

Initial assessment report for the New Bridgewater Bridge Major Project

Prepared by:

New Bridgewater Bridge Major Project Development Assessment Panel

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GPO Box 1691

Hobart Tasmania 7001

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Email address: tpc@planning.tas.gov.au

Internet address: www.planning.tas.gov.au

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1.2 New Bridgewater Bridge Major Project

On 30 December 2020 the Minister for Planning declared the New Bridgewater Bridge a major project under section 60O(1) of the Act. A copy of the declaration is available on the [Commission's website](#)².

The Department of State Growth (State Growth) is the proponent for the New Bridgewater Bridge Major Project (the major project), which proposes the construction of a new bridge to replace the existing two lane bridge forming part of the Midland Highway at Bridgewater.

The major project broadly seeks to improve safety and road efficiency. The bridge will consist of two traffic lanes in each direction and one shared pedestrian and cyclist path crossing the River Derwent adjacent and south of the existing bridge. The major project is detailed in the major project impact statement (MPIS).

The Panel, following public exhibition and advice from regulators, determined the assessment criteria for this major project on 26 May 2021. The assessment criteria are available on the [Commission's website](#)³.

The participating regulators for this major project are:

- (a) the Tasmanian Environment Protection Authority;
- (b) Tas Gas;
- (c) TasWater;
- (d) Tasmanian Heritage Council; and
- (e) the Department of Primary Industries, Parks, Water and Environment.

1.3 Major project impact statement (MPIS)

The declared major project is the use and development for which the Panel must determine to refuse or grant a major project permit.

The MPIS is a report providing responses to the assessment criteria to support the proposal to undertake the declared major project.

State Growth submitted the MPIS on 25 August 2021.

Following notification from the Environment Protection Authority, Tasmanian Heritage Council and Department of Primary Industries, Parks, Water and Environment, the Panel required State Growth to provide an amended MPIS.

An amended MPIS, provided on 15 November 2021, is considered in this initial assessment report.

1.4 Initial assessment

Section 6OZZA of the Act requires the Panel to prepare an initial assessment report and sets out the requirements for the report.

The initial assessment report is structured to follow the assessment criteria with land use planning matters and participating regulator matters considered separately.

² https://www.planning.tas.gov.au/_data/assets/pdf_file/0008/597428/Declaration-of-Major-Project-Proposal-Bridgewater-Bridge-Signed-by-Minister-Jaensch-30-Decemeber-2020.pdf

³ <https://www.planning.tas.gov.au/assessments-and-hearings/current-assessments-and-hearings/new-bridgewater-bridge-major-project-permit>

Reason: To give effect to commitments and recommendations in the MPIS and to minimise adverse impacts on natural coastal processes and natural assets from reclamation.

Clause 4.7.1 Electricity entity infrastructure protection

Clause 4.7.1 of the assessment criteria requires an assessment of how development, including during construction, avoids unreasonable impacts on the safety, security, operation of, or access to, existing or future electricity entity infrastructure.

The proponent provided further information in the form of plans of the proposed bridge and interchange alignments in November 2021, and these are incorporated into the MPIS.

The MPIS provides an assessment of potential impacts electricity entity infrastructure within the project land, in section 4.7 of the MPIS, including:

- suggesting that the linear nature of the major project constrains and limits impacts;
- proposing a range of mitigation measures to avoid or mitigate impacts on operational efficiency, access to and security of the electricity infrastructure;
- proposing a range of measures to avoid or mitigate against a safety hazard associated with proximity to the electricity entity infrastructure; and
- advising that all electrical infrastructure required to be relocated or removed will be advised to the electricity entity in accordance with the relevant provisions of the *Roads and Jetties Act 1935*.

TasNetworks provided further information to the Panel that noted a TasNetworks review of the MPIS (dated August 2021), indicated that:

- there are no potential impacts from the major project that would cause an unreasonable impact on the safety, security, operation of, or access to, existing or future electricity infrastructure;
- no conditions or restrictions are required to be placed on a permit to minimise the potential impacts on the electricity infrastructure; and
- the MPIS contained sufficient information to make this assessment.

The Panel considers that the MPIS addresses potential impacts on electricity entity infrastructure.

The Panel notes that:

- the plans in Appendix A do not overlay the permanent works footprint; and
- the proximity of development to electricity infrastructure must be inferred by interpreting a variety of plans; and
- there are changes to the extent of proposed works between the August 2021 version of the MPIS reviewed by TasNetworks, and the November 2021 version of the MPIS on exhibition.

At this stage having regard to the information before the Panel, if it were to grant a permit, there are no specific conditions or restrictions that may be imposed, as there are no identified potential impacts from the major project that would cause an unreasonable impact on the safety, security, operation of, or access to, existing or future electricity infrastructure.

Clause 4.8.1 Development in flood-prone areas

Clause 4.8.1 of the assessment criteria requires a flood hazard report for development in a flood-prone area, excluding where development is in a coastal inundation hazard area.

The proponent provided further information on the methodology applied to the flood hazard report, and provided updated results and discussion, in November 2021. This information is incorporated into the MPIS at section 4.8, Appendix S – Flood Hazard Report, and Appendix BB – Memorandum – Comparison of ‘Chosen Design’ to Completed assessment of Dredging and Reclamation, and Flood-prone Areas.

The proponent also provided the following information separately in response to a request for further information on whether any HEC-RAS model was setup to compare head loss through the bridge(s): No HEC-RAS model was undertaken, but pier sensitivity was undertaken in section 4.1.2.2 of the flood hazard report.

The Flood Hazards Report sets out that future climate is expected to include more intense rainfall and higher sea levels, leading to an increased risk of flood over time, and further modelling was required of the final design to determine flood mitigation or reduction strategies.

The flood hazard report identifies that:

- without the proposed New Bridgewater Bridge there are existing intolerable risks, including:
 - overtopping of the existing causeway in some areas;
 - flooding of some low lying properties on the northern side of the River Derwent, just upstream of the existing bridge;
 - overland flows through some properties in Bridgewater; and
 - flows over roadways around Black Snake Rivulet;
- with the New Bridgewater Bridge and retention of the existing Bridgewater bridge piers:
 - water levels increase upstream approximately 0.07 m, causing an increase in flood risk which may require mitigation due to more overtopping of the existing causeway, and minor increase in flood extent over the Watch House (1 Lyell Highway, Granton) and 12 houses (1, 2, 4, 5 and 7 Wallace Street, and 1 to 5 Riverside Drive); and
 - there is reduced flood protection at 37 Black Snake Road, but habitable area are not inundated.

The flood hazard report concluded that a tolerable risk from flood over the 100 year intended life of the bridge from a 1% AEP flood event can be achieved through adequately sized drainage infrastructure, elevated road levels (or equivalent alternatives), strategies to reduce flood risk on side roads, and ongoing administrative controls.

The Panel notes that the MPIS advises that the use or development can achieve and maintain a tolerable risk for the intended life of the development.

However, the Panel notes that:

- it is unclear what checks have been undertaken to confirm runoff depth;
- floor levels of impacted properties / structure have not been confirmed;

- the modelling does not identify the effects of the major project on time of inundation or flood duration;
- the modelled impacts extended to the up-stream boundary of the model, suggesting the model boundary may be inappropriate;
- the need for modelling of the final design, and the need to calculate bridge losses using an alternative method such as HECRAS to confirm the head loss seen in the 2D model;
- removal of the H1 category from the mapping (where H1 defines the risk threshold) ignores areas where risk exists; and
- the impacts from flood during construction are undefined; and
- there is no explicit assessment of risk detailed in the flood hazard report to support the conclusions that a tolerable level of risk can be achieved.

The Panel further notes that impacts of flooding on registered heritage places has not been identified in the MPIS response to Tasmanian Heritage Council requirements, in particular:

- while not discussed in the flood hazard report, there appears to be an increase in the extent of the H5 flood hazard category on Former Black Snake Inn property. Where the H5 category is identified as unsafe for vehicles and people, all buildings vulnerable to structural damage, some less robust building types vulnerable to failure;
- it is unclear if there is an increased risk from flood to any matters of cultural heritage significance for the Former Black Snake Inn; and
- there is increase in flood extent over the Watch House (1 Lyell Highway, Granton).

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Final design plans
Condition No.: (4) and (5)
- Flood management plan
Condition No.: (20) and (21)

Reason: To give effect to commitments and recommendations in the MPIS and to achieve and maintain a tolerable risk from flood.

Clause 4.9.1 Geoconservation

Clause 4.9.1 of the assessment criteria requires an assessment of how potential impacts on the geodiversity values of sites of geoconservation significance arising from development, including during construction, will be minimised.

The proponent provided further information in the form of plans of the proposed bridge and interchange alignments in November 2021, and these are incorporated into the MPIS.

The MPIS provides an assessment of potential impacts on geodiversity values within the project land in section 4.9 and Appendix W – Geoheritage Impact Assessment, including:

- identifying two sites of geoconservation significance, the Brooker-main junction section of the Granton to New Norfolk Quaternary Stratigraphic Sites, ID No. 3278

(the Brooker sub-site), and the Lower Derwent River Estuarine Delta and Flood Plains, ID No. 2241 (the lower Derwent site);

- identifying potential impacts and categorising the scale of impact;
- evaluating the existing condition and sensitivity of geodiversity values;
- identifying that the low level of impact on the lower Derwent site requires no specific mitigation strategies to be applied; and
- proposing measures to mitigate or offset adverse impacts on the Brooker sub-site.

The Panel considers that the MPIS addresses potential impacts on the geodiversity values of sites of geoconservation significance. The Panel notes that the extent of impact on the sites and how any impacts are minimised must be inferred from reviewing plans and commentary in various appendices.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Geoconservation
Condition No.: (22) and (23)
- Construction environmental management plan
Condition No.: (8)

Reason: To give effect to commitments and recommendations in the MPIS and to minimise the potential impact on geodiversity values of sites of geoconservation significance from development, including construction.

Clause 4.10.1 Development subject to landslip hazard

Clause 4.10.1 of the assessment criteria requires a landslip hazard report for development, including during construction, that does not require authorisation under the *Building Act 2016*, and:

- (a) involves significant works; or
- (b) is within a medium-active landslip hazard band or high landslip hazard band.

The proponent provided further information in the form plans of the proposed bridge and interchange alignments in November 2021, and these are incorporated into the MPIS.

The MPIS and Appendix P – Landslip hazard report:

- identifies that the project land as being impacted by landslip hazard areas. Two landslip hazard areas, classified as the medium landslip hazard band occur in the project land on manmade batter slopes associated with the existing highway;
- sets out the major project involves significant works;
- notes there are no areas within the project land identified with a medium-active land hazard band or high landslip hazard band;
- found that the development is considered unlikely to cause or contribute to the occurrence of a landslip event on the project land, adjacent land or public infrastructure providing that:
 - appropriate parameters, design standards, are considered in the design of new cuttings and embankments;

- appropriate excavation and temporary and permanent support techniques are utilised in the works; and
- appropriate rockfall hazard mitigation measures are implemented as part of the design.
- found that subsurface soil below the causeway are of very low strength and have a high risk of slope/embankment failure if the causeway is subject to uncontrolled changes in condition, noting risks can be readily controlled during construction with sound engineering designs and work method statements, complying with relevant standards, in particular AS5100.3, combined with appropriate monitoring.

The Panel considers that the MPIS addresses whether the use or development can achieve and maintain a tolerable risk for the intended life of the development.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Final design plans
Condition No.: (4) and (5)
- Landslip hazard
Condition No.: (24) and (25)

Reason: To give effect to commitments and recommendations in the MPIS and to achieve and maintain a tolerable risk from landslip.

Clause 4.11.1 Local historic heritage values

Clause 4.11.1 of the assessment criteria requires a heritage impact statement for development, including during construction, on or adjacent to, a local heritage place or within a local heritage precinct.

The proponent provided further information identifying local heritage places and registered places, and assessing the local historic heritage significance, photomontages and laydown exclusion areas.

Information is incorporated into the MPIS and Appendix L – Heritage Impact Statement, excluding the photomontages and indicative laydown exclusion zones provided in Appendix 3 of this report.

The proponent has not provided the further information requested in relation to vibration risk assessment for built local heritage places within and adjacent to the study area.

The MPIS provides a heritage impact statement for most local heritage places within or adjacent to the project land.

The MPIS identifies there are no local heritage precincts within or adjacent to the project land.

The Panel considers that the assessment criteria have not been fully addressed and that this may be caused by timing of preparing the MPIS reports and timing of the Brighton and Glenorchy local provision schedules becoming effective.

The Panel notes the MPIS has not addressed the potential for impacts on the heritage values of:

- the adjacent Parkview (BRI-C6.1.20);

- the adjacent Fairfield, formerly Hayfield (BRI-C6.1.70)
- the adjacent Duke of York Hotel (GLE-C6.1.180); and
- portions of 37 Blacksnake Road (GLE-C6.1.181) listed under the Glenorchy Local Provisions Schedule.

The Panel notes that MPIS has not addressed how impacts to 37 Black Snake Lane might be avoided or mitigated, or provided any evidence that impacts are unavoidable.

The Panel also note that the MPIS has only partially addressed whether there will be impact on local historic heritage significance, with potential indirect impacts from vibration proposed to be addressed in a Construction Environmental Management Plan.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Final design plans
Condition No.: (4) and (5)
- Local Heritage
Condition No.: (26), (27) and (28)
- Tasmanian Heritage Council
Condition No.: (61)(b)(v)i.

Reason: To give effect to commitments and recommendations in the MPIS and to avoid or ameliorate impacts on local historic heritage significance of local heritage places.

Clause 4.12.1 Marine safety and infrastructure

Clause 4.12.1 of the assessment criteria requires an assessment of how development, including during construction, provides for safe navigation of vessels, and use of marine infrastructure.

The proponent provided further information concerning the intention to reinstate a Bridgewater boat ramp and adjacent jetty at its existing location, following completion of construction of the bridge in November 2021. This further information is incorporated into the MPIS and Appendix D – Marine Safety Assessment Report.

The MPIS provides an assessment of how development provides for safe navigation of vessels and use of marine infrastructure within the project land, in section 4.12.1 and Appendix D – Marine Safety Assessment Report, including advice that:

- the existing Bridgewater boat ramp and jetty will be decommissioned during construction, and reinstated to an equivalent or better standard;
- vessel movement within the project land will be restricted during construction;
- navigation clearance is provided between the existing and new bridge alignments; and
- management measures, such as, installation of temporary signage and markers during construction, and new signage and markers after construction, and having a workboat to assist in access to the project land.

Marine and Safety Tasmania (MAST) provided further information to the Panel that noted MAST had discussed marine safety issues with the Department of State Growth and was content with the contents of Appendix D.

The Panel considers that the MPIS addresses the impact on movement of vessels, navigation aids and markings, and measures to minimise adverse effects. The Panel notes that:

- the proponent caveats the commitment for reinstatement of the Bridgewater boat ramp and adjacent jetty; and
- the MPIS does not clearly address potential impacts on the safe operation of the proposed boat ramp and jetty.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Marine safety and infrastructure
Condition No.: (29), (30) and (31)

Reason: To give effect to the commitments and recommendations in the MPIS and to minimise the potential impact on marine safety and infrastructure from development, including construction.

Clause 4.13.1 Public open space

Clause 4.13.1 of the assessment criteria requires an assessment of how use and development, including during construction, will maintain and encourage connectivity of the public open space network.

The proponent provided further information including plans of the existing and future open space network, connectivity, and indicated the potential opportunities for integrating surplus land into the open space network, and these are incorporated into the MPIS.

The MPIS provides an assessment of how use and development will maintain and encourage connectivity of the public open space network, in section 4.13, including:

- identifying that the project land contains formal open space areas, such as the Brighton War memorial, Brighton boat ramp, a small playground at Nielson Esplanade, and walking tracks and overpass, along with an informal open space area adjacent to the Midland Highway pedestrian overpass;
- identifying that there are a range of formal open space areas close to the project land within the residential area of Bridgewater, the foreshore at Brighton to the East of the project land, and Granton green and memorial hall adjoining the project land on the south;
- setting out there will be improved foreshore accessibility, with an opportunity for the creation of a foreshore trail beneath the new bridge to link existing foreshore paths, along with a shared pathway between Granton and Bridgewater;
- advising that construction impacts will include closure or limited access by boats and users to the River Derwent, closure of the boat ramp, and limited public access to unspecified locations on the northern shore at Bridgewater; and
- setting out that the major project will either further or achieve relevant local strategies.

The Panel considers that the MPIS provides an assessment of where the existing open space network is, how the use and development will maintain and encourage connectivity once completed.

The Panel notes that:

- the functional requirements of the use and development must be inferred from the discussion of impacts and plans provided;
- the MPIS provides limited assessment of existing connectivity between areas of public open space;
- there is no clear assessment of or commitments on, how connectivity will be maintained during construction, such as connectivity to the playground at Nielsen Esplanade, the pathway behind Braydon Court and Hayton Place, or access from the commercial area of Bridgewater; and
- issues of connectivity are also dealt with, in part, in clause 4.2.3 Safety and efficiency of the road, rail and public transport network.

The Panel further notes that the ongoing connectivity of the open space network will be effectively addressed under conditions or restrictions associated with clause 4.2.1 Sustainable transport.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Public open space
Condition No. (32)
- Construction Environmental Management Plan
Condition No. (7) and (8)

Reason: To give effect to the commitments and recommendations in the MPIS and to maintain and connectivity of the public open space network during construction.

Clause 4.14.1 Siting and scale

Clause 4.14.1 of the assessment criteria requires an assessment of how development is designed and sited to not cause an unreasonable loss of amenity to adjacent properties.

The proponent provided further information on the characteristic of existing screening and measures to be put in place to not cause an unreasonable loss of amenity to adjacent properties, including updated plans. This information is incorporated into the MPIS, Appendix F – Solar Modelling Analysis, Appendix BB – Memorandums - 4.13 Public Open Space and 1.14 Siting and Scale , and also set out in figures of Appendix AA – Landscaping Plans.

The MPIS provides an assessment of how development is designed and sited to not cause an unreasonable loss of amenity to adjacent properties in section 4.14.1, including:

- overshadowing is anticipated to impact on 6 Nielsen Esplanade throughout the year, but limited to the garden area in December to March. Overshadowing on 21 June will occur from 4 pm to sunset;
- 8, 10 and 12 Nielsen Esplanade will also be overshadowed from 4:00 pm until sunset 21 June;
- there is capacity for overlooking of 6 Nielsen Esplanade, 8 and 13 Gunn Street, and 4, 6 and 8 Waters Loop on the northern shore at Bridgewater, the Black Snake Inn at 650 Main Road and other properties adjoining the southern interchange at Granton;
- existing screening is limited to 1.5 to 1.8m timber fencing, along Nielsen Esplanade, Gunn Street, Water Loop and Hayton Place; and

- it is proposed to install tree screening as set out in figures 4-15, 4-16 and 4-17 of the MPIS.

The Panel considers that the MPIS provides an assessment of how development is designed and sited to not cause an unreasonable loss of amenity to adjacent properties. The Panel notes that:

- it is unclear if reported potential for overlooking is based on moving vehicles on the highway and off ramps or from pedestrian and cycle paths;
- the reported potential for overlooking appears to be consistent with the August 2021 design with the pedestrian and cycleway located on the eastern side of the proposed new Bridgewater Bridge, instead of the November 2021 design in Appendix AA that depicts the pedestrian and cycleway on the western side; and
- the setback of existing buildings on and adjacent to the project land, and the bulk, height and form, while considered in the solar modelling analysis, are not discussed in the assessment.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Landscape plan
Condition No.: (33) and (34)

Reason: To not cause an unreasonable loss of amenity to adjacent properties.

Clause 4.15.1 Visual impact

Clause 4.15.1 of the assessment criteria requires a landscape and visual impact assessment report that demonstrates how development, including during construction, minimises adverse impacts on landscape values and visual amenity.

The proponent provided further information on the material and finishes palette, planting schedule, identified representative view points and assessed the magnitude of change from those viewpoints, along with detailing measures to mitigate adverse impacts on landscape values and visual amenity. This information is incorporated into the MPIS, Appendix V – Visual Impact Analysis, and also set out in figures of Appendix AA – Finishes schedule.

The MPIS identifies the project land as:

- having a generally moderate scenic quality, with the River Derwent having a high scenic quality;
- being overall moderately sensitive to change, noting that sensitivity is dependent on the viewing location; and
- being in a landscape that has a high capacity to accommodate visual change.

The landscape and visual assessment report (Appendix V) demonstrates how development, including during construction, minimises adverse impacts on landscape values and visual amenity, including:

- identifies that the chosen design has a high magnitude of impact due to the chosen colour scheme and decorative lighting, the generally moderate scenic quality of the setting with nearby residential development, balanced by the sensitivity where transport infrastructure is accepted and the moderate visual absorption capacity of the landscape;

- finding that the high magnitude of impact, considering the moderate visual absorption capacity, identifies the development as having a highly significant visual impact that requires mitigation measures;
- identifies a range of mitigation requirements, including measures relating to site management of construction activities, revegetation and landscaping, bridge colour and finishes, the retention of portions of the existing bridge, colour, lighting, and treatment of rock cuttings; and
- finding that retention of the existing Bridgewater Bridge with the new Bridgewater Bridge will lead to a greater visual impact, compared to removing / relocating the lift span and retaining the piles/caissons.

The Panel considers that the MPIS demonstrates how development, including during construction, minimises adverse impacts on landscape values and visual amenity.

The Panel notes that:

- the methodology used to prepare photomontages is not clear; and
- the photomontage depiction of the extent of application and brightness of both the 316 stainless steel, yellow paint finish, and the precast concrete yellow paint finish shown in Appendix AA – Finishes Schedule, is not consistent with the recommendations in Appendix V.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Landscape plan
Condition No.: (33) and (34)
- Lighting plan
Condition No.: (35) and (36)
- Final design plans
Condition No.: (4) and (5)

Reason: To give effect to the commitments and recommendations made in the MPIS and to minimise adverse impacts on landscape values and visual amenity from development.

2.2 Participating regulator matters

Clause 5.1 Environment Protection Authority requirements

As set out in clauses 5.1.1 to 5.1.7 of the assessment criteria, the requirements of the Environment Protection Authority are for an assessment of air emissions, noise emissions, water quality, stormwater, hydrogeology, contaminated land, and light pollution.

The proponent provided further information on how potential impacts were modelled, including model revisions, potential mitigation strategies and ongoing monitoring.

This information is incorporated into:

- the MPIS;
- Appendix A – Section 5 participating regulators;
- Appendix G – Aquatic risk assessment;

- Appendix I – Air emission assessment;
- Appendix J – Noise impact assessment;
- Appendix N – Contamination, Acid Sulfate Soil, Waste and Groundwater Investigation;
- Appendix Q – Artificial light impact assessment and management plan;
- Appendix R – Hydrodynamic modelling; and
- Appendix Z – Stormwater assessment.

The MPIS identifies that the use and development has the potential to cause or contribute to environmental nuisance and/or environmental harm through the emission, discharge, depositing or disturbance of pollutants.

The Panel considers that based on the preliminary condition advice, including reasons, provided by the Board of the Environment Protection Authority (EPA), the MPIS addresses the relevant assessment criteria. A copy of the preliminary condition advice is included in Appendix 2 of this report.

The Panel notes the preliminary condition advice includes overlap with other conditions that the Panel may impose, if it were to grant a permit, such as, the lighting plan;

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed are those recommended by the EPA.

The Panel also considers that, if it were to grant a permit, it would designate the EPA as the relevant regulator responsible for enforcement of the following conditions.

- Environment Protection Authority
Condition No.: G1 to G7, A1 to A5, D1, FF1, GW1, H1 to H3, L1 and L2, M1, N1 to N6, S1 and S2, WM1, and WQ1 to WQ8

Clause 5.2 Tas Gas requirements

Clause 5.2 of the assessment criteria requires an assessment of the potential impacts of the proposed development and construction on gas infrastructure.

The MPIS provides an assessment of the potential impacts of development and construction on gas infrastructure in section 5.2, including:

- a description of works to be carried out within 150m and 25m of a gas pipeline, outlining the nature and location of the works; and
- proposed risk and mitigation controls.

The Panel considers that based on the preliminary condition advice, provided by Tas Gas, the MPIS addresses the relevant assessment criteria. A copy of the preliminary condition advice is included in Appendix 2 of this report.

The Panel notes the preliminary condition advice is unclear in the timing of recovering costs, and if reference to Tas Gas procedure requirements relate to any particular document or set of standards that could be accurately referenced.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed are those recommended by Tas Gas.

The Panel also considers that, if it were to grant a permit, it would designate Tas Gas as the relevant regulator responsible for enforcement of the following conditions.

- Tas Gas
Condition No. (40), (41) and (42)

Clause 5.3 TasWater requirements

Clause 5.3 of the assessment criteria requires an assessment of how the potential impacts on water and sewerage infrastructure are avoided or mitigated.

The MPIS provides an assessment of how the potential impacts on water and sewerage infrastructure are avoided or mitigated in section 5.3, including:

- the expected consequential changes expected to water and sewer infrastructure;
- the expected measures to avoid or mitigate impacts; and
- provision of a service tray capable of accommodating 3 x 300mm pipes, together with associated air valves, vents and scour points.

The Panel considers that based on the preliminary condition advice, provided by TasWater, the MPIS addresses the relevant assessment criteria. A copy of the preliminary condition advice is included in Appendix 2 of this report.

The Panel notes that while the MPIS contains a summary list, the plans in Appendix A do not overlay the permanent works footprint as stated in the MPIS, instead they overlay the project land boundary.

The Panel also notes:

- the preliminary condition advice contains terms such as “developer”, “applicant” and the like, while the term “proponent” which is used in section 60 of the *Land Use Planning and Approvals Act 1993*;
- the interaction between powers in the *Roads and Jetties Act 1935* and the *Water and Sewerage Industry Act 2008*, is unclear.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed are those recommended by TasWater.

The Panel also considers that, if it were to grant a permit, it would designate TasWater as the relevant regulator responsible for enforcement of the following conditions:

- TasWater
Condition No. (43) to (60)

Clause 5.4 Tasmanian Heritage Council requirements

Clause 5.4 of the assessment criteria requires a heritage impact statement detailing how development, including during construction, will avoid or mitigate adverse impact on the historic cultural heritage significance of each registered place.

The proponent provided further information including:

- identifying local heritage places and registered places;
- addressing requirements of Schedule 1 – Objectives of the Act and in particular Part 2(g);
- more definitive comparative analysis of the heritage significance of the Bridgewater Bridge;

- an options analysis for the full or partial retention of the Bridgewater Bridge;
- a final, updated, heritage impact statement; and
- final Statement of Archaeological Potential (SoAP) and an Archaeological Method Statement (AMS) for the registered places within the project land.

This information is incorporated into the MPIS, Appendix L – Heritage Impact Statement and Appendix X – Comparative analysis.

The MPIS identifies the following registered places, and parts of places within the project land, as having historic cultural heritage values:

- No. 618 - Bridgewater Bridge including the convict-built causeway the 1874 and 1893 Bridgewater Bridge ruins, and the 1942 to 1946 Road Rail Bridge, shown in CPR 10257;
- No. 1612 – Former Blacksnake Inn, 650 Main Road, Granton, comprising folio of the Register 246061/1.

The Panel considers that the MPIS largely addresses the relevant assessment criteria based on the preliminary condition advice, including advice that the amendments to the MPIS address their information requirements, provided by the Tasmanian Heritage Council (THC). A copy of the preliminary condition advice is included in Appendix 2 of this report.

The Panel notes:

- the extent of the listing for Black Snake Inn remains unclear; and
- increased impacts of flood on registered places have not been considered in the heritage impact statement.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed are those recommended by the Tasmanian Heritage Council.

The Panel also considers that, if it were to grant a permit, it would designate the THC as the relevant regulator responsible for enforcement of the following conditions:

- Tasmanian Heritage Council
Condition No. (61)

Clause 5.5 Department of Primary Industries, Parks, Water and Environment requirements

The Department of Primary Industries, Parks, Water and Environment requirements require an assessment of aquatic and terrestrial flora, threatened fauna and Aboriginal heritage, set out in clauses 5.5.1, 5.5.3 and 5.5.4 of the assessment criteria.

The proponent provided further information on numbers and area of flora species to be taken, how direct impacts to animals, including nests and eggs, will be managed, numbers of eggs and nests to be impacted, and confirmation on whether any protected sites would be impacted. This information is incorporated into the MPIS, Appendix G – Aquatic risk assessment, Appendix H – Natural values assessment, and Appendix A – Section 5 participating regulators.

The MPIS identifies the following species or nests occurred or were likely to occur within the project land, along with measures to avoid, mitigate or offset impacts on these species:

- *Austrostipa bigeniculata* (double-jointed speargrass) is listed as rare on the Tasmanian Threatened Species Protection Act 1995 (TSPA)
- *Vittadinia gracilis* (woolly new-holland-daisy) is listed as rare on the Tasmanian Threatened Species Protection Act 1995 (TSPA)
- *Ruppia megacarpa* (largefruit seatassel), listed as rare on the TSPA;
- *Prototroctes maraena* (Australian grayling), listed as vulnerable on the TSPA;
- *Podiceps cristatus* (great crested grebe), listed as vulnerable on the TSPA; and
- *Botaurus poiciloptilus* (Australasian bittern); and
- nests of other waterbird species.

The MPIS also identifies three Aboriginal heritage sites within the project land.

The Panel considers that based on the preliminary condition advice, provided by the Department of Natural Resources and Environment Tasmania (DNRET), (formerly Department of Primary Industries, Parks, Water and Environment), the MPIS addresses the relevant assessment criteria. A copy of the preliminary condition advice is included in Appendix 2 of this report.

The Panel notes the preliminary condition advice:

- contains terms with uncertain meaning, such as, “direct Project footprint”, “works area” and “construction footprint”; and
- supports the MPIS commitments 55, 58 and 60, but these have not been incorporated into the participating regulators recommended conditions.

The Panel also notes under section 60ZZP(4) of the Act, the Panel must impose any final condition or restriction provided in DNRET final advice under section 60ZZF(1) of the Act in relation to the *Aboriginal Heritage Act 1975* and the *Threatened Species Protection Act 1995*.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed are those recommended by the Department of Natural Resources and Environment Tasmania.

The Panel also considers that, if it were to grant a permit, it would designate DNRET as the relevant regulator responsible for enforcement of the following conditions:

- DNRET conditions or restrictions
Condition No. (62) to (68)

Clause 5.5.2 Vegetation communities

Clause 5.5.2 of the assessment criteria requires assessment of how the potential impacts of development, including during construction, on vegetation communities listed under the *Nature Conservation Act 2002* are avoided, mitigated or offset, and provide details of any proposed measures to mitigate or offset adverse impacts on biodiversity and nature conservation values, where impacts cannot be avoided.

The proponent provided further information on the extent of impacts to the wetland vegetation community in response to clarifying of the extent of reclamation and impacts on species listed under the *Threatened Species Protection Act 1995*.

This information is incorporated into the MPIS, Appendix G – Aquatic risk assessment, Appendix H – Natural values assessment, Appendix A – Section 5 participating regulators, and Appendix BB – memorandum for dredging and reclamation.

The MPIS provides an assessment of impacts on threatened native vegetation communities including:

- identifying that direct impacts (clearance and conversion) from reclamation and piling is in the range of 2.5-3.3ha of wetlands;
- identifying potential impacts of up to 16.3ha, which comprises all the wetland community with the “potential permanent works area”, with potential impacts from sedimentation, localised scouring, release of contaminants, and shadowing.
- the Aquatic risk assessment considering the potential for impacts from deposition to be negligible;
- considering the impact on the threatened species community in the context of the bioregional and state distribution of the community; and
- recommending mitigation measures.

The Department of Natural Resources and Environment Tasmania provided further information to the Panel, noting it supported commitments 35 through to 43, and 52, 53 and 54 of the MPIS, and recommending the mitigation measures for the construction phase outlined in section 5.5.2.2 of the MPIS are applied.

The Panel considered the MPIS assessment of how the potential impacts of development, including during construction, on vegetation communities listed under the *Nature Conservation Act 2002* are avoided, mitigated or offset.

The Panel notes that the recommended mitigation measures in the MPIS include recommendations only applicable to terrestrial native vegetation communities or are also applicable to clauses 5.1, and 5.5.1.

Having regard to the information before the Panel, if it were to grant a permit, conditions or restrictions that may be imposed, which are set out in section 2.3, include:

- Construction environment Management Plan
Condition No. (8)(f), 8(g) and (8)(h)
- vegetation communities
Condition No. (37)
- Weed Disease and Hygiene Management Plan
Condition No. (38) and (39)

Reason: To give effect to commitments and recommendations in the MPIS and to avoid and mitigate potential impacts on threatened native vegetation communities.

2.3 Conditions and restrictions

The following conditions or restrictions include what the Panel may impose, if it were to grant a permit.

Where practicable, conditions and restrictions are drafted so that only either the relevant decision maker or a participating regulator may be responsible for enforcement.

References to the relevant decision maker means the Commission or Panel with relevant regulators responsible for enforcement separately identified.

The conditions or restrictions include the matters identified in section 2.0 of this report, above, along with additional conditions that may be necessary for the effective operation of a permit. These additional conditions include those set out under the headings in Approved and endorsed plans and Staging.

Conditions or restrictions have been included to give effect to commitments and recommendations set out in the MPIS, where considered necessary, noting the MPIS has no ongoing status unless referenced in a permit.

Approved and endorsed plans

- (1) Final design plans and management plans, approved or endorsed under a condition of this permit, form part of the permit.
- (2) Works must be undertaken in accordance with approved or endorsed final design plans and management plans.
- (3) Approved or endorsed final design plans and management plans must not be altered or modified without the written consent of the relevant decision maker, or the relevant regulator responsible for enforcement of a management plan.

Final design plans

- (4) Prior to the commencement of works, final design plans prepared by a suitably qualified person, must be provided to the satisfaction of the relevant decision maker.
- (5) The final design plans must:
 - (a) be fully dimensioned and drawn to a scale;
 - (b) be generally in accordance with Sheet No 0002(dated 11 Nov-21), 0003 (dated 15 Nov-21), 0005 (dated 11 Nov-21), 0006-0008, (dated 11 Nov-21) and 0009 (dated 10 Nov-21) in Appendix AA of the MPIS dated November 2021, prepared by the Department of State Growth, but modified:
 - (i) to not include development or works in folio of the Register 156256/20, 37 Black Snake Road;
 - (ii) to locate development of the road network, including footpaths but excluding vehicle crossings, no closer to the Granton Watch House than the existing footpath; and

- (iii) So that the height of roads on the south side of the River Derwent, near the intersection of Main Road and Black Snake Road, is higher than a 1% annual exceedance probability from a flood event in 2090;
- (c) respond to issues identified in previous road safety audit reports;
- (d) include plans of access provisions for land impacted by the new works;
- (e) provide reasonable provision for U-turns to accommodate local traffic requirements on roads with turning limitations to or from intersecting roads or properties;
- (f) provide *Disability Discrimination Act 1992* (Cth) compliant paths;
- (g) provide bus stops in consultation with public transport providers;
- (h) provide safe pedestrian and cyclist crossing points where paths meet roadways and other paths, and to provide access to bus stops;
- (i) provide for the creation of a foreshore trail beneath the new bridge at Bridgewater;
- (j) must include a materials and finishes schedule that sets out the materials and finishes used that have
 - (iv) a colour palette of natural and muted hues; and
 - (v) low reflectivity to avoid glint and glare;
- (k) include the final location and specifications of all structures;
- (l) show staging of development; and
- (m) be consistent with the requirements of any other permit condition.

Staging

- (6) The major project may be completed in stages in accordance with the approved or endorsed final design plans and management plans.

Construction Environmental Management Plan

- (7) Prior to the commencement of construction, a Construction Environmental Management Plan prepared by a suitably qualified person must be provided to the satisfaction of the relevant decision maker.
- (8) The Construction Environmental Management Plan must:
 - (a) Set out how reclamation works will be managed and must include:
 - (i) measures to minimise sediment dispersal during reclamation, outside of reclamation areas, such as, use of geofabric and siltscreens, or timing of works during low or incoming tides;
 - (ii) details of how the Northern reclamation will be removed at the completion of construction of the new bridge;

- (iii) details of a monitoring program to monitor reclamation for sediment plumes in the River Derwent;
 - (iv) management actions to be undertaken in the event sediment plumes are identified in the River Derwent.
- (b) set out the methodology for installing temporary piles and bridge piles, that minimises sediment dispersal;
 - (c) set out the methodology for removing temporary piles that minimises sediment dispersal, or where they cannot be removed, cutting off temporary piles at or below the river bed;
 - (d) Set out the management strategies, including monitoring, to be applied to minimise the risk to causeway embankment failure;
 - (e) detail how public access to the playground and informal walking track at Nielson Esplanade will be retained during construction;
 - (f) include construction diagrams and maps that identify areas of the wetlands threatened native vegetation community to be excluded from clearance and conversion;
 - (g) set out that motorised vessels are not be used in water less than 0.7m in depth;
 - (h) set out that motorised vessels operating in water between 0.7 and 1.2m in depth must have a shallow draft and use short-shaft motors; and
 - (i) show staging of development and works and the timing of giving effect to relevant conditions.

Transport

- (9) The major project (including new or modified local roads, parking, pedestrian and cycle infrastructure) must be designed to meet relevant design, engineering and safety guideline including *Austrroads Guide to Traffic Management*, with new roads joining existing roads in a smooth and continuous fashion, in accordance with advice from the road authority.
- (10) Independent Road Safety Audits, undertaken in accordance with advice from the road authority, the *Austrroads Guide to Road Safety, Part 6, 2019*, for all stages of the Project development, including pre-opening, must be provided to the satisfaction of the relevant decision maker.
- (11) Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternative route (which complies with the relevant standards) will, in so far as possible, be provided and signposted .
- (12) Temporary changes to bus stops and routes must be determined in consultation with Metro and other relevant bus operators to minimise disruption to public transport services during the works.

- (13) Prior to the commencement of construction, a Construction Traffic Management Plan prepared by a suitably qualified person, must be provided to the satisfaction of the relevant decision maker.
- (14) The construction traffic management plan must be prepared in accordance with Australian Standards, AS1742.3:2019 and include:
- (a) details of how advice of delays to motorists will be communicated;
 - (b) consideration of all property access and road users including vehicles, light and heavy, public transport, pedestrians and cyclists;
 - (c) minimises adverse impact on access for commercial and residential properties;
 - (d) detail the staging of construction outside and within the existing road network;
 - (e) a requirement to maintain at least 1 lane of traffic flow in each direction along the Midland Highway at all times;
 - (f) construction of the majority of the bridge structure whilst maintaining traffic flow on the existing causeway/ bridge infrastructure;
 - (g) transferral of all or part (2 lanes or 4 lanes) of traffic flow onto new bridge structure using temporary detours whilst construction of the northern and southern interchanges are under construction;
 - (h) utilising existing road corridors (such as Main Road) as detour routes whilst interchanges are under construction;
 - (i) where possible a construction speed limit of 60-km/h should be provided to minimise travel delays through or past the construction site; and
 - (j) advanced warning signage placed on the southern approach to the Bowen Bridge on the Brooker Highway (prior to Elwick Road junction) and Midland Highway on the northern approach to the East Derwent Highway roundabout to provide a detour route and reduce traffic flow through the construction site.

Bushfire-prone areas

- (15) The following must not be stored on the project land during construction or operation:
- (a) hazardous chemicals of a manifest quantity;
 - (b) explosives in a classified explosives location, or large explosives location under the Explosives Act 2012.

Dredging and reclamation

- (16) There is to be no dredging.
- (17) The areas of reclamation must not exceed 5500m² at the southern site, and 2500m² at the northern site, and must be in accordance with the location and dimensions set out in the plan Connectivity to Existing Road Network, Burbury consulting, dated, 11/11/2021.

- (18) Each reclamation area is to be armoured with rock or similar erosion protection measures to minimise the risk of predicted 1%AEP erosion events in 2090.
- (19) Reclamation must use:
 - (a) clean fill; or
 - (b) solid inert fill material, Category A landfill set out in the *Landfill Sustainability Guide 2004* (DPIWE, 2004) that is categorised as level 1 fill material in *Bulletin 105, Classification and Management of Contaminated Soil for Disposal*;

Flood Management Plan

- (20) Prior to the commencement of construction, a flood management plan prepared by a suitably qualified person must be provided to the satisfaction of the relevant decision maker.
- (21) The flood management plan must:
 - (a) set out:
 - (i) the flood mitigation or reduction measure to be put in place so that there is no increase in flood risk from development to the Watch House, 1, 2, 4, 5 and 7 Wallace Street, 1 to 5 Riverside Drive, 37 Black Snake Road and the former Black Snake Inn, compared to a 1% annual exceedance probability in 2090 without the new Bridgewater Bridge having been constructed;
 - (ii) how flood risk from temporary works during construction will be managed;
 - (iii) how access to services is maintained;
 - (b) be based on a hydrodynamic model of the final design plans.

Geoconservation

- (22) Prior to the commencement of works, a study of the Brooker sub-site of the Granton to New Norfolk Quaternary Stratigraphic Sites prepared by a suitably qualified person that details the geodiversity values of the sub-site must be provided to the satisfaction of the relevant decision maker.
- (23) Within 1 year after the new Bridgewater Bridge being open to traffic, provide an addendum to the study of the Brooker- sub-site of the Granton to New Norfolk Quaternary Stratigraphic Sites prepared by a suitably qualified person that documents the geodiversity values encountered during works and those remaining post construction.

Landslip risk

- (24) For all cuttings identified on drawing numbers 008 and 009 – G.Arrangement-04.dwg :
 - (a) construct catch drains above new cuttings and install drape netting; or

- (b) apply alternative strategies to the satisfaction of the relevant decision maker to mitigate rock fall;
- (25) For all new cuttings identified on the eastern side of the River Derwent drawing numbers 002– G.Arrangement-04.dwg:
 - (a) construct catch drains above each cutting;
 - (b) install drape netting; or
 - (c) apply alternative strategies to the satisfaction of the relevant decision maker to mitigate rock fall.

Local heritage

- (26) A vehicle crossing is to be provided into and out of the Granton Watch House property.
- (27) There is to be no demolition of buildings at 37 Black Snake Road.
- (28) There is to be no works on the Bridgewater railway station's concrete platform identified as 4.01 on Figure 23: identified sites – Map 13 on page 45 of Appendix L of the MPIS.

Marine safety and infrastructure

- (29) Prior to and during construction works within the River Derwent:
 - (a) install and maintain temporary navigation aids and markers during construction of the New Bridgewater Bridge, in accordance with advice from MAST; and
 - (b) have a vessel available and manned within the project land in the River Derwent to monitor safe navigation of vessels.
- (30) Prior to the completion of the development install permanent navigation aids and markings for the ongoing safe navigation of vessels, in accordance with advice from MAST.
- (31) Within 1 year of the New Bridgewater Bridge being open to traffic to reinstate the Bridgewater boat ramp and jetty to an equivalent or better standard than existing.

Public Open Space

- (32) An open space network is provided substantially in accordance with the future public open space, shown in plan: Existing and Future Public Open Space and Access Paths – Bridgewater (on or near Project Land), dated 1/11/2021 and Existing and Future Public Open Space and Access Paths – Granton (on or near Project Land), dated 1/11/2021 in Appendix A of the MPIS.

Landscape plan

- (33) Prior to the commencement of construction a landscape plan prepared by a suitably qualified person must be provided to the satisfaction of the relevant decision maker.

- (34) The landscape plan must:
- (a) Include the vegetation screening shown in:
 - (i) Appendix AA – Landscaping Plan, Southern, Sheet No 1902 adjacent to the former Black Snake Inn; and
 - (ii) Appendix AA – Landscaping Plan, Southern, sheet No 7903 adjacent to Nielson esplanade, Gunn Street, and Hayton Place.
 - (b) include a schedule of the plants to be used;
 - (c) include a schedule to tree, hedge and shrub sizes at planting and maturity;
 - (d) set out the extent of tree protection zones and exclusion zone around existing vegetation to be retained;
 - (e) implement the recommended mitigation measures for treatment of cut rock faces, and landscaping set out in section 4.15.7 of the MPIS, dated November 2021;
 - (f) show any staging and the timing commencement and completion of landscaping.

For the purpose of this condition (d) above, tree protection zone means the space surrounding individual trees based on trunk (stem) diameter (DBH), measured at 1.4m up from ground level. The radius of the tree protection zone is calculated by multiplying the tree's DBH by 12. For example, a tree with 0.4m DBH requires a tree protection zone of 4.8m. The method provides a tree protection zone that addresses both tree stability and growth requirements. Tree protection zone distances are measured as a radius from the centre of the trunk at ground level.

Lighting Plan

- (35) Prior to the commencement of construction a lighting plan prepared by a suitably qualified person must be provided to the satisfaction of the relevant decision maker.
- (36) The lighting plan must:
- (a) identify if there is any proposed decorative lighting;
 - (b) provide illumination at the minimum required to achieve road safety;
 - (c) set out the location and height of light poles; and
 - (d) minimise the height of lighting.

Vegetation Communities

- (37) Clearance and conversion of the wetlands threatened native vegetation community listed under the *Nature Conservation Act 2002* is to be not more than 2.5ha.

Weed Disease and Hygiene Management Plan

- (38) Prior to the commencement of construction, a Weed, Disease and Hygiene Management Plan prepared by a suitably qualified person must be provided to the satisfaction of the relevant decision maker.
- (39) The Weed, Disease and Hygiene Management Plan must be consistent with the Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania.

Environment Protection Authority

The conditions and restrictions enforceable by the Environment Protection Authority are set out in EPA schedule 2: conditions, below.

Terms and definitions used in the EPA schedule 2: conditions are set out in EPA schedule 1: definitions, below.

Tas Gas

The following conditions and restrictions enforced by Tas Gas.

- (40) Tas Gas incurred costs for this major project works for the “New Bridgewater Bridge Major Project” be recoverable (Proponent to nominate). Example of work (not inclusive): Gas mains relocation, Supervision of works (With-in 25 meters) near gas mains and pipelines, Engineering review of blasting limits, etc.
- (41) The Hobart High Pressure Transmission Pipeline (Northern end of north shore landing affected area). Will need to be protected as per AS 2885 and Tas Gas procedure requirements. Especially in relation to ground and vehicle loading and vibration effects (20mm/sec peak particle velocity).
- (42) Gas reticulation network (Western and southern edges of north shore landing affected area). Will need to be protected as per AS 4645 and Tas Gas procedure requirements. Especially in relation to asset relocations and protection from excessive ground and vehicle loading and vibration effects.

TasWater

The following conditions and restrictions enforced by TasWater.

Service trays

- (43) The New Bridgewater Bridge must include a service tray equivalent mounting points able to accommodate accommodate 3 x 300mm outside diameter pipes and associated air valves, vents and scour points.

Asset Creation & Infrastructure Works

- (44) Plans submitted with the application for Engineering Design Approval must show, to the satisfaction of TasWater, all existing, redundant and/or proposed property services

and mains. The plans must also show the relocation or protection of existing assets impacted by the proposed bridge.

- (45) Prior to applying for a Permit to Construct new infrastructure the proponent must obtain from TasWater Engineering Design Approval for new TasWater infrastructure. The application for Engineering Design Approval must include engineering design plans prepared by a suitably qualified person showing how TasWater's water and sewerage infrastructure will be relocated, to TasWater's satisfaction.
- (46) Prior to works commencing, a Permit to Construct must be applied for and issued by TasWater. All infrastructure works must be inspected by TasWater and be to TasWater's satisfaction.
- (a) In addition to any other conditions in this permit, all works must be constructed under the supervision of a suitably qualified person in accordance with TasWater's requirements.
- (b) Prior to the issue of a Certificate of Water and sewerage Compliance (Building and/or Plumbing) or Certificate of Practical Completion, all additions, extensions, alterations or upgrades to TasWater's water and sewerage infrastructure required to accommodate the development, are to be completed generally as shown on, and in accordance with, the plans approved via the Engineering Design Approval, and are to be constructed at the expense of the proponent to the satisfaction of TasWater, with live connections performed by TasWater.
- (47) After testing/disinfection, to TasWater's requirements, of newly created works, the developer must apply to TasWater for connection of these works to existing TasWater infrastructure, at the proponents cost.
- (48) At practical completion of the water and sewerage works and prior to applying to TasWater for a Certificate of Water and Sewerage Compliance (Building and/or Plumbing), the developer must obtain a Certificate of Practical Completion from TasWater for the works that will be transferred to TasWater. To obtain a Certificate of Practical Completion:
- (a) Written confirmation from the supervising suitably qualified person certifying that the works have been constructed in accordance with the TasWater approved plans and specifications and that the appropriate level of workmanship has been achieved;
- (b) A request for a joint on-site inspection with TasWater's authorised representative must be made;
- (c) Security for the twelve (12) month defects liability period to the value of 10% of the works must be lodged with TasWater. This security must be in the form of a bank guarantee;
- (d) Work As Constructed drawings and documentation must be prepared by a suitably qualified person to TasWater's satisfaction and forwarded to TasWater.

- (49) After the Certificate of Practical Completion has been issued, a 12 month defects liability period applies to this infrastructure. During this period all defects must be rectified at the developer's cost and to the satisfaction of TasWater. A further 12 month defects liability period may be applied to defects after rectification. TasWater may, at its discretion, undertake rectification of any defects at the developer's cost. Upon completion, of the defects liability period the developer must request TasWater to issue a "Certificate of Final Acceptance". The newly constructed infrastructure will be transferred to TasWater upon issue of this certificate and TasWater will release any security held for the defects liability period.
- (50) The proponent must take all precautions to protect existing TasWater infrastructure. Any damage caused to existing TasWater infrastructure during the construction period must be promptly reported to TasWater and repaired by TasWater at the developer's cost.
- (51) Ground levels over the TasWater assets and/or easements must not be altered without the written approval of TasWater.
- (52) A construction management plan must be submitted with the application for TasWater Engineering Design Approval. The construction management plan must detail how the new TasWater infrastructure will be constructed while maintaining current levels of services provided by TasWater to the community. The construction plan must also include a risk assessment and contingency plans covering major risks to TasWater during any works. The construction plan must be to the satisfaction of TasWater prior to TasWater's Engineering Design Approval being issued.
- (53) The proponent must apply to TasWater for reimbursement for costs for design and construction of eligible works. To be eligible for reimbursement, costs for which reimbursement is claimed must be determined from a competitive public tender process, with process and reimbursements determined prior to construction, and to the written approval of TasWater.

Final plans, easements and endorsements

- (54) Prior to the Sealing of any Final Plan of Survey, a Consent to Register a Legal Document must be obtained from TasWater as evidence of compliance with these conditions when application for sealing is made.
- (55) Pipeline easements, to TasWater's satisfaction, must be created over any existing or proposed TasWater infrastructure and be in accordance with TasWater's standard pipeline easement conditions.
- (56) Prior to the issue of a Certificate of Practical Completion from TasWater, the applicant must submit a copy of the completed Transfer for the provision of a Pipeline and Services Easement(s) to cover existing/proposed TasWater infrastructure as required by condition

- (57) All costs and expenses related to the transfer of easement(s) to TasWater are to be paid by the proponent.
- (58) Prior to the issue of a TasWater Consent to Register a Legal Document, the applicant must submit a .dwg file, prepared by a suitably qualified person to TasWater's satisfaction, showing:
 - the exact location of the existing water and sewerage infrastructure,
 - the easement protecting that infrastructure.
- (59) The proponent must locate the existing TasWater infrastructure and clearly show it on the .dwg file. Existing TasWater infrastructure may be located by a surveyor and/or a private contractor engaged at the developers cost.

56W Consent

- (60) Prior to the issue of the Certificate for Certifiable Work (Building) and/or (Plumbing) by TasWater the proponent must make application to TasWater pursuant to section 56W of the *Water and Sewerage Industry Act 2008* for its consent in respect of any part of the development which is built within a TasWater easement or over or within two metres of TasWater infrastructure.

Tasmanian Heritage Council

The following conditions are enforced by the Tasmanian Heritage Council, excluding condition (61)(b)(v)i., which is to provide to the satisfaction of the relevant decision maker.

- (61) Prior to the commencement of construction, provide documentation demonstrating how the following commitments and additional matters are to be implemented, to the satisfaction of the Director, Heritage Tasmania:
 - (a) In relation to the Bridgewater Bridge heritage place:
 - (i) Commitment 47 – The existing causeway and the 1874 and 1893 bridge abutments is to be retained;
 - (ii) Commitment 48 – All excavation and disturbance within the causeway and Black Snake Inn sites will be monitored by a historical archaeologist in accordance with the Bridgewater Bridge Replacement Archaeological Method Statement prepared by Praxis, November 2021;
 - (iii) Commitment 49 – Protection zones for buildings or structures of heritage significance – The CEMP will include protection zones and vibration management around buildings or structures of heritage significance (for example, the former Black Snake Inn at 650 Main Road, the Watch House at 1 Lyell Highway and historic bridge abutments) to avoid damage to these items during construction;
 - (iv) Commitment 50 – Interpretation for the Bridgewater Bridge crossing will be prepared and located in a publicly accessible location/s in consultation

with the Regulator and the three affected councils. The interpretation will include information about the history of the River Derwent crossing, the existing Bridgewater Bridge and the heritage values of the site as illustrated and reflected in Appendix L. All interpretation will be completed and installed within 12 months of the demolition of the existing bridge or as otherwise agreed with the Regulator.

- (v) Commitment 51 – Representative samples of the bridge structure will be retained for appropriate re-use and/or interpretation in an appropriate publicly accessible place in the vicinity of the Project Land to the satisfaction of the Regulator.
- (b) In relation to the former Black Snake Inn and other places on the Tasmanian Heritage Register:
- (i) Commitment 15 – The former Black Snake Inn building and historic timber outbuilding at 650 Main Road, Granton will be retained;
 - (ii) Commitment 18 – Surface treatments for footpaths and shared paths adjacent to the Watch House and the Black Snake Inn will be specified in consideration of the historic landscape setting of these places;
 - (iii) Commitment 19 If the existing hedge plantings along the Main Road frontage of the Black Snake Inn are removed replacement hedge planting will be included in the landscaping plan;
 - (iv) Commitment 20 – Landscape plantings adjacent to the Black Snake Inn will be selected to be complementary to the historic cultural heritage setting of that place;
 - (v) Commitment 21 – The construction noise and vibration management plan (CNVMP) prepared by a suitably qualified person must be provided, prior to the commencement of construction, and is to include a vibration risk assessment for the following built heritage places within or adjacent to the Project Land:
 - a. the Black Snake Inn complex at 650 Main Road, Granton;
 - b. the Granton Watch House, 1 Lyell Highway;
 - c. the Granton Memorial Hall, Forest Road, Granton;
 - d. the Commandant’s Cottage, 4 Forest Road;
 - e. 6 Forest Road, Granton;
 - f. 19 Tarrants Road, Granton;
 - g. St Mary’s Anglican Church and Cemetery, 20 Old Main Road, Bridgewater;
 - h. Coronation Hall, 25 Old Main Road, Granton;

- i. Bridgewater railway station's concrete platform, and 37 Black Snake Road,

and apply appropriate criteria to protect structural integrity of places for the approval of the Regulator;
- (vi) Commitment 26 – Landscaping measures to avoid unreasonable overlooking to 6 Nielsen Esplanade, 8 and 13 Gunn Street, and 4, 6 and 8 Waters Loop on the northern shore at Bridgewater, the Black Snake Inn at 650 Main Road and other properties adjoining the southern interchange at Granton will be integrated into the final landscaping design in consultation with those property owners to avoid unreasonable overlooking impacts to those properties;
- (c) Additional matters:
 - (i) Other than where needing to be removed to provide a clear navigation channel, the caissons of the existing Bridgewater Bridge be retained for interpretive purposes;
 - (ii) The lift span of the existing Bridgewater Bridge or other representative section of the bridge be retained and displayed in a public reserve for interpretive purposes;
 - (iii) Information be produced in a range of formats and provided in a public area near the northern abutment of the old Bridgewater Bridge, to assist the public in understanding the history and significance of the place including in particular the welded steel lift-span bridge removed as part of the New Bridgewater Bridge Major Project;
 - (iv) Information be produced in a range of formats and provided in a public area near the southern abutment of the new Bridgewater Bridge, to assist the public in understanding the history and significance of the Black Snake Inn and the causeway as well as nearby heritage places associated with the Bridgewater Bridge (i.e. the watch house, convict quarry and convict depot);
 - (v) A construction management plan be developed for the Black Snake Inn that ensures the security of the property and protection of its heritage fabric (including archaeology) from unauthorised removal or damage of materials and from incidental damage if the site is used as a laydown area;
 - (vi) The Project Specifications include notification protocols whereby archaeological advice is sought if historical archaeological features or deposits are uncovered during excavation or where doubt exists concerning the historic cultural heritage significance of any materials uncovered during excavations; that provision be made for controlled archaeological excavation to be undertaken when and to a standard consistent with the archaeological advice received; and, that in relation to the Black Snake Inn the Statement of Archaeological Potential (SoAP) and

Archaeological Method Statement (AMS) prepared by Praxis Environment be implemented for any works involving impacts to areas identified as having archaeological sensitivity.

Department of Natural Resources and Environment Tasmania

The following conditions are enforced by the Department of Natural Resources and Environment Tasmania.

Terrestrial flora

(62) The proponent (and any employees or subcontractors of a person named in this permit acting on that person's behalf on their written authority) is authorised to take the following specified terrestrial threatened flora species:

- (a) *Austrostipa bigeniculata* (double jointed speargrass) – up to 300 individual plants (100 m²), and
- (b) *Vittadinea gracilis* (woolly new-holland-daisy) – up to 28 individual plants, from the Bridgewater Bridge direct Project footprint, contained within the Project Land identified in Figure 3.2 of the New Bridgewater Bridge Major Project Impact Statement (November 2021).

This action is subject to the following conditions:

1. All known terrestrial threatened flora locations in the Project Land outside of, but adjacent to, the direct Project footprint must be taped or fenced off by a suitably qualified person to the extent necessary to prevent incursion by machinery or personnel.
2. Vegetation clearance must be kept to the minimum necessary. Mechanical disturbance, dumping of fill, alteration of drainage patterns and soil compaction on sites known or likely to support the specified threatened flora must be avoided where practicable.
3. Topsoil from areas known to contain the specified threatened flora must be stockpiled and used for rehabilitation on site, where practicable.
4. In order to minimise impact on the specified threatened flora, measures to control the introduction, spread and movement of disease and weeds by equipment or by on ground operations must be undertaken in accordance with the Department's (2015) Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania as relevant.
5. A report detailing the numbers of individual plants taken, or the area of the population taken, along with the date and location of the works undertaken that directly impacted the specified threatened flora must be provided in a report to the Department of Natural Resources and Environment Tasmania within 30 days of the completion of the activity authorised under this permit or expiration of the permit, whichever is the sooner.

Aquatic flora

(63) The proponent (and any employees or subcontractors of a person named in this permit acting on that person's behalf on their written authority) is authorised to take the following specified aquatic threatened flora:

- (a) *Ruppia megacarpa* (largefruit seaweed) – up to 1.5 hectares from the Bridgewater Bridge direct Project footprint, contained within the Project Land identified in Figure 3.2 of the New Bridgewater Bridge Major Project Impact Statement (November 2021).

Subject to the following conditions:

1. All known threatened aquatic flora locations in the Project Land outside of, but adjacent to, the direct Project footprint must be clearly marked on construction diagrams and maps by a suitably qualified person in order to prevent incursion by vessels transporting personnel and/or machinery to the construction footprint.
2. Motorised vessels operating in the vicinity of known threatened flora locations outside of, but adjacent to, the permitted works area must not be used in water shallower than 0.7 metres depth.
3. Motorised vessels operating in the vicinity of known threatened flora locations outside of, but adjacent to, the permitted works area operating in water between 0.7 and 1.2 metres depth must have a shallow draft and use short-shaft motors.
4. Sedimentation of all known threatened flora locations outside of, but adjacent to, the permitted works area must be managed and kept to a minimum through the use of barriers such as cofferdams, silt screens and/or silt curtains. Upon removal of silt barriers, extreme care should be taken to minimise effects associated with dispersal of water and sediment with high metals, high nutrients and low dissolved oxygen. Removed silt screens must be cleaned/washed ashore in an area where runoff to nearby aquatic threatened flora can be managed appropriately.
5. A report detailing the numbers of individual plants taken, or the area of the population taken, along with the date and location of the works undertaken that directly impacted the specified threatened species must be provided in a report to the Department of Natural Resources and Environment Tasmania within 30 days of the completion of the activity authorised under this permit or expiration of the permit, whichever is the sooner.

Terrestrial Fauna

- (64) The proponent (and any employees or subcontractors of a person named in this permit acting on that person's behalf on their written authority) is authorised to take nests, eggs and nestlings of Protected and Partly Protected bird species listed under Schedules 1 and 8 of the *Nature Conservation (Wildlife) Regulations 2021* (the Regulations).

These may be taken from the Bridgewater Bridge direct Project footprint, contained within the Project Land in Figure 3.2 of the New Bridgewater Bridge Major Project Impact Statement (November 2021).

This action is subject to the following conditions:

1. This permit does not permit the taking of, or impacts to; nests, eggs and nestlings of birds listed as Specially Protected under Schedule 5 of the Regulations. If any nests identified as belonging to birds listed under Schedule 5 of the Regulations are identified as occurring within the construction footprint of the bridge and will be impacted directly by the construction, works must cease immediately and further advice sought from the regulator.

2. Surveys and clearance of nests, eggs and nestlings of Protected and Partly Protected bird species located within the Project Land must take place as close to the commencement of the waterbird breeding season as possible (August).
3. Nests and associated nesting habitat from the bird species authorised in this permit, located within the Project Land, must be removed and/or destroyed. Any eggs found within nests must be removed from the nests and destroyed. Any nestlings must be removed from the nests and humanely destroyed.
4. All known locations of bird nests outside of, but adjacent to, the works area must be taped or fenced off by a suitably qualified person to the extent necessary to prevent incursion by machinery or personnel.
5. A report detailing the details of individual nests taken, along with the date and location of the works undertaken that directly impacted the specified fauna must be provided in a report to the Department of Natural Resources and Environment Tasmania within 30 days of the completion of the activity authorised under this permit or expiration of the permit, whichever is the sooner.

Aboriginal heritage

- (65) The proponent (and any employees or subcontractors of a person named in this permit acting on that person's behalf on their written authority) is authorised to 'interfere with' the identified Aboriginal relics AH 11190 and AH 13833 while carrying out the approved works as outlined in the MPIS. These sites are contained within the Project Land identified in Figure 3.2 of the New Bridgewater Bridge Major Project Impact Statement (November 2021).

'Interfere with' is defined by the AH Act as meaning to destroy, damage, deface, conceal, remove or otherwise interfere with.

The permit is granted subject to the following conditions:

1. The proponent must comply with any direction given by the Department of Natural Resources and Environment Tasmania in relation to:
 - 1.1. (i) the AH 11190 and AH13833; or
 - 1.2. (ii) any Relics disturbed by, uncovered or otherwise discovered during, or as a result of, the carrying out of the project, including, but not limited to, a direction to suspend the project.
2. No persons may interfere with any Relic except for the purpose of undertaking the project.
3. The proponent must allow, and must ensure that any person who has control of the Project Land permits the Director of National Parks and Wildlife and/or their delegate to enter and inspect the Project Land at all times for the purpose of monitoring compliance with this permit.
4. Prior to the commencement of the project, all persons involved in the project must be made aware of the location of the Relics and be made familiar with the permit and the requirements and conditions therein.
5. A copy of this permit must be kept at the construction site office or in the absence of a site office in the possession of the contractor/s for the duration of the project.

6. In the event that unanticipated material, being that other than that described in the MPIS, is located during the project, the proponent must ensure that the Unanticipated Discovery Plan is implemented as per Commitment 61.
 7. Photographs of the completed works and impacts to AH 11190 and AH 13833 must be forwarded to Aboriginal Heritage Tasmania as soon as practicable after the completion of the Permitted Acts.
- (66) Works is not to occur within 2m of site AH13880.
- (67) Prior to the commencement of construction works, highly visible and durable barricading must be placed around site AH13880 with a 2m radial buffer.
- (68) The location of the site AH13880 must be noted on the construction environmental management plan.

EPA Schedule 1: Definitions

AASS means actual acid sulfate soils.

Ambient Air Quality NEPM means the *National Environment Protection (Ambient Air Quality) Measure* made by the National Environment Protection Council, dated 18 May 2021.

AS/NZS 3580.14:2014 means the *Australian/New Zealand Standard for Methods for sampling and analysis of ambient air, Part 14: Meteorological monitoring for ambient air quality monitoring applications*, 2014.

AS/NZS 3580.1.1:2016 means the *Australian/New Zealand Standard for Methods for sampling and analysis of ambient air, Guide to siting air monitoring equipment*, 2016.

ASS Guidelines means the *Tasmanian Acid Sulfate Soil Management Guidelines*, Department of Primary Industries, Parks, Water and the Environment, 2009.

ASS means acid sulfate soils.

Australian Air Quality Standards means the air quality standards set in the *Ambient Air Quality NEPM*.

Background level means the maximum level measured at intermediate monitoring sites, set in accordance with these conditions, which at the time of monitoring are outside of the zone of potential significant effect of disturbed sediment.

BPEM means Best Practice Environmental Management.

Community Values has the meaning ascribed in the *ANZG 2018. Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia

Construction means activities associated with the construction phase of the activity encompassed by these conditions, including but not limited to, activities associated with the clearance of vegetation, soil disturbance, rock breaking and installation of infrastructure whether on land or in water. It does not include demolition of the existing Bridgewater Bridge.

Control Location (Noise) means a location chosen to represent the general ambient sound without contribution from noise sources at the activity.

Decommissioning means completion of site works at any location, including removal of equipment and rehabilitation of exposed surfaces.

Demolition means demolition of the existing Bridgewater Bridge as described in the MPIS.

Director means the Director, Environment Protection Authority holding office under Section 18 of EMPCA and includes a delegate or person authorised in writing by the Director to exercise a power or function on the Director's behalf.

DRP means Decommissioning and Rehabilitation Plan.

EMPCA means the *Environmental Management and Pollution Control Act 1994*

Environmental Harm and **Material Environmental Harm** and **Serious Environmental Harm** each have the meanings ascribed to them in Section 5 of EMPCA.

Environmental Nuisance and **Pollutant** each have the meanings ascribed to them in Section 3 of EMPCA.

Environmentally Hazardous Material means any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals but excludes sewage.

German Standard DIN 4150-3:1999 means *German Standard: DIN 4150: Part 3:1999. Structural Vibration – Part 3: Effects of Vibration on Structures*, Deutsches Institut für Normung e.V., Berlin, Germany

Habitable room has the meaning ascribed to it in Section 3 of EMPCA

IB 105 means *Information Bulletin No. 105 – Classification and Management of Contaminated Soil for Disposal*, EPA Tasmania 2018.

MPIS means the *Major Project Impact Statement – New Bridgewater Bridge*, dated 12 November 2021, prepared for the New Bridgewater Bridge Major Project and referred to the Board of the Environment Protection Authority by the Development Assessment Panel for the New Bridgewater Bridge on 19 November 2021.

Near Field means within the volume of water within the estuarine environment adjacent to works that may cause mobilisation of sediment where any disturbed sediment plume has not yet been entirely entrained in the direction of water current flow.

Noise Sensitive Receptor means a sensitive receptor with the potential to be affected by noise emissions, and include residences, classrooms, hospitals, places of worship, passive recreation areas such as outdoor grounds used for teaching, active recreation areas such as parks and sports ground, commercial premises and industrial premises.

Operation phase of the Project means use of the new Bridgewater Bridge for traffic.

PASS means potential acid sulfate soils.

PAH means polycyclic aromatic hydrocarbons.

Person Responsible is any person who is or was responsible for the environmentally relevant activity to which this document relates and includes the officers, employees, contractors, joint venture partners and agents of that person, and includes a body corporate.

Project means the New Bridgewater Bridge Major Project as declared under the Land Use Planning and Approvals Act 1993, including construction, demolition, and operation phases.

Rating Background Level (RBL) means the Rating Background Level as defined in the NSW *EPA Noise Policy for Industry*, 2017.

Standard Specification for Road Projects Part B means Part B of the *Standard Specification for Road Projects, Section 176, Part B*, Department of State Growth, 2017.

State Stormwater Strategy means the *State Stormwater Strategy*, Department of Primary Industries, Parks, Water and Environment, 2010.

Tasmanian Noise Measurement Procedures Manual means the document titled *Noise Measurement Procedures Manual*, by the Department of Environment, Parks, Heritage and the Arts, dated July 2008, and any amendment to or substitution of this document.

The Project Land means the Project Land as defined in section 3.1.1 of the MPIS and includes: buildings and other structures permanently fixed to the land, any part of the land covered with water, and any water covering the land.

Underwater Piling Noise Guidelines means the document titled Underwater Piling Noise Guidelines by the Government of South Australia, dated November 2012, and any amendment to or substitution of this document.

Vibration Sensitive Receptor means sensitive receptors with the potential to be affected by vibration and include all Noise Sensitive Receptors and critical infrastructure and utilities including electrical and telecommunications facilities, oil and gas pipelines and other petrochemical installations, utilities such as water mains and sewers and other facilities, infrastructure or utilities which may be deemed to be of critical importance.

Waste has the meaning ascribed to it in Section 3 of EMPCA

Wastewater means spent or used water (whether from industrial or domestic sources) containing a pollutant and includes stormwater which becomes mixed with wastewater.

Water quality guideline values has the meaning ascribed by clause 8.1 of the *State Policy on Water Quality Management 1997*

Water quality indicator has the meaning ascribed by the State Policy on Water Quality Management 1997.

EPA Schedule 2: Conditions

General

G1 Access to and awareness of conditions and associated documents

A copy of these conditions and any associated documents referred to in these conditions must be held in a location that is known to and accessible to the person responsible for the Project. The person responsible for the activity must ensure that all persons who are responsible for undertaking work on The Project Land, including contractors and sub-contractors, are familiar with these conditions to the extent relevant to their work.

G2 Incident response

If an incident causing or threatening environmental nuisance, serious environmental harm or material environmental harm from pollution occurs in the course of the Project, then the person responsible for the Project must immediately take all reasonable and practicable action to minimise any adverse environmental effects from the incident.

G3 No changes without approval

1. The following changes, if they may cause or increase the emission of a pollutant which may cause material or serious environmental harm or environmental nuisance, must only take place in relation to the construction and demolition phases of the Project if such changes have been approved in writing by the EPA Board, or by the Director:
 - 1.1. a change to a process used in the course of carrying out the Project; or
 - 1.2. the construction, installation, alteration or removal of any structure or equipment used in the course of carrying out the Project; or
 - 1.3. a change in the quantity or characteristics of materials used in the course of carrying out the Project.

G4 Change of responsibility

If the person responsible for the construction and demolition phases of the Project intends to cease to be responsible, that person must notify the Director in writing of the full particulars of any person succeeding him or her as the person responsible before such cessation.

G5 Notification prior to commencement

The Director must be notified in writing of the commencement of construction, demolition stages and operation stages of the Project, at least 14 days before each stage commences.

G6 Complaints register

1. A public complaints register must be maintained for the duration of the construction and demolition phases of the Project. The public complaints register must, as a minimum, record the following detail in relation to each complaint received in which it is alleged that environmental nuisance and/or harm has been caused by the Project:
 - 1.1. the date and time at which the complaint was received;
 - 1.2. contact details for the complainant (where provided);
 - 1.3. the subject matter of the complaint;
 - 1.4. any investigations undertaken with regard to the complaint; and

- 1.5. the manner in which the complaint was resolved, including any mitigation measures implemented.
2. Complaint records must be maintained for a period of at least three (3) years.

G7 Environmental Management Plans

1. A minimum of two months prior to planned commencement of the construction phase of the Project, or by a date otherwise specified in writing by the Director, Environmental Management Plans (EMPs) must be submitted to the Director for approval, addressing all proposed construction works for the Project. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted documents adequately address the requirements of these conditions (as relevant) to his or her satisfaction. Construction cannot commence until the Director has approved all EMPs applicable to the commencing works.
2. A minimum of two months prior to planned commencement of the demolition phase of the Project, or by a date otherwise specified in writing by the Director, Environmental Management Plan (EMPs) must be submitted to the Director for approval, addressing all proposed demolition works. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted documents adequately address the requirements of these conditions (as relevant) to his or her satisfaction. Demolition cannot commence until the Director has approved all EMPs applicable to the commencing works.
3. The EMPs must be prepared in accordance with these conditions and any reasonable guidelines provided by the Director, and otherwise consistent with the MPIS, with the purpose of preventing environmental nuisance and/or harm.
4. Unless otherwise approved in writing by the Director, without limitation, the following EMPs must be provided for the construction phase of the Project and, as relevant, for the demolition phase of the Project:
 - 4.1. an Air Quality Management Plan, addressing both dust and emissions;
 - 4.2. a Noise and Vibration Management Plan, including consideration of underwater noise management;
 - 4.3. an Estuarine Water Quality Monitoring Plan;
 - 4.4. an Estuarine Water Quality Management Plan;
 - 4.5. a Contingency Management Plan for construction in the Derwent;
 - 4.6. a Stormwater Management Plan;
 - 4.7. an Environmentally Hazardous Materials Management Plan;
 - 4.8. a Waste Materials Management Plan;
 - 4.9. a Lighting Plan; and
 - 4.10. a Decommissioning and Rehabilitation Plan.
5. The EMPs must include the following:
 - 5.1. staging of proposed works, including consideration of management changes as works progress;
 - 5.2. best practice environmental management (BPEM) measures;
 - 5.3. processes for adaptive management and incident response;

- 5.4. an implementation timetable for key aspects of the plans; and
- 5.5. a reporting program to regularly advise the Director of the results of the plans.
6. The person responsible must implement and act in accordance with the approved EMPs.
7. In the event that the Director, by notice in writing to the person responsible, either approves a minor variation to the approved EMPs or approves new plans in substitution for the EMPs originally approved, the person responsible must implement and act in accordance with the varied EMPs or the EMPs, as the case may be.

Atmospheric

A1 Management of air emissions during construction and demolition

1. Construction and demolition phases for the Project must be managed using BPEM measures to minimise air emissions and dust to avoid environmental nuisance and/or harm, in accordance with the Air Quality Management Plan required under these conditions.
2. Without limitation, unless otherwise approved in writing by the Director, the Air Quality Management Plan(s) required under these conditions must include:
 - 2.1. Measures to minimise dust generation;
 - 2.2. Measures to minimise emissions from vehicles, heavy machinery and generators, including passing traffic; and
 - 2.3. Monitoring plans for dust and emissions, in accordance with the requirements of these conditions.

A2 Air Quality and Meteorological Monitoring

1. Monitoring Station
 - 1.1. An ambient air quality and meteorological monitoring station must be established at a suitable location in a residential area in close proximity to the Project, approved by the Director.
 - 1.2. The location of the station must be:
 - 1.2.1. chosen in accord with guidance provided in AS/NZS 3580.1.1:2016; and
 - 1.2.2. approved in writing by the Director.
 - 1.3. The air quality monitoring and meteorological station must be operational and measure the ambient concentrations of the nominated pollutants listed in Table 1 and the meteorological parameters detailed in this condition for:
 - 1.3.1. 12 months prior to the commencement of the construction phase or otherwise as long as is practicable, with a minimum of 6 months;
 - 1.3.2. six (6) months at commencement of the construction phase of the Project and six (6) months at the end of the construction phase;
 - 1.3.3. throughout construction works undertaken on land in Bridgewater; and
 - 1.3.4. at least 12 months starting at the commencement of the operational phase of the Project.
2. Air Quality Monitoring
 - 2.1. Unless otherwise approved in writing by the Director, the ambient air quality monitoring of the nominated air pollutants must be conducted using reference level

continuous monitoring instrumentation that meets the requirements of the Australian Standards Methods for Pollutant Monitoring set out in Schedule 3 of the Ambient Air Quality NEPM.

- 2.2. Unless otherwise approved in writing by the Director, monitoring must be undertaken in accordance with the requirements set out in Table 1 as follows: the ambient concentration of the pollutant listed in Column 1 must be measured at the sampling frequency listed in Column 2 over the averaging time listed in Column 3 using the measurement technique listed in Column 5 and the reference method listed in Column 6.

Table 1. Ambient Air Quality Monitoring Parameters

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Pollutant	Frequency of sampling	Averaging time	Australian Air Quality Standards (Air NEPM)	Measurement technique	Reference method
Nitrogen dioxide	Continuous	One hour One year ²	0.08 ppm 0.015 ppm	Chemiluminescence	AS 3580.5.1:2011
Particles as PM ₁₀	Hourly	One hour One day ¹ One year ²	- 50 µg/m ³ 25 µg/m ³	Beta Attenuation Monitor	AS/NZS 3580.9.11:2016
Particles as PM _{2.5}	Hourly	One hour One day ¹ One year ²	- 25 µg/m ³ 8 µg/m ³	Beta Attenuation Monitor	AS/NZS 3580.9.12:2013

Note 1: calendar day average

Note 2: calendar year average

3. Meteorological Monitoring

- 3.1. Unless otherwise approved in writing by the Director, the meteorological station co-located and operating simultaneously with the ambient air monitoring instrumentation must operate in accordance with the requirements of AS/NZS 3580.14:2014 and measure the following meteorological parameters:

- 3.1.1. temperature at the height of 2 m and 10 m;
- 3.1.2. relative humidity at the height of 2 m and 10 m;
- 3.1.3. vector averaged wind speed direction at the height of 2 m and 10 m;
- 3.1.4. rainfall;
- 3.1.5. barometric pressure; and
- 3.1.6. solar radiation.

- 3.2. All meteorological parameters specified in this condition, with the exception of rainfall, together with the computed standard deviation of wind direction (sigma theta), must be reported as 5 minute and 1 hour averaged values.

4. Reporting of Air Quality and Meteorological Monitoring

- 4.1. Real-time access to the air monitoring and meteorological measurements collected at the monitoring station must be made available to the Director.

- 4.2. Unless otherwise approved in writing by the Director, the measured ambient concentrate ions of the air pollutants listed in Table 1 and the measured meteorological parameters specified in this condition must be reported quarterly to the Director and submitted no later than 30 days after the end of the quarterly reporting period.
5. Exceedance of Australian Air Quality Standards
 - 5.1. In the event that measured ambient concentrations of the air pollutants listed in Column 1 of Table 1 exceed any of the corresponding Australian air quality standards specified in Column 4 of the table, the Director must be notified of the exceedance within 48 hours.
 - 5.2. The exceedance notification must include the following information:
 - 5.3. The name of the pollutant, the time of the exceedance and the ambient concentration of the pollutant at that time;
 - 5.4. The nature of the activities being conducted by the proponent at the time of the exceedance;
 - 5.5. The meteorological conditions prevailing in the vicinity of the monitoring station at the time of the exceedance;
 - 5.6. An assessment of the potential for the exceedance to cause environmental nuisance and/or harm;
 - 5.7. Measures applied to minimise the occurrence of further exceedances; and
 - 5.8. Any other relevant information.

A3 Validation of Air Dispersion Model

1. Unless otherwise approved in writing by the Director, within three (3) months after completion of the pre-construction monitoring period, a report must be submitted to the Director assessing the validity of the air dispersion model used to predict the impact of traffic related pollutants from operation of the Project on sensitive receptors near the Project Land.
2. The report must include a comparison of all ambient pollutant concentrations measured at the monitoring station with those predicted by the air dispersion model. This will require the model to be re-run using the meteorological data collected from the station during the pre-construction monitoring period.

A4 Construction Dust Deposition Monitoring and Reporting

1. Unless otherwise approved in writing by the Director, during the entire construction phase of the Project, a number of dust deposition gauges must be in place and maintained at several locations in residential areas in the near vicinity of The Project Land, the number and location of which are to be approved by the Director. Monthly samples must be collected from each location and analysed in accordance with the requirements of AS/AZS 3580.10.1:2016, Methods for sampling and analysis of ambient air - Deposited matter – Gravimetric method.
2. Monthly deposition measurements must be adjusted to account for background deposition rate. For each sampling month, the background is defined as the minimum of the dust loadings recorded at all of the deposition gauge sites during that month. For each deposition gauge measurement, the following information should be recorded:
 - 2.1. location;

- 2.2. month/year;
 - 2.3. total insoluble solids (mg);
 - 2.4. total insoluble solids above background (g/m²/month); and
 - 2.5. deposited dust (g/m²/month).
3. The person responsible for the activity must investigate each exceedance of the dust deposition trigger levels specified in Column 2 of Table 2 as soon as it is reasonably possible to do so after becoming aware of the event. The investigation must determine the likely cause(s) of the exceedance and identify and implement any reasonable remedial actions required to prevent it from recurring. A record must be kept of these actions for a minimum of three (3) years.
 4. The level of dust fallout must not exceed the annual compliance limits specified in Column 3 of Table 2. Any such exceedance must be reported to the Director within 24 hours of the results being obtained.
 5. Dust deposition gauges must not be relocated unless approved by the Director in writing prior to the proposed relocation.

Table 2 Dust Deposition Gauge Annual Compliance Limits and Monthly Trigger Levels
All figures are to be measured at or beyond the boundary of The Project Land

Column 1	Column 2	Column 3
Parameter	Monthly trigger levels	Annual compliance limits
Deposited dust	Increase above background: 2.0 g/m ² /month	Annual averaged increase above background: 2.0 g/m ² /month
Deposited dust	Total deposition experienced: 4.0 g/m ² /month	Annual average: 4.0 g/m ² /month

A5 Real-time Construction Dust Monitoring

1. Without limitation, unless otherwise approved in writing by the Director, the Air Quality Management Plan required under these conditions must include provisions for real-time construction dust monitoring, to be implemented and operational for the entire construction phase of the Project, and include the following:
 - 1.1. identification and description of suitable instruments for the continuous monitoring of ambient dust concentrations at several sites located near the boundary of The Project Land;
 - 1.2. description of simple weather stations which must be equipped with continuous monitoring anemometers co-located with the dust monitors and installed at a height of at least 2.5 m;
 - 1.3. identification and description of a system to transmit and display near real-time continuous data from the dust monitoring instruments and data from the co-located meteorological monitoring stations, to the assigned person(s) identified in the plan;
 - 1.4. description of the criteria used to identify the likely occurrence of dust events at any of the continuous dust monitoring sites in near real-time;

- 1.5. description of the response process to occur when dust events are identified at any of the sites; and
- 1.6. a table containing all of the major commitments made in the plan.
2. Continuous dust monitors cannot be relocated unless approved by the Director in writing prior to the proposed relocation.

Decommissioning and Rehabilitation

D1 Decommissioning and Rehabilitation Plan

1. Without limitation, unless otherwise approved in writing by the Director, the Decommissioning and Rehabilitation Plan(s) (DRP) required under these conditions must include the following (as relevant):
 - 1.1. nomination of key stages of works at which the DRP will need to be implemented;
 - 1.2. consideration of potential for contaminated material or controlled waste to be present after completion of works, and any associated remediation required (including consideration of groundwater);
 - 1.3. removal of all equipment, structures and waste materials unless they are considered by the Director to be beneficial to a future use of The Project Land;
 - 1.4. grading and levelling/recontouring and revegetating (or other approved method of soil stabilisation) of the surface of the disturbed area;
 - 1.5. management of drainage on The Project Land so as to reduce erosion and prevent release of a pollutant from The Project Land;
 - 1.6. maintenance of the rehabilitated area for a period of not less than three years from the date of cessation of works;
 - 1.7. specific management and monitoring measures for the area between the Old Watch House and the foreshore; and
 - 1.8. any other detail requested in writing by the Director.
2. If requested by the Director, stage-specific DRPs must be provided to the Director, prior to implementation.

Flora And Fauna

FF1 Underwater noise management

1. Unless otherwise approved in writing by the Director, to minimise noise impact of construction of the Project on sensitive aquatic fauna species;
 - 1.1. a soft start procedure must be implemented for piling works, commencing at low energy levels with slow build-up to allow fauna to vacate the area;
 - 1.2. once a piling method for the construction of the Project is finalised, a stop-work zone area must be calculated based on anticipated sound pressure and exposure levels, in accordance with the Underwater Piling Noise Guidelines; and
 - 1.3. during piling works, a suitable qualified or trained marine fauna observer must be deployed at piling locations, to instigate a stop work order in the event that marine mammals are observed within the pre-determined stop-work zone.

2. The provisions of this condition must be incorporated into the Noise and Vibration Management Plan for the construction phase of the Project as approved in writing by the Director.

Groundwater

GW1 Groundwater encountered during construction

Unless otherwise approved in writing by the Director, where groundwater is encountered during construction works for the Project, the groundwater must be collected and managed to the extent necessary to avoid the release of pollutants into waterways.

Hazardous Substances

H1 Storage and handling of environmentally hazardous materials

1. Unless otherwise approved in writing by the Director, environmentally hazardous materials held on The Project Land must be:
 - 1.1. stored within impervious bunded areas, spill trays or other containment systems; and
 - 1.2. managed to prevent unauthorised discharge, emission or deposition of pollutants:
 - 1.2.1. to soils within the boundary of The Project Land in a manner that is likely to cause serious or material environmental harm;
 - 1.3. to groundwater;
 - 1.4. to waterways; or
 - 1.5. beyond the boundary of The Project Land.

H2 Handling of environmentally hazardous materials - mobile

1. Where mobile containment of environmentally hazardous materials is utilised for fuelling or servicing of mobile or fixed plant on The Project Land, all reasonable measures must be implemented to prevent unauthorised discharge, emission or deposition of pollutants:
 - 1.1. to soils within the boundary of The Project Land in a manner that is likely to cause serious or material environmental harm;
 - 1.2. to groundwater;
 - 1.3. to waterways; or
 - 1.4. beyond the boundary of The Project Land.
2. Reasonable measures may include spill kits, spill trays/bunds or absorbent pads, and automatic cut-offs on any pumping equipment.

H3 Spill kits

Spill kits appropriate for the types and volumes of materials handled on The Project Land must be kept in appropriate locations to assist with the containment of spilt environmentally hazardous materials.

Lighting

L1 Artificial lighting design and use

1. Lighting for construction, demolition, and operational phases of the Project, must be selected and used on the basis of achieving the minimal artificial lighting required to meet design and safety requirements and standards, while minimising adverse impact on

sensitive receptors, with consideration of the light pollution analysis and relevant management measures recommended in the MPIS.

2. Without limitation, unless otherwise approved in writing by the Director, the Lighting Plan(s) required under these conditions must specify principles and parameters for selection and use of lighting during the construction and demolition phases of the Project, in accordance with the MPIS.

L2 Light surveys and audits

1. Unless otherwise approved in writing by the Director, light surveys and audits of the Project must be undertaken as follows, consistent with the relevant survey measures recommended in the MPIS, and the analysed results submitted to the Director within 30 days of completion of each survey and audit:
 - 1.1. Pre and post construction light surveys, in accordance with the method used in the baseline light survey as presented in the MPIS, to assess the impact of the project on sky glow and sky quality;
 - 1.2. A post construction light survey, in accordance with the method used in the baseline light survey as presented in the MPIS, to assess the impact of the project in regard to obtrusive light on sensitive receptors;
 - 1.3. Audits must be undertaken both during construction and after commissioning to ensure all commitments regarding light management have been met;
 - 1.4. Audits must be undertaken by personnel experienced in environmental auditing and in consultation with an appropriately qualified biologist or ecologist; and
 - 1.5. The audit analysis must include:
 - 1.6. any identified additional risks; and
 - 1.7. adaptive management measures to be undertaken if additional risks are identified, or it is discovered that risks have not been assessed correctly.

Monitoring

M1 Samples and measurements for monitoring purposes

1. Any sample or measurement required under these conditions must be taken and processed in accordance with the following:
 - 1.1. sampling and measuring must be undertaken by a person with training, experience, and knowledge of the appropriate procedure;
 - 1.2. the integrity of samples must be maintained prior to delivery to a testing facility;
 - 1.3. sample analysis must be conducted by a testing facility accredited by the National Association of Testing Authorities (NATA), or a testing facility approved in writing by the Director, for the specified test;
 - 1.4. details of methods employed in taking samples and measurements and results of sample analysis, and measurements must be retained for at least three (3) years after the date of collection; and
 - 1.5. sampling and measurement equipment must be maintained and operated in accordance with manufacturer's specifications and records of maintenance must be retained for at least three (3) years.

Noise and Vibration Control

N1 Management of noise emissions and vibration during construction

1. Unless otherwise approved in writing by the Director, the Project must be managed using such measures as are necessary to prevent noise emissions and vibration from causing environmental nuisance and/or harm, in accordance with the Noise and Vibration Management Plan required under these conditions.
2. Without limitation, unless otherwise approved in writing by the Director, the Noise and Vibration Management Plan(s) required under these conditions must include the following:
 - 2.1. Proposed staging of works;
 - 2.2. A list of equipment and activities associated with each stage of work area;
 - 2.3. Sound power levels, duration and hours of operation for each activity that is likely to cause noise and vibration impacts at noise and/or vibration sensitive receptors;
 - 2.4. Identification of noise and vibration sensitive receptors that may be affected by construction and demolition activities;
 - 2.5. Identification of any buildings or structure of heritage significance that may be affected by vibration generated by construction and demolition works;
 - 2.6. Determination of appropriate noise and vibration limits for each sensitive receptor;
 - 2.7. Prediction of noise levels at sensitive receptors during works;
 - 2.8. Identification of activities likely to cause noise and vibration nuisance at sensitive receptors;
 - 2.9. Identify locations near noise and vibration sensitive receptors where regular construction noise and vibration monitoring will be required;
 - 2.10. Mitigation measures planned to be deployed and able to be deployed where noise and vibration levels are expected to exceed noise project specific criteria.
 - 2.11. Where there is insufficient knowledge available to predict noise and vibration impact with a reasonable level of confidence, trial monitoring and assessment must be undertaken, covering discrete periods of work to allow measurements.
 - 2.12. A detailed community engagement plan including procedures for notification of noise and vibration generating activities.
 - 2.13. Mitigation measures to manage impact on sensitive aquatic fauna species.
 - 2.14. Provision of regular noise and vibration monitoring at sensitive receptors.
3. Monitoring reports must be provided to the Director for review every 3 (three) months.

N2 Hours of construction

1. Unless otherwise approved in writing by the Director, noise and vibration generating activities associated with the construction/demolition of the Project must not be undertaken outside the standard hours listed below:
 - 1.1. 0700 hours to 1800 hours on weekdays;
 - 1.2. 0800 to 1300 hours on Saturdays;

- 1.3. on Sundays and public holidays that are observed Statewide (Easter Tuesday excepted).
2. Where approval is sought for noise and vibration generating activities to be conducted outside the standard hours listed above, a site-specific noise and vibration impact report including assessment of activities that have potential to cause nuisance at sensitive receptors must be submitted to the Director for approval. Appropriate mitigation measures must be investigated and implemented to achieve the noise and vibration limits specified in the following section.
3. Impulsive noise sources such as the use of power saws, grinding metal, concrete or masonry, drilling, vibratory rolling, jack hammering, impact piling or any other similar activities that have potential to cause sleep disturbance must be not used during the night-time (2200 hours to 0700 hours) period.

N3 Noise emission limits

1. Unless otherwise approved in writing by the Director, noise emissions from construction and demolition for the Project when measured at any noise sensitive receptors and expressed as the equivalent continuous A-weighted sound pressure level must not exceed:
 - 1.1. Rating background level (RBL) + 10 dB for standard hours
 - 1.2. Rating background level (RBL) + 5 dB for non-standard hours
2. Additionally, noise emissions from construction and demolition for the Project when measured outside a habitable room of any noise sensitive receptor must not exceed L_{Amax} 60 dB(A).
3. The time interval over which noise levels are averaged must be 10 minutes or an alternative time interval specified by the Director.
4. For tonal noise, 5 dB adjustment factor must be added to the measured noise levels when level of 1/3 octave band exceeds the level of the adjacent bands on both sides by:
 - 4.1. 5 dB or more if the centre frequency of the band containing the tone is above 400 Hz;
 - 4.2. 8 dB or more if the centre frequency of the band containing the tone is 160 Hz to 400 Hz inclusive;
 - 4.3. 15 dB or more if the centre frequency of the band containing the tone is below 160 Hz.
5. Measured noise levels must be adjusted for impulsiveness, modulation and low frequency in accordance with the *Tasmanian Noise Measurement Procedure Manual*.

N4 Ground vibration limits

1. Unless otherwise approved in writing by the Director, ground vibration from the activity when measured at any sensitive receptors and expressed as peak particle velocity (PPV) must not exceed:
 - 1.1. 1 mm/s PPV as human comfort vibration limit; and
 - 1.2. Limits as specified in German Standard DIN 4150-3:1999 to protect vulnerability of ground-related services and structures to vibration generated by construction/demolition activities.
2. Unless otherwise approved in writing by the Director, blasting is not permitted.

N5 Noise and vibration monitoring method

1. Noise and vibration monitoring for the Project must be undertaken in accordance with:
 - 1.1. these conditions; and
 - 1.2. a method approved in writing by the Director, as may be amended from time to time with written approval of the Director.
2. Measurements and data recorded during the survey must include:
 - 2.1. operational status of noise and vibration producing equipment;
 - 2.2. subjective descriptions of the sound at each location;
 - 2.3. details of meteorological conditions relevant to the propagation of noise;
 - 2.4. the equivalent continuous (Leq) and Lmax, L1, L10, L50, L90 and L99 A-weighted sound pressure levels measured over a period of 10 minutes or an alternative time interval approved by the Director;
 - 2.5. one-third octave spectra noise data over suitably representative periods of not less than 1 minute, where required; and
 - 2.6. Measurements of peak particle velocity (PPV) at a vibration sensitive building or structure. The monitoring locations will be solid and rigid to best represent the vibration entering the structure or building under investigation;
 - 2.7. Where attended vibration monitoring is not feasible, an unattended monitoring system is to be installed with a system to warn the operators (via flashing light etc.) where there is potential to cause any cosmetic damage to buildings and structures.
3. The survey report must include the following:
 - 3.1. the results and interpretation of the measurements required by these conditions;
 - 3.2. a map showing the locations of construction/demolition activities, measurement locations, and noise/vibration sensitive receptors clearly marked on the map;
 - 3.3. any other information that will assist with interpreting the results and whether the activity is in compliance with these conditions; and
 - 3.4. recommendations of appropriate mitigation measures to manage any noise or vibration problems identified by the survey.
4. All methods of noise measurements must be in accordance with the *Tasmanian Noise Measurement Procedure Manual*.

N6 Operational traffic noise review

1. Prior to commencement of the construction phase of the Project, or by a date otherwise specified in writing by the Director, an updated operational traffic noise impact assessment report incorporating the final design options must be submitted to the Director for approval. This requirement will be deemed to be satisfied only when the Director indicates in writing that the submitted document adequately addresses the requirements of this condition to his or her satisfaction.
2. After commencement of the operational phase of the Project, a noise monitoring report must be submitted to the Director comparing operational noise levels of the existing Bridge as reported in the MPIS and the operational phase of the Project.

Stormwater Management

S1 Stormwater Management Plan

1. Without limitation, unless otherwise approved in writing by the Director, the Stormwater Management Plan(s) required under these conditions must be consistent with the Standard Specification for Road Projects, Part B.
2. The plan must provide details of the following:
 - 2.1. Measures to prevent surface runoff from entering the area used or disturbed during construction activities sufficient for a 1 in 20 year rain event;
 - 2.2. Measures to retain sediment on The Project Land sufficient to comply with stormwater discharge quality limits imposed by these conditions;
 - 2.3. Procedures for maintenance of installed controls;
 - 2.4. Procedures for rehabilitation of areas disturbed during construction; and
 - 2.5. Details of final road stormwater controls and maintenance requirements to ensure stormwater discharged from The Project Land to water is treated to a level which complies with treatment criteria specified by the State Stormwater Strategy;

S2 Stormwater Discharge Quality

1. The concentration of suspended solids in stormwater discharged from The Project Land to water must be less than 30mg/L, except where the discharged stormwater is not visibly more turbid than the receiving environment, in which case no suspended solids concentration limits apply.
2. Stormwater discharged from The Project Land to water must be visibly free of oil and grease.

Waste Management

WM1 Waste Materials Management Plan

1. Without limitation, unless otherwise approved in writing by the Director, the Waste Materials Management Plan(s) required under these conditions must include:
 - 1.1. Consideration of the waste management hierarchy;
 - 1.2. Any proposed or potential reuse of material;
 - 1.3. Measures for detecting, testing, classification and management of the following in accordance with IB 105 and the ASS Guidelines, and with measures recommended in the MPIS:
 - 1.3.1. PASS and sediment from the River Derwent contaminated with metals, PAH and nutrients;
 - 1.3.2. PASS soils and sediments from potential ASS areas as identified in the MPIS;
 - 1.3.3. AASS soils as identified in the MPIS;
 - 1.3.4. Contaminated soils as identified in the MPIS;
 - 1.3.5. Solid wastes mixed into the soils within the embankment on the northern end of the existing Bridgewater Bridge;
 - 1.3.6. Excavated soils and sediments from potentially contaminated areas;
 - 1.3.7. Unanticipated controlled and general waste.

- 1.4. Measures for managing potential dust, odours and spills, and for containment of leachate from contaminated material;
- 1.5. Disposal and/or reuse of controlled waste and other waste materials.

Water Quality

WQ1 Dredging not permitted

Unless otherwise approved in writing by the Director, no dredging is permitted to be undertaken for the Project.

WQ2 Estuarine Water Quality Monitoring Plan

1. Without limitation, unless otherwise approved in writing by the Director, the Estuarine Water Quality Monitoring Plan(s) required under these conditions must include details of the following:
 - 1.1. Monitoring site locations including:
 - 1.1.1. Far field monitoring site(s) outside the area of influence of the activity;
 - 1.1.2. Intermediate monitoring sites within 700m toward the mouth of the estuary and 500m away from the mouth of the estuary of areas likely to be disturbed by construction activities; and
 - 1.1.3. The maximum distance from areas of disturbance near-field, in situ field monitoring is to be conducted.
 - 1.2. Parameters, methods, and frequencies of monitoring at each identified location including:
 - 1.2.1. A far field monitoring program to assess large scale changes that may impact water quality at the site;
 - 1.2.2. An intermediate site monitoring program for the analysis of potential pollutants and physical parameters of concern to assess operational performance against identified water quality guideline values; and
 - 1.2.3. A near field and telemetered intermediate site monitoring program to inform management actions required to mitigate potential water quality impacts, in accordance with the approved Estuarine Water Quality Management Plan(s) required by these conditions.
 - 1.3. A reporting program to advise the Director of monitoring results including:
 - 1.3.1. Ongoing monitoring of far field and intermediate field monitoring sites; and
 - 1.3.2. Any other monitoring as a result of construction actions, natural events or other occurrences which have caused or have the potential to cause exceedances of management action triggers, determined in accordance with the approved Estuarine Water Quality Management Plan(s) required by these conditions.
2. The Plan(s) must be reviewed and amended as necessary in response to the water quality impact studies required under these conditions within one month of the completion of each water quality impact study. Where amended, the amended Plan(s) must be resubmitted to the Director for approval.

WQ3 Estuarine Water Quality Management Plan

1. Without limitation, the Estuarine Water Quality Management Plan(s) required under these conditions must include details of the following:
 - 1.1. Relevant community values within the area of potential estuarine water quality impact as a result of construction and demolition works;
 - 1.2. Water quality guidelines values for the protection of identified community values;
 - 1.3. Water quality trigger levels and adaptive management actions for key water quality indicators at near-field and intermediate monitoring sites;
 - 1.4. Responsible persons for implementation of each management action;
 - 1.5. A table containing all major commitments made in the plan; and
 - 1.6. A reporting program to advise the Director of plan implementation and outcomes.
2. The Plan(s) must be reviewed and amended as necessary in response to the water quality impact studies required under these conditions within one month of the completion of each water quality impact study. Where amended, the Plan(s) must be resubmitted to the Director for approval.

WQ4 Background water quality and management trigger levels

1. A management trigger level specified by the Estuarine Water Quality Management Plan required by these conditions does not apply where background levels of the associated indicator are above the trigger level when measured during the same monitoring event.
2. In this case, associated management actions must be taken where the indicator is also above the background level.

WQ5 Water quality impact studies

1. Unless otherwise approved in writing by the Director, within 14 days of commencement of any construction and demolition activities for the Project which are likely to release sediment into the water column, estuarine water quality impact studies of those activities must be undertaken.
2. Types of construction activities to which this condition applies include:
 - 2.1. the movement of vessels to and from landing facilities;
 - 2.2. sediment disturbance as a result of land reclamation activities;
 - 2.3. the installation of temporary piles for the construction of working platforms;
 - 2.4. the installation of piles associated with construction of the first pier to be constructed for the Project within estuarine waters;
 - 2.5. the use of floating plant where the potential exists for sediment disturbance through placement, anchorage, vibration or settling of plant on the sediment; and
 - 2.6. other activities which have the potential to disturb sediment to the extent that water quality impacts may occur at intermediate monitoring sites;
3. The Director must be notified of the commencement of each study.
4. Each impact study must include the following:
 - 4.1. an estimation of sediment mass flux released to the water column over the course of the construction activity;

- 4.2. an evaluation of water quality impacts within the vicinity of the construction activity via measurements which may include field measurements, laboratory analyses, photography and video footage;
 - 4.3. an evaluation of current direction to refine selection of assessment locations;
 - 4.4. an evaluation of water quality impacts at intermediate monitoring sites relative to the location where disturbance has or is occurring during the construction phase for the Project;
 - 4.5. where the potential exists for water quality impacts at intermediate monitoring sites, an assessment of pollutant variation and secondary impacts, such as dissolved oxygen depletion, in the vicinity of the construction activity relative to the variations of water quality indicators at the intermediate monitoring sites;
 - 4.6. recommendations as appropriate for amendments to the Estuarine Water Quality Monitoring Plan and Estuarine Water Quality Management Plan required by these conditions.
5. For each water quality impact study, a report must be completed within one month of completion of the study. The report must be provided with the monitoring plan(s) and management plan(s) required by these conditions where amendments to these plans are required.

WQ6 Contingency management plan for construction in the Derwent estuary

1. The Contingency Management Plan for construction in the Derwent estuary required under these conditions must detail measures to prevent and mitigate environmental harm if an unplanned event occurs. Unplanned events that must be addressed by the plan include but are not limited to:
 - 1.1. Incidents, accidents, equipment failure and malfunctions with the potential to cause environmental harm as a result of:
 - 1.1.1. the release of pollutants to the aquatic environment; or
 - 1.1.2. the disturbance and release of large quantities of sediment to the estuarine water column at greater rates, volume or over a larger area than otherwise planned for;
 - 1.2. the release from capture and containment facilities of extracted estuarine sediments; and
 - 1.3. weather or other environmental conditions which may result in greater levels of disturbance of sediment from areas of operations than otherwise expected.
2. The plan must include communication procedures that ensure that the general public and relevant Government agencies are informed of any unplanned event to the extent necessary to allow them to take precautions against adverse impacts upon the environment and the public.

WQ7 Final design hydrodynamic modelling

1. Unless otherwise approved in writing by the Director, within two (2) months of the issuing of these conditions:
 - 1.1. hydrodynamic modelling based on the chosen design must be undertaken over a sufficient area, timeframe and scale to determine potential changes in sediment mobilisation, deposition and general bathymetry in the Derwent estuary resulting from the Project, following completion of construction; and

- 1.2. a report on the hydrodynamic modelling results must be submitted to the Director for approval.
2. Hydrodynamic modelling undertaken must be sufficient to determine whether significant impacts to existing ecosystems are possible, or the extent of any potential impacts to water quality as a result of the final bridge design, such as from scouring or other mechanisms.
3. Where potential negative impacts are identified, recommendations must be made in the report for mitigation measures and ongoing management of impacts, to be either incorporated as part of the constructed bridge or implemented post-construction.
4. This condition will be deemed to be satisfied only when the Director indicates in writing that the submitted report adequately addresses the requirements of this condition to his or her satisfaction.

WQ8 Aquatic sediment management

1. Unless otherwise approved in writing by the Director:
 - 1.1. all sediments extracted during construction or demolition phases of the Project must be removed from the aquatic environment, such that no extracted sediment is released to the aquatic environment;
 - 1.2. any removed aquatic sediments must only be stored onshore temporarily and must be contained during storage so as to prevent such sediments becoming entrained in stormwater; and
 - 1.3. all removed aquatic sediments must be disposed of to an appropriately licenced facility.

Appendices

Appendix 1: flowchart of the major project assessment process

Appendix 2: Preliminary condition advice from participating regulators

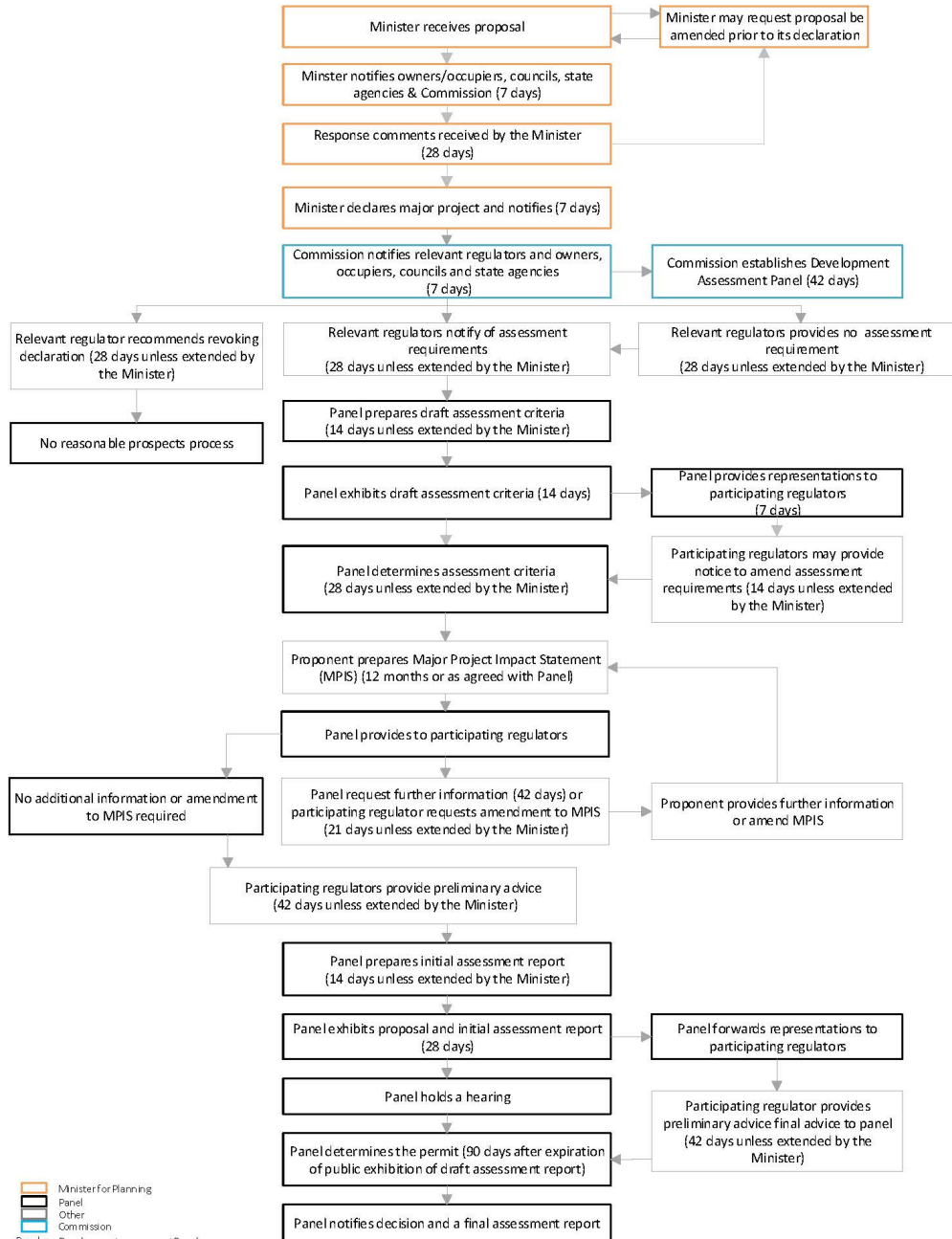
Appendix 3: Proponent further information not incorporated into the MPIS

Appendix 1 - flowchart of the major project assessment process

TASMANIAN PLANNING COMMISSION

Major Project Assessment Process

Land Use Planning and Approvals Act 1993



December 2020

Appendix 2 - Preliminary condition advice from participating regulators

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Environment Protection Authority preliminary condition advice

Tas Gas preliminary condition advice

TasWater preliminary condition advice

Tasmanian Heritage Council preliminary condition advice

Department of Natural Resources and Environment Tasmania preliminary condition advice

Appendix 3 - Proponents further information not incorporated into the MPIS

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