Infrastructure Approval

Section 115ZB of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure dated 27 February 2013, I grant approval to the State Significant Infrastructure application referred to in Schedule 1, subject to the conditions in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts including economic and social impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Chris Wilson

Executive Director

Development Assessment Systems and Approvals

Sydney 2013

SCHEDULE A

Application No:	MP07_0171
Proponent:	Aurizon Operations Ltd
Approval Authority:	Minister for Planning & Infrastructure
Land:	Approximately 255 ha site, located on the western side of the New England Highway and the Great Northern Railway, on the following land parcels in the City of Newcastle local government area: Lot 101 DP1084709, Lot 102 DP1084709, Lot 2 DP 735456, Lot 10 DP 735235, Lot 104 DP 1084709, Lot 113 DP 755232, Lot 1 DP 155530, Lot 12 DP 1075150, Lot 1 DP 1062240, Lot 311 DP 583724 and Lot 1 DP 128309.
State Significant Infrastructure:	The construction and operation of a train support facility at Hexham, including: • new connections to the Great Northern Railway; • seven new train tracks parallel to the existing mainline and a shunt track at the northern part of the facility comprising 10.5 kilometres of new railway track; • a provisional building, a combined maintenance and administrative centre and service vehicle garage; • a bulk fuel storage area; • vehicular intersection and new road from the Tarro

Interchange and construction of sealed internal access roads;

- civil earthworks and importation of fill material;
- utility connections and the protection or diversion of existing utilities; and
- a wastewater treatment plant with on-site effluent irrigation.

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DEFINITIONS AND ABBREVIATIONS

Act, the	*Environmental Planning and Assessment Act 1979*
AEP	Annual Exceedance Probability. The likelihood of occurrence of a flood of given size or larger occurring in any one year. AEP is expressed as a percentage.
AHIMS	Aboriginal Heritage Information Management System (administered by the NSW Office of Environment and Heritage)
Ancillary facility	Temporary facility for construction including, for example, an office and amenities compound, construction compound, batch plant (concrete or bitumen), materials storage compound, maintenance workshop, conveyors, testing laboratory or material stockpile areas.
ARTC	Australian Rail Track Corporation.
Conditions of Approval	The Minister's conditions of approval for the State significant infrastructure (SSI).
Construction	Includes all work in respect of the SSI other than: a) survey, acquisitions, fencing, building/road dilapidation surveys; b) investigative drilling or excavation; c) minor clearing of vegetation (except where heritage, threatened species, populations or endangered ecological communities would be affected); d) establishing ancillary facilities/construction work sites (in locations meeting the criteria identified in the conditions of this approval); e) installation of environmental impact mitigation measures; or f) other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor internal access roads and adjustments to services/utilities, etc.).
Department, the	NSW Department of ~~Planning & Infrastructure~~ Planning, Industry and Environment
~~Director-General, the~~	~~Director-General of the NSW Department of Planning & Infrastructure~~
~~Director-General's Approval~~	~~A written approval from the Director-General (or delegate).~~ ~~Where the Director-General's approval is required under a condition of this approval, the Director-General will endeavour to provide a response within one month of receiving an approval request. The Director-General may ask for additional information if the approval request is considered incomplete. When further information is requested the time taken for the Proponent to respond in writing will be added to the one month period.~~
~~DPI~~	~~NSW Department of Primary Industries~~
EA	Environmental Assessment
EEC	Endangered ecological communities
EESG	Environment, Energy and Science Group of the Department of Planning, Industry and Environment (former NSW Office of Environment and Heritage (OEH))
Enabling Works	Works which allow isolation of the site so that access for

	construction can be provided.
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence under the *Protection of the Environment Operations Act 1997*
Feasible and Reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. **Feasible** relates to engineering considerations and what is practical to build. **Reasonable** relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community views and nature and extent of potential improvements. Where requested by the Director-General, the Proponent must provide evidence as to how feasible and reasonable measures were considered and taken into account.
Heritage Division	Heritage Division of the Department of Premier and Cabinet (former Heritage Division of the Office of Environment and Heritage)
Heritage item	An item as defined under the *Heritage Act 1977* and assessed as being of local, State and/or National heritage significance, and/or an Aboriginal object or Aboriginal place as defined under the *National Parks and Wildlife Act 1974*.
High-noise generating activities	Means jack hammering, rock breaking or hammering, pile driving, vibratory rolling, cutting of pavement, concrete or steel or other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics.
~~Hunter-Central Rivers CMA~~	~~Hunter-Central Rivers Catchment Management Authority~~
Hunter LLS	Hunter Local Land Services (former Hunter-Central Rivers Catchment Management Authority)
HRR	Hexham Relief Roads Project (SSI-4192)
ICNG	Interim Construction Noise Guideline (DEC, 2009)
INP	NSW Industrial Noise Policy (NSW Government, 2000)
Minister, the	Minister for Planning and Infrastructure
~~NoW~~	~~NSW Office of Water~~
~~OEH~~	~~NSW Office of Environment and Heritage~~
Operation	Means the operation of the SSI, but **does not** include commissioning trials of equipment or temporary use of parts of the SSI during construction.
Planning Secretary, the	Secretary of the NSW Department of Planning, Industry and Environment, or nominee as delegated (formerly known as the Director-General)
Proponent	Aurizon Operations Ltd
Publicly available	Available for inspection in hard copy and/or electronic format by a member of the general public (for example available on an internet website).

RIAR	Regions, Industry, Agriculture and Resources Group of the Department of Planning, Industry and Environment (former Department of Industry).
RMS	Roads and Maritime Services
Sensitive receiver	Residence, educational institution (e.g. school, university, TAFE college), health care facility (e.g. nursing home, hospital) and religious facility (e.g. church).
SSI	The State significant infrastructure approved under this approval (as modified by SSI-6090-MOD 1) and as generally described in Schedule A.
TSF	(proposed Aurizon) Train Support Facility (MP 07_0171)
Turning Angle Works	Works associated with the construction and operation of a turning angle as approved by modification SSI-663-MOD 1.
Water Group, the	Water Group of the Department of Planning, Industry and Environment, the (former NSW Office of Water (NoW)).

SCHEDULE B
ADMINISTRATIVE CONDITIONS

TERMS OF APPROVAL

B1. The Proponent shall carry out the SSI generally in accordance with the:

(a) Application MP 07_0171;
(b) Environmental Assessment, NSW Train Support Facility, Maitland Road, Hexham (ADW Johnson Pty Limited, November 2012);
(c) Preferred Project Report and Response to Submissions, NSW Train Support Facility, Maitland Road, Hexham (JBA, June 2013);
(d) State Significant Infrastructure – Modification: Detailed Environmental Assessment Report, Maitland Road, Hexham (Ethos Urban, June 2019);
(e) State Significant Infrastructure MP07_0171 Modification: Response to Submissions (Ethos Urban, August 2019); and
(f) conditions of this approval.

B2. In the event of an inconsistency between:

(a) the conditions of this approval and any document listed from condition B1(a) to B1(e) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency;
(b) any document listed from condition B1(a) to B1(e) inclusive, the most recent document shall prevail to the extent of the inconsistency.

B3. The Proponent shall comply with any reasonable requirement(s) of the Director-General arising from the Department's assessment of:

(a) any reports, plans or correspondence that are submitted in accordance with this approval; and
(b) the implementation of any actions or measures contained within these reports, plans or correspondence.

B4. Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.

B4A. The following Conditions of Approval do not apply to the Turning Angle Works:

B5, C3, C16, C18, C22, C23, C33, C34, C35, C38, C39, E1, E5, E13, E14, E15, E16, E17, E24, E25, E26, E30, E32, E36, E42, E43, E44, E49, E59, E60, and F3.

B4B. Any references to entities listed in column A are to be interpreted as entities in column B throughout the approval:

A	B
Director-General	Planning Secretary
Hunter-Central Rivers CMA	Hunter LLS
NoW	the Water Group
OEH	EESG
DPI	RIAR
Heritage Council, OEH (Heritage Branch) or Heritage Branch	Heritage Division

LIMITS OF APPROVAL

B5. This approval shall lapse 10 years after the date on which it is granted, unless works that are the subject of this SSI approval are physically commenced on or before that date.

STATUTORY REQUIREMENTS

B6. The Proponent shall ensure that all necessary licences, permits and approvals required for the development of the SSI are obtained and maintained as required throughout the life of the SSI. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such necessary licences, permits or approvals.

B7. Any changes to the scope of the SSI activity shall be subject to a consistency review. Should the review identify activity scope and environmental impacts inconsistent with the assessed SSI activity, a modification to the Infrastructure Approval will be required.

STAGING

~~B8. The Proponent may elect to construct and/or operate the SSI in stages. Where staging is proposed, the Proponent shall submit a Staging Report to the Director-General for approval prior to the commencement of the first proposed stage, which provides details of:~~

~~(a) how the SSI would be staged including general details of work activities associated with each stage and the general timing of when each stage would commence and be completed; and~~

~~(b) the relevant conditions of approval which would apply to each stage and how these will be addressed across and between the stages of the SSI.~~

~~Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s).~~

~~The Proponent shall ensure that an updated Staging Report (or advice that no changes to staging are proposed) is submitted to the Director-General for approval prior to the commencement of each stage, identifying any changes to the proposed staging or applicable conditions.~~

~~B9. The Proponent shall ensure that all plans, sub-plans and other management documents required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) are submitted to the Director-General for approval no later than one month prior to the commencement of the relevant stage(s), unless otherwise agreed by the Director-General.~~

~~*Note: These conditions do not relate to staged infrastructure within the meaning of section 115ZD of the Environmental Planning and Assessment Act 1979.*~~

~~B10. With the approval of the Director-General, the Proponent may:~~

~~(a) submit any strategy, plan or program required by this approval on a progressive basis; and~~

~~(b) combine any strategy, plan or program required by this approval.~~

~~*Notes:*~~

- ~~*While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing activities on site are covered by suitable strategies, plans or programs at all times.*~~
- ~~*If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the*~~

~~*relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*~~

B8. The SSI may be constructed and operated in stages. Where staged construction or operation is proposed, a **Staging Report** (for either or both construction and operation as the case may be) must be prepared and submitted to the Planning Secretary no later than one month before the commencement of construction of the first of the proposed stages of construction (or if only staged operation is proposed, one month before the commencement of operation of the first of the proposed stages of operation).

B9. The **Staging Report** must:

(a) if staged construction is proposed, set out how the construction of the whole of the SSI will be staged, including details of work and other activities to be carried out in each stage and the general timing of when construction of each stage will commence and finish;

(b) if staged operation is proposed, set out how the operation of the whole of the SSI will be staged, including details of work and other activities to be carried out in each stage and the general timing of when operation of each stage will commence and finish (if relevant);

(c) specify how compliance with conditions will be achieved across and between each of the stages of the SSI; and

(d) set out mechanisms for managing any cumulative impacts arising from the proposed staging.

B10. The SSI must be staged in accordance with the **Staging Report,** as submitted to the Planning Secretary.

B10A. Where staging is proposed, the terms of this approval that apply or are relevant to the works or activities to be carried out in a specific stage must be complied with at the relevant time for that stage.

COMPLIANCE

B11. The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.

B12. The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.

B13. In the event of a dispute between the Proponent and a public authority in relation to an applicable requirement in this approval or relevant matter relating to the SSI, either party may refer the matter to the Director-General for resolution. The Director-General's determination of any such dispute shall be final and binding on the parties.

SCHEDULE C
ENVIRONMENTAL PERFORMANCE

NOISE AND VIBRATION

Operational Noise and Vibration

C1. The SSI shall be designed and operated with the objective of not exceeding the vibration goals for human exposure for existing sensitive receivers, as presented in *Assessing Vibration: a Technical Guideline* (DECC, 2006).

C2. The Proponent shall ensure that the SSI is designed and operated so as not to exceed the operational noise limits presented in Table 1 at the nominated receivers.

Table 1: Operational Noise Limits (dB(A))

Receiver	Daytime $L_{Aeq\ (15\ minute)}$	Evening $L_{Aeq\ (15\ minute)}$	Night $L_{Aeq\ (15\ minute)}$	Night $L_{A1\ (1\ minute)}$)
R1 Hain Property	46	46	45	56
R2 Lynch Property	60	50	45	62
R3 New England Highway	60	50	45	62
R4 Old Maitland Road (North)	45	45	44	54
R5 Old Maitland Road	45	45	44	54
R6 Old Maitland Road (South)	45	45	44	54
R7 Maitland Road	60	50	45	62
R8 Church Old Maitland Road	40 (internal - when in use)			N/A
R9 Tarro Primary School	35 (internal - when in use)			N/A
Hexham Swamp Nature Reserve	50 (when in use)			N/A

Notes:

- *For the purposes of this condition, daytime is defined as the period from 7am to 6pm, Monday to Saturdays and 8am to 6pm on Sundays and public holidays. Evening is defined as the period from 6pm to 10pm and night time is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and public holidays.*
- *The noise emission limits apply under all meteorological conditions except during wind speeds greater than 3m/s at 10m height; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m height; or stability category G temperature inversion conditions as described in the NSW Industrial Noise Policy.*
- *For the purpose of noise measurement required for this condition, the LAeq(15minute) noise level must be measured approximately on the property boundary, where any residence is situated 30m or from the property boundary closest to the premises; within 30m of a residence, but not closer than 3m, where any residence is located more than 30m from the boundary closest to the premises; and within 50m of the boundary of a National Park or Nature Reserve.*
- *For the purpose of noise measurement required for this condition, the LA1(1minute) noise level must be measured within 1m of a residence.*
- *Noise measurement equipment must be located at the most affected point at a location.*

BIODIVERSITY

Ecological Monitoring

C3. Prior to the commencement of construction work that would result in the disturbance of any native vegetation, threatened flora and fauna or endangered ecological communities (EECs) and their habitats, the Proponent shall develop an **Ecological Monitoring Program** to monitor the effectiveness of the biodiversity mitigation measures implemented as part of the SSI. The Program shall be developed by a suitably qualified and experienced ecologist in consultation with the OEH. The Program shall include, but not necessarily be limited to:

(a) an adaptive monitoring program to assess the effectiveness of the mitigation measures identified in conditions E3, E4, E5, E7, E8, E9, E10, E11, E12 and E63 (b) and allow amendment to the measures if necessary;

(b) monitoring and/or assessment measures for assessing changes in groundwater dependent ecosystems, including impact assessment criteria;

(c) identification of appropriate and justified monitoring periods and performance targets against which effectiveness of the mitigation measures will be measured;

(d) provision for the assessment of data to identify changes to habitat usage and groundwater dependent ecosystems and if this can be attributed to the SSI activity;

(e) details of contingency measures that would be implemented in the event of any exceedence of water quality thresholds which would be injurious to biotic systems and/or species, or changes to the structure and composition of groundwater dependent ecosystems which are directly attributable to the construction or operation of the SSI activity;

(f) monitoring protocols for the Hunter Wetland National Park;

(g) monitoring protocols for Saltmarsh endangered ecological community and Freshwater Wetland ecological community;

(h) monitoring protocols for habitat conditions that support the Green and Golden Bell Frog;

(i) mechanisms for developing additional monitoring protocols to assess the effectiveness of any additional mitigation measures implemented to address additional impacts in the case of design amendments or unexpected threatened species finds during construction (where these changes are generally consistent with the biodiversity impacts identified for the SSI in the documents listed under conditions B1 (a) and B1 (c) inclusive; and

(j) provision for annual reporting of monitoring results to the Director-General and the OEH, or as otherwise agreed by the Director-General and the OEH.

Monitoring shall be undertaken during construction (for construction-related impacts) and upon operation of the SSI (for operation/ongoing impacts) until such time as the effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods after the commencement of operation, or as otherwise agreed by the Director-General.

Biodiversity Offsets

C4. In the event that the extent, type or condition of native vegetation communities or flora and fauna habitat are to be lost or degraded as a result of the SSI varies to that described in the documents referred to in condition B1~~Within twelve months of the commencement of construction,~~ or as otherwise agreed to by the Planning Secretary, the Proponent shall development and submit a **Biodiversity Offset Package** for the approval of the Planning Secretary within 12 months of the commencement of construction. The Package shall detail how the ecological values lost as a result of the SSI will be offset. The Package shall be developed in consultation with the EESG and the Hunter LLS and shall include, but not necessarily be limited to:

(a) the objectives and biodiversity outcomes to be achieved;
(b) confirmation of the extent (in hectares), types and condition of the native vegetation communities (including SEPP 14 wetlands) and flora and fauna habitat to be lost or degraded as a result of the final design of the SSI, including consideration of the indirect impacts on adjacent retained vegetation and impacts caused through weed invasion, hydrological changes and potential edge effects;
(c) a process for addressing and incorporating offset measures arising from changes in biodiversity impacts (where these changes are generally consistent with the biodiversity impacts identified for the SSI in the documents listed under conditions B1~~(a) to B1(c)~~ inclusive from –
    (i) changes to the footprint due to design changes,
    (ii) changes to predicted impacts as a result of changes to mitigation measures, and
    (iii) identification of additional species/specimens and/or habitat during pre-clearing surveys, construction or the establishment of ancillary facilities);
(d) a statement of the methodology used to determine the offsets required;
(e) details of the final suite of the biodiversity offset measures selected and secured with consideration of the Biodiversity Offset Strategy (as set out in Appendix G of the document referred to in condition B1 (c);
(f) justification for the application of any Tier 2 and Tier 3 outcomes;
(g) the final selected means of securing the biodiversity values of the offset package in perpetuity;
(h) the management and monitoring requirements for compensatory habitat works (excluding biobanking sites) and other biodiversity offset measures proposed to ensure the outcomes of the Package are achieved including -
    (i) the monitoring of the condition of species and ecological communities at offset locations (excluding biobanking sites),
    (ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites and the sampling frequency at these sites, and
    (iii) provisions for annual reporting of the monitoring results for a specified period of time as determined in consultation with the EESG; and
(i) timing and responsibilities for the implementation of the provisions of the Package.

~~In the event that the extent, type or condition of native vegetation communities or flora and fauna habitat to be lost or degraded as a result of the SSI varies to that described in the biobanking proposal in the documents referred to in condition B1, the variances shall be assessed using the Biobanking Assessment Methodology and the Biobanking credit tool re-run. The revised Biobanking Credit Calculator files shall be submitted as part of the Biodiversity Offset Package.~~

Land offsets shall be consistent with the *Principles for the Use of Biodiversity Offsets in NSW* and the *Interim Policy on Assessing and Offsetting Biodiversity Impacts of Part 3A, State Significant Development (SSD) and State Significant Infrastructure (SSI) Projects* (OEH, 2011). Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of affected biodiversity, additional measures shall be provided to collectively deliver a biodiversity offset in accordance with the *Interim Policy on Assessing and Offsetting Biodiversity Impacts of Part 3A, State Significant Development (SSD) and State Significant Infrastructure (SSI) Projects* (OEH, 2011) and to provide a positive biodiversity outcome for the region.

Where possible, priority shall be given to securing offset sites as near to the location of the impact/loss as possible to assist with the preservation of the specific endemic

community of the area and assure that the ecological and amenity benefits of retaining endemic vegetation remain within the locality.

Should a conservation agreement under the *National Parks and Wildlife Act 1974* not be considered a viable alternative, then the Proponent must ensure that any offset arrangement it enters into ~~in relation to the Northern and Southern offset sites~~ must provide a provision for in-perpetuity conservation title on the land and a monetary contribution sufficient to carry out rehabilitation and monitoring actions pursuant to this consent and any actions outlined under a Vegetation Management Plan. This may be the subject of a Planning Agreement within the meaning of section 93F of the *Environmental Planning and Assessment Act 1979*. Upon execution of the Planning Agreement, or other conservation mechanism to the satisfaction of the EESG, the Proponent shall inform the Secretary on the outcomes of such an agreement.

~~Where monitoring referred to in condition C3 indicates biodiversity outcomes are not being achieved, remedial actions (such as improved land management measures or changes to the size and/or location of the offset area) shall be developed in consultation with the EESG. Such remedial actions shall be documented under an addendum to the Biodiversity Offset Package and the addendum shall be submitted for the approval of the Secretary prior to the implementation of the addendum.~~

Should updates to the Nest Box Plan be required in accordance with condition E7, updates shall be undertaken in consultation with EESG.

C5. The Proponent shall ensure that groundwater dependent ecosystems outside the project footprint are not adversely affected by the design, construction and operation of the SSI.

HYDROLOGY AND HYDROGEOLOGY

C6. Except as may be provided by an EPL, the SSI shall be constructed and operated to comply with section 120 of the *Protection of the Environment Operations Act 1997* which prohibits the pollution of waters.

Stormwater Management

C7. The SSI shall be designed, and employ surface water management techniques, such that runoff volumes, rates and pollutant loads are maintained as far as practicable to pre-construction levels and there are no adverse effects to adjoining lands as a result of runoff.

The stormwater design shall be undertaken in consultation with the OEH and City of Newcastle, and shall have consideration of the *Newcastle Development Control Plan 2012*.

C8. The SSI shall be designed and constructed to incorporate operational stormwater management measures, including (but not limited to):

(a) areas of high sediment, areas of storage and use of oil and grease and areas containing nutrient loads (including the wash bays, provisioning sheds and servicing sheds) shall be separated from the general site stormwater system through the use of separate drainage systems, bunds and hardstands and subject to separate discharge to trade waste or re-use in the wash down bays;

(b) where connection to the reticulated sewer system is identified to not be feasible, subject to justification based on further investigations, wastewater from the administration buildings, toilets, showers, lunch rooms, etc. shall be managed through a water treatment plant and be disposed via irrigation into existing agricultural pasture land.

(c) site stormwater shall be directed into a drain on the western boundary of the SSI site and directed into one of three stormwater detention basins for treatment of suspended sediments and nutrients through floating wetlands, prior to its offsite discharge. This stormwater system shall be capable of treating at least a 1% AEP stormwater event; and
(d) access roads shall be provided with road side swales to provide treatment through flow attenuation and entrainment of suspended sediments.

C9. Prior to the commencement of construction, the Proponent shall, in consultation with the Water Group and EESG, prepare a **Stormwater Management Plan** and submit the plan for the approval for the Planning Secretary at least one month prior to the commencement of construction of the SSI. The Plan shall include but not necessarily be limited to:

(a) final details of operational stormwater management measures to be implemented for the SSI based on detailed design, including identification of offsite discharge locations;
(b) if required, identification of the water quality standards to which wastewater from the wastewater treatment plant would be treated to prior to its irrigation. The plan shall demonstrate that the water quality criteria to which the waste water would be treated to is suitable for irrigation purposes based on the land capability of the irrigation site (including nutrient loads, pH and salinity), considering existing baseline conditions and cumulative inputs from other irrigation sources to the site;
(c) identification of the water quality standards to which stormwater from the three stormwater detention basins would be treated to prior to offsite discharge with consideration of the receiving environment and relevant water quality standards such as *Managing Urban Stormwater: Environmental Targets* (DECC & CMA, October 2007); and
(d) monitoring, review and maintenance procedures to assess and maintain the operational stormwater integrity and performance of the SSI consistent with the requirements of condition C19.

Nothing in this condition precludes the Proponent from updating the Stormwater Management Plan presented in Appendix E (Stormwater Management Plan) or the document referred to in condition C19 to meet the requirements of this condition.

Prior to construction of the Turning Angle Works, the Proponent must provide a copy of the revised plan including the Turning Angle Works to the Environmental Representative for approval. The ER may approve minor updates to the plan without further consultation with public authorities.

Groundwater

C10. Excavation activities near the Hexham Swamp Nature Reserve shall be undertaken in a manner which prevents the drawdown of groundwater within the Nature Reserve to a level which results in desaturation of acid sulfate soils within the Nature Reserve.

C11. All drainage structures, including but not limited to pits, pipes, cess drains, sediment basins and detention basins, shall be designed and constructed so as to minimise long term connection with groundwater. The stormwater system components, including but not limited to detention basins and floating wetlands, shall be designed and constructed to ensure that there is no permanent interception of, and/or connection with groundwater.

Flooding

C12. The SSI shall be designed and constructed so that it does not result in flooding impacts greater than those predicted in the documents referred to in condition B1. The cumulative impacts of the SSI and the proposed ARTC Hexham Relief Roads shall be considered in these requirements.

C13. All buildings or structures below the 10% AEP level shall be constructed of flood compatible materials.

C14. Electrical supply and signalling locations associated with the operation of the SSI shall be elevated above the 1% AEP flood level and include a freeboard of 250 millimetres.

C15. The Proponent shall prepare a Flood Emergency Management Plan which sets out the management requirements and procedures for managing flood risks during the construction and operation of the SSI, including flood recovery measures. The Plan shall be prepared in consultation with City of Newcastle and EESG and be submitted to the Planning Secretary at least one month prior to the commencement of construction, or as otherwise agreed by the Planning Secretary.

Prior to construction of the Turning Angle Works, the Proponent must provide a copy of the revised plan including the Turning Angle Works to the Environmental Representative for approval. The ER may approve minor updates to the plan without further consultation with public authorities.

C16. Within 12 months of the commencement of construction, or as otherwise agreed by the Director-General, the Proponent shall consult with the landowner of Lot 100, DP 1044020, to develop feasible and reasonable measures for managing and/or mitigating flood impacts associated with the construction of the SSI to the residence located on the property. The Proponent shall forward a statement of agreed measures, including a timetable for implementation, to the Director-General within one month of reaching an agreement with the landowner. If there is a dispute regarding the proposed flood management measures, either party may refer the matter to the Director-General for resolution whose decision shall be final.

Watercourse Crossings

C17. All temporary and permanent watercourse crossings shall be designed in consultation with the NoW, and with the DPI (Aquaculture and Fisheries) where the crossing has the potential to impact on fish passage. Where feasible and reasonable, the crossings shall be consistent with the NoW's *Guidelines for Controlled Activities* and *Policy and Guidelines for Fish Friendly Waterway Crossings* (NSW Fisheries, 2004) and *Policy for and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures* (NSW Fisheries, 1999).

C18. The Proponent shall ensure that the upgrade of the Purgatory and Middle Creek crossings are designed to provide an equivalent hydraulic capacity to the existing culverts, not reduce the existing waterway area and to withstand heavy vehicle movements associated with the construction and operation of the SSI. The Proponent shall liaise with the City of Newcastle and the DPI in regards to the design and construction of the crossings.

Surface Water and Groundwater Monitoring Program

C19. A Surface Water and Groundwater Monitoring Program shall be prepared and implemented to monitor impacts on surface water and groundwater quality and hydrology. The Program shall be developed in consultation with the EPA, the Water Group and Hunter LLS and shall include, but not necessarily be limited to:

(a) identification of works and activities during construction of the SSI, including emergencies and spill events, that have the potential to impact on surface and groundwater water quality and groundwater depths and flows;
(b) identification of surface and groundwater monitoring locations which are representative of the potential extent of impacts from the construction and operation of the SSI on water quality and groundwater depths and flows (including watercourses, waterbodies, wetlands, drainage swales and licensed discharge points);
(c) a description of the parameters (including physico-chemical) and standards against which any changes to water quality will be monitored and assessed, having regard to the principles of the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000* (ANZECC, 2000);
(d) details of representative background monitoring of surface and groundwater quality parameters and groundwater depths and flows undertaken to date (or required to be undertaken) to establish baseline conditions;
(e) identification of 'trigger points' for further investigation or action to be taken;
(f) identification of the frequency and methodology of monitoring during background, construction and operation monitoring periods;
(g) details on how the results of monitoring would be recorded;
(h) details of how interactions with the ARTC Hexham Relief Roads Project and potential cumulative impacts would be monitored and managed;
(i) contingency and ameliorative measures in the event that adverse impacts to surface waters and groundwater are identified consequent to the construction and/or operation of the SSI; and
(j) methodology for reporting of the monitoring results to the Department and EPA.

Monitoring shall be undertaken in accordance with the requirements of the approved Construction Soil and Water Management Plan required under Condition E 63(d) and Operation Environment Management Plan required by condition F2.

The Program shall be submitted to the Planning Secretary for approval at least one month prior to the commencement of construction of the SSI, or as otherwise agreed by the Planning Secretary.

Prior to construction of the Turning Angle Works, the Proponent must provide a copy of the revised plan including the Turning Angle Works to the Environmental Representative for approval. The ER may approve minor updates to the plan without further consultation with public authorities.

Acid Sulfate Soils

C20. The Proponent shall ensure that all acid sulfate soils and acid generating material excavated on site is disposed offsite in an appropriately licensed landfill facility, unless proposed to be re-used on site. Any acid sulphate soils or acid generating material to be re-used on site shall be temporarily stored and treated on site to required standards in an appropriately lined and bunded storage area located above the 1% AEP flood level. Procedures for the treatment, temporary storage and monitoring of these materials shall be in accordance with the Acid Sulfate Soil Management Plan required to be prepared under condition E63 (d) (xi) of this approval.

C21. No acid sulfate soils or acid generating material shall be permanently stored on site, unless the material has been treated and validated as neutralised and the material is stored above the 1% AEP flood level and protected by appropriate erosion and sediment control measures, and as agreed to by the EPA and the Director-General.

HERITAGE

Aboriginal Heritage

C22. Prior to the commencement of construction the Proponent shall liaise with Registered Aboriginal Stakeholders on the conclusions and recommendations of the revised heritage assessments presented in Appendices J and K of the document referred to in condition B1 (c) of this approval, in relation to the sites identified as HS1 and HS2. Prior to the commencement of construction the Proponent shall submit evidence to the Director-General and OEH that the final mitigation approach for sites HS1 and HS2 (including opportunity for salvage or agreement that no further mitigation is required) has been determined in consultation with Registered Aboriginal Stakeholders.

Historic Heritage

C23. Prior to the commencement of pre-construction and construction activities in the vicinity of the junction of the Minmi to Hexham Railway and the Great Northern Railway, the Proponent shall prepare an Archaeological Assessment in accordance with the Heritage Council's *Archaeological Assessments Guideline* (1996). Should the assessment identify areas of potential archaeological resources, the Proponent shall further:

(a) prepare a Historic archaeological investigation program using a methodology prepared in consultation with the OEH (Heritage Branch), and to the satisfaction of the Director-General. This work should be undertaken by an archaeological heritage consultant as agreed by the Heritage Branch and approved by the Director-General. The nomination for the Excavation Director shall demonstrate ability to comply with the Heritage Council's *Criteria for the Assessment of Excavation Directors* (July 2011);

(b) report on the results of the Historic archaeological investigation program, including recommendations (such as for further archaeological work), in consultation with the Heritage Branch and to the satisfaction of the Director-General, and shall include, but not necessarily be limited to:

  (i) consideration of measures to avoid or minimise disturbance to archaeology, where archaeology of non-Aboriginal archaeological significance is found to be present,

  (ii) where impacts cannot be avoided, recommendations for any further investigations for archaeology of historical archaeological significance, and

  (iii) management and mitigation measures to ensure there are no additional impacts due to pre-construction and construction activities; and

(c) undertake any further archaeological excavation works recommended by the results of the Historic archaeological investigation program.

Within 12 months of completing the above work, unless otherwise agreed by the Director-General, the Proponent shall submit a report containing the findings of the excavations, including artefact analysis, and the identification of a final repository for finds, prepared in consultation with the Heritage Branch and to the satisfaction of the Director-General. A copy of the final report shall be submitted to the Heritage Council library.

HAZARDS AND RISKS

C24. Dangerous goods, as defined by the *Australian Dangerous Goods Code*, shall be stored and handled strictly in accordance with:

(a) all relevant Australian Standards;

(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and

(c) the *Environment Protection Manual for Authorised Officers: Bunding and Spill Management,* technical bulletin (EPA, 1997).

In the event of an inconsistency between the requirements listed from (a) to (c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

WASTE MANAGEMENT

C25. The Proponent shall ensure that all liquid and/or non-liquid waste generated on the site is assessed and classified in accordance with *Waste Classification Guidelines* (DECCW, 2009), or any future guideline that may supersede that document, and that it is appropriately handled.

C26. The Proponent shall maximise the reuse and/or recycling of waste materials generated on site as far as practicable, to minimise the need for treatment or disposal of those materials off site.

C27. The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste. This condition is independent of the operation of the Brancourts facility and Sewerage Treatment Plant.

C28. All waste materials removed from the site shall be appropriately tracked and shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.

UTILITIES AND SERVICES

C29. Utilities, services and other infrastructure potentially affected by construction of the SSI shall be identified prior to commencement of that part of construction which affects the item, to determine requirements for access to, diversion, protection, and/or support. Consultation with the relevant owner and/or provider of services that are likely to be affected by the SSI shall be undertaken to make suitable arrangements for access to, diversion, protection, and/or support of the affected infrastructure as required. The Proponent shall ensure that disruption to any service is minimised and shall be responsible for advising impacted service recipients prior to any planned disruption of service. The cost of any such arrangements shall be borne by the Proponent, unless otherwise agreed with the utility/service provider.

C30. Utilities, services and other infrastructure owners to be consulted shall include, but not be limited to, the Hunter Water Corporation, Jemena, Ausgrid, Optus and Brancourts.

PROPERTY AND BUSINESS IMPACTS

C31. Subject to agreement with the relevant property owner, any damage caused to property or infrastructure as a result of the SSI shall be rectified or the property owner compensated, within a reasonable timeframe, with the costs borne by the Proponent. This condition is not intended to limit any claims that the property owner may have against the Proponent.

ACCESS

C32. The Proponent shall not affect or alter any existing access routes currently in place between the OEH (NPWS) and landowners to the Hexham Swamp Nature Reserve, unless otherwise agreed to by the NPWS and landowners.

C33. The Proponent shall provide a new private access track (consistent with that described in the document referred to in condition B1 (c) to service properties located to the west and south of the SSI. The private access track shall utilise existing track footprints where practical.

C34. The SSI shall be designed so as not to preclude future pedestrian access across the site from the Hexham Railway Station to future industrial uses on the adjoining site.

C35. The SSI shall be designed and constructed with the objective of minimising adverse changes to existing access arrangements and services for other transport modes (including pedestrians and cyclists) and, where feasible and reasonable, facilitate an improved level of access and service to other transport modes comparable to the existing situation.

C36. The SSI shall be designed to not preclude the location of identified future proposals, including the future Richmond Vale Rail Trail and the F3 Freeway to Raymond Terrace upgrade. In particular, any changes to the F3 Freeway to Raymond Terrace upgrade concept design, necessitated by the SSI, shall be at the Proponent's cost except where those changes are as a result of works outside of the F3 Freeway to Raymond Terrace footprint identified in B1.

LIGHTING

C37. The Proponent shall ensure, where practicable, that all external lighting associated with the construction and operation of the SSI is mounted, screened and directed in such a manner so as not to create nuisance to residences. The lighting shall be the minimum level of illumination necessary and shall comply with the *Australian Standard AS 4282:1997 – Control of the Obtrusive Effects of Outdoor Lighting* and relevant Australian Standards in the series *AS/NZ 1158 – Lighting for Roads and Public Spaces*.

LANDSCAPING

C38. The Proponent shall undertake tree planting, where practicable, to screen views of the site from residences to the north and west of the site and from the viewpoints from the Pacific and New England Highways and the Hexham industrial/commercial area.

COMMUNITY CONTRIBUTIONS

C39. The Proponent must ensure that any voluntary arrangement it enters into with the City of Newcastle, in relation to the provision of a monetary contribution or other material public benefit, which is to be applied to a public purpose, is the subject of a Planning

Agreement within the meaning of section 93F of the EP&A Act. Upon execution of any Planning Agreement, the Proponent shall inform the Director-General on the outcomes of such an agreement.

SCHEDULE D
COMMUNITY INFORMATION, REPORTING AND AUDITING

COMMUNITY INFORMATION, CONSUTLATION AND INVOLVEMENT

Community Involvement

D1. The Proponent shall prepare and implement a **Community Communication Strategy** for the SSI. The Strategy shall be designed to provide mechanisms to facilitate communication between the Proponent (and its contractors), the Environmental Representative, City of Newcastle and the local community (broader and local stakeholders) on the detailed design, construction and environmental management of the SSI. The Strategy shall include, but not necessarily be limited to:

(a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;
(b) procedures and mechanisms for the regular distribution of information to stakeholders on the progress of the SSI and matters associated with environmental management;
(c) procedures and mechanisms through which stakeholders can discuss or provide feedback to the Proponent and/or Environmental Representative in relation to the environmental management and delivery of the SSI;
(d) procedures and mechanisms through which the Proponent can respond to any enquires or feedback from stakeholders in relation to the environmental management and delivery of the SSI; and
(e) procedures and mechanisms that would be implemented to resolve any issues/disputes that may arise between parties on the matters relating to the environmental management and delivery of the SSI. This may include the use of an appropriately qualified and experienced independent mediator.

Key issues to be addressed in the Community Communication Strategy should include, but not necessarily be limited to:

(a) traffic management (including construction access and construction vehicle management);
(b) noise and vibration mitigation and management;
(c) erosion, sedimentation and stormwater management;
(d) surface and groundwater management;
(e) air quality; and
(f) construction scheduling and progress on construction activities.

The Proponent shall maintain and implement the Strategy throughout construction of the SSI. The Strategy shall be submitted to the Planning Secretary for approval at least one month prior to the commencement of construction, or as otherwise agreed to by the Planning Secretary.

Prior to construction of the Turning Angle Works, the Proponent must provide a copy of the revised plan including the Turning Angle Works to the Environmental Representative for approval. The ER may approve minor updates to the plan without further consultation with public authorities.

Complaints and Enquiries Procedure

D2. Prior to the commencement of construction, the Proponent shall ensure that the following are available for community complaints and enquiries for the duration of construction:

(a) a 24 hour telephone number(s) on which complaints and enquiries about the construction and operation of the SSI may be registered;

(b) a postal address to which written complaints and enquiries may be sent;
(c) an email address to which electronic complaints and enquiries may be transmitted; and
(d) a mediation system for complaints unable to be resolved.

The telephone number, the postal address and the email address shall be published in newspaper(s) circulating in the local area both prior to the commencement of construction and prior to the commencement of operation. The above details shall also be provided on the website (links or dedicated pages) required by this approval.

Nothing in this condition precludes the Proponent from incorporating the requirements of this condition into, or utilising, an existing complaints and enquiries procedure administered by the Proponent, provided it is demonstrated to meet the requirements of this condition.

D3. The Proponent must prepare and implement a **Complaints Management System** consistent with *AS 4269 Complaints Handling* prior to the commencement of construction activities and must maintain the System for the duration of construction and for up to 12 months following completion of construction of the SSI.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached and whether mediation was required or used, must be maintained by the Proponent and included in a complaints register. The information contained within the System must be made available to the Director-General on request.

Nothing in this condition precludes the Proponent from incorporating the requirements of this condition into, or utilising, an existing complaints management system administered by the Proponent, provided it is demonstrated to meet the requirements of this condition.

Provision of Electronic Information

D4. A website providing information in relation to the SSI must be established before commencement of works and maintained for the duration of construction. Up-to-date information (excluding confidential commercial information) must be published before the relevant works commencing and maintained on the website or dedicated pages including:
(a) information on the current implementation status of the SSI;
(b) a copy of the documents listed in Condition B1 of this approval, and any documentation relating to any modifications made to the SSI or the terms of this approval;
(c) a copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval;
(d) a copy of each statutory approval, licence or permit required and obtained in relation to the SSI;
(e) a current copy of each document required under the terms of this approval, which must be published before the commencement of any works to which they relate or before their implementation, as the case may be; and
(f) a copy of the compliance reports required under Condition D5 of this approval.

Documents related to the construction of the project shall be maintained for a minimum of 24 months following the completion of construction of the Turning Angle Works.

Documents related to the operation of the project must be maintained for the life of the project.

COMPLIANCE TRACKING

D5. No later than 4 weeks before the commencement of construction, a **Compliance Monitoring and Reporting Program** prepared in accordance with the *Compliance Reporting Requirements* (Department 2018) must be endorsed by the **ER** and submitted to the Department.

D5A. Compliance reports of the SSI must be carried out in accordance with the *Compliance Reporting Requirements* (Department 2018). The Department must be notified of the commencement dates of construction and operation of the SSI in the pre-construction and pre-operational compliance reports.

D5B. The construction compliance report must provide details of any review of, and minor amendments made to, the **CEMP** (which must be approved by the **ER**), resulting from construction carried out during the reporting period.

D5C. The Proponent must make each compliance report publicly available and notify the Department in writing when this has been done.

D5D. The **Compliance Monitoring and Reporting Program** in the form required under **Condition A30** of this approval must be implemented for the duration of construction and for a minimum of one (1) year following commencement of operation, or for a longer period as determined by the Planning Secretary based on the outcomes of independent audits and regular compliance reviews submitted through **Compliance Reports**. If staged operation is proposed, or operation is commenced of part of the SSI, the **Compliance Monitoring and Reporting Program** must be implemented for the relevant period of each stage or part of the SSI.

Incident Reporting

D6. The Department must be notified in writing to compliance@planning.nsw.gov.au immediately after the Proponent becomes aware of an incident. The notification must identify the SSI (including application number and the name of the SSI), and set out the location and nature of the incident.

D7. The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition D6, within such period as the Director-General may require.

Note: Nothing in this approval removes the Proponent's obligation under Section 148 of the Protection of the Environment Operations Act 1997 to notify the appropriate regulatory authority (as defined under Section 6 of the Protection of the Environment Operations Act 1997) where a pollution incident occurs in the course of the development so that material harm to the environment is caused or threatened

SCHEDULE E
CONSTRUCTION ENVIRONMENTAL MANAGEMENT

BIODIVERSITY

Clearing

E1. The Proponent shall ensure that clearing of native vegetation and infilling of SEPP 14 Wetland No. 833 is limited to the minimal extent required for the construction and operation of the SSI, and no greater than 12 hectares (including SEPP 14 wetlands).

E2. The Proponent shall implement all mitigation measures as identified in the Construction Flora and Fauna Management Plan (condition E63 (b)), to minimise the potential for damage to native vegetation (particularly threatened species and endangered ecological communities and their habitat) not proposed to be cleared as part of the SSI, to ensure that there is no incursion into, or clearing of the vegetation.

E3. The Proponent shall mark areas of endangered ecological communities and threatened species habitat not to be impacted by the SSI with flagging tape or similar prior to commencing construction to ensure that there is no incursion into or clearing of the areas.

E4. Any areas temporarily disturbed during construction (including access tracks and compound sites) shall be rehabilitated to a standard equal to or better than the existing condition, as soon as feasible and reasonable following the completion of construction activities in the affected location. Replanting of affected vegetation shall be undertaken using locally occurring native species.

E5. The Proponent shall ensure that any coarse woody debris removed from the site, including timber from felled trees (particularly hollow bearing timber), shall be relocated to the Northern Offset site as identified in Appendix G of the document referred to in condition B1 (c) of this approval, for the enhancement of the ecological values of that site.

Pre-clearing surveys

E6. Prior to construction, pre-clearing surveys and inspections for threatened flora and fauna species and habitat features (including hollow bearing trees) shall be undertaken. The surveys and inspections, and any subsequent relocation of species, shall be undertaken under the guidance of a suitably qualified and experienced ecologist. The methodology for pre-clearance surveys shall be incorporated into the Construction Flora and Fauna Management Plan (condition E63(b)).

The Proponent is to undertake pre-clearing surveys prior to commencement of construction of the Turning Angle Works.

E7. Should pre-clearing surveys reveal the need to remove tree hollows to construct and/or operate the SSI, the Proponent shall consider the need for the preparation of a **Nest Box Plan**. If a Plan is required, it shall be included as part of the Biodiversity Offset Package required by condition C4 and detail the number and type of nest boxes to be installed, which shall be justified based on the number and type of hollows removed, the density of hollows in the area to be cleared and in adjacent areas, and the availability of adjacent food resources. The Plan shall also consider the relocation

of any hollows removed from the site to provide for potential nesting habitat. The Plan shall also provide details of maintenance protocols for any nest boxes installed including responsibilities, timing and duration.

Litoria aurea (Green and Golden Bell Frog)

E8. The Proponent shall prepare a management plan that identifies the strategies that would be implemented in the event that the Green and Golden Bell Frog is identified during construction. The plan shall be developed in consultation with the OEH and include details on the mitigation measures to be implemented to minimise the risk to this species, including direct and indirect impacts to its habitat. The plan is to be submitted to the Director-General at least one month prior to construction, unless otherwise agreed by the Director-General. Nothing in this condition precludes the inclusion of this plan in the Flora and Fauna Management Plan (condition E63(b)).

E9. In the event that the Green and Golden Bell Frog is identified to occur during construction, all work in the vicinity of the sighting shall stop to the extent necessary to allow the procedures set out in the management plan (condition E8) to be implemented.

Flora and Fauna Mitigation Measures

E10. In the event that other threatened fauna or flora species are identified during construction, all work in the vicinity of the sighting shall stop and management measures to minimise the risk to the species implemented in accordance with the procedure required by condition E63 (b)(iv).

E11. The Proponent shall implement measures to minimise impacts to fauna species and their habitat as far as practicable (and where feasible and reasonable), during the construction of the SSI, including:

(a) protocols for the removal and relocation of fauna during clearing, including a two-stage clearing strategy;
(b) establishing “no go” zones, including at freshwater wetland and coastal saltmarsh sites outside of the construction zone;
(c) provision of setbacks;
(d) presence of a suitably qualified and experienced ecologist to oversee clearing activities and facilitate fauna rescues and relocation;
(e) timing construction to be outside of the breeding season of threatened species with the potential to occur on the site;
(f) maintaining and reinstating habitat features (such as large woody debris, bush rock, leaf litter/mulch and topsoil etc.);
(g) developing measures for minimising the incidence of fauna being trapped in excavation cells (such as minimising the length of time that cells are left exposed) and measures to deal with trapped or injured fauna;
(h) implementing drainage controls to prevent the extension of *Gambusia holbrooki* (Eastern Mosquitofish) into the Hexham Swamp Nature Reserve; and
(i) progressive re-vegetation of areas temporarily disturbed by construction.

The Proponent is to implement the specific flora and fauna mitigation measures prior to commencement of construction of the Turning Angle Works.

E12. Where reasonable and feasible, all private access tracks and internal service roads are to be at least 50 metres from SEPP 14 wetlands and the Hexham Swamp Nature Reserve, ~~unless this is in conflict with condition C33,~~ or as otherwise agreed by the Planning Secretary, or as specified at an alternative distance in the documents listed under conditions B1 (c) of this approval.

HERITAGE

Aboriginal Heritage

E13. During detailed design and construction of the SSI, impacts to Aboriginal objects shall, where feasible and reasonable, be avoided and minimised, under the guidance of an appropriately qualified archaeological heritage consultant. Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan (condition E63(e)).

E14. Prior to the commencement of pre-construction and/or construction activities, the Proponent shall provide registered Aboriginal stakeholders with the opportunity to collect the shell material located in fill material near the southern end of the proposed SSI and for the material to be lodged in a keeping place in accordance with condition E63 (e)(i)V.

E15. Prior to the commencement of pre-construction and/or construction activities that will impact on HS1 and HS2, the Proponent shall provide for an appropriately qualified archaeological heritage consultant and registered Aboriginal stakeholders to record and collect any surface artefacts which would be affected by the construction of the SSI. The artefacts shall be lodged in a keeping place as identified under condition E63 (e)(i)V.

E16. The Proponent shall erect a protection zone around the rise of land near to Woodlands Close to prevent incursion into the HS1 area during the pre-construction and construction phases of the SSI. The area to be protected shall be delineated in consultation with the registered Aboriginal stakeholders and an appropriately qualified archaeological heritage consultant.

Historic Heritage

E17. The Proponent shall prepare an Interpretation Plan to ensure that the proposed plaque and salvaged building materials are used appropriately and placed in appropriate locations to ensure that the sites users are able to understand and appreciate the sites history and heritage. The Interpretation Plan will be prepared by an appropriately qualified interpretation specialist and will be submitted to the Heritage Council for review prior to the installation of these interpretive features.

NOISE AND VIBRATION

Construction Hours

E18. Construction activities (including the delivery of materials) associated with the SSI shall be undertaken during the following standard construction hours:

(a) 7:00 am to 6:00 pm Mondays to Fridays, inclusive; and
(b) 8:00 am to 1:00 pm Saturdays;
(c) at no time on Sundays or public holidays.

E19. Construction activities (including the delivery of materials) outside of the prescribed construction hours identified in condition E18 may be undertaken in the following circumstances:

(a) construction works where the cumulative air-borne noise generated is:

(i) no more that 5 dB(A) above the rating background level at any residence in accordance with the *Interim Construction Noise Guideline* (DECC, 2009); and

(ii) no more than the noise management levels specified in Table 3 of the *Interim Construction Noise Guideline* (DECC, 2009) at other sensitive receivers;

(b) where a negotiated agreement has been reached with affected receivers as the prescribed noise and vibration levels cannot be achieved;

(c) for the delivery of materials required outside these hours by the NSW Police Force, RMS or other authorities for safety reasons;

(d) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or

(e) works approved through an EPL (including rail possessions) and in accordance with an out-of-hours works procedure.

E20. Except as expressly permitted by an EPL, high noise impact activities and works resulting in impulsive or tonal noise emissions (such as rock braking, rock hammering and pile driving) shall only be undertaken:

(a) between the hours of 8:00 am to 5:00 pm Monday to Friday;

(b) between the hours of 8:00 am to 1:00 pm Saturday; and

(c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.

For the purposes of this condition 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work which is the subject of this condition.

Construction Noise and Vibration

E21. The Proponent shall implement all reasonable and feasible noise mitigation measures with the aim of achieving the construction noise management levels detailed in the *Interim Construction Noise Guideline* (DECC, 2009). Any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Plan required under condition E63 (c) of this approval.

Note: The Interim Construction Noise Guideline identifies 'particularly annoying' activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction noise management levels.

E22. The SSI shall be constructed with the aim of achieving the following construction vibration goals and ground-borne noise levels:

(a) for structural damage vibration, the vibration limits set out in the German Standard *DIN 4150 Part 3-1999 Structural Vibration in Buildings - Effects on Structures*;

(b) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (DEC, 2006); and

(c) the ground-borne noise levels set out in the *Interim Construction Noise Guideline* (DECC, 2009).

E23. Wherever feasible and reasonable, piling activities shall be undertaken using quieter alternative methods than impact or percussion piling, such as bored piles or vibrated piles.

E24. The Proponent shall identify and consult with potentially-affected community, religious, educational institutions and vibration-sensitive businesses and critical working areas, including the Church on Old Maitland Road, Hexham, and where feasible and reasonable ensure that noise generating construction works in the vicinity of the receivers are not timetabled during sensitive periods, unless appropriate other arrangements are made.

E25. During construction, Proponents of other construction works in the vicinity of the SSI shall be consulted, and feasible and reasonable steps taken to coordinate works to minimise impacts on, and maximise respite for, affected sensitive receivers.

Rail Possessions

E26. The Proponent shall prepare and implement a management plan for each rail possession where construction works are being undertaken. The Plan shall include, but not be limited to:

(a) a description of the works to be undertaken during the rail possession;
(b) justification for the works to be undertaken during the possession, including reasons as to why the works are unable to be undertaken during standard construction hours;
(c) timing and duration of the possession;
(d) an out-of-hours work (OOHW) protocol for the assessment, management and approval of works outside of standard construction hours as defined in condition E18 including a risk assessment process under which an Environmental Representative may approve out-of-hour construction activities deemed to be of low environmental risk and refer high risk works for the Director-General's approval. The OOHW protocol shall detail standard assessment, mitigation and notification requirements for high and low risk out-of-hour works, and detail a standard protocol for referring applications to the Director-General;
(e) a construction noise impact statement detailing the predicted noise levels, and specific management measures in relation to properties where noise levels are predicted to exceed the noise criteria in the *Interim Construction Noise Guidelines* (DECC, 2009)*;* and
(f) a consultation and notification process for affected sensitive receivers.

The Plan shall be submitted to the Director-General at least one month prior to the rail possession, unless otherwise agreed by the Director-General.

Works undertaken during a rail possession shall be limited to those necessary to facilitate critical work on or in the immediate vicinity of the rail line which cannot otherwise be undertaken due to safety issues and/or track reliability.

SOIL, WATER QUALITY AND HYDROLOGY

Sedimentation and Erosion

E27. Fluvial geomorphology, soil and water management measures consistent with the recommended mitigation measures in Appendix E of the document referred to in condition B1 (c) and the measures in *Managing Urban Stormwater - Soils and Construction Volumes 1 and 2, 4th Edition* (Landcom, 2006) shall be employed prior to and during the construction of the SSI (including prior to clearing) to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.

E28. Facilities shall be provided (including at all exit points leading onto public roads) to minimise tracking mud, dirt or other material onto a public road or footpath. In the event of any spillage, the Proponent shall remove the spilled material as soon as practicable within the working day of the spillage.

E29. Where reasonable and feasible, the Proponent shall undertake the upgrade of waterway crossing during periods of dry weather.

Contamination

E30. Prior to the commencement of construction the Proponent shall undertake further investigations as recommended in the Remediation Action Plan included in Appendix H of the document referred to in condition B1 (c), to confirm the presence of contaminants on site, based on detailed design requirements. Upon confirmation of the contaminated areas on site, the Proponent shall update the Remediation Action Plan as required to take into account any new or updated procedures relevant to any new areas of contamination identified and remediate the identified sites in accordance with the updated Remediation Action Plan, prior the commencement of construction in the impacted areas.

E31. Where unexpected contaminated materials are identified during construction works, these materials would be identified, managed, treated and disposed of in accordance with the procedures outlined in the updated Site Management Plan. Where required, the Proponent shall engage a suitably qualified contaminated land consultant to prepare an addendum to the Validation Report referred to in condition E33. to cover the additional areas of contamination identified and additional remediation measures undertaken. The Proponent shall also engage an accredited NSW Site Auditor to prepare an updated Site Audit Report to assess the addendum Validation Report and submit a copy of both reports to the Planning Secretary and City of Newcastle.

E32. Prior to the reuse of ballast, chitter or tailings within the existing railway corridor, the Proponent shall undertake sampling and testing of the materials to establish whether:

(a) the materials are of a quality suitable for the intended reuse; and

(b) the removal and reuse of the materials would not result in contaminated runoff.

Materials that are not suitable for reuse are to be classified in accordance with the *Waste Classification Guidelines* (DECCW, 2009) or any superseding document.

E33. The Proponent shall engage a suitably qualified contaminated land consultant to prepare a Validation Report upon completion of the remediation of the areas identified in the Remediation Action Plan. The Validation Report shall verify that the site has been remediated in accordance with the Remediation Action Plan (if and as amended) and to a standard consistent with the intended land use. The Proponent shall engage an accredited NSW Site Auditor to prepare a Site Audit Report to determine the appropriateness of the Validation Report. The Validation Report and Site Audit Report shall be submitted to the Planning Secretary within six months of completion of remediation works. A copy of the reports shall also be submitted to the City of Newcastle for its information.

Riparian and Aquatic Ecology

E34. Impacts to riparian areas shall be minimised to the greatest extent practicable. Riparian vegetation in and around watercourses affected by the construction of the SSI shall be restored and rehabilitated in consultation with NoW and DPI (Aquaculture and Fisheries). Restoration and rehabilitation measures, including timeframes and

reporting on completion of works, shall be included in the Construction Flora and Fauna Management Plan as required by (condition E63(b)).

E35. Construction activities undertaken in and around watercourses (including creek crossings) shall be consistent with the relevant NoW's *Guidelines for Controlled Activities*, including, but not limited to, 'In-stream Works', 'Outlet Structures', 'Riparian Corridors', 'Vegetation Management Plans', and 'Watercourse Crossings', or any guidelines which supersede these documents.

E36. The Proponent shall schedule earthworks and any works on hydraulic controls to ensure that connection between the Hunter River and Hexham Swamp floodplain is retained throughout construction.

Flooding

E37. The Proponent shall ensure that all fuels, dangerous goods and hazardous substances used in the construction of the SSI are stored in bunded locations above the 1% AEP flood level, unless otherwise agreed by the Director-General.

E38. The Proponent shall ensure that all areas used for the storage and treatment of acid sulfate soils during construction of the SSI are located or elevated above the 1% AEP flood level, unless otherwise agreed by the Director-General.

Groundwater

E39. Changes to hydrogeology, including groundwater depths, interception and connection with surface water, shall be minimised to the greatest extent practicable.

E40. Dewatered groundwater shall not be discharged from the construction site or applied on site unless in accordance with an EPL.

TRANSPORT AND ACCESS

Road Dilapidation

E41. The Proponent shall engage an independent and qualified person(s) to prepare Road Dilapidation Reports for the Tarro Interchange prior to their use by construction heavy vehicles. The report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to traffic and transport related to the construction of the SSI. The Report shall be submitted to the relevant road authority(ies) for review prior to use of the roads for construction.

Following completion of construction, a subsequent report shall be prepared to assess any damage caused by the construction of the SSI.

The Proponent shall ensure that any measures to restore or reinstate roads affected by the construction of the SSI are undertaken in a timely manner, in accordance with the requirements, and to the satisfaction, of the relevant road authority(ies), and at the full expense of the Proponent.

Any pavement failures arising from construction traffic that result in safety concerns for other road users, shall be repaired in accordance with the relevant road authority's specifications no later than 48 hours following notification by the relevant road authority.

The Proponent must ensure that Road Dilapidation Reports are prepared prior to commencement of construction of the Turning Angle Works.

Construction Access

E42. The Proponent shall construct, in the event it is responsible, a new T-intersection on Anderson Drive (Tarro Interchange) on the southern side of the New England Highway, in accordance with the requirements of the RMS, including entering into a Works Authorisation Deed with the RMS. The T-intersection at the Tarro Interchange shall be linked to Woodlands Close via a construction access road as detailed in the document referred to in condition B1 (c).

E43. The Proponent shall design, in the event it is responsible, the T-intersection and construction access road and all associated traffic control signals and other structures in accordance with current AustRoads Standards and to the satisfaction of the relevant road authority(ies), and ensure that it is capable of accommodating the proposed construction traffic generated by the SSI and proposed ARTC Hexham Relief Roads project.

E44. The Proponent shall, in the event it is responsible, seal the construction access road prior to commencement of use by construction traffic to provide all weather access.

E45. Construction traffic shall not be permitted to access the SSI site via the New England Highway/Woodlands Close intersection at any time, ~~except in accordance with condition E47, or~~ unless otherwise approved by RMS.

E46. Construction heavy vehicle traffic shall not utilise Anderson Drive between Woodberry Drive and its intersection with the New England Highway near Glenwood Drive, Tarro, unless otherwise approved under the Construction Traffic and Access Management Plan required by condition E63 (a).

~~E47. Access (including heavy vehicles) to the construction site via Woodlands Close is permitted for up to 12 weeks during night time hours and on specified days of the week in accordance with a Traffic Control Plan to be approved by RMS and City of Newcastle. In the event of delays (eg. due to wet weather, materials supply, equipment availability, industrial action etc.), access via Woodlands Close may need to be extended beyond 12 weeks to enable completion of the Tarro interchange, subject to approval by RMS. Written notice would be given to the Director-General and City of Newcastle of any RMS approved extension.~~

E48. During construction of the SSI, the Proponent shall take all feasible and reasonable measures to minimise impacts on intersection performance and maintain the existing levels of service. Where modifications to intersections are required to maintain intersection performance, the Proponent shall obtain the necessary approvals from the relevant road authority.

E49. All construction works associated with the T-intersection on Anderson Drive (Tarro Interchange), Woodlands Close and the construction access road must be at no cost to the relevant road authorities, and to the satisfaction of the relevant road authorities.

E50. The Proponent shall ensure as far as practicable that construction heavy and over-sized vehicles associated with the construction of the SSI adhere to nominated

haulage routes identified in the Construction Traffic and Access Management Plan (condition E63 (a)).

E51. The Proponent shall ensure as far as practicable that all construction vehicles using public roads are maintained to prevent any loss of load, whether dust, liquid or soils.

E52. Safe pedestrian and cyclist access through or around worksites shall be maintained during construction. In circumstances where pedestrian and cyclist access is restricted due to construction related activities, a feasible and reasonable alternate route shall be provided and signposted.

Private Property Access and Infrastructure

E53. Access to private property shall be maintained during construction, unless otherwise agreed with the property owner in advance. Where access to a property is to be affected by construction of the SSI, the Proponent shall provide an alternative access of a standard that is at least equivalent to that currently existing and meets relevant road safety standards, prior to commencement of construction, unless otherwise agreed with the property owner. Details for provision of altered access shall be determined in consultation with the landholder.

E54. Subject to agreement with the relevant landowner, a landowner's access that is physically affected by the SSI shall be reinstated to at least an equivalent standard upon completion of construction of the SSI, in consultation with the property owner.

AIR QUALITY

E55. The Proponent shall construct the SSI in a manner that minimises, as far as practicable, dust emissions from the site, including wind-blown and traffic-generated dust, dust from stockpiles, and dust from the tracking of materials from the construction site onto public roads.

E56. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all feasible and reasonable dust mitigation measures (including temporary cessation of relevant works) such that emissions of visible dust cease.

E57. The Proponent shall ensure that plant and equipment used in connection with the construction of the SSI is maintained and operated in a proper and efficient condition to minimise air quality impacts.

VISUAL AMENITY

E58. The SSI shall be constructed in a manner that minimises, as far as practicable, visual impacts resulting from construction sites, including retaining existing vegetation around the perimeter of construction sites, where feasible and reasonable, providing temporary landscaping or screening, and minimising light spillage.

ANCILLARY FACILITIES

E59. Unless otherwise approved by the Director-General, Ancillary Facilities shall:
(a) be located more than 50 metres from a waterway, SEPP 14 wetland or the Hexham Swamp Nature Reserve;
(b) be located within or in close proximity to the construction footprint for the SSI;

(c) be sited on relatively level land;
(d) be separated from nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant);
(e) not require native vegetation clearing beyond that already required by the SSI;
(f) not impact on known heritage items (including areas of archaeological sensitivity) beyond those already impacted by the SSI;
(g) not unreasonably affect the land use of adjacent properties;
(h) be above the 10% AEP flood level unless a contingency plan to manage flooding is prepared and implemented; and
(i) provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours.

The location of the ancillary facilities shall be identified in the Construction Environmental Management Plan (condition E62) and include consideration of the above criteria. Where the above criteria cannot be met for any proposed ancillary facility, the Proponent shall demonstrate to the satisfaction of the Director-General that there will be no significant adverse impact from that facility's construction. Such assessment(s) can be submitted separately or as part of the Construction Environmental Management Plan.

The Director-General's approval is not required for the construction site compounds already identified in the document referred to in condition B1 (c) of this approval

E60. All Ancillary Facilities shall be rehabilitated to at least their pre-construction condition, unless otherwise agreed by the landowner where relevant.

ENVIRONMENTAL REPRESENTATIVE

E61. Prior to the commencement of construction of the SSI, or as otherwise agreed by the Planning Secretary, the Proponent shall nominate for the approval of the Planning Secretary a suitably qualified and experienced Environment Representative(s) that is independent of the design (including preparation of documentation referred to condition B1, and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Planning Secretary. The Environment Representative(s) shall:
(a) be the principal point of advice in relation to the environmental performance of the SSI;
(b) monitor the implementation and outcome of all environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans and programs;
(c) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and all other licences and approvals related to the environmental performance and impacts of the SSI;
(d) ensure that environmental auditing is undertaken in accordance with the requirements of condition D5A of this approval and the Proponent's Environmental Management System(s);
(e) be given the authority to approve/reject minor amendments to the Construction Environment Management Plan. What constitutes a "minor" amendment shall be clearly explained in the Construction Environment Management Plan required under condition E62;

(f) be given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur; and

(g) be consulted in responding to the community concerning the environmental performance of the SSI where the resolution of points of conflict between the Proponent and the community is required.

The Environmental Representative must be retained for the duration of the construction of the Turning Angle Works. If the Environmental Representative previously engaged by this condition has been discharged from the SSI, a new Environmental Representative must be nominated to and approved by the Planning Secretary.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

E62. Prior to the commencement of construction, the Proponent shall prepare and (following approval) implement a Construction Environmental Management Plan for the SSI. The Plan shall be prepared in accordance with the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004) and outline the environmental management practices and procedures to be followed during construction, and shall include, but not necessarily be limited to:

(a) a description of all relevant activities to be undertaken during construction of the SSI, including scheduling;

(b) statutory and other obligations that the Proponent is required to fulfil during construction including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies. Evidence of consultation with relevant public authorities shall be included;

(c) a description of the roles and responsibilities for all relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that all employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;

(d) identification of ancillary facility site locations, including an assessment against the location criteria outlined in condition E59;

(e) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase and details of how environmental performance would be monitored and managed to meet acceptable outcomes including the actions to be undertaken to address identified potential adverse environmental impacts. In particular, the following environmental performance issues shall be addressed in the Plan:

(i) measures to monitor and manage dust emissions including dust generated by haulage trucks, traffic on unsealed internal access roads and stockpile management,

(ii) measures to monitor and manage waste (solid and liquid) generated during construction including, but not necessarily limited to, identification of potential waste streams, general procedures for waste classification, waste management and mitigation measures, use of secondary waste material in construction wherever feasible and reasonable, and procedures for dealing with green waste,

(iii) measures to monitor and manage spoil and fill including earthworks volumes, details of how spoil and fill would be handled, stockpiled, classified, used and disposed of, and a stockpile management protocol detailing location criteria that would guide the placement of stockpiles and

minimum management measures (including rehabilitation) that would be implemented to avoid and/or minimise amenity impacts to surrounding residents and environmental risks (including to surrounding watercourses and wetlands), and

(iv) measures to monitor and manage hazard and risks including emergency management;

(f) measures for rehabilitating construction disturbance areas that are not required for ongoing operations including construction compounds;

(g) details of community complaints handling procedures and community involvement strategies during construction, consistent with the requirements of conditions D1 and D2 of this approval,

(h) details of compliance and incident management and reporting consistent with the requirements of conditions D5, D6 and D7;

(i) procedures for the periodic review and update of the Construction Environmental Management Plan as necessary (including where minor changes can be approved by the Environmental Representative); and

(j) the additional Plans listed under condition E63.

The Plan shall be submitted for the approval of the Planning Secretary at least one month prior to the commencement of construction, or within such period otherwise agreed by the Planning Secretary. Construction works shall not commence until written approval has been received from the Planning Secretary.

Prior to construction of the Turning Angle Works, the Proponent must provide a copy of the revised plan including the Turning Angle Works to the Environmental Representative for approval.

Note: The approval of a Construction Environmental Management Plan does not relieve the Proponent of any requirement associated with this infrastructure approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this infrastructure approval, the requirements of this infrastructure approval prevail.

E63. As part of the Construction Environment Management Plan for the SSI required under condition E62 of this approval, the Proponent shall prepare and implement the plans listed at (a) to (f) below. Where a plan is required to be prepared in consultation with an authority or stakeholders, the plan shall provide details on the consultation undertaken including any comments received and where these have been addressed in the plan.

(a) A **Construction Traffic and Access Management Plan** to manage construction traffic and access impacts of the SSI and minimise disruptions to local traffic movements. The Plan shall be developed in consultation with the relevant road authority(ies) and include, but not necessarily be limited to:

(i) identification of construction traffic and haulage routes and quantification of projected construction traffic volumes (including light, heavy and over-dimensional/ over mass sized vehicle movements, and spoil haulage), including any necessary route or timing restrictions on oversized loads. Construction traffic volumes and haulage routes should be detailed for the proposed T-intersection at the Tarro Interchange and New England Highway/Woodlands Close;

(ii) details of the construction program for the T-intersection at the Tarro Interchange and construction access road connecting the intersection to Woodlands Close;

(iii) a description of the site access arrangements for light, heavy and over-sized vehicles prior to and upon completion of the T-intersection at the

Tarro Interchange and construction access road connecting the intersection to Woodlands Close;

(iv) a Vehicle Movement Plan and Traffic Control Plans;

(v) a protocol for minimising the cumulative construction traffic impacts of the SSI and proposed ARTC Hexham Relief Roads project, prepared in consultation with ARTC;

(vi) methods for advising motorists of construction activities at the T-intersection on Anderson Drive (Tarro Interchange);

(vii) details of the traffic management measures and key warning signage to be installed at the T-intersection on Anderson Drive (Tarro Interchange);

(viii) construction staff parking requirements and the location(s) of proposed parking facilities;

(ix) details of all temporary road closures and detours and measures to minimise impacts on local traffic;

(x) a description of any proposed changes to pedestrian access at Woodlands Close, including measures to minimise impacts on pedestrian access;

(xi) a driver code of conduct; and

(xii) mechanisms for the monitoring, review and amendment of this plan.

(b) A **Construction Flora and Fauna Management Plan** to detail how construction impacts on ecology will be minimised, managed and monitored. The Plan shall be developed in consultation with the EESG and the Water Group and shall include, but not necessarily be limited to:

(i) details of pre-construction surveys required to verify the construction boundaries/footprint of the SSI based on detailed design and to confirm the vegetation to be cleared as part of the SSI (including threatened flora and fauna species, endangered ecological communities, riparian vegetation and tree hollows);

(ii) details on the location (including plans) of all native vegetation communities, threatened flora and fauna species and their habitat, and endangered ecological communities to be impacted by the SSI;

(iii) details of mitigation measures to be implemented during construction to minimise impacts on native fauna and vegetation (particularly threatened species and endangered ecological communities and their habitats), including measures to be implemented in those areas that will not be cleared. Measures shall include, but not necessarily be limited to, the mitigation measures set out in this infrastructure approval, delineation of sensitive areas, a protocol for the removal and relocation of fauna during clearing, fauna rescue procedure, appropriate topsoil management, erosion and sediment control, and construction worker education;

(iv) a procedure for dealing with unexpected finds of threatened species and endangered ecological communities and their habitat identified during construction, including stopping works and notification to the EESG and the Department, determination of appropriate mitigation measures in consultation with the EESG (including relevant re-location measures), and updating of biodiversity offset requirements consistent with condition C4;

(v) procedures for clearing blockages in waterways resulting from construction of the SSI;

(vi) weed management measures focusing on early identification of invasive weeds and effective management controls;

(vii) proposed revegetation and rehabilitation measures, including identification of flora species and sources, completion criteria and measures for the management and maintenance of rehabilitated/ revegetated areas;

(viii) a description of how the effectiveness of management measures would be monitored and linked to the Ecological Monitoring Program required under condition C3; and
(ix) mechanisms for the monitoring, review and amendment of this plan.

(c) A **Construction Noise and Vibration Management Plan** to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall include, but not necessarily be limited to:
(i) identification of the nearest sensitive receivers and relevant construction noise and vibration goals applicable to the SSI;
(ii) identification of key noise and vibration generating construction activities (based on representative construction scenarios) that have the potential to impact on surrounding sensitive receivers;
(iii) details on predicted worst-case construction noise impacts, including traffic noise and cumulative noise impacts associated with on-site construction activities and construction of the adjacent proposed HRR project;
(iv) identification of all feasible and reasonable measures for minimising construction noise and achieving the relevant noise management goals at sensitive receivers (including construction traffic noise impacts) required by condition E21;
(v) procedures and mitigation measures to ensure relevant vibration criteria are achieved, including applicable buffer distances for vibration intensive works, use of low-vibration generating equipment/vibration dampeners or alternative construction methodology, and pre- and post- construction dilapidation surveys of sensitive structures where vibration is likely to result in damage to structures;
(vi) a protocol for minimising the cumulative construction noise and vibration impacts of the SSI and proposed ARTC Hexham Relief Roads project, prepared in consultation with ARTC;
(vii) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints;
(viii) a safety risk assessment to determine the availability of safe alternatives to 'beeper' type reversing or movement alarms on vehicles, plant and equipment used during the construction of the SSI;
(ix) a program and procedures for construction noise and vibration monitoring indicating monitoring frequency and location, monitoring methods, responsibilities for monitoring and assessment, methods for recording and reporting monitoring results, and procedures to be followed where exceedances of relevant noise and vibration goals are detected; and
(x) mechanisms for the monitoring, review and amendment of this Plan.

(d) A **Construction Soil and Water Management Plan** to manage surface water and groundwater impacts during the construction of the SSI. The Plan shall be developed in consultation with the City of Newcastle, the Water Group and Hunter-Central Rivers CMA and include, but not necessarily be limited to:
(i) surface water and groundwater impact assessment criteria consistent with the principles of the Australian and New Zealand Environment Conservation Council (ANZECC) guidelines;
(ii) identification of all potential sources of water pollution and contaminants and details on the mitigation measures to be implemented to prevent the discharge of pollutants and contaminants from the SSI site, including saline and acid sulphate soils, and groundwater contaminants;

(iii) details of the control measures to be employed to minimise surface and groundwater impacts, including drawdown of groundwater levels and connections with surface waters;
(iv) management measures to be used to minimise surface and groundwater impacts, including identification of water treatment measures and discharge points, details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed; erosion and sediment control measures; salinity control measures and the consideration of flood events;
(v) management measures for contaminated material and a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction;
(vi) details on the methods for managing surface water runoff (including inlets and outlets and their capacity) and any accumulation of groundwater (including from excavation and dewatering) and surface water, including procedures for handling, treatment and disposal and/or reuse;
(vii) details of how construction activities would be managed and mitigated to minimise erosion and sedimentation, consistent with condition E27;
(viii) a program for reporting on the effectiveness of the water management measures and sediment and erosion controls against performance criteria; including procedures for rectifying any non-compliances;
(ix) water quality monitoring consistent with the requirements of condition C19;
(x) contingency plans to be implemented in the event of major fuel spills or other chemicals;
(xi) an Acid Sulfate Soils Management Plan consistent with the *Acid Sulfate Soils Manual*, including a contingency plan to deal with the unexpected discovery of actual or potential acid sulfate soils, including procedures for the investigation, handling, treatment and management of such soils and water seepage;
(xii) a contingency plan in the event that groundwater levels are observed to fall below the top of areas defined as containing potential acid sulfate soils;
(xiii) a water balance plan detailing the source and security of construction water supply, water use on site, and water and wastewater management on site;
(xiv) measures to minimise stream hydrology impacts, including measures to stabilise bank structures where required and details of proposed buffer zones adjacent to waterways;
(xv) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any non-compliance can be rectified; and
(xvi) mechanisms for the monitoring, review and amendment of this Plan

(e) a **Construction Heritage Management Plan** to detail how construction impacts on Aboriginal and Historic heritage will be minimised and managed. The Plan shall be developed in consultation with the EESG and registered Aboriginal stakeholders (for Aboriginal heritage), and include, but not necessarily be limited to:
(i) In relation to Aboriginal Heritage -
I. identification of Aboriginal objects directly and indirectly affected by the SSI,

II. details of management measures to be carried out in relation to Aboriginal heritage, including a detailed methodology and strategies for protection, monitoring, salvage, and conservation of objects associated with the SSI,
III. procedures and timing for implementing the requirements of conditions E13 to E16 inclusive,
IV. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s), determination of appropriate mitigation measures by a suitably qualified archaeologist in consultation with the Department, EESG and registered Aboriginal stakeholders, procedure for determining when works can re-commence, and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the SSI, and registering of any new site(s) in the AHIMS database,
V. details of an appropriate keeping place agreement with local Aboriginal community representatives for any Aboriginal objects salvaged during construction,
VI. procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI, and
VII. procedures for managing the discovery of confirmed or potential human remains, including the temporary cessation of works in the vicinity and notification to the NSW Police Force, EESG, the Department and registered Aboriginal stakeholders and not recommencing any works in the area unless authorised by the EESG and/ or the NSW Police Force;

(ii) In relation to Historic Heritage -
I. developed in consultation with the Heritage Division,
II. identification of heritage items directly and indirectly affected by the SSI,
III. details of management measures to be implemented to prevent and minimise impacts on heritage items including measures to protect unaffected sites during construction works in the vicinity,
IV. details of the Interpretation Plan as required by condition E17;
V. details of monitoring and reporting requirements for impacts on heritage items;
VI. procedures for dealing with previously unidentified heritage items, (including cessation of works in the vicinity), assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the Heritage Division, and assessment of the consistency of any new heritage impacts against the approved impacts of the SSI;

(iii) heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under the conditions of this approval including site identification, protection and conservation of Aboriginal and historic heritage; and

(iv) mechanisms for the monitoring, review and amendment of this Plan.

(f) a **Construction Contamination Management Plan** to detail how contaminated materials, water and soil will be managed to protect human health and the environment. The Plan shall include, but not necessarily be limited to:

(i) location of areas identified as contaminated;

(ii) procedures for the sampling and assessment of excavated material at depth consistent with the requirements of condition E30;
(iii) procedures for the sampling and testing of ballast, chitter and tailings consistent with the requirement of condition E32;
(iv) procedures for the classification, remediation, handling and monitoring of contaminated materials, water and soils identified during construction (including asbestos), consistent with the *Remediation Action Plan* included as Appendix H in the document referred to in condition B1(c);
(v) a contingency plan to be implemented in the case of unanticipated discovery of contaminants;
(vi) a procedure for updating the *Remediation Action Plan* consequent to amendments in the remediation procedures or the discovery of contaminants during construction;
(vii) program for validating soil quality upon completion of remediation; and
(viii) mechanisms for the monitoring, review and amendment of this Plan.

Prior to construction of the Turning Angle Works, the Proponent must submit revised plans including the Turning Angle Works to the Environmental Representative for approval. The ER may approve minor updates to the plan without further consultation with public authorities. The plans required by Condition E63(e) only apply to the Turning Angle Works insofar as they provide for unexpected finds procedures and staff training and induction.

The reference to the ecological monitoring plan referred to in condition E63(b)(viii) does not apply to the Turning Angle Works.

SCHEDULE F
OPERATIONAL ENVIRONMENTAL MANAGEMENT

OPERATIONAL ENVIRONMENTAL MANAGEMENT

F1. Prior to commencement of operations, the Proponent shall incorporate the SSI into an existing environmental management system administered by the Proponent and prepared in accordance with the *AS/NZS ISO 14000 Environmental Management System* series or equivalent.

F2. Prior to the commencement of operation, or as otherwise agreed by the Planning Secretary, the Proponent shall prepare and implement an Operation Environmental Management Plan for the SSI. The Plan shall detail the environmental management framework, practices and procedures to be followed during operation of the SSI. The Plan shall be consistent with the document Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004). The Plan shall be prepared in consultation with the relevant government authorities and include, but not necessarily be limited to:

(a) a description of all relevant activities to be undertaken during operation of the SSI;
(b) statutory and other obligations that the Proponent is required to fulfil during operation including all approvals, consultations and agreements required from authorities, and key legislation and policies;
(c) details of how the SSI's environmental performance will be monitored and what actions will be taken to address identified adverse environmental impacts;
(d) where required, measures to monitor and maintain biodiversity offset measures implemented in accordance with condition C4 of this approval;
(e) measures to monitor and maintain the effectiveness of flora and fauna management measures, including revegetated areas, landscaped areas and the control of the spread of weeds;
(f) measures to monitor and manage noise impacts;
(g) measures to monitor and control soil erosion and the discharge of sediment and other pollutants to surrounding lands and waterways;
(h) procedures for periodic monitoring of groundwater depth and flow and groundwater quality in the vicinity of the SSI and groundwater seepage, including the location and frequency of monitoring;
(i) a contingency plan to address changes in groundwater depths and flows and/or groundwater quality and groundwater seepage into the drainage swales;
(j) measures to monitor and manage hazards and risks;
(k) management and maintenance measures for the floating wetlands, and for the entire stormwater system, including pits and pipes, cess drains, sediment basins, gross pollutant traps and detention basins;
(l) management measures for maintaining the Purgatory Creek culvert;
(m) emergency management procedures;
(n) measures for maintaining the stormwater management system including the drainage swales; and
(o) measures to minimise dust generation from internal service roads.

The Plan shall be submitted for the Planning Secretary's approval no later than one month prior to the commencement of operation, or as otherwise agreed by the Planning Secretary. Operation of the SSI shall not commence until written approval has been received from the Planning Secretary.

Prior to construction of the Turning Angle Works, the Proponent must provide a copy of the revised plan including the Turning Angle Works to the Environmental

Representative for approval. The ER may approve minor updates to the plan without further consultation with public authorities.

Nothing in this condition precludes the Proponent from updating an existing Operational Environment Management Plan, (environmental) management system, existing policies and/or procedures to meet this requirement, providing the Operational Environment Management Plan demonstrates, to the satisfaction of the Planning Secretary, where the relevant conditions of this approval have been addressed.

Note: The approval of an Operation Environmental Management Plan does not relieve the Proponent of any requirement associated with this SSI approval. If there is an inconsistency with an approved Operation Environmental Management Plan and the conditions of this SSI approval, the requirements of this SSI approval prevail.

OPERATIONAL PERFORMANCE

F3. Within 15 months of the completion of construction of the SSI, or as otherwise agreed by the Director-General, the Proponent shall commission an independent, qualified person or team to undertake an **Operational Performance Audit** of the SSI. The independent person or team shall be approved by the Director-General prior to the commencement of the Audit. The Operational Performance Audit Report shall be submitted to the Director-General within one month of the completion of the Audit, unless otherwise agreed by the Director-General. The Audit shall:

(a) assess compliance with the requirements of this approval, and other licences and approvals that apply to the SSI;

(b) assess the operational performance of the SSI against the predictions made and conclusions drawn in the documents referred to under condition B1 of this approval; and

(c) review the effectiveness of the environmental management of the SSI, including any environmental impact mitigation works.

NOISE AND VIBRATION

F4. The Proponent shall undertake a noise and vibration compliance assessment to confirm the predictions of the noise assessment included at B1 and the limits referred to in condition C2. The noise and vibration compliance assessment shall be developed in consultation with the EPA and be undertaken within 12 months of the commencement of operation of the SSI, or as otherwise agreed by the Planning Secretary. The assessment shall include, but not necessarily be limited to:

(a) noise and vibration monitoring and compliance assessment, to assess compliance with conditions C1 and C2 of this approval;

(b) methodology for assessment, including the assessment of worst-case scenarios;

(c) details of any complaints received relating to operational noise and vibration impacts;

(d) any required recalibration of the noise and vibration model;

(e) consideration of the cumulative noise and vibration impacts associated with the Project and the proposed ARTC Hexham Relief Roads project;

(f) consideration of noise impacts to the Hexham Swamp Reserve with reference to the passive recreation criteria under the INP;

(g) an assessment of the performance and effectiveness of the applied noise and vibration mitigation measures; and

(h) identification, if required, of further noise and vibration mitigation measures to meet the requirements of C1 and C2 of this approval.

A Noise and Vibration Compliance Assessment Report providing the results of the assessment shall be submitted to the Planning Secretary and the EPA within 60 days

of its completion. If the assessment indicates an exceedance of the noise and vibration objectives identified, the Proponent shall implement further feasible and reasonable measures (where required) to mitigate these exceedances in consultation with affected property owners. If there is a dispute regarding the implementation of at-receiver treatments, either party may refer the matter to the Planning Secretary for resolution whose decision shall be final.

F4A. The Proponent shall undertake a noise and vibration compliance assessment, consistent with the requirement of condition F4 to include the Turning Angle Works within 12 months of the commencement of operation of the Turning Angle Works.

FLOODING

F5. A Flood Review Report shall be prepared following each of the following flood events at the SSI site – 1%, 2%, 5% and 10% AEP flood events to assess the actual flood impacts against those predicted in Appendix D of the Preferred Infrastructure Report referred to in condition B1(c) and the Modification Report referred to in condition B1(d). The Report shall be prepared by an appropriately qualified person(s) and include:

(a) Identification of the properties and infrastructure affected by flooding during the reportable event;

(b) A comparison of the actual extent, level and duration of the flooding event against the impacts predicted in Appendix D of the document referred to in condition B1(c);

(c) Where the actual extent and level of flooding exceeds the predicted level with the consequent effect of adversely impacting on property(ies), structures and infrastructure, identification of the measures to be implemented to reduce future impacts of flooding including the timing and responsibilities for implementation.

Flood mitigation measures shall be developed in consultation with the affected property/structure/infrastructure owners, the Water Group and City of Newcastle.