

SCHEDULE 1
PICTON REGIONAL SEWERAGE SCHEME
CONDITIONS OF APPROVAL

The following acronyms and abbreviations are used:

ANZECC	Australian and New Zealand Environment and Conservation Council
Department, The	Department of Urban Affairs and Planning
Director-General, The	Director-General of the Department of Urban Affairs and Planning (or delegate)
DLWC	Department of Land and Water Conservation
DUAP	Department of Urban Affairs and Planning
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMR	Environmental Management Representative
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
HNCMT	Hawkesbury-Nepean Catchment Management Trust
Minister, The	Minister for Urban Affairs and Planning
NPWS	National Parks and Wildlife Service
SPS	Sewage Pumping Station
The Proponent	Sydney Water Corporation, its contractor or agents
UNCMC	Upper Nepean Catchment Management Committee

General

1. The proposal shall be carried out in accordance with:
 - (a) the proposal contained in the environmental impact statement (EIS) Picton Regional Sewerage Scheme prepared for the Sydney Water Corporation by ERM Mitchell McCotter, dated January 1996 (hereafter referred to as 'the EIS'), subject to modifications to the proposal as described in Section 2.4 of the Picton Regional Sewerage Scheme Director-General's Report, dated November 1996 (hereafter referred to as 'the Director-General's Report')
 - (b) the review of environmental factors (REF) Proposed Modifications to the Picton Regional Sewerage Scheme, Sydney Water TransUtilities Consortium, dated November 1998, the Representations Report dated 14 December 1998 and the Addendum to the Representations Report dated 29 January 1999, but excluding the connection of additional properties as defined in section 3.15 of the Representations Report dated 14 December 1998;
 - (c) all identified plans, safeguards and mitigation measures identified in the EIS, as summarised in Appendix B of the Director-General's Report, except as modified in accordance with the procedures, safeguards and mitigation measures presented in the review of environmental factors Proposed Modifications to the Picton Regional Sewerage Scheme, Sydney Water TransUtilities Consortium, dated November 1998, the Representations Report dated 14 December 1998 and the Addendum to the

Representations Report dated 29 January 1999;

- (d) the Request for Modification to Minister's approvals for the Jamberoo; Mulgoa, Wallacia and Silverdale; and Picton Sewerage Schemes prepared by Sydney Water, dated 24 November 2008, as amended by Sydney Water's email to the Department of Planning in relation to criteria for additional connections, dated 10 March 2009;
- (e) the Request for Modification to the Minister's approval for the Picton Regional Sewerage Scheme, dated 15 November 2011, the Modification to the Picton Regional Sewerage Scheme Assessment Report prepared by Sydney Water dated November 2011 and Submissions Report Modification to the Picton Regional Sewerage Scheme dated November 2012; and
- (f) the conditions of approval granted by the Minister.

Despite the above in the event of any inconsistency the later document shall prevail. The conditions of this approval shall prevail over any other document in the event of an inconsistency.

Any modification to the proposal which would be inconsistent with the conditions of approval shall only be carried out with the prior approval of the Minister.

It shall be the ultimate responsibility of Sydney Water to ensure compliance with the conditions of this approval.

These conditions do not relieve the Proponent of the obligation to obtain all other approvals and licences from all relevant authorities required under any other Act. Without affecting the generality of the foregoing, the Proponent shall comply with the terms and conditions of such approvals and licences.

Limits of Approval:

- 1A Nothing in condition 1(d) and 1(e) authorises any additional connections where any resultant additional flows would result in the capacity of the Sewage Treatment Plant and re-use farm, as permitted by conditions 1(a) and 1(b) being exceeded.
- 1B Sydney Water must, prior to authorising any additional connections under condition 1(d) or 1(e), review the uncommitted spare capacity and ensure that this capacity is sufficient to cater for proposed additional connections.

Compliance

- 2. The Proponent shall comply with all reasonable requirements of the Director-General in respect of the implementation of any measures arising from the conditions of this approval. The Proponent shall bring to the attention of the Director-General any matter that may require further investigation and the issuing of instructions from the Director-General. The Proponent shall implement these instructions to the satisfaction of the Director-General within such time that the Director-General may specify.

Dispute Resolution

- 3. In the case of a dispute between the Proponent and any public authority, company or person (but excluding any dispute between the Proponent and its contractors and/or subcontractors involved in the construction or operation of the project) in the implementation of the conditions of this approval, the matter shall be referred to the Director-General for resolution, or if not resolved, to the Minister whose determination of the disagreement shall be final and binding on all parties.

Contact Telephone Number

- 4. Prior to commencement of construction, the Proponent shall provide to the Director-General, the EPA, Wollondilly Shire Council and all relevant government agencies a 24 hour contact telephone number which will reach a person who can arrange, within a reasonable time as appropriate to the nature of the issue, appropriate action to be taken. The contact telephone number shall also allow any member of the public to contact the Proponent with respect to seeking information or making a complaint.

MOD 3 – 71-12-2008 approved 24 January 2013

MOD 2 - 71-12-2008 approved 30 March 2009

MOD 1 - 71-12-2008 approved 05 March 1999

Complaints Register

5. The Proponent shall maintain a Complaints Register which shall be used to record details of all complaints received and actions taken by the Proponent during the construction stage. The complaints register shall be available to all relevant government agencies including but not limited to DUAP, EPA, Wollondilly Shire Council, NSW Fisheries, NSW Health, DLWC, NPWS, HNCMT and UNCMC.

Advertisement of Activities

6. The Proponent shall, at three-monthly intervals, advertise in relevant local newspapers or as otherwise directed by the Director-General, the nature of works proposed for the forthcoming three months, the areas in which these works are proposed to occur, the hours of operation and the contact telephone number.
7. The Proponent shall keep the local community informed (by way of local newsletters (e.g. Bush Telegraph), leaflets, newspaper advertisements and community notice boards etc.) of the progress of the project including any traffic disruptions and controls, construction of temporary detours, work required outside of the nominated working hours prior to such works being undertaken.

Environmental Management Representative

8. The Proponent shall have a suitably qualified Environmental Management Representative(s) throughout the construction stage. The EMR shall be responsible for considering and determining matters specified in the conditions of this approval and compliance with such, and shall facilitate an induction and training program for all persons involved with the construction activities. The EMR shall have the independence and the authority to stop work immediately if an unacceptable impact on the environment is likely to occur or to require other reasonable steps to be taken to avoid or minimise the impacts. The costs of any time lost due to any stoppage of work directed by the EMR shall be borne by the Proponent.

Environmental Management System

9. In the assessment of tenders for construction and operation of the proposal, the Proponent shall include as a key evaluation criterion, the tenderer's demonstrated commitment to environmental management. Demonstration should be by way of commitment to a recognised Environmental Management System (such as ISO 14000, BS7750-1994 or similar) and/or have a proven environmental management performance record.

Environmental Management Plan(s) (Construction Stage)

10. A project specific Environment Management Plan(s) (Construction Stage) shall be prepared by the Proponent to the satisfaction of the Director-General following consultation with the EPA, DLWC, Wollondilly Shire Council, NPWS, HNCMT, UNCMC, **Mine Subsidence Board** and other relevant government agency nominated by the Director-General prior to commencement of construction works. The EMP(s) shall be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management plans.

The EMP(s) shall:

- a) address construction activities associated with all key sites including the treatment plant/reuse area, effluent discharge facility, pumping stations and reticulation system;
- b) cover specific environmental management objectives and strategies for the main environmental system elements and include, but not be limited to: noise and vibration; water; air; erosion and sedimentation; access and traffic; property acquisition and/or adjustments; heritage and archaeology; groundwater; contaminated spoil; waste/resource management; flora and fauna; hydrology and flooding; geotechnical issues, **including mine subsidence issues**; recreation; visual screening, landscaping and rehabilitation; hazards and risks; energy use, resource use and recycling; and utilities.
- c) address, but not be limited to:
 - i. identification of the statutory and other obligations which the Proponent is required to fulfil during project construction including all approvals and

MOD 3 – 71-12-2008 approved 24 January 2013

MOD 2 - 71-12-2008 approved 30 March 2009

MOD 1 - 71-12-2008 approved 05 March 1999

consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent's construction of the project;

- ii. definition of the role, responsibility, authority, accountability and reporting of personnel relevant to the EMP;
- iii. measures to avoid and/or control the occurrence of environmental impacts;
- iv. measures (where possible and cost effective) to provide positive environmental offsets to unavoidable environmental impacts;
- v. the role of the EMR;
- vi. environmental management procedures for all construction processes which are important for the quality of the environment in respect of permanent and/or temporary works;
- vii. monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the project including performance criteria, specific tests, protocols (e.g. frequency and location) and procedures to follow;
- viii. environmental management instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment;
- ix. steps the Proponent intends to take to ensure that all plans and procedures are being complied with;
- x. consultation requirements with relevant government agencies;
- xi. community consultation and notification strategy (including local community, Local Aboriginal Land Councils, relevant local Councils, and all relevant authorities) and complaint handling procedures; and

Specific requirements for some of the main environmental system elements referred to in (b) shall be as required under the conditions of this approval and/or as required under any licence or approval.

The EMP shall be made publicly available.

10A Copies of a geotechnical report appropriate to the sites of any major components of the Picton Regional Sewerage Scheme are to be submitted to the Mine Subsidence Board, together with certification that the footings designed for the development are appropriate considering the geotechnical conditions existing at the site, prior to the commencement of construction.

Environmental Monitoring - Construction

11. The Proponent shall submit to the Director-General, a report(s) in respect of the environmental performance of the construction works and compliance with the Environmental Management Plan (Construction Stage) and any other relevant conditions of this approval. The report(s) shall be prepared at six monthly intervals or at other such periods as requested by the Director-General to ensure adequate environmental performance over the duration of the construction works. The report(s) shall include, but not be limited to, information on:
 - a) applications for consents, licences and approvals, and responses from relevant authorities;
 - b) implementation and effectiveness of environmental controls and conditions relating to the work undertaken;
 - c) identification of construction impact predictions made in the EIS and any supplementary studies and details of the extent to which actual impacts reflected the predictions;
 - d) details and analysis of results of environmental monitoring;

- e) number and details of any complaints, including summary of main areas of complaint, action taken, response given and intended strategies to reduce complaints of a similar nature;
- f) any other matter relating to the compliance by the Proponent with the conditions of this approval or as requested by the Director-General.

The report(s) shall also be submitted to the EPA, DLWC, HNCMT, UNCMC, Wollondilly Shire Council and any other relevant government agency nominated by the Director-General. The report(s) shall also be made publicly available.

- 12. All sampling strategies and protocols undertaken as part of the monitoring programme shall include a quality assurance/quality control plan and shall require approval from the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories shall be used for laboratory analysis.

Environmental Management Plan (Operation Stage)

- 13. The Proponent shall prepare an Environmental Management Plan for the operation of the proposal. The Plan shall be prepared to the satisfaction of the Director-General, following consultation with the EPA, DLWC, Wollondilly Shire Council, NPWS, HNCMT, UNCMC and any other relevant government agency nominated by the Director-General. The Plan shall be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management procedures. The EMP shall address each of the key sites including the treatment plant, effluent discharge facility, reuse area and pumping stations.

The EMP shall address at least the following issues:

- a) identification of the statutory and other obligations which the Proponent is required to fulfil including all licences/approvals and consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent's operation of the project;
- b) requirements of and compliance with relevant EPA guidelines particularly in terms of effluent quality for reuse areas, precautionary discharges and biosolid disposal;
- c) sampling strategies and protocol to ensure the quality of the monitoring program including specific requirements of the EPA and DLWC;
- d) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental performance of the project during its operation including description of potential site impacts, performance criteria, specific tests and monitoring requirements, protocols (e.g. frequency and location) and procedures to follow.
- e) steps the Proponent intends to take to ensure that all plans and procedures are being complied with;
- f) consultation requirements including relevant government agencies, the local community and Wollondilly Shire Council and complaint handling procedures; and
- g) strategies for the main environmental elements including: influent flow and quality monitoring; effluent management including monitoring at all discharge points in terms of quality and quantity, monitoring of drainage waters from creeks draining to Stonequarry Creek within the catchment of the irrigation scheme; timing of receipt of any external sewage (i.e. such as tankers), biosolids disposal; noise and vibration; access and traffic; water quality (including erosion and sedimentation controls); air quality (including dust and odours); health and public safety; landscaping and maintenance and issues relating to flora and fauna; security; groundwater; agricultural and silviculture management; waste/resource minimisation /management/removal/ disposal; hydrology and flooding; overflows and clean up response (including warning systems, community notification requirements); maintenance and monitoring of the reticulation system particularly in terms of identifying system leaks; hazards and risks and emergency response plans; energy use and measures for minimisation.

Specific requirements for some of the main environmental system elements referred to in (g) shall be as detailed under the conditions of this approval and/or as required under any licence or approval. The EMP (Operation Stage) shall be made publicly available.

14. All sampling strategies and protocols undertaken as part of the EMP shall include a quality assurance/quality control plan and shall require approval from the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring program. Only accredited laboratories shall be used for laboratory analysis.

Environmental Impact Prediction Verification Report

15. An environmental impact prediction verification report shall be submitted to the Director-General, the EPA and upon request to any other relevant government agency at 6 and 12 months, and 5, 10 and 15 years after commissioning of the project and at any additional periods as the Director-General may require. The report shall be prepared at the Proponent's expense and shall assess the key impact predictions made in the EIS and any supplementary studies and detail the extent to which actual impacts reflect the predictions. Suitability of implemented mitigation measures and safeguards shall also be assessed. It shall also assess compliance with the Environmental Management Plan (Operation stage).

The report shall also discuss results of consultation with the local community in terms of feedback on the project and any issues of concern raised. The Proponent shall comply with all reasonable requirements of the Director-General and the EPA or any relevant authority with respect to any measure arising from, or recommendations in the report.

Picton Community Liaison Group

16. A Community Liaison Group including representatives from Sydney Water, UNCMC, local community representatives and Wollondilly Shire Council, shall be established prior to construction commencement to discuss detailed design issues and specific methods for minimising the impact on the local community and businesses. Appropriate facilities and information shall be provided by the Proponent to assist the Group in carrying out its functions. The Group may make comments and recommendations about the design and implementation of the proposal which shall be considered by the Proponent.

Electrical Equipment

17. All electrical equipment associated with sewage pumping stations shall be located above the 1% AEP flood level as defined in Wollondilly Shire Council's Floodplain Study.

Alternative Process Technologies

18. The Proponent shall undertake a public tender process before a final decision on the process technology is made. The performance specifications developed for the project shall have sufficient flexibility so as to allow an outcome focus (consistent, if not better than the predicted effluent quality identified in the EIS) rather than specifying a particular technology type.

Demand Management Education

19. The Proponent shall develop and implement a community education campaign directed specifically at the Picton community to minimise the potential for increase in water consumption. The campaign shall be developed and implemented in consultation with the EPA, Wollondilly Shire Council and the Picton Community Liaison Group and be generally consistent with Sydney Water's existing system wide demand management program.

Precautionary Discharge Management Procedure

20. As part of the EMP referred to in Condition 13, the Proponent shall prepare a detailed Precautionary Discharge Management Procedure in consultation with all relevant agencies including the EPA, DLWC, NSW Fisheries, NPWS, HNCMT, UNCMC and Wollondilly Shire Council. The Procedure shall detail all aspects of potential precautionary discharges

MOD 3 – 71-12-2008 approved 24 January 2013

MOD 2 - 71-12-2008 approved 30 March 2009

MOD 1 - 71-12-2008 approved 05 March 1999

including quality and quantity, monitoring procedures and protocols, factors to be taken into account before discharges are allowed (i.e. flow rate in Stonequarry Creek, hydrograph characteristics and measures to mimic natural flow cycles).

Without limiting the above, discharges to Stonequarry Creek shall only be permitted when creek flows are above 8 megalitres per day or as otherwise approved by the EPA.

21. Subject to the issuing of a licence by the EPA, monitoring of all precautionary discharges shall be undertaken and include, but not limited to:-
 - i) effluent quantity corresponding to flow rates in Stonequarry Creek;
 - ii) effluent quality and in-stream water quality (upstream and downstream of the Stonequarry Creek), including concentrations of nitrates, ammonia, total phosphorus, salinity, pH, electrical conductivity, faecal coliforms, metals and pesticides or as otherwise specified by the EPA;

Sewage Overflow Clean-up Procedure

22. As part of the EMP referred to in Condition 13, the Proponent shall prepare a detailed Sewage Overflow Clean-up Procedure. The Procedure shall detail all measures to ensure that any potential health and water quality impacts associated with sewage overflows are reduced to acceptable levels and shall include but not be limited to: requirements and procedures for mobilisation of clean-up staff, removing/diluting/disinfection of any sewage; advising the local community; public safeguards (i.e. temporary fencing, warning signs) etc. It shall also include requirements for informing the EPA, Wollondilly Shire Council and any other relevant agency and all property owners potentially affected and shall be prepared in consultation with the EPA and Wollondilly Shire Council. Without limiting any of the specific requirements identified above, the Procedure shall be generally consistent with Sydney Water's standard clean-up procedures.

Soil and Water Management Procedure

23. As part of the EMP(s) referred to in Condition 10, the Proponent shall prepare a comprehensive Soil and Water Management Procedure in accordance with the EPA's guideline *Managing Urban Stormwater - Construction Activities* and shall include consultation with the EPA, the DLWC, the HNCMT and the UNCMC. The Procedure shall be prepared prior to construction and shall provide details of pollution control measures to be undertaken during the construction stage and satisfy all requirements for pollution control approval/licences.
24. The Soil and Water Management Procedure shall incorporate a detailed Erosion and Sedimentation Control Plan and Site Rehabilitation Plan which shall be prepared in consultation with the DLWC, the EPA and the HNCMT to satisfy all relevant pollution control approvals and licence conditions. The Plan shall be prepared in accordance with Wollondilly Shire Council's document *Erosion and Sedimentation Local Approvals 1996* and include all key elements of the project including the construction of pipelines, pumping stations, treatment plant site and the effluent discharge facility.
25. Regular inspections of temporary and permanent erosion and sedimentation control devices shall be undertaken to ensure that the most appropriate controls are being implemented and that they are being cleaned and maintained in an efficient condition at all times and meet the requirements of any approval/licence conditions.
26. The vegetation located between the effluent reuse area and the adjacent water courses shall remain undisturbed (apart from removal of weeds and essential access requirements) as a precautionary measure to assist in the use and/or immobilisation of nutrients potentially contained in surface and subsurface flows that may leave the irrigation area in unusually wet periods.

Wet Weather Infiltration

27. Appropriate auditing, maintenance and monitoring of the system shall be undertaken to ensure the integrity of the system and to limit infiltration to the greatest extent practicable. The EPA shall be provided with the results of the infiltration monitoring with a view to

MOD 3 – 71-12-2008 approved 24 January 2013

MOD 2 - 71-12-2008 approved 30 March 2009

MOD 1 - 71-12-2008 approved 05 March 1999

establishing a long term upper infiltration limit.

Effluent Irrigation Management Procedure

28. As part of the EMP (Operation Stage) referred to in Condition 13, the Proponent shall prepare a detailed Effluent Irrigation Management Procedure. The Procedure shall require approval by the EPA as part of its licensing requirements and shall include consultation with other relevant agencies including NSW Health, DLWC, NSW Agriculture and Wollondilly Shire Council prior to operation of the proposal. The preparation of the Procedure shall reference the environmental issues and goals set out in relevant guidelines including *National Water Quality Management Strategy: Draft Guidelines for Sewage Systems - Use of Reclaimed Water* (ANZECC, NHMRC & ARMCANZ, 1997), EPA's *Effluent Reuse Irrigation Model*, CSIRO Division of Forestry (1995) *Effluent Irrigated Plantations. Design and Management*. Technical Paper No. 2 and National Health and Medical Research Council of Australia (1996) *Draft Guidelines for Sewerage Systems - Use of Reclaimed Water*.

The broad objective of the Procedure shall be to ensure a balance between the loading rates of water, nutrients, salts, organic matter and toxins with the ability of the site and agriculture/silviculture production to convert, absorb, use or store them in a sustainable way. It shall also focus on the ability of the proposal to deal with effluent over the long term with minimal environmental impacts, with the particularly important goal of maintaining the quality of surface and groundwater resources and avoiding soil contamination or structural damage.

The Procedure shall include but not be limited to:

- i) description of climate including precipitation analysis, evapotranspiration and prevailing wind;
- ii) topography including ground slope, description of adjacent land, erosion potential (i.e soil characteristics) and flood potential;
- iii) identification of land used for irrigation and buffer areas (hectares and metres), proximity and general characteristics of nearest land use types;
- iv) location, general quantity and quality of nearest surface waters;
- v) water balance including design total annual precipitation (mm/yr), design total annual runoff (mm/yr), design evapotranspiration (mm/yr), design percolation rate (mm/yr) and precautionary discharges;
- vi) organic loading rate (as BOD₅) as kg/ha/day, other constituents loading rate (kg/ha/day);
- vii) monitoring of effluent quantity including design flow, average annual design peak flow at all point(s) of discharge;
- viii) monitoring of quality of drainage water from Creeks draining to Stonequarry Creek within the catchment of the irrigation scheme including concentrations of nitrates, ammonia, total P, salinity and faecal coliforms.
- ix) effluent application rates including length of operating season, application periods, average weekly rate (mm/wk), maximum weekly rate (mm/wk), identification of necessary adjustments to effluent irrigation procedures for variations in effluent quality;
- x) seasonal variations in demand for water and nutrients and related storage requirements, including water balance (i.e. amount of effluent applied plus precipitation measured against water lost due to evapotranspiration);
- xi) description of soil characteristics including type, structure, colour, texture, pH, infiltration and percolation potential, soil nutrient and salinity status;
- xii) monitoring of soil including annual monitoring of moisture, soil electrical and hydraulic conductivity, pH, TN, TP and available P (Bray P) sodium, calcium, ammonia, magnesium, potassium (exchangeable cations), exchangeable sodium ratio (ESP) and cation exchange capacity (CEC from exchangeable cations), movements of salinity and nitrate, phosphorus, ammonia, changes to soil structure, phosphorus sorption capacity, organic matter content, and five yearly monitoring (or more frequently if concentrations are

detected to be close to the relevant guideline limiting values) of heavy metals, pesticides and fluorides;

- xiii) program for possible amelioration measures including adding fertiliser or lime, flushing of irrigation system etc.;
- xiv) description of groundwater including depth to groundwater, seasonal variations to water table level, current use of groundwater, location of existing wells on site and nearby, location of groundwater recharge areas, location and permeability of any protective geological strata above a groundwater aquifer;
- xv) irrigation methods (i.e. flood, spray, and drip) and associated measures to reduce potential health hazards to an acceptable level such as establishment of wind breaks and vegetated buffer zones;
- xvi) statement of the conditions when effluent can and cannot be reused (i.e. must be stored or precautionary discharge) including climatic and soil conditions and flow quantity and quality in Stonequarry Creek;
- xvii) management of crops and pastures to be grown, including identification of crops to be grown, use of high quality clonal stock (to maximise growth and avoid speed wobbles), details of planting and harvesting cycles, crop management and practices such as monitoring of health of plants, timing of plantings, ongoing tree care (i.e. pruning and thinning, protection against insect and animal damage, fires, management of weeds, etc.);
- xviii) measures to control potential risks to public health, including control of micro-organisms, particularly helminths and protozoa (surrogates such as faecal coliforms, Enterococci, turbidity and suspended solids to be considered), spray drift, stock access etc.;
- xix) requirements and strategies to ensure storage/ponding of effluent for minimum periods to minimise potential for releasing viruses;
- xx) measures to ensure system reliability and consistency, including power supply, individual treatment units, mechanical equipment, maintenance program, need for flushing of irrigation system and training of personnel; emergency planning.
- xxi) measures to ensure the Shale/ sandstone transition forest and the Sydney coastal river flat forest, listed as endangered ecological communities, under the Threatened Species Conservation Act, 1995, are protected from the direct or indirect impacts of effluent irrigation. These measures shall include consideration of the size and management of buffer zones.
- xxii) Consideration of issues raised in the Fauna and Flora Management Procedure referred to in Condition 35.

Items (i) through to (xxii) may be varied to suit the particular requirements of the EPA's licence conditions.

A copy of the Procedure shall be provided to the EPA, NSW Health, DLWC, UNCMC, NSW Agriculture, Wollondilly Shire Council and the Director-General and shall be made publicly available.

The Procedure shall be monitored on an annual basis and the results provided to the EPA as part of its licensing information requirements.

Biosolids

- 29. Biosolids generated by the operation of the proposal shall be disposed of in accordance with the EPA's guideline *Environmental Guidelines for the Use and Disposal of Biosolids 1996* unless otherwise approved by the EPA.
- 30. Unless otherwise approved by the EPA, the application of biosolids to the reuse area shall cease immediately should the monitoring indicate that soil contaminant concentrations from the biosolids will be a limiting factor on the site life.
- 31. Alternative biosolid disposal options shall be investigated in consultation with the EPA as a contingency plan and shall be enacted upon if requested by the EPA.

Mosquito Management Procedure

32. As part of the EMP (Operation Stage) referred to in Condition 13, the Proponent shall prepare a detailed Mosquito Management Procedure. The Procedure shall be prepared in consultation with NSW Health and Wollondilly Shire Council prior to operation of the proposal.

Aquatic Fauna Impact

33. The Proponent shall incorporate as part of its water quality monitoring program, the monitoring of the potential impact on fish. The program shall include a continuation of the monitoring of macroinvertebrates undertaken by Australian Water Technologies as presented in its report *Stream water quality and biota in the Picton Region 1992-1994, report No 94/177*.
34. The Proponent shall incorporate disinfection by UV to all effluent prior to discharge to any natural water courses unless otherwise approved by the EPA.

Flora and Fauna

35. As part of the EMP referred to in Condition 10, the proponent shall prepare, in consultation with DLWC, NPWS and Wollondilly Shire Council, a detailed Flora and Fauna Management Procedure. The Procedure shall address all elements of the proposal which is likely to affect native vegetation. Specific procedures shall be developed for the native vegetation areas associated with the effluent discharge facility, pumping station sites 916, 920, 922 and 1045 and all pipelines located within 20 metres of a creek line or where native vegetation is to be disturbed. The Procedure shall be prepared prior to construction and shall identify requirements for identification and protection of vegetation communities and species of regional significance, seed collection, strategies for minimising vegetation clearance and protection of riparian vegetation and other vegetated areas outside the direct impact zone, controlling impacts due to spillages, erosion and sedimentation control, spread of debris and refuse, movement and storage of materials and equipment, clearance of vegetation and soil for construction, revegetation of cleared areas, weed control including aquatic species, handling of any fauna, and shall take into consideration the issues raised in the Effluent Irrigation Management Procedure referred to in Condition 28.
- 35A The Proponent shall prepare a report to the Director-General's satisfaction illustrating that all reasonable and feasible measures to minimise impacts to vegetation have been considered during detailed design and construction of SPS A, should SPS A be located at location A1 instead of A2.
36. Seed of locally indigenous tree and plant species or suitable tube stock shall be used for revegetation purposes to the satisfaction of the EMR. Topsoil and leaf mulch are to be stripped and stored for placement back in the vegetation zone from where it was removed.
37. Weed infested topsoil, as identified by a qualified bush regeneration officer, shall not be used in rehabilitation works where native vegetation has been removed unless it is sterilised or treated as specified by the EMR. Measures to control invasion of weeds during operation of the proposal, including aquatic weed species, shall also be addressed in consultation with NPWS, the HNCMT and Wollondilly Shire Council. Weed spraying on or near waters shall only be conducted by a licensed operator.
38. If, during the course of construction, the Proponent becomes aware of the presence of any threatened flora or fauna species, the Proponent shall immediately advise the Director-General of the NPWS. No activity which places any of these species at risk shall be undertaken until advice has been received from the NPWS. All recommendations by the NPWS shall be complied with prior to any works likely to affect any threatened species.

Noise and Vibration

Noise and Vibration Management Procedure

39. As part of the EMP(s) referred to in Condition 10 and 13, the proponent shall prepare, in consultation with the EPA and Wollondilly Shire Council, a detailed Noise and Vibration Management Procedure. The Procedure shall provide details of noise and vibration control measures to be undertaken during both the construction and operation stages.

The Procedure shall include, but not be limited to, tests for ascertaining acoustic parameters;

anticipated airborne noise and vibration for all major noise and vibration generating activities and locations and durations of these activities; impacts from site compounds/construction depots; noise and vibration control equipment to be fitted to machinery; temporary noise mitigation measures such as noise barriers, shrouds around stationary plant to be installed prior to the commencement of noisy activities, predicted noise and vibration levels at sensitive receivers (such as schools, churches, hospitals etc.); noise and vibration noise monitoring and reporting procedures; measures for dealing with exceedances; arrangements to inform residents of construction activities likely to affect their noise amenity, contact point for residents. The Procedure shall be prepared prior to construction and operation and shall be made publicly available.

Construction Noise and Vibration

40. The Proponent shall monitor construction noise levels to verify compliance with the requirements specified in the Noise and Vibration Management Procedure. Should monitoring indicate exceedance, the Proponent shall consult the Director General and implement any additional mitigation measures as required.

Construction Hours

41. All construction activities including entry and departure of heavy vehicles shall be restricted to the hours 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1.00 pm (Saturdays) and at no time on Sundays and public holidays.

Works outside these hours which may be conducted in accordance with the *Interim Construction Noise Guideline* (Department of Environment and Climate Change NSW 2009).

42. For construction of pumping stations (particularly SPS 922, 916 and 918) and pipelines in close proximity to residential locations, specific activities involving high noise generation (i.e. jack hammers, rock breakers, excavators and hammering) shall be limited to the hours of 9am to 3pm Monday to Friday and at no times on Saturdays, Sundays or public holidays unless otherwise approved by the EPA.

Vibration

43. The vibration levels due to construction activities shall meet the requirements of the EPA as specified in its Pollution Control Approval and/or Licence. In general the ANZECC guideline *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* shall apply.

Operational Noise

44. Prior to installation of permanent noise control measures, the Proponent shall, in consultation with the EPA, review the operational noise predictions made in the EIS. The Proponent shall provide additional noise control measures as may be required by the EPA to achieve its noise goals if practicable and cost effective. In any event the operational noise levels shall not exceed 45 dB(A) and 35 dB(A) for day-time and night-time respectively or as otherwise required by the EPA's operational licence. A value of 5 dB shall be added to the sound pressure levels recorded if the noise is substantially tonal or impulsive in character
45. As part of the Noise and Vibration Management Procedure, the Proponent shall monitor the operational noise emanating from the treatment plant and pumping stations. The Proponent shall, in consultation with the EPA, assess the adequacy of the noise mitigation measures. Should the assessment indicate a clear trend in noise levels which are not consistent with the general predictions made in the EIS, the Proponent shall implement further noise mitigation measures to the satisfaction of the EPA.

Air Quality

Construction Stage

46. As part of the EMP referred to in Condition 10, the proponent shall prepare in consultation with the EPA, a specific Dust Management Procedure (DMP). The Procedure shall detail all dust control measures to be implemented during the construction stage. The DMP shall include measures to reduce dust from stockpiles and cleared areas or other exposed

surfaces. The measures such as temporary planting of stockpiles and progressive rehabilitation of any exposed areas should be designed to achieve EPA local air quality protection goals.

47. All construction vehicles shall be maintained and covered as appropriate to prevent any loss of load whether in the form of dust, liquid, solids or otherwise and shall be maintained in such a manner that they will not track mud, dirt or other material onto any street which is opened and accessible to the public. Without limiting the generality of this requirement, the Proponent shall install and maintain a wheel wash facility at the treatment plant site and use devices at other construction sites to ensure that material from construction vehicle tyres are not deposited on nearby streets.

Operation Stage

48. As part of the EMP referred to in Condition 13, the proponent shall prepare in consultation with the EPA, detailed Air Quality Management Procedure. The Procedure shall provide details of air quality control measures to be undertaken during the operation stage. and shall reference environmental issues and goals set out in the EPA's guidelines.

The Procedure shall include, but not be limited to, measures to prevent air pollution including dust, suspended materials, odour emissions, and controls to prohibit burning off; tests for ascertaining air quality parameters; anticipated impacts from treatment plant, effluent irrigation and storage areas; odour control devices; predicted odour emissions at sensitive receivers (such as schools, hospitals, churches etc.); air quality monitoring and reporting procedures; measures for dealing with exceedances; arrangements to inform residents of activities likely to affect their air quality, contact point for residents; complaints handling systems, reporting of complaints and response actions shall also be included.

The Procedure shall be prepared prior to operation and shall be made publicly available.

49. The Proponent shall establish an on-site meteorological station at the treatment plant site at least 12 months prior to plant operations. The station shall include a low-stalling speed anemometer and wind vane to enable validation of the odour assessment.
- 49A **Odour modelling and monitoring is to be carried out once further meteorological and operational data is obtained:**

- (a) when the first full twelve months of meteorological data is obtained;
- (b) after six months of STP operation; and
- (c) after twelve months of STP operation.

Or as required by the EPA.

If impacts are predicted to be unacceptable at the nearest residence (greater than 0.3 odour units), or monitoring and modelling shows unacceptable odour impacts then additional odour control measures shall be implemented to the satisfaction of the EPA. These may include dosing with ferric chloride and/or the use of biological filters.

Groundwater

50. As part of the EMP referred to in Condition 13, the Proponent shall prepare a Groundwater Management Procedure which shall detail methods and plans to monitor any changes in the groundwater table and groundwater quality during the operational life of the project. It shall also address the issue of effective and prompt assessment of monitoring data and clearly set out reporting and action requirements. The Procedure shall be prepared in consultation with DLWC.
51. The bores drilled as part of the EIS investigations shall be maintained for monitoring purposes and checked six monthly for presence of groundwater. Should groundwater be found in any of them a water sample(s) shall be taken and analysed for pH, Electrical conductivity, TN, TP and faecal coliforms and any other parameters as required by licence conditions. The water level in each bore shall also be measured. The EPA and DLWC shall be notified of the

results of any sampling and the Proponent shall undertake any requirements of the EPA and/or DLWC to rectify any potential problems indicated by the samples which can be attributed to the scheme.

Traffic and Roadworks

52. The Proponent shall undertake building surveys for all buildings located on any detours to be used by truck traffic for longer than a period of 48 hours. The Proponent shall be responsible for rectifying any building or road damages occurring as a result of any detouring of truck traffic with all costs to be borne by the Proponent.
53. The Proponent shall prepare a detailed traffic study prior to construction commencement to assess the impacts of any temporary road closures, detours or other major disruptions to traffic flows resulting from the construction of the scheme. The report shall be prepared to the satisfaction of Wollondilly Shire Council's Traffic Committee and shall provide details on the timing of road disturbance, requirements for traffic control measures, barricades, notification to residents of proposed road changes, signposting and markings, lighting, speed limiting devices and road upgrading requirements and any other relevant matters as required by the Traffic Committee. The report shall address impacts on parking, businesses, pedestrian safety issues, impacts on businesses and residential amenity. The report shall also address the need for building surveys. No road closures or detours shall occur without prior agreement from Wollondilly Shire Council's Traffic Committee.
54. The intersection of the access road to the STP and Remembrance Drive shall be a full Austroads type B intersection. The intersection shall be constructed prior to construction activities occurring at the treatment plant/reuse site.
- 54A. The access road to the STP must be sealed early in the construction phase and have an appropriately low speed limit applied.
55. The Proponent shall consult with Wollondilly Shire Council's Traffic Committee and the SRA prior to disturbance to any roads or railway lines respectively. The Proponent shall be responsible for the cost and design of any necessary road or rail works (temporary or permanent) required as part of the proposal unless otherwise agreed to by the relevant authority.
56. All transverse crossings of major roads including Argyle Street, Menangle Street, Remembrance Drive, Thirlmere Way and Bridge Street shall be undertaken by thrust bore or similar techniques which would result in minimal disturbance to traffic flow, unless otherwise agreed to by Wollondilly Shire Council's Traffic Committee.
57. A road dilapidation report shall be prepared for all non-arterial roads likely to be used by construction traffic including any non-arterial roads used temporarily for detours. The report shall be prepared in consultation with Wollondilly Shire Council's Traffic Committee prior to commencement of construction and then as soon as practicable after construction is complete. Any road/footpath damage (aside from that resulting from normal wear and tear) attributable to the construction of the proposal, shall be repaired to a standard at least equivalent to that existing prior to any disturbance and shall be in accordance with Wollondilly Shire Council's restoration policy.

Landscape and Rehabilitation Plan

58. The proponent shall prepare a Landscape and Rehabilitation Plan(s) for all pumping stations and the treatment plant site, including, but not limited to, the area immediately surrounding the STP, the area through to the northern boundary of Carlton Stud, in particular to the north of the western dam, and through to the Remembrance Drive boundary of Carlton Stud. Planting around treatment plant boundaries shall occur within 12 months from the commencement of construction and the Plan(s) shall ensure that all opportunities to effectively screen the STP are taken. The Plan(s) shall be prepared by a suitably qualified person. Details on the Plan(s) shall include the location and names of existing and proposed tree and shrub species, mounds, bunds, structures or any other proposed treatments, finish of exposed surfaces (including paved areas), lighting, use of public art, measures to preserve regional biodiversity, colours and specifications, timing and staging of works, methodology of landscaping works, monitoring and maintenance. A qualified bushland regeneration specialist

MOD 3 – 71-12-2008 approved 24 January 2013

MOD 2 - 71-12-2008 approved 30 March 2009

MOD 1 - 71-12-2008 approved 05 March 1999

registered with the Australian Association of Bushland Regenerators shall also be consulted in the development of the Plan(s) in terms of selection of flora species and specific implementation strategies. The Plan(s) shall be prepared in consultation with Wollondilly Shire Council and adjacent property owners and property owners to the west of the site with existing views over Carlton Stud.

The Proponent shall also prepare in consultation with Wollondilly Shire Council, restoration and rehabilitation plans relating to pipeline construction. The specific aim of plans shall be to restore all disturbed areas to original condition, and where possible and cost effective, provide improvements to any currently degraded areas which would be affected by construction activities.

59. All landscaping works undertaken shall be monitored and maintained at all times. In monitoring landscape maintenance the Proponent shall have on-going liaison with the Wollondilly Shire Council and adjacent property owners and property owners to the west of the site with existing views over Carlton Stud. All costs of such monitoring and maintenance shall be borne by the Proponent.

Heritage

60. A detailed settlement analysis shall be undertaken by a suitably qualified geotechnical engineer prior to excavation works in the vicinity of the heritage building located on the north eastern corner of the intersection of Menangle and Argyle Streets (formerly the post office) to establish requirements for control of potential settlement.
61. Building surveys shall be undertaken for all heritage buildings as listed in Wollondilly Shire Council's current LEP or in other relevant government registers located within 50 metres of construction works prior to commencement of construction activities. The Proponent shall be responsible for rectifying any damages occurring as a result of the construction with any costs to be borne by the Proponent or as otherwise agreed by the owner.
62. If any deviations to the route of the pipeline occur to the route assessed in the study by Godden Mackay (1995) *Picton Regional Scheme - Archaeological and Heritage Assessment*, an archaeological study shall be undertaken and the results provided to the NPWS and the Heritage Office as applicable. The Proponent shall comply with any reasonable requirements of the NPWS or Heritage Office arising out of any additional studies and shall inform the Director-General to ensure compliance with the conditions of this approval.
63. Should any artefacts or other archaeological material be found, all work likely to affect the site(s) shall cease immediately and the NPWS, the relevant Local Aboriginal Land Council(s) or the Office of Heritage shall be consulted in terms of an appropriate course of action prior to recommencement of work. Any required permits shall be obtained and shall be accompanied by appropriate supporting documentation.
64. The Proponent shall provide temporary protective fencing around the sheltered occupation site located at Matthews Creek in the vicinity of SPS 922 and at any other aboriginal sites identified by the EMR or the NPWS to be archaeologically sensitive.

Hazards, Risks and Safety

65. Prior to commencement of operation, the Proponent shall demonstrate to the satisfaction of the Director-General and NSW Fire Brigade that an adequate Emergency Response Plan is in place.
66. At least one month prior to commencement of construction, except for works that will not be affected by study results or within such further period as the Director-General or nominee may agree, the Proponent shall prepare and submit for the approval of the Director-General a Construction Safety Study prepared in accordance with Hazardous Industry Planning Advisory Paper (HIPAP) No. 7. This shall include a risk assessment study of the impacts from utilities damaged by excavation activities (prepared in accordance with HIPAP No. 6) and working plans for heavy lifts to avoid dropping objects in public areas.
- 66A The Proponent shall consult the Dams Safety Committee regarding the safety of effluent re-use dams on Carlton Stud and undertake remedial and mitigation actions to the Committee's satisfaction prior to operation.

66B The integrity of the dams is to be maintained to prevent leakages impacting on the Shale/sandstone transition forest communities.

67. Fuel storage at work sites shall be located at least 50m from the nearest site boundary unless otherwise approved by the Director-General. Impervious bunds shall be constructed around all fuel, chemical and oil storage areas in accordance with relevant standards. The storage area(s) shall be located at a minimum of 0.3m above the 1% AEP flood level unless otherwise approved by the Director-General.

Waste Disposal and/or Recycling

68. As part of the EMP referred to in Condition 10 and 13, the Proponent shall prepare a detailed Waste Management Procedure to address the management of wastes during both the construction and operation stages. The Procedure shall be prepared prior to construction and operation as appropriate and shall identify requirements for waste avoidance, reduction, reuse and recycling. It shall also detail requirements for handling, stockpiling and disposal of wastes specifically spoil, concrete, contaminated soil or water, demolition material, cleared vegetation, oils, greases, lubricants, sanitary wastes, timber, glass, metal etc. It shall also identify any site for final disposal of any material and any remedial works required at the disposal site before accepting the material. Any waste material which is unable to be reused, reprocessed or recycled shall be disposed at a landfill licensed by the EPA to receive that type of waste.
69. The demand for water for construction purposes shall be kept to a minimum. The project shall incorporate water use reduction initiatives including reuse of water to the maximum extent practicably possible.
70. The Proponent shall prepare an Action Plan to promote the use of recycled materials including construction and landscape materials. The Plan shall detail how the proposal gives consideration and support to the Government's 'Waste Reduction and Purchasing Policy'. The Plan shall also include details on measures to implement energy conservation best practice.

Utilities and Services

71. The Proponent shall identify services potentially affected by construction activities to determine requirements for diversion, protection and/or support. This shall be undertaken in consultation with the relevant service authority. Any alterations to utilities and services shall be carried out to the satisfaction of the relevant authority(s). Unless otherwise agreed to by the service/utility authority affected, the costs of any alterations shall be borne by the Proponent.
72. The Proponent shall be responsible for minimising any disruption to services resulting from such work and shall be responsible for advising local residents and businesses on disruption to services.

Temporary Sewerage Facilities

73. If during construction of the system, any property has to be temporarily disconnected from its on-site system (and before being connected to the new system), the Proponent shall provide all necessary temporary arrangements for sewage collection and disposal at no expense to the property owner/occupier. Any such temporary arrangements shall be discussed with the property owner and shall be in accordance with Wollondilly Shire Council's normal operating procedures. All costs of such temporary arrangements shall be borne by the Proponent.

Property Acquisitions

74. The Proponent shall notify the owner of any property which is to be adjusted, acquired or for which an easement is to be obtained. This notice shall contain sufficient details to identify the land of interest being adjusted/acquired and is to include dimensions, location with respect to boundaries and any other information necessary to enable the identification of the land in relation to the development. This notification shall be given prior to access for construction purposes.
75. The acquisition of any land shall be in a responsive and sensitive manner and in accordance

MOD 3 – 71-12-2008 approved 24 January 2013

MOD 2 - 71-12-2008 approved 30 March 2009

MOD 1 - 71-12-2008 approved 05 March 1999

with the *Land Acquisition (Just Terms Compensation) Act 1991*.

76. The Proponent shall restore all affected property (including any affected buildings, structures, lawns, trees, sheds, gardens etc.) to at least the condition it was in prior to disturbance. All costs of restoration and rehabilitation shall be borne by the Proponent. Construction activities undertaken within private property shall be sympathetic to the specific needs of individual property owners particularly in terms of requirements for temporary facilities such as fencing, access to footpaths/driveways/garages etc.