material, or dirty water volumes exceeding the storage capacity available on site.

55. The Proponent must assess potential environmental impacts from the excavation, handling, storage on site and transport of the waste.

56. Details of the measures that would be implemented to ensure that the construction and operation of the project is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.

Ecological sustainable development (ESD) – including:

57. An assessment against an accredited ESD rating system or an

equivalent program of ESD performance. This should include a minimum rating scheme target level.

58. How ESD principles (as defined in clause 7(4) of Schedule 2 of the Regulation) will be incorporated in the design and ongoing operation phases of the development.

59. Identify how the project moves beyond 'business-as-usual' energy, water and waste technologies and aligns with circular economy principles including:
    a) opportunities for the integration of large scale high-tech intensive urban food production solutions or other water intensive industries, which will achieve circular economy principles.
    b) opportunities for a 'proof of concept' project of a glasshouse (intensive agricultural production).
    c) potential for cogeneration for heat and energy production within the Water Recycling Centre to service new development in the Aerotropolis. This could include addressing capabilities required within the facility and Aerotropolis to take advantage of cogeneration for heat and energy production.

60. Identify how the project can provide water that could supply future recycled water schemes.

Climate Change – including:

61. Assessment of the risk and vulnerability of the project to climate change in accordance with the current guidelines, including any Regional Water Strategy and associated climate change modelling as relevant to the project.

62. Quantified specific climate change risks with reference to the NSW Government's climate projections and incorporate specific adaptation actions in the design.

63. An assessment of potential future climate variability impacts on the operation and management of the project and associated delivery works (such as water deliver by way of river operations, or pipe infrastructure), having regard to research on groundwater recharge and surface run-off and the NSW Climate Impact Profile.

64. Assessment of the greenhouse gas emissions from the construction and operation of the project for the life of infrastructure, including:
    a) documentation and justification of an appropriate methodology for estimating greenhouse gas emissions for the project as a water storage, or water reservoirs project where permanent land use change occurs.
    b) assessment of carbon dioxide, nitrous oxide and methane gas emissions, including gases emitted by decomposing plants and organic material within the dam inundation area.
    c) quantitative assessment of Scope 1, 2 and 3 greenhouse gas emissions.
    d) an assessment of reasonable and feasible measures to minimise greenhouse gas emissions and ensure energy efficiency.
    e) project emissions as a proportion of NSW and Australia's greenhouse gas emissions budgets.

	f) details of all proposed mitigation, management and monitoring measures. **Crown Lands** – including: 65. An assessment of project impacts on Crown Land Waterways, including: d) the impact of the treated water pipeline on South Creek, Badgerys Creek, Oaky Creek, Cosgroves Creek, Nepean River, Megaritys Creek. e) the impact of the brine pipeline on Kemps Creek, Clear Paddock Creek, Green Valley Creek and Prospect Creek. f) An assessment of the potential impacts of released 'treated water' flows on stream banks and riparian areas within the downstream creek systems, including South Creek. g) An assessment of the need to acquire land within Crown waterways or other Crown land, in order to implement the project. If required, Sydney Water may need to compulsorily acquire Crown land (including parts of Crown Waterways) for the project using the Land Acquisition (Just Terms Compensation Act) 1991 No 22. **Utilities** – including: 66. Preparing an Infrastructure Management Plan in consultation with relevant agencies / authorities to: h) address the existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for the provision of utilities, including arrangements for electrical network requirements, drinking water, wastewater and recycled water. i) identify the existing infrastructure on the site or within the network which may be impacted by the construction and operation of the project and the measures to be implemented to address any impacts on this infrastructure. j) demonstrates advice on the electricity infrastructure required to facilitate the proposed development (including asset relocations) has been obtained through consultation with Endeavour Energy's Network Connections Branch.
Consultation	During the preparation of the EIS, the proponent should consult with the relevant local, State or Commonwealth Government authorities, service providers, aboriginal community, community groups and affected landowners, including but not limited to: a) Registered Aboriginal Parties b) Penrith City Council c) Liverpool City Council d) Fairfield City Council e) Wollondilly Shire Council f) Blue Mountains City Council g) City of Canterbury Bankstown Council h) NSW DPI Fisheries i) Department of Planning Industry and Environment – Biodiversity and Conservation j) NSW Environment Protection Authority k) Department of Planning Industry and Environment (Water Division) l) Transport for NSW m) Department of Premier and Cabinet, NSW Heritage n) Endeavour Energy o) NSW DPI Agriculture

	p) NSW Crown Lands q) Western City and Aerotropolis Authority r) Western Sydney Planning Partnership s) WaterNSW In particular, the proponent must: a) Document a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach. b) Provide a report containing details of how the community and stakeholder participation strategy has been carried out (to date), including description of consultation that was carried out, including details of: a) documentation of all consultation methods. b) timeframes of consultation. c) Report upon any digital engagement strategies and demonstrate the relevance of digital engagement methods to potentially affected stakeholders. d) Issues raised by the community and surrounding landowners and occupiers that may be impacted by the project. e) Details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the project. f) Details of the proposed approach to future community and stakeholder engagement based on the results of the consultation.
Further consultation after 2 years	If you do not lodge the EIS for the project within 2 years of the issue date of these assessment requirements, you must consult further with the Secretary in relation to the preparation of the EIS.

ATTACHMENT 1

Relevant Environmental Planning Instruments, Policies, Guidelines & Plans

Water

- Framework for Biodiversity Assessment – Appendix 2 (OEH, 2014)
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)
- NSW Aquifer Interference Policy (DPI, 2012)
- Risk assessment Guidelines for Groundwater Dependent Ecosystems (Office of Water, 2012)
- NSW Water Quality and River Flow Objectives at http://www.environment.nsw.gov.au/ieo/
- Using the ANZECC Guidelines and Water Quality Objectives in NSW (DEC, 2006)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)
- Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECC, 2008)
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)
- Guidelines for Managing Risks in Recreational Water (NHMRC, 2008)
- National Environment Protection (Assessment of Site Contamination) Measure 1999, (NEPC, as amended 2013)
- Relevant NSW Water Sharing Plans
- Relevant NSW Water Resource Plans
- Relevant NSW Regional Water Strategies

Biodiversity and Aquatic Ecology

- NSW Biodiversity Assessment Method (OEH, 2017)
- NSW Weirs Policy 1997
- Policy and Guidelines for Fish Habitat Conservation and Management – Update 2013 (DPI, 2013)
- Threatened Species Survey and Assessment Guidelines where relevant
- Policy and Guidelines for Fish Habitat Conservation and Management 2013
- Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003)
- NSW Fish Passage Strategy 2019
- NSW DPI Fisheries Fishway Design Guidelines 2015
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- Aquatic Ecology in Environmental Impact Assessment – EIA Guideline (Marcus Lincoln Smith 2003)

Flooding

- NSW Government's Floodplain Development Manual (Department of Natural Resources, 2005)
- PS 07-003 New guideline and changes to section 117 direction and EP&A Regulation on flood prone land
- Practical Consideration of Climate Change - Flood risk management guideline (DECC, 2007)

Aboriginal Cultural Heritage

- Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011)
- Aboriginal Cultural Heritage Consultation requirements for proponents (DECCW, 2010)
- Code of practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010)
- NSW Skeletal Remains: Guidelines for Management of Human Remains (Heritage Office, 1998)
- Criteria for the assessment of excavation directors (NSW Heritage Council, 2011)

Non - Aboriginal Heritage

- NSW Heritage Manual (Heritage Office and Department of Urban Affairs and Planning, 1994)
- Assessing Heritage Significance (NSW Heritage Office, 2001)
- The Australia ICOMOS Burra Charter
- Archaeological Assessments (1996)
- Assessing Significance for Historical Archaeological Sites and Relics (2009

Land

- Acid Sulfate Soils Assessment Guidelines (DoP, 2008)
- Acid Sulfate Soils Manual (Acid Sulfate Soils Management Advisory Committee, 1998)
- Managing Land Contamination: Planning Guidelines SEPP 55 –Remediation of Land, (DUAP & EPA, 1998)
- Guidelines for Consultants Reporting on Contaminated Sites (OEH, reprinted 2011)
- Guidelines for the NSW Site Auditor Scheme (DEC, 2006)
- Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015)
- Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets (http://www.environment.nsw.gov.au/salinity/solutions/urban.htm) which includes Site Investigations for Urban Salinity (DLWC, 2002)
- Landslide risk management guidelines presented in Australian Geomechanics Society (2007)
- Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000)
- Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)

Transport

- Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2007)
- Guide to Traffic Generating Developments Version 2.2 (RTA, 2002)
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)

Noise

- Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration (ANZECC, 1990)
- Assessing Vibration: a technical guideline (DEC, 2006)
- Interim Construction Noise Guideline (DECCW, 2009)
- NSW Industrial Noise Policy (EPA, 2000)
- Construction Noise Strategy (TfNSW, 2012)
- Rail Infrastructure Noise Guideline (EPA, 2013)
- NSW Road Noise Policy (DECCW, 2011)
- Environmental Noise Management Manual (RMS 2001)
- Development Near Rail Corridors and Busy Roads – Interim guideline (DoP, 2008)
- Noise Mitigation Guideline (RMS, 2015)
- Noise Criteria Guideline (RMS, 2015)
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures

Waste

- EPA's Waste Classification Guidelines (as in force from time to time)
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- NSW Waste Avoidance and Resource Recovery Strategy 2014-2021
- Air Quality
- Approved Methods for the Modelling and Assessment of Air Pollutants in NSW
- Approved Methods for the Sampling and Analysis in NSW
- Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW

Protected and Sensitive Lands

- Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)
- Revocation, Re-categorisation and Road Adjustment Policy (OEH, 2012)
- Guidelines for controlled activities on waterfront land (DPI 2012)
- Water Management Act, 2000

Air

- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016)
- Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC, 2006)

- Technical Framework - Assessment and Management of Odour from Stationary Sources in NSW (DEC, 2006)

Climate Change

- Australian Government's Climate Change Impacts and Risk Management – A Guide for Business and Government (2006)
- AS/NZS 3100:2009 Risk Management – Principles and Guidelines
- Technical Guide for Climate Change Adaptation for the State Road Network (RMS, in draft)

Public Safety

- Environmental Health Risk Assessment, Guidelines for assessing human health risks from environmental hazards, Commonwealth of Australia (enHealth, 2012)
- Methodology for Valuing the Health Impacts of Changes in Particle Emissions (EPA, 2013)
- Health Impact Assessment: A practical guide (NSW Health, 2007)
- Health Impact Assessment Guidelines, Commonwealth Department of Health and Aged Care (enHealth, 2001)
- SEPP No. 33 - Hazardous and Offensive Development
- Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)
- Revocation, Re-categorisation and Road Adjustment Policy (OEH, 2012)
- Guidelines for controlled activities on waterfront land (DPI 2012)
- Water Management Act, 2000

Ecologically Sustainable Development

- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)
- Infrastructure Sustainability Rating Tool Scorecard relating to energy and carbon for large infrastructure projects, ISCA

Community Consultation

- Community Participation Plan (DPIE, 2019)
- Community and Stakeholder Engagement, (DPE, 2017)

Social

- Social Impact Assessment Guideline (DPE, 2017)

Agriculture

- Land Use Conflict Risk Assessment Guide (DPI, 2011)
- Infrastructure Proposals on Rural Land (DPI, 2013)

Visual

- AS4282-1997 Control of the obtrusive effects of outdoor lighting
- NSW Sustainable Design Guidelines Version 3.0 (TfNSW, 2013)