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Director Industry and Infrastructure Policy
NSW Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Sir/Madam,

Submission: State Environmental Planning Policy (Infrastructure) 2007 Review

TransGrid operates and manages high voltage transmission networks across NSW, ACT and other areas of the National Electricity Market (NEM). It is TransGrid's responsibility to provide safe, reliable and efficient transmission services for the NEM.

TransGrid welcomes the opportunity to provide comments on the review of the State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP). TransGrid acknowledges the benefits of the Infrastructure SEPP in streamlining the infrastructure approval process.

It is noted that the review aims to modernise, simplify and improve the Infrastructure SEPP. It also provides an opportunity for Government to consider emerging infrastructure issues that may benefit from inclusion in the policy.

Should you wish to discuss these comments further, please contact Heather Wagland, Manager/ Property and Environment on 02 9284 3815 or Heather.Wagland@transgrid.com.au or Denise Lo, Environment Strategy Team Leader on 02 9284 3845 or Denise.Lo@transgrid.com.au.

Yours faithfully

H. Wagland 6/4/17

Heather Wagland
Manager/ Property and Environment
Network Planning and Operations
TransGrid

Attachment A – TransGrid Infrastructure SEPP Review Comments

Clause	Comment	Proposed legislation change
Clause 40 Definitions - electricity transmission or distribution network Electricity transmission or distribution network includes the following components: (a) above or below ground electricity transmission or distribution lines (including related bridges, cables, conductors, conduits, poles, towers, trenches, tunnels, access structures, access tracks and ventilation structures) and telecommunication facilities that are related to the functioning of the network,	Being able to adapt to the changing electricity market place and the role that a transmission company plays, is important for TransGrid. For TransGrid this includes a greater role in managing the load flow peaks and lows through the network. Battery storage facilities would enable storage of electricity across the network to allow discharge of electricity during peak loads and charging during off-peak periods. To enable network operators to take-up opportunities to play a greater pro-active role in managing electricity supply, TransGrid recommends that battery storage facilities are included in the definitions, and are included within Clause 41(2)(b) – Development Permitted Without Consent.	40 Electricity transmission or distribution network includes the following components: (a) above or below ground electricity transmission or distribution lines (including related bridges, cables, conductors, conduits, poles, towers, trenches, tunnels, access structures, access tracks and ventilation structures), facilities for energy storage, and telecommunication facilities that are related to the functioning of the network,
Clause 41 Development Permitted Without Consent - 41(1)(d) (1) Development for the purpose of an electricity transmission or distribution network may be carried out by or on behalf of an electricity supply authority or public authority	The Clause should reflect the latest legislative update to section 53 of the Electricity Supply Act.	(d) is an electricity work to which section 53 of the *Electricity Supply Act 1995* (as updated by section 37 of the Electricity Network Assets (Authorised Transactions) Act 2015)

Clause	Comment	Proposed legislation change
without consent on any land. However, such development may be carried out without consent on land reserved under the National Parks and Wildlife Act 1974 only if the development: (d) is an electricity work to which section 53 of the Electricity Supply Act 1995 applies.		
Clause 41 Development Permitted Without Consent - 41(2)(b) (2) In this clause, a reference to development for the purpose of an electricity transmission or distribution network includes a reference to development for any of the following purposes if the development is in connection with such a network: (b) emergency works, or routine maintenance works, on the site of an existing component of a network or on land that is adjacent to such a site (whether or not the works are on land to which *State Environmental Planning Policy No 14—Coastal Wetlands* or *State Environmental Planning Policy No 26—Littoral Rainforests* applies but, if they are on such land, only if any adverse effect on the land is restricted to the minimum possible to allow the works to be carried out).	TransGrid suggests that this clause is clarified to limit confusion in interpretation of the legislation. It is noted that Clause 43(1)(h) provides an exemption for '*emergency works to maintain or restore a supply of electricity'.* However, Clause 4 (2)(b) also provides that emergency works are covered under the "without consent" provisions, that require Part 5 assessment and determination prior to the activity. Accordingly, it is confusing as to which Clause applies - 41(2)(b) development without consent or 43(1)(h) exempt development. Further, it is not considered practical or feasible in an emergency situation to undertake a prior assessment and complete the required notification periods which apply (e.g. under Clause 42). Routine maintenance works where there is no substantial change to the existing asset should be covered in Section 43 Exempt Development (see comments further below). It is noted that changes have been made to Clause 43(1)(b) to include maintenance, and therefore it is confusing what clause applies – 41(2)(b) – development without consent or 43(1)(b) exempt	TransGrid suggests that emergency works are removed from Clause 41(2)(b), as it has been included under Clause 43(1)h.

Clause	Comment	Proposed legislation change
	development.	
Clause 42 – Notification of electricity substation development (1) This clause applies to development (other than exempt development) that: (a) is carried out by or on behalf of an electricity supply authority or public authority, and (b) is for the purpose of a new or existing electricity substation of any voltage (including any associated yard, control building or building for housing plant), and (c) is not a project to which Part 3A of the Act applies. (2) Before development to which this clause applies is carried out, the electricity supply authority or public authority must: (a) give written notice of the intention to carry out the development to the council for the area in which the land is located (unless the authority is that council) and to the occupiers of adjoining land, and (b) take into consideration any response to the notice that is received within 21 days after the notice is given.	TransGrid welcomes the draft inclusion of not requiring notification for exempt development. This Clause requires notification for development that '*is for the purposes of a new or existing substation'*, however it is not clear whether all works at a substation require notifications (e.g. even smaller scale works such as the installation of new cable trenches). TransGrid considers that the notification requirements are intended to capture larger scale changes to the substation rather than smaller scale works. TransGrid recommends that this clause is updated to reflect this. The clause should also reflect the legislative updates as a result of the Environmental Planning and Assessment Amendment (Part 3A Repeal) Act 2011.	42(1) This clause applies to development (other than exempt development in respect of which clause 43 applies) that: (a) is carried out by or on behalf of an electricity supply authority or public authority, and (b) is for the purpose of a new ~~or existing electricity substation of any voltage (including any associated yard, control building or building for housing plant),~~ substation, an increase in the area of the existing substation yard, or a new building and (c) is not a project to which ~~Part 3A~~ Part 5.1 of the Act applies.
Clause 43 – Exempt Development – Clause 43(1)(a) (1) Development for any of the following purposes is exempt development if the development is in connection with an electricity transmission or distribution network	TransGrid installs new cable trenches and conduits within existing substation sites. These activities are considered to be low risk given that the site has already been previously disturbed to form the substation bench into which the new trench will be laid.	43(1)(a) Development for any of the following purposes is exempt development if the development is in connection with an electricity transmission or distribution network and complies with clause 20: (a) installation of cables in existing conduits if the

Clause	Comment	Proposed legislation change
and complies with clause 20: (a) installation of cables in existing conduits if the installation involves no greater soil or vegetation disturbance than necessary	TransGrid suggests that new trenches and conduits for cabling within an existing fenced area or in an existing building be classified as exempt development. TransGrid notes that it has processes and procedures in place to assess the environmental impacts of activities classified as exempt development, depending on its risk (refer to Attachment B).	installation involves no greater soil or vegetation disturbance than necessary, or installation of new conduits or trenches and cables within an existing fenced area or in an existing building.
Clause 43 – Exempt Development – Clause 43(1)(b) (1) Development for any of the following purposes is exempt development if the development is in connection with an electricity transmission or distribution network and complies with clause 20: (b) maintenance of electricity lines or of poles (or associated structures) for electricity lines,	TransGrid welcomes the draft inclusion of Clause 43(1)(b) which allows the maintenance of electricity lines or of poles (or associated structures) for electricity lines of any voltage. TransGrid notes that the current SEPP also includes 'repair'. TransGrid suggests that 'maintenance and repair' of electricity lines are included. In addition, TransGrid also undertakes maintenance and repair of its electricity transmission tower structures. TransGrid suggests that this Clause is updated to reflect this.	(b) maintenance and repair of electricity lines or of poles and towers (or associated structures) for electricity lines,
Clause 43 – Exempt Development – Clause 43(1)(c) (1) Development for any of the following purposes is exempt development if the development is in connection with an electricity transmission or distribution network and complies with clause 20: (c) any of the following if the primary purpose of the development is not to increase the	TransGrid has a number of electricity lines with a capacity greater than 66 kV that have timber poles which require replacement from time to time due to defects (wood rot, termites). TransGrid replaces these poles (greater than 66kV) as part of its maintenance activities. The use of 66kV as a threshold does not seem to be risk based as the environmental impacts for a pole structure for a higher voltage would be	43(1)(c) any of the following if the primary purpose of the development is not to increase the capacity of the network: (i) replacement or re-alignment of electricity lines that have a capacity of 66kV or less, (ii) installation or upgrading of electricity lines that have a capacity of 66kV or less and consist of above or below ground service lines connecting premises to the network,

Clause	Comment	Proposed legislation change
capacity of the network: (i) replacement or re-alignment of electricity lines that have a capacity of 66kV or less, (ii) installation or upgrading of electricity lines that have a capacity of 66kV or less and consist of above or below ground service lines connecting premises to the network, (iii) replacement of poles with similar sized poles, or of associated support structures, for electricity lines that have a capacity of 66kV or less, (iv) re-alignment of poles, or of associated support structures, for electricity lines that have a capacity of 66kV or less,	similar for a 66kV pole (refer to Attachment B). TransGrid suggests that replacement of poles on any voltage line, be classified as exempt development. TransGrid also notes that the replacement of a higher voltage pole structure would typically have a lower environmental risk than replacement of a pole substation (Clause 43(1)(f)) which involves oil and is classified as exempt development. TransGrid notes that it has processes and procedures in place to assess the environmental impacts of activities classified as exempt development, depending on its risk (refer to Attachment C).	(iii) replacement of poles with similar sized poles, or of associated support structures, ~~for electricity lines that have a capacity of 66kV or less~~, (iv) re-alignment of poles, or of associated support structures, for electricity lines that have a capacity of 66kV or less,
Clause 43 – Exempt Development – Clause 43(1)(d) (1) Development for any of the following purposes is exempt development if the development is in connection with an electricity transmission or distribution network and complies with clause 20: (d) installation, maintenance, repair or replacement of the following: (i) existing plant or equipment in an existing fenced area or in an existing building (including pillars with a capacity of 66kV or less, fuses, control points, switches, regulators and protection equipment, but not including outdoor installation of equipment with a capacity of more than 66kV),	The use of 66kV as a threshold for exempt development does not seem risk based. Many activities on plant or equipment of 66kV or less are of similar environmental risk to undertaking the same activities within fenced yards >66kV (refer to Attachment B). In addition, this Clause is vague and could be interpreted in a number of ways. TransGrid suggests that wording and exclusions in the Clause are clarified and made clearer. TransGrid suggests that any maintenance, repair, replacement of existing plant or equipment inside the fenced area of a substation/switchyard be classified as exempt development regardless of the voltage of the plant or equipment.	43(1)(d) ~~installation,~~ maintenance, repair or replacement of the following: (i) existing plant or equipment in an existing fenced area or in an existing building ~~(including pillars with a capacity of 66kV or less, fuses, control points, switches, regulators and protection equipment, but not including outdoor installation of equipment with a capacity of more than 66kV~~ (not including the installation of new outdoor equipment).

Clause	Comment	Proposed legislation change
Clause 43 – Exempt Development – Clause 43(1)(g) (1) Development for any of the following purposes is exempt development if the development is in connection with an electricity transmission or distribution network and complies with clause 20: (g) demolition or removal of electricity works if: (i) the demolition is carried out in accordance with AS 2601—2001, Demolition of structures, and (ii) the development is not associated with substations containing equipment that has a capacity of more than 66kV, and (iii) the development will not be carried out on sites where soil is likely to be contaminated,	The use of 66kV as a threshold for exempt development does not seem risk based. Many activities on plant or equipment of 66kV or less are of similar environmental risk to undertaking the same activities on substations >66kV. In addition, removal of small-scale electricity works within a substation can have negligible environmental risk, therefore it seems inefficient to conduct a Part 5 assessment for these types of works. TransGrid suggests that any removal of plant or equipment inside the fenced area of a substation/ switchyard be classified as exempt development regardless of the voltage of the plant or equipment. TransGrid acknowledges that demolition works may have a greater environmental impact.	43(1)(g) demolition or removal of electricity works if: (i) it is undertaken within an existing fenced area or in an existing building, ~~(ii) the development is not associated with substations containing equipment that has a capacity of more than 66kV, and~~ (ii) the development will not be carried out on sites where soil is likely to be contaminated,
Clause 43 – Exempt Development – Clause 43(2) (2) Clause 20 (2) (g) does not apply in relation to development carried out under subclause (1)(k).	This Clause should be updated to reflect changes as a result of the SEPP amendment.	(2) Clause 20 (2) (g) does not apply in relation to development carried out under subclause (1)(k) and (1)(k1).
Clause 45 – Determination of development applications—other development (1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following: (b) development carried out: (iii) within 5m of an exposed overhead	It is not appropriate to assume that 5 metres will provide safe clearance between an overhead power line and a proposed development in all circumstances, or for all voltages of line. Higher voltage lines require greater safety clearances. Further, the sag and swing of a conductor changes under varying operating and weather scenarios. It is also suggested that swimming pools are adequately addressed by subclause (1)(b) and do not require separation under	45(1)(b)(1) development (including swimming pools) carried out: (b)(iii) within ~~5m~~ the following distances either side of an exposed overhead electricity power line, 132kV: 22.5 metres 220kV: 25 metres 330kV: 30 metres 500kV: 35 metres

Clause	Comment	Proposed legislation change
electricity power line, (c) installation of a swimming pool any part of which is: (ii) within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool,	subclause (1)(c). To ensure public safety and infrastructure safety, it is suggested that this distance be increased to account for typical widths of powerline easements, within which development activities require review. For TransGrid powerlines, easement widths area typically: 132 kV – 45 metres 220 kV – 50 metres 330 kV – 60 metres 500 kV – 70 metres	~~c(ii) within 5m of an exposed overhead electricity power line, measured vertically upwards from the top of the pool,~~

Attachment B – Supporting Information

1. Substation Asset Replacement Activities (like for like replacement)

The typical maintenance/construction activity in TransGrid's substations/switchyards involves the like for like replacement of a wide range of equipment (e.g. transformers (current and voltage), circuit breakers, switches, disconnectors, meters) once that equipment has reached the end of life or has been found to be defective. This routine activity occurs throughout the calendar year and is confined within the security fence of these sites and has negligible environmental impact to the surrounding community. These activities are almost identical to the same activities that are undertaken in distribution substations (which are exempt under the current ISEPP). From an environmental impact perspective, the environmental risk of asset replacement activities for equipment >66kV (i.e. 132, 220, 330kV) is the same for equipment <66kV. Some examples of equipment specifications for differing voltages have been provided below to demonstrate this.

Figure 1: 220kV-22kV power transformer

Figure 2: 132kV-66kV power transformer

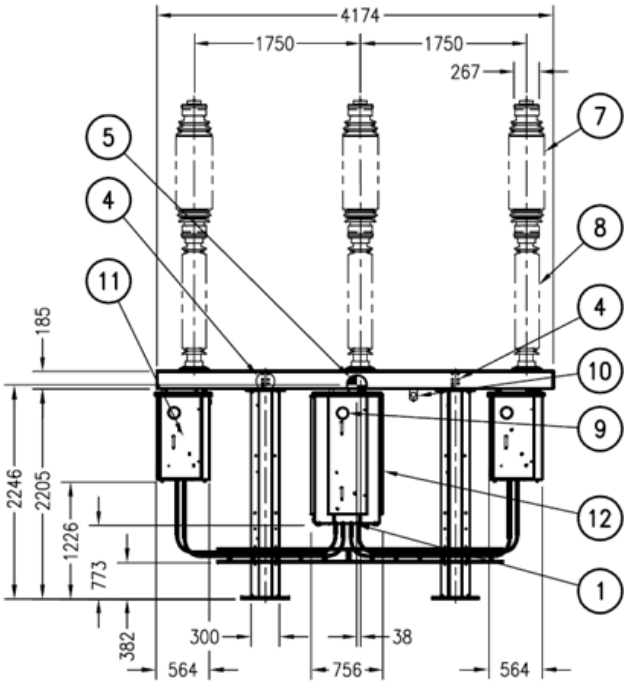

Figure 3: 66kV circuit breaker (5.2m high x 4.1m wide)

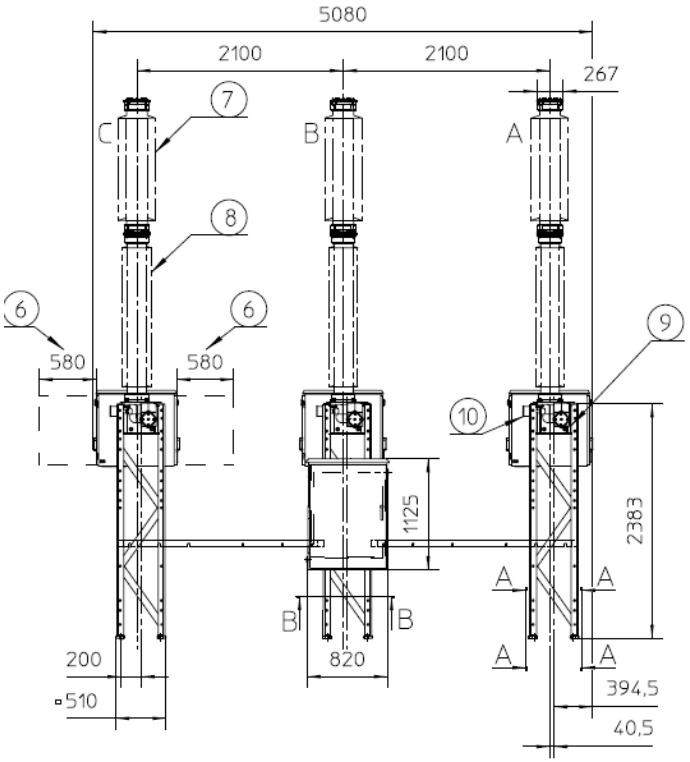

Figure 4: 132kV circuit breaker (5.4m high x 5m wide)

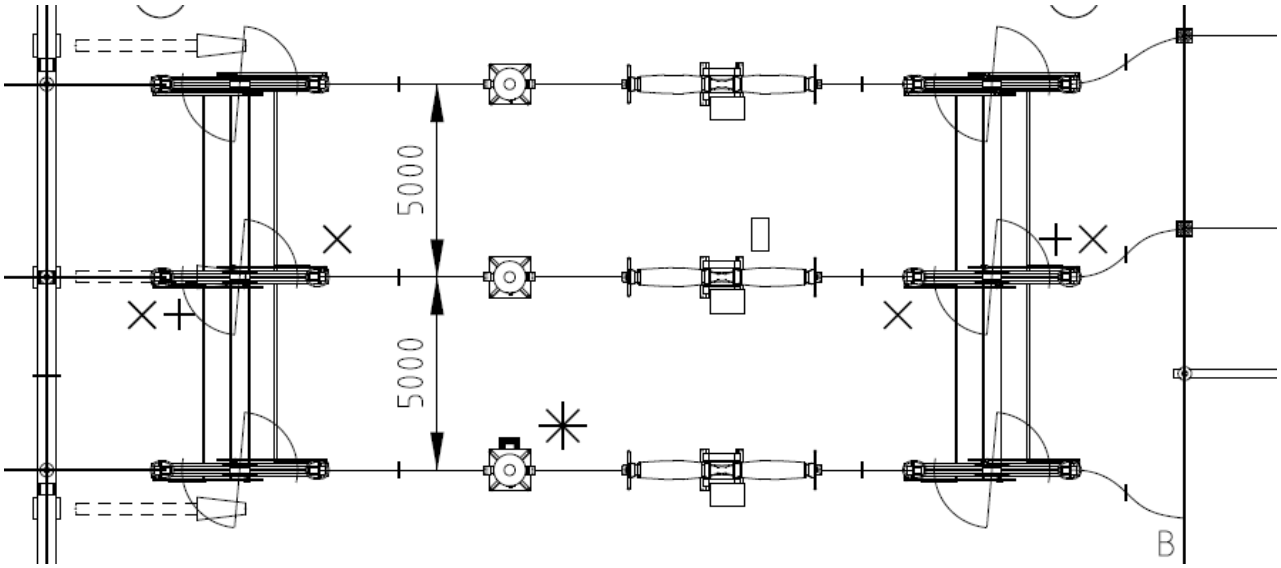

Figure 5: 330kV circuit breaker (6.5m high vs ~10m wide)

2. Transmission Line Asset Replacement Activities (pole replacement)

In general, the footprint of an overhead line, in terms of structure height and size (including footings), is dependent on non-electrical factors such as the type of conductor used which determines sag, the length of the span and the structure type selected. There may be certain restrictions on height applied by environmental factors etc., and the distributors have a limited range of standard pole sizes allowed (maximum height is around 24m) due to their maintenance practices which would apply equally to both 66kV and 132kV.

Where the voltage comes into play is in relation to the required electrical clearances, most prominently, clearance to ground and clearance to external structures. The relevant standard AS7000 has identical clearances for these two elements:

- Clearance to ground of 6.7m
- Clearance to external structures to account for conductor blowout of 3.0m.

It is noted that individual distributors may have slight variations on these clearances in their own internal standards. The difference in clearances comes in the electrical separation distances to the supporting structures themselves which affects the design of its arrangement e.g. 132kV insulators are longer than 66kV so need more spacing. This is where the footprint differs slightly, and 132kV would be slightly larger. However, the overall impact is generally minor. It should also be noted that it is not uncommon to find instances where the distributors have constructed lines operating at 66kV using 132kV structures to allow for future upgrade as the cost difference between the two is generally minimal.

Figure 6: 132kV single circuit wood pole

Attachment C – TransGrid's Environmental Checklists for Exempt Development

Environmental Low Risk Checklist

Authorised by:	Ken McCall	Issue date:	21 November 2016	HP TRIM No.	D2016/07962

> This form is for use when undertaking an Environmental Low Risk Action
> Please refer to the Environmental Assessment Framework for more information.
> For any assistance with completing this form, please contact the Environment Group on 900 543.

SECTION A – DESCRIPTION OF PROPOSED ACTIONS AND WORK ENVIRONMENT

Action	[Enter the name of the action here]		
Project / Work Order number			
Scope of work and methodology (refer to examples of low risk actions in Attachment 2 of TransGrid's Environmental Assessment Framework)			
Location	[Include transmission line number and span numbers if relevant]		
Proposed work dates (Month/Year)	Click here to enter a date.	TO	Click here to enter a date.
Staff / contractor undertaking work	[Include Contract No. and confirmation of environmental authorisation]		

Plant and equipment

1 Identify all plant and equipment to be used in carrying out the proposed action

☐ 4WD	☐ Generator	☐ Winch trailer	☐ Crane
☐ EWP	☐ Excavator > 15T	☐ Excavator < 15T	☐ Loader
☐ Hand tools	☐ ≤ 8T tipper	☐ > 8T tipper	☐ Trailers
☐ Power tools	☐ Jinker	☐ Other: [Please specify]	

Hot Work

2	Is Hot Work or Fire Risk Work involved?	☐ NO ☐ YES - Hot Work (complete a Hot Work Permit) ☐ YES – Fire Risk Work (complete a FRACM Form) *NOTE: Hot work includes: grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing operations* *NOTE: Fire Risk Work includes: slashing, mulching, operation of steel tracked machines or steel attachments on heavy plant (e.g. grading, boring, excavation and the like), chainsaw operation, chipping, mowing, brush cutting and operation of motor vehicles*

Chemicals

3 Check the following boxes as appropriate to the proposed action

☐ No chemicals to be applied

☐ Chemical to be applied (includes solvents, coatings, paints): [Please specify product details]

☐ Pesticide Application (e.g. termiticides/herbicides): [Please specify product details]

NOTE: Only pesticides listed in TransGrid's Schedule of Approved Pesticides can be used.

For all pesticide applications, including termite treatment applications, a Pesticide Control Record must be completed each day of pesticide use, regardless of the volume of chemical applied.

Terrain type (not applicable for works inside *Premises*)

4 Identify the terrain type at the site of the proposed action. Check multiple boxes if required.

☐ Flat ☐ Steep ☐ Undulating ☐ N/A – Works inside premises

☐ Riparian [i.e. works within floodplain or Vegetated Riparian Zone (VRZ)]

☐ Other: [Please specify]

Vegetation (not applicable for works inside *Premises*)

5 Describe the vegetation (if any) at the site of the proposed action:

Waterways, gullies and drainage lines / stormwater (not applicable for works inside *Premises*) (attach *Working Near Watercourses* Fact Sheet if waterways wikhin 40m of any worksites)

6 Describe any waterways, gullies and drainage lines (if any) at the site of the proposed action:

SECTION B – ENVIRONMENTAL ASPECTS AND REQUIREMENTS

For all TransGrid actions, complete the following table (ID 7 - 9). Consider all aspects of the scope, methodology and location for the proposed action.

ID	Environmental Issue / Action	In relation to the proposed works	Environmental Requirements	Documentation to be attached to this checklist (if YES)
7	Will there be any excavation / earthworks?	☐ NO	Nil	Nil
		☐ ≤250m^2	Work in accordance with TransGrid's Environmental Handbook (Section 2.1)	Excavation & Machine Work Fact Sheet
		☐ >250 m^2	**Stop here**. This action is considered to be of moderate risk. Complete an **Environmental Moderate Risk Action Check.**	Nil
8	Are there any watercourses within 40m of any sites?	☐ NO ☐ YES	Work in accordance with TransGrid's Environmental Handbook (Section 2.1 and 2.3)	Working Near Watercourses Fact Sheet
8	Will there be any transport or handling of oil or generation of PCB waste?	☐ NO	Nil	Nil
		☐ ≤ 3000L of oil transported or handled outside a Premises.	All oil handling work must be undertaken in accordance with the Oil transport and handling Factsheet and Environmental Handbook (Sections 3.1 & 3.2).	
		☐ > 3000L of oil transported or handled outside a Premises. AND / OR ☐ any amount of PCB materail	**Stop here.** This action is considered to be of moderate risk. **Complete the Environmental Moderate Risk Action Check (Oil/PCB Handling).**	
9	Will any spoil or waste be removed from the work site?	☐ YES ☐ NO	IF YES: Appropriate testing and classification of spoil must be undertaken (prior to removal from site). Waste tracking and disposal must be documented. Refer to Sections 4.3 & 4.4 of TransGrid's Environmental Handbook.	IF YES: Waste Tracking Certificates & Disposal Records to be submitted as works progress.

SECTION C – HERITAGE CHECK

If the action involves excavation / ground disturbance that is not within a substation / switchyard, a Heritage Check must be undertaken in TSS. If the work does not involve ground disturbance outside the substation, skip this section and proceed to Section D.

Were any heritage sites identified in the vicinity of the work site? Yes ☐ No☐

If YES, STOP HERE. Contact the Field Services/HSE Group for further advice.

SECTION D – ACCESS AND STAKEHOLDER CONSULTATION CHECK

An Access and Stakeholder Consultation Check is to be undertaken where any access and /or work affects non-TransGrid property/stakeholders to determine if landholders have any special access or consultation requirements.

For National Parks and Wildlife Services – refer to the Protocol between the Office of Environment and Heritage and TransGrid (2014).

Other stakeholders (private land, Forests NSW, Department of Planning and Environment, NSW Fisheries, Catchment Management Authorities, Crown Lands, Commonwealth land, local councils) – contact individual agencies to discuss the proposed work and any further controls or access requirements.

Stakeholder / property owner name	**Stakeholder / property owner contact details**	**Details of property owner consultation and any property owner requirements (**NOTE: Record any attempts to contact the owner. Evidence of two attempts to contact property owners is required).

SECTION E – ENVIRONMENTAL CONTROL MEASURES

All actions shall be undertaken in accordance with **TransGrid procedures, Environmetal Fact Sheets** and the **TransGrid Environmental Handbook**.

SECTION F – Attachments

Select the relevant attachments for this Environmental Checklist and ensure they are attached to this document:

☐	TSS Heritage Check
☐	Access and Stakeholder Consultation Check
☐	Site Environmental Plan
☐	Copies of all Stakeholder/Property Owner correspondence and notifications
☐	Hot Work Permit or FRACM Form
☐	Other? Please Specify:

SECTION G – AUTHORISATIONS AND APPROVALS

The actions described in this Environmental Checklist, including all control measures, have been considered taking into account:

(a) All matters affecting or likely to affect the environment by reason of the proposed action,

(b) TransGrid's existing legal obligations, if any, which apply to the proposed action, and

(c) Whether the proposed action is likely to result in a complaint being communicated to TransGrid.

Prepared/approved by:	**Service Number:**
Authorisation Level: *(at least E4 Authorisation required)*	**Date:**
Signature:	

Comments:

This checklist is valid for 2 years from the date of approval. If action is still required after 2 years, a new Environmental Checklist and TSS Heritage Check must be prepared.

NOTE: The above approval is for the scope of work detailed in this Environmental Checklist. Any changes to the scope of work will require re-approval.

Following sign-off, this Environmental Checklist should be saved in TRIM under the relevant file.

SECTION H – HANDOVER AND CONFIRMATION (FOR HANDOVER TO SITE SUPERVISORS)

I understand the requirements of this Environmental Checklist and will implement all relevant control measures outlined in TransGrid's Environmental Handbook.

NAME / ORGANISATION	SIGNATURE	DATE
Print name and Organisation[a] of the E3 Supervisor who is receiving the Environmental Checklist.		
Record any subsequent E3 - E3 Handover[b]		

[a] **REMEMBER:** The authorised E3 Supervisor is responsible for inducting all staff / sub-contractors into the Work Package. Work may only commence on a daily basis once an induction (including the PWRA and review of the Control Measures) is undertaken.

An E3 authorised Supervisor must be on site at all times.

[b] If a new E3 Supervisor is appointed a full handover of the Work Package shall be undertaken and signed on the table above.

CONFIRMATION OF SUCCESSFUL COMPLETION OF SCOPE OF WORKS INCLUDING ENVIRONMENTAL CONTROLS (to be completed by E3 supervisor at end of works)

All relevant environmental control measures outlined in TransGrid's Environmental Handbook have been successfully implemented.

NAME / ORGANISATION	SIGNATURE	DATE
Print name and Organisation[a] of the E3 Supervisor		

Environmental Moderate Risk Checklist (General)

Authorised by:	**Ken McCall**	Issue date:	**21 November 2016**	HP TRIM No.	**D2016/07964**

- This form is for use when undertaking an Environmental Moderate Risk Action.
- Please refer to the Environmental Assessment Framework for more information.
- For any assistance with completing this form, please contact the Environment Group on 900 543.

SECTION A – DESCRIPTION OF PROPOSED ACTIONS AND WORK ENVIRONMENT

Action	**[Enter the name the action here]**		
Project / Work Order			
Project Need	[Describe the main purpose of the action]		
Description of action scope and methodology (refer to examples of moderate risk actions in Attachment 2 of TransGrid's Environmental Assessment Framework)	[Describe all tasks to be completed - mobilisation, on-site actions and methods (i.e. any excavation or demolition etc.), demobilisation, storage, materials and equipment required, materials to be disposed, traffic and access, number of staff/ contractors, working hours, ongoing operational and maintenance requirements etc.]		
Location	[Describe the location, local council, local government area (LGA) and any noteworthy surrounding properties / sensitive receivers. Include transmission line number and span numbers]		
Proposed work dates (Month/Year)	Click here to enter a date.	TO	Click here to enter a date.
Planned duration of the work	[Insert duration of work]		
Staff / contractor undertaking work	[Include Contract No. and confirmation of environmental authorisation]		

Plant and equipment

1 Identify all plant and equipment to be used in carrying out the proposed action

☐ 4WD/Utility Vehicles	☐ Generator	☐ Winch trailer	☐ Crane
☐ EWP	☐ Excavator > 15T	☐ Excavator ≤ 15T	☐ Loader
☐ Hand tools	☐ ≤ 8T tipper	☐ > 8T tipper	☐ Trailers
☐ Power tools	☐ Jinker	☐ Other: [Please specify]	

Hot Work

2 Is Hot Work / Fire Risk Work in a *Hazardous Area* involved or likely?

☐ NO

☐ YES - Hot Work (attach and complete a Hot Work Permit)

☐ YES - Fire Risk Work (attach and complete a FRACM form)

NOTE: Hot work includes: grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing operations

NOTE: Fire Risk Work includes: slashing, mulching, operation of steel tracked machines or steel attachments on heavy plant (e.g. grading, boring, excavation and the like), chainsaw operation, chipping, mowing, brush cutting and operation of motor vehicles

Chemicals

3 Check the following boxes as appropriate to the proposed action

☐ No chemicals to be applied.

☐ Chemical to be applied (includes solvents, coatings, paints): [Please specify product details]

☐ Pesticide Application (e.g. termiticides/herbicides): [Please specify product details]

NOTE: Only pesticides listed on TransGrid's Schedule of Approved Pesticides can be used.

For all pesticide applications, including termite treatment applications, a Pesticide Control Record must be completed each day of pesticide use, regardless of the volume of chemical applied.

Terrain type (not applicable for works inside *Premises*)

4 Identify the terrain type at the site of the proposed action. Check multiple boxes if required.

☐ Flat	☐ Steep	☐ Undulating	☐ N/A – Works inside premises

☐ Riparian [i.e. works within floodplain or Vegetated Riparian Zone (VRZ)]

☐ Other: [Please specify]

Vegetation (not applicable for works inside *Premises*)

5 Describe the vegetation (if any) at the site of the proposed action:

Waterways, gullies and drainage lines / stormwater (not applicable for works inside *Premises*)

6 Describe any waterways, gullies and drainage lines (if any) at the site of the proposed action:

SECTION B – ENVIRONMENTAL ASPECTS AND REQUIREMENTS

For all TransGrid actions, complete the following table (ID 7 – 15). Consider all aspects of the scope, methodology and location for the proposed action.

ID	Environmental Issue / Action	In relation to the proposed works	Environmental Requirements[1]	Documentation to be attached to this checklist[1] (if YES)
7	Confirm actions are defined as *Moderate Risk* in accordance with TransGrid's Environmental Assessment Framework.	☐ YES[1] ☐ UNSURE	IF UNSURE: Contact HSE Group for further advice.	Nil
8	Will there be any oil handling or PCB waste?	☐ NO	Nil	Nil
		☐ ≤ 3000L of oil transported or handled outside a Premises.	All oil handling work must be undertaken in accordance with the Oil transport and handling Factsheet and Environmental Handbook (Sections 3.1 & 3.2).	Nil
		☐ > 3000L of oil transported or handled outside a Premises. AND / OR Any amount of PCB material	All oil handling work must be undertaken in accordance with the Oil transport and handling Factsheet and Environmental Handbook (Sections 3.1 & 3.2).	Complete *Oil / PCB Management Form* and attach to this checklist.
9	Will there be any construction works outside buildings such as: excavation/earthworks, storage of materials, concreting, asset removal/replacement?	☐ YES ☐ NO	IF YES: Works outside buildings should be identified on a Site Environmental Plan[2].	IF YES: Site Environmental Plan[2]. IF NO: Nil.

[1] If 'YES' is ticked for an action, then the corresponding environmental requirements must be addressed and the corresponding documentation prepared and attached to the completed Environmental Checklist. All actions, work and activities must be done in accordance with TransGrid Procedures and TransGrid's Environmental Handbook.

[2] As a minimum Site Environmental Plans must show the locations of site entry/exit, access routes, environmental sensitivities, extent of excavations, concrete washouts, erosion and sediment controls, storage areas and the like. Larger / complex projects where issues such as ASS, Contamination, Groundwater and/or excessive noise are flagged, a more detailed SEP may be required. Contact HSE Group for advice.

ID	Environmental Issue / Action	In relation to the proposed works	Environmental Requirements[1]	Documentation to be attached to this checklist[1] (if YES)
10	Will there be any excavation/earthworks with >250 m^2 of soil disturbance?	☐ YES ☐ NO	IF YES: Prepare a Site Environment Plan[2] and an Erosion & Sediment Control Plan. Refer to the TransGrid *Erosion and Sediment Controls for Minor Earthworks Guidelines*.	IF YES: Site Environmental Plan[2] Erosion & Sediment Control Plan IF NO: Nil
11	Is excavation or vegetation removal occurring outside the security fence?	☐ YES ☐ NO	IF YES: A TAMIS report must be run to identify any environmental triggers. Seek assistance from HSE Group.	IF YES: Site Environmental Plan[2] and TAMIS Environmental Report. IF NO: Nil.
12	Are any other permits, licenses or statutory approvals required? E.g. road occupancy license, heavy vehicle permit	☐ YES ☐ NO	IF YES: Contact a member of the HSE Group.	IF YES: Additional mitigation measures may be required. IF NO: Nil.
13	Does the site have any pre-existing or suspected contamination issues (this includes Acid Sulphate Soils - ASS)? Refer to ASRIS (for ASS) and TransGrid's Contaminated Land Register.	☐ YES ☐ NO ☐ UNSURE	IF YES/UNSURE: Contact a member of the HSE Group.	IF YES: Additional mitigation measures may be required. IF NO: Nil.
14	Will noise generating work be undertaken outside normal working hours? (7:00 am to 6:00 pm on Monday to Friday; and 8:00 am to 1:00 pm on Saturday. No work on Sundays or public holidays)	☐ YES ☐ NO	IF YES: Contact a member of the HSE Group.	IF YES: Additional mitigation measures may be required. IF NO: Nil.
15	Will any spoil or hazardous/restricted waste be removed from the work site?	☐ YES ☐ NO	IF YES: Appropriate testing and classification of waste must be undertaken prior to removal from site. Comply with TransGrid's Waste Disposal procedure.	IF YES: Attach test results (if available). Waste Tracking Certificates and Disposal Records to be submitted as works progress. IF NO: Nil.

SECTION C – TAMIS REVIEW (REQUIRED WHEN ANSWERING 'YES' TO ID 11)

Prepare a TAMIS Report and attach to this Environmental Checklist.

Were any environmental triggers exceeded in TAMIS? ☐ **No** ☐ **Yes (E5 approval)**

SECTION D – ACCESS AND STAKEHOLDER CONSULTATION CHECK

An Access and Stakeholder Consultation Check is to be undertaken where any access and/or work affects non-TransGrid property/stakeholders to determine if landholders have any special access or consultation requirements.

For National Parks and Wildlife Services – refer to the Protocol between the Office of Environment and Heritage and TransGrid (2014).

Other stakeholders (private land, Forests NSW, Department of Planning and Environment, NSW Fisheries, Catchment Management Authorities, Crown Lands, Commonwealth land, local councils) – contact individual agencies to discuss and obtain any further access requirements.

Stakeholder / property owner name	**Stakeholder / property owner contact details**	**Details of property owner consultation and any property owner requirements (**NOTE: Record any attempts to contact the owner. Evidence of two attempts to contact property owners is required).

SECTION E–STANDARD ENVIRONMENTAL CONTROL MEASURES (CHECK AS REQUIRED)

Environmental Management		Required?
EM1	For substantial maintenance / construction works outside buildings, a Site Environmental Plan (SEP) must be endorsed no later than two weeks prior to the commencement of works. All Plans and sub-plans must be updated in line with changes to work plans. All workers must be advised of changes. Any additional works outside the original scope of works may require additional environmental impact assessment and approval.	☐
EM2	All workers must be inducted onto the relevant SEP, ESCP and associated procedures and sub-plans as required and receive training as appropriate. Records must be kept of all induction and site specific training.	☐
EM3	All work must be undertaken in accordance with TransGrid's Environmental Handbook.	☐
Soil, Erosion and Sedimentation Management		
SES1	Where soil disturbance, excavation / earthworks < 250m² of disturbed area, a Site Plan must be compiled showing the locations of site entry / exit, access routes, environmental sensitivities, extent of excavations, erosion and sediment controls, concrete washouts, storage areas and the like. Where soil disturbance, excavation / earthworks > 250m² of disturbed area, an ESCP must be prepared. All erosion and sediment control measures are to be designed, implemented and maintained in accordance with relevant sections of "the Blue Book" *Managing Urban Stormwater: Soil and Construction Volume 1* (Landcom, 2004) (particularly Section 2.2) and *Managing Urban Stormwater: Soil and Construction Volume 2A – Installation of Services* (DECC, 2008). The ESCP should include stockpiles, stormwater run-off, protected vegetation, site boundaries and site access and storage areas.	☐
SES2	Exposed surfaces must be kept to a minimum to limit the potential for erosion and sediment run-off and controls must be installed where there is a risk of sediment movement into drainage systems or off site.	☐
SES3	Construction plant and vehicles must be free of any mud or soils and vegetative matter prior to delivery into TransGrid sites or onto public roads. Vehicles and equipment must remain on existing roads and defined site access routes. Designated entry and exits must be provided with a shaker grid or similar where required.	☐
SES4	Any imported fill must be certified at source location (e.g. Quarrymaster or property owner) as Excavated Natural Material (ENM) or Virgin Excavated Natural Material (VENM) in accordance with the *Protection of the Environment Operations Act 1997* (POEO Act) and the *Protection of the Environment (Waste) Regulation 2014* (POEO Waste Regulation).	☐
SES5	Where Acid Sulphate Soils (ASS) or potential ASS (PASS) are anticipated or have been identified, an Acid Sulphate Soils Management Plan (ASSMP) must be prepared, in accordance with *The Acid Sulphate Soil Manual* (Acid Sulphate Soil Management Advisory Committee – ASSMAC, 1998), prior to any earthworks or ground disturbance being performed on the site.	☐
Contamination Management		
CM1	Any material or soil suspected or showing evidence of contamination must be tested and managed in accordance with the *Waste Classification Guidelines* (EPA, 2014) and the *Contaminated Land Management Act 1997* (CLM Act). The disposal method must be agreed with the Project Manager prior to disposal.	☐

CM2	Environmental spill kits containing spill response materials suitable for the works being undertaken must be kept on site at all times and be used in the event of a spill.	☐
CM3	All chemicals or other hazardous substances must be stored in suitable areas away from drainage lines. The capacity of the bunded area must be at least 133% of the largest chemical contained stored within the bunded area. The location of chemical storage or bunded enclosure/s must be shown in the SEP.	☐
CM4	Contamination mitigation and management strategies must be documented and implemented in accordance with the CLM Act. Strategies for known contamination must be included in an SEP and include: • Assessment and treatment of contaminated materials. • Transport and disposal of contaminated materials. • Sampling and delineation of existing contaminants. • Waste tracking.	☐
Stormwater and Groundwater		
SG1	Spoil/soil must be stockpiled in a manner so as to avoid the possibility of sediments entering waterways (including stormwater) or migrating off-site.	☐
SG2	Any bulk fuel/herbicide or hazardous materials transport vehicles must be parked on level ground a >40 metres from waterways (including drainage and irrigation channels). No refuelling or bulk herbicide preparation must occur within 40 metres of a waterway or open site drains.	☐
SG3	Any spills of oil, fuel and other liquids must be cleaned up promptly and immediately and reported to the Site Manager.	☐
SG4	Where required, surface and groundwater mitigation and management strategies must be documented and implemented in accordance with the Site Plan/ESCP.	☐
Flora and Fauna		
FF1	Prior to work commencing, all contractors and staff must be briefed on flora/fauna issues and mitigation measures during the project induction.	☐
FF2	Where required flora and fauna mitigation and management strategies must be documented and implemented in accordance with an SEP. This must include the management of: • Habitat and vegetation clearing. • Rehabilitation.	☐

Weeds and Pests		
WE1	Where weed issues are identified mitigation and management strategies must be documented in the SEP. This may include: • Wash down procedures to reduce the spread of weeds via vehicles and machinery. • Targeting areas of potential new outbreaks including soil stockpiles, roadsides and any other disturbed areas. • Cleaning of vehicle tyres, undersides and radiator grills before leaving a property, cleaning of footwear and minimising soil movement between locations. • Monitoring programs for noxious and problematic weeds and pests on site and in the adjacent to the project area to ensure the requirements of *Noxious Weeds Act 1993* are met. • Mitigation of noxious and problematic weeds and pests should they be found. • Imported material must be weed free. • Working from clean areas towards weedy areas to reduce the spread of weeds.	☐
Heritage		
H1	In the event that a site, artefact or relic (as defined by the *National Parks and Wildlife Act 1974* or *Heritage Act 1977*) is identified during construction works, works would cease at the location. The find would be immediately reported to the TransGrid Regional Environment Manager / Officer, and the regulator in accordance with legislation. No work would commence in the vicinity of the find until any required approvals have been given by the regulator.	☐
H2	Aboriginal and historic heritage mitigation and management strategies must be included in an SEP: • The management of sites, including procedures for the identification of heritage sites and items for those working on site. • Site inductions. • Procedures for obtaining all necessary heritage impact permits.	☐
Visual		
V1	All construction plant, equipment, waste and excess materials must be contained within the designated boundaries of the work site and must be removed from the site following the completion of works.	☐
V2	Where required visual mitigation and management strategies must be documented in an SEP. This may include: • Screening. • Longer term rehabilitation strategies. • Design amelioration such as suitable component materials and colour treatment with low reflective properties. • Material and plant storage and maintenance areas (taking into account visibility from residences and roads).	☐

Noise		
N1	Noise generating works must be in accordance with the *Interim Construction Noise Guideline* (DECC, 2009). The standard hours for construction work must be in accordance with the Guideline: • 7:00am – 6:00pm Monday to Friday. • 8:00am – 1:00pm Saturdays. • No work on Sundays or Public Holidays. Noise generating works outside of the standard construction hours must require the formal written consent of TransGrid and require justification in accordance with the Guideline.	☐
N2	Where neighbouring properties or sensitive receivers may be affected by noise they must be notified as to the timing and duration of the construction works prior to commencing work.	☐
N3	Noise mitigation and management strategies must be documented and implemented in accordance with an SEP. This must include: • Noise monitoring. • Recording of noise complaints. • Awareness training of staff and contractors in environmental noise issues. • The installation of noise walls. • Scheduling construction stages to minimise multiple use of the noisiest equipment or plant items near noise sensitive receptors. The positioning of plant items to reduce noise emissions to noise sensitive receptors.	☐
Air Quality		
AQ1	Vehicles and equipment must be maintained in accordance with the manufacturer's specifications.	☐
AQ2	If necessary, dust suppression techniques must be implemented, such as water spraying of surfaces and covering stockpiles and must be incorporated into the ESCP.	☐
Traffic, Transportation and Access		
T1	Transportation and equipment delivery must be in accordance with Roads and Maritime Services and Council requirements.	☐
T2	Traffic, transportation and access mitigation and management strategies must be documented and implemented in accordance with an Access Plan or Traffic Management Plan and updated as required. This must include: • The management of the delivery of equipment / materials and site parking. • Access to and from the site including nominated roads and site access tracks.	☐
Waste		
WA1	All waste which cannot be reused must be classified in accordance with the *Waste Classification Guidelines* (EPA, 2014), removed from the site and disposed of at places that can lawfully accept the waste in accordance with the POEO Act and POEO Waste Regulation.	☐
WA2	Data in relation to all waste disposals (including total disposal) must be retained.	☐

WA3	Concrete trucks are permitted to flick wet wipe their discharge chutes with the effluent discharged into prepared bored holes, prepared excavations/formwork or a receptacle (to be shown on the SEP/ESCP). No agitator washout is permitted. Surplus concrete must be returned to the concrete suppliers for recycling.	☐
WA4	Any oil/ oil bearing equipment must be appropriately stored in a suitably bunded area. Any oil that is suspected of containing PCB must be tested for PCBs (NATA certified).	☐
WA5	Timber/wooden poles, including pole butts, must be disposed of in accordance with TransGrid procedure *GD EN G2 023 Waste Management*. No poles or pole butts must remain on site and must be disposed of in accordance with waste regulations.	☐
WA6	Waste mitigation and management strategies must be documented and implemented in accordance with TransGrid Waste Procedures and Work Instructions. This must include: • Waste management on-site including set-up, use, management, removal and disposal (including waste tracking documentation). • Waste hierarchy application including information demonstrating the reduction of the amount of waste produced and the maximised re-use and recycling of waste materials. • Appropriate waste management across all possible waste items produced.	☐
WA7	All rubbish/wastes must be removed from site daily.	☐
Bushfire Risk		
BR1	All hot work must be undertaken in accordance with TransGrid's Hot work Procedure.	☐
BR2	No fires or burning of materials are permitted on site.	☐
Incident Response		
IR1	All incidents and near misses must be reported to the Site Manager. Any pollution incidents that threatens or harms the environment must be reported immediately to relevant authorities in accordance with the requirement of TransGrid's Environmental Incident Notification procedure and the requirements of the *Protection of the Environment Operations Act 1997* (POEO Act).	☐
IR2	A Hazardous Materials Register and respective Safety Data Sheets (SDSs) must be kept on site at all times and regularly maintained.	☐
Site Stabilisation / Rehabilitation		
SSR1	Disturbed areas must be stabilised / rehabilitated (including areas not required for operation) as close to the pre-existing condition as soon as possible (for revegetation / soil preparation refer to *Blue Book*).	☐

SECTION F – ATTACHMENTS

Select the relevant attachments for this Environmental Checklist and ensure they are attached to this document:

☐	Documentation showing works have been classified as *exempt development* e.g. Exemption Certificate, reference to the Project Scoping Study reference or email from Asset Strategy
☐	TAMIS report
☐	Copies of all Stakeholder/Property Owner correspondence and notifications
☐	Site Environmental Plan / Site Plan
☐	Erosion & Sediment Control Plan
☐	Hot Work Permit / FRACM Form
☐	Road Occupancy Licence
☐	Any other permits, licenses or approvals
☐	Waste tracking certificates and disposal records
☐	Oil / PCB Management Form
☐	Other? Please Specify:

SECTION G – AUTHORISATIONS AND APPROVALS

The actions described in this Environmental Checklist, including all control measures, have been considered taking into account:

(a) All matters affecting or likely to affect the environment by reason of the proposed action,

(b) TransGrid's existing legal obligations, if any, which apply to the proposed action, and

(c) Whether the proposed action is likely to result in a complaint being communicated to TransGrid.

Prepared by:	**Service Number:**
Authorisation Level: *(at least E4 required)*	**Date:**
Signature:	

This checklist is valid for 2 years from the date of approval. If action is still required after 2 years, a new Environmental Checklist and TAMIS Report must be prepared.

Were any environmental trigger(s) exceeded in TAMIS or was there a requirement to contact the HSE Group in Section B?

☐ **YES** **(E5 approval required)** ☐ **NO** **(E4 approval required)**

Approved by:	**Service Number:**
Authorisation Level:	**Date:**
Signature:	

Comments:

If an environmental trigger is exceeded, additional sign off is required from the relevant Manager below:

Scope of work confirmed by (Name):	
Position: *Relevant Level 3 Manager from Maintenance or Construction Services or delegated engineering officer*	**Service Number:**
Signature:	**Date:**

Comments:

NOTE: The approval/endorsement above is for the scoped work detailed in the attached work plans. Any changes to the approved scope of work will require a re-approval/endorsement.

Following approval, this Environmental Checklist should be saved in TRIM under the relevant file.

SECTION H – HANDOVER AND CONFIRMATION (FOR HANDOVER TO SITE SUPERVISORS)

I understand the requirements of this Environmental Checklist and will implement all stipulated control measures.

NAME / ORGANISATION	SIGNATURE	DATE
Print name and Organisation[a] of the E3 Supervisor who is receiving the Environmental Checklist.		
Record any subsequent E3 - E3 Handover[b]		

REMEMBER: The authorised E3 Supervisor is responsible for inducting all staff / sub-contractors into the *Work Package*. Work may only commence on a daily basis once an induction (including the PWRA and review of the Control Measures) is undertaken. An E3 authorised Supervisor must be on site at all times.
If a new E3 Supervisor is appointed a full handover of *Work Package* shall be undertaken and signed over in the table above.

CONFIRMATION OF SUCCESSFUL COMPLETION OF SCOPE OF WORKS INCLUDING ENVIRONMENTAL CONTROLS (to be completed by E3 supervisor at end of works)

I verify that all necessary environmental control measures outlined above have been successfully implemented.

NAME / ORGANISATION	SIGNATURE	DATE
Print name and Organisation[a] of the E3 Supervisor		