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WestConnex M4-M5 Link MOD 8-Modification to Condition E26

State Significant Infrastructure Modification Assessment Report (SSI-7485-Mod-8)

August 2023





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Published: August 2023

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Preface

This assessment report provides a record of the Department of Planning and Environment's (the Department) assessment and evaluation of modification SSI-7458-Mod-8 of the State significant infrastructure (SSI) application for the WestConnex M4-M5 Link project lodged by Transport for NSW (TfNSW). The modification seeks a change to condition E26 of the project approval to allow the Planning Secretary to approve alternative timeframes for ambient air quality monitoring. The report includes:

- an assessment of the modification against government policy and statutory requirements
- an assessment of the likely environmental impacts of the modification
- an evaluation which weighs up the likely impacts and benefits of the modification, having regard to agency advice, and
- a recommendation to the decision-maker, along with the reasons for the recommendation, to assist them in making an informed decision about whether the approval should be modified and the relevant condition amended.

Executive Summary

This report details the Department's assessment of modification 8 of State significant infrastructure application WestConnex – M4-M5 Link SSI 7485.

Project Overview

Transport for NSW (TfNSW) (the Proponent) proposes to modify the approval for the WestConnex M4-M5 Link (SSI-7485). The M4-M5 Link involves the construction and operation of twin tunnels approximately 7.5 kilometres in length between Haberfield and St Peters, including associated surface works to connect to the existing road network. It also includes an interchange at Rozelle with provision for a future connection to the Western Harbour Tunnel and Beaches Link as well as an underground tunnel from the Rozelle Interchange to Victoria Road near Iron Cove Bridge, known as the 'Iron Cove Link'. The project is located within local government areas of City of Canada Bay, Inner West and City of Sydney.

Background

The project approval requires the Proponent to monitor ambient air quality near the Rozelle and Victoria Road ventilation outlets (as well as the Campbell Road and Haberfield ventilation outlets). Condition E26 requires monitoring to be undertaken for at least 12 continuous months prior to the operation of the project. Two monitoring sites were established for the Victoria Road outlet (Bridgewater Park and Manning Street, Rozelle) and two for the Rozelle ventilation outlets (Quirk Street, Rozelle and Chapman Road, Annandale) as part of the overall monitoring program. Due to faults experienced at the Manning Street and Quirk Street ambient air quality monitoring stations, 12 continuous months of monitoring for nitrogen oxides (NO_x)¹, particulate matter (PM_{2.5}) and wind will not be available for these two sites prior to the opening of the Rozelle Interchange.

Modification

The modification seeks to amend condition E26 to allow the Planning Secretary to approve alternative timeframes for ambient air quality monitoring.

The Proponent engaged Zephyr Environment to undertake a comparative analysis of the collected data against other air quality data collected at nearby monitoring stations. The analysis considered the potential impact of the false readings and data gaps for NO₂, PM_{2.5} and wind and concluded that the dataset is sufficient to establish a representative baseline for these parameters.

 $^{^{1}}$ NO_x is the collective term for the nitrogen oxides of nitric oxide (NO) and nitrogen dioxide (NO₂). In ambient conditions, NO is rapidly oxidised in air to form NO₂ by available oxidants (such as oxygen an ozone). This rapid oxidation velocity is such that it is NO₂ that is usually considered the primary pollutant. Trends in the concentration of this pollutant would be reflective of trends in NO_x concentrations. As such, NO₂ has been analysed by the Proponent's consultant to inform the modification request and this assessment report.

Statutory context

Approval for the State significant infrastructure project was granted on 17 April 2018 by the former Minister for Planning. Therefore, the Minister for Planning and Public Spaces or delegate may modify the approval.

The Department is satisfied that the proposed modification is within the scope of section 5.25 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and does not constitute a new infrastructure application.

Strategic context

The proposed modification has no material effect on the construction and operation of the project. As such, the Department considers the modified project to be consistent with the principal aims of key strategies relevant to the project, including *Staying Ahead: State Infrastructure Strategy 2022-2042, The Greater Sydney Region Plan: A Metropolis of Three Cities, Eastern District City Plan, NSW Freight and Port Plan 2018-2023* and Bays West Place Strategy.

Engagement

In accordance with the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation), the Department made the modification application publicly available on the Department's website on 25 July 2023. It also forwarded the application to the Environment Protection Authority (EPA) on 26 July 2023 for comment.

The EPA has no objection to the proposed modification.

Assessment

The comparative analysis report by Zephyr Environment concluded the air quality dataset set currently available is sufficient to provide a representative baseline of NO₂ and PM_{2.5} levels and wind speed and directions in the vicinity of the Rozelle and Victoria Road ventilation outlets. As such, the Department considers that allowing flexibility in the number of months of continuous monitoring would not affect the intent of condition E26. This condition was imposed to ensure sufficient data is collected to characterise the existing ambient air quality and enable comparison of monitoring results before and during operation of the project's ventilation outlets.

The Department notes that ambient air quality monitoring has continued and will continue to be collected prior to opening of the Rozelle Interchange and Iron Cove Link to inform statistics on ambient air quality.

The proposed wording for condition E26 also enables the Department to increase the duration of monitoring once the Rozelle Interchange and Iron Cove Link are operational.

Conclusion

Overall, the Department's assessment concludes the proposed modification would:

- comply with relevant statutory provisions of the EP&A Act
- not compromise the analysis of ambient air quality (in particular, levels of NO_x and PM_{2.5} in the air) prior to and during operation of the Rozelle Interchange and Iron Cove Link, and
- not result in a change to impacts on the environment beyond those assessed in the project approval.

As such, the Department considers the modified project is in the public interest and recommends that condition E26 of the approval is modified.

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1 Introduction

1.1 The approved project

On 17 April 2018, approval was granted for the construction and operation of the WestConnex M4-M5 Link. The project comprises twin tunnels approximately 7.5 kilometres in length between Haberfield and St Peters, including associated surface works to connect to the existing road network. It also includes an interchange at Rozelle with provision for a future connection to the Western Harbour Tunnel as well as an underground tunnel from the Rozelle Interchange to Victoria Road near Iron Cove Bridge, known as the 'Iron Cove Link'.

The M4-M5 Link is Stage 3 of the WestConnex program of works and is being delivered in two stages:

- Stage 3A construction of the twin tunnels opened to traffic January 2023
- Stage 3B construction of the Rozelle Interchange and Iron Cove Link under construction and due to open in late 2023.

1.2 Project location

The project is located to the southwest and west of the Sydney CBD and traverses the suburbs of Ashfield, Haberfield, Leichhardt, Lilyfield, Rozelle, Annandale, Stanmore, Camperdown, Newtown and St Peters.

The project is located within the local government areas of City of Canada Bay, Inner West and City of Sydney.

1.3 Modification background

Condition E26 requires the Proponent to undertake ambient air quality monitoring for a continuous period of 12 months prior to operation and then continue monitoring for at least two years following the commencement of operation. The monitoring is to be undertaken in the vicinity of the ventilation outlets at Rozelle, Victoria Road, Campbell Street and Haberfield ventilation outlets (condition E24).

The purpose of the ambient air quality monitoring conditions (E24 to E26) is to:

- confirm air quality modelling projections detailed in the environmental impact statement (EIS)
- address council and community ambient air quality concerns raised during exhibition of SSI-7485; and
- detect any impact on air quality near the project's ventilation outlets during the initial years of operation (condition E24).

The monitors in the vicinity of the Haberfield and Campbell Street ventilation outlets were the same as those that had been established for the M4 East and M8 (formerly New M5) projects. These were established between 2017 and 2021 and have datasets that span a continuous 12-month period. The monitoring locations for the Rozelle and Victoria Road ventilation outlets were approved by the

Planning Secretary on 11 January 2022 following consultation with the EPA and Air Quality Community Consultative Committee (AQCCC) in accordance with conditions E24 to E25 of the approval. Monitoring commenced between 20 October 2022 and 2 November 2022.

1.4 Related projects and works

1.4.1 Modification history

The approval has been modified on six previous occasions (see Table 1)

Table 1 | Summary of modifications

Modification	Description	Decision- maker	Туре	Date
MOD 1	Civil Sites & Ancillary Facilities Design refinement for construction site arrangements assessed in the EIS and Submissions & Preferred Infrastructure Report (SPIR) to reduce community impacts, and to decrease the number of construction sites required for Stage 1 of the approved project.	Minister	5.25	25/02/2019
MOD 2	The Crescent overpass and active transport links Construction of a grade separated vehicular overpass comprising a two-lane east-bound flyover separating the at-grade intersection at The Crescent and City West Link and relocation of the Rozelle Rail Yard Pedestrian and Cycling Green Link.	Minister	5.25	30/09/2020
MOD 3	Iron Cove ventilation underground Relocation of ventilation facilities and other features (e.g., substation) of the Iron Cove Ventilation Facility (Motorway Operations Centre – MOC 4) below ground by providing an in-tunnel ventilation exhaust facility in a rock cavern.	Minister	5.25	28/07/2020
MOD 4	Glebe Island Construction Ancillary Facility Establishment and use of a construction ancillary facility on Glebe Island to receive and assemble equipment required for the Rozelle Interchange.	Department	5.25	28/07/2020
MOD 5	Other Ancillary Facilities Condition To allow the establishment of additional minor ancillary facilities that have minimal impacts to provide consistency with other major infrastructure projects.	Department	5.25	18/11/2020

Modification	Description	Decision- maker	Туре	Date
MOD 6	Haul Road Relocation at Rozelle Interchange The re-routing of an existing haul road to allow for the placement of a weighbridge, rumble strip and wheel wash before vehicles join the shared haul route with Sydney Metro West.	-	_	Withdrawn
MOD 7	Modification to permanently close Northcote Street, Haberfield Permanent closure of access from Northcote Street, Haberfield to Parramatta Road by establishing a cul-de- sac arrangement.	Department	5.25	14/10/22

2 Proposed modification

The Proponent is seeking to modify condition E26:

"E26 The Proponent must commence monitoring for at least 12 continuous months prior to operation and continue monitoring for at least two (2) years following the commencement of operation. At the conclusion of the two (2) year operational monitoring period, the Proponent must review the need for the continued use of ambient monitoring stations in consultation with the AQCCC and EPA. Closure or discontinued use of an ambient monitoring station will require the approval of the Secretary."

Condition E26 requires the Proponent to carry out a defined and continuous period of monitoring prior to operation, not taking into consideration potential minor faults in data collection that might occur during this period.

2.1 Monitoring data collection

Four ambient air quality and weather monitoring stations have been established in the vicinity of the Rozelle and Victoria Road ventilation outlets and are located at:

- Quirk Street
- Chapman Road
- Manning Street; and
- Bridgewater Park (Figure 1).



Figure 1 | Location of ambient air quality monitoring stations (Source: Modification Report)

Ambient air quality monitoring at the four stations commenced between 20 October 2022 and 2 November 2022. Since then, two of the monitoring stations, Manning Street and Quirk Street, have experienced false readings for nitrogen oxides (NO_x) and PM_{2.5} (atmospheric particulate matter with a diameter of less than 2.5 micrometres), that were discovered during routine maintenance visits and data review processes. The false readings were investigated by the Proponent and found to be either due to an equipment failure or data ruled as being outside of tolerance and invalidated as per *Australian Standard AS3580.5.1 - 2011 – Methods for sampling and analysis of ambient air – Method 5.1: Determination of oxides of nitrogen*. Collectively, the false readings occurred during a period from December 2022 to March 2023.

The issue at Manning Street monitoring station related to a sample line fault in the NO_x analyser that resulted in the instrument partially sampling air from inside the station. Rigorous sample calibration testing on the sensors beyond typical testing was required to identify the fault. Therefore, NO_x, nitrogen dioxide (NO₂) and nitric oxide (NO) data from this station were deemed invalid from 24 November 2022 to 3 March 2023. The wind gauge at this monitoring station also did not operate during early January 2023, resulting in reduced collection of wind speed and direction data during this month.

The issue at Quirk Street monitoring station related to the $PM_{2.5}$ BAM instrument being slightly outside the tolerance range (7.2% rather than 6%) specified by Australian Standard AS3580. The standard requires quarterly checks, however due to the bi-monthly testing regime adopted by the project, this fault was discovered one month earlier than the required frequency. Therefore $PM_{2.5}$ data from this station was deemed invalid from 20 October 2022 to 20 December 2022.

2.2 Proposed amended condition

The Proponent requests condition E26 be modified as outlined below in red, to provide the Planning Secretary the discretion to apply flexibility in the monitoring timeframe while not affecting the requirement to establish a representative ambient air quality baseline in the vicinity of the project prior to opening.

"E26 The Proponent must commence monitoring for at least 12 continuous months prior to operation and continue monitoring for at least two (2) years following the commencement of operation, unless otherwise approved by the Secretary. At the conclusion of the two (2) year operational monitoring period, the Proponent must review the need for the continued use of ambient monitoring stations in consultation with the *AQCCC* and EPA. Closure or discontinued use of an ambient monitoring station will require the approval of the Secretary."

The modification is requested as should a 12-month continuous monitoring period be required, this would delay opening of the Rozelle Interchange and Iron Cove Link to March 2024.

3 Statutory context

3.1 Scope of modification and assessment pathway

Details of the legal pathway under which the modification is sought are provided in Table 2.

Table 2 | Permissibility and assessment pathway

Consideration	Description
Scope of modification	In accordance with section 5.25 of the EP&A Act, a proponent may request the Minister to modify the approval for State significant infrastructure. The Minister's approval for a modification is not required if the infrastructure as modified will be consistent with the existing approval. The Proponent's request to approve alternative timeframes for ambient air quality monitoring is not considered consistent with the existing approval. Consequently, modification of the Minister's approval under section 5.25 of the EP&A Act is required.
Approval Authority	The Minister continues to be the approval authority under section 5.25 of the EP&A Act unless the Minister has delegated his determination functions to the Department.
Decision-maker	 Under the Instrument of Delegation dated 9 March 2022, the functions and powers of the Minister under section 5.25 of the EP&A Act to determine a modification of the Minister's approval may be delegated to officers in the Department, if: the modification request has not been made by a person who has disclosed a reportable political donation in connection with the modification request; there are less than 15 public submission objections (other than a council); and the council has not made a submission under the mandatory requirements for community participation in Schedule 1 of the Act. The proposed modification meets the terms of this delegation. As such, the Director of Transport and Water Assessments has the delegated authority to determine the modification request.

3.2 Other approvals and authorisations

An environment protection licence (EPL) has been issued by the NSW Environment Protection Authority (EPA) under section 42 of the *Protection of the Environment Operations Act 1997* for the project. The EPL does not require ambient air quality monitoring. The modified project will not require any variations to the EPL. The Department has consulted with and considered advice from the EPA who is responsible for the EPL (see **Sections 4** and **5**).

Under section 5.23 of the EP&A Act, a number of other authorisations required under other Acts are not required for SSI. This is because all relevant issues are considered during the assessment of the original project and subsequent modification requests.

4 Engagement

4.1 Department's engagement

In accordance with the EP&A Regulation, the Department made the modification application publicly available on the Department's website on 25 July 2023. It also forwarded the application to the EPA on 26 July 2023 for advice.

4.1.1 Summary of agency advice

The Department received advice from the EPA on the modification report. A summary of their advice is provided in **Table 3.** A link to the full copy of the advice is provided in **Appendix B**.

Table 3 | Summary of agency advice

Agency	Advice summary
EPA	The EPA has no objection to including the wording "unless otherwise approved by the Secretary" in condition E26.

5 Assessment

5.1 Ambient air quality

The Department has reviewed the Proponent's request, including supporting information, and assessed the potential impacts of the modification as set out below. The proposed changes are considered minor in nature.

Issue

As noted in **Section 2**, there are gaps in the NO_x and PM_{2.5} data collected at the Manning and Quirk Streets ambient air quality stations. Also, there was limited wind speed and directional data at Manning Street during January 2023. To understand whether the data gaps compromise the ability to meet the intent of condition E26, the Proponent engaged Zephyr Environmental to undertake a comparative analysis (dated 26 April 2023), to evaluate the NO₂ and PM_{2.5} data against other data collected at nearby monitoring stations during the periods where gaps occur. The comparative analysis examined air quality data measured at five ambient air quality monitoring stations (two associated with Rozelle Interchange, two associated with the Iron Cove Link and the Department's monitoring station at Rozelle) (**Figure 1**).

The comparative analysis report noted:

- NO2 data shows trends in peak concentrations associated with daily traffic flows
- PM_{2.5} data is less influenced by traffic and generally reflects regional air quality
- the available Manning Street NO₂ data tracks within the range of the other stations
- the available Quirk Street PM_{2.5} data tracks within the range of other stations; and
- wind speed and direction vary between sites due to siting / topographic influences.

Based on the above, the report concluded the current dataset set is sufficient to establish a representative baseline prior to the opening of the Rozelle Interchange and Iron Cove Link.

Community advice

Condition E2 of the approval requires the Proponent to establish an AQCCC whose role includes providing advice on air quality issues prior to and during the operation of the project. The Proponent presented the findings of the comparative analysis to the AQCCC on 18 April 2023. The AQCCC meeting was attended by community representatives, an Inner West Council representative, WestConnex representatives, and observers from both the Department and EPA. There was no feedback received.

Agency advice

The Proponent consulted with the EPA on 7 July 2023 and provided a copy of the comparative analysis report. The Department forwarded the application to EPA on 26 July 2023 for comment. The EPA noted the findings from the comparative analysis report on ambient air quality and the conclusion that the dataset has not been compromised and is considered satisfactory. The EPA also noted that the Proponent has undertaken consultation with the AQCCC. The EPA has no objection to including the wording "unless otherwise approved by the Secretary" in condition E26.

Consideration

The Department considers that the proposed modification to condition E26 is acceptable as there is sufficient data available across the four ambient air quality monitoring stations, and the DPE air quality monitoring station, to establish baseline NO_x and $PM_{2.5}$ levels around the Rozelle and Victoria Road ventilation outlets. It is also noted that the Proponent is continuing to monitor these and other ambient air quality parameters. The data collected prior to opening of the Rozelle Interchange and Iron Cove Link will be used to inform statistics on pre-operational ambient air quality.

The Department acknowledges that there was limited wind data available at Manning Street during January this year. However, wind patterns are often variable and the Department accepts wind data collected during January from the DPE air quality monitoring station and three other ambient air quality stations is sufficient.

The proposed modified wording would have no effect on the other intents of conditions E24-E26. These were to monitor ambient air quality during operation to detect any impacts on air quality from the ventilation outlets and to allow for the review of the accuracy of the predicted air quality impacts.

As such, the Department recommends that condition E26 be modified to allow the Planning Secretary the discretion to amend the period of ambient air quality monitoring.

6 Evaluation

The Department has reviewed the modification request and evaluated the merits of the modification. The Department considers the modification should be approved. The key reasons are as follows.

- 1. The modification request complies with relevant statutory provisions of the EP&A Act (refer to **Section 3**).
- 2. The modification would not compromise the analysis of ambient air quality (in particular, levels of NO_x and PM_{2.5} in the air) prior to and during operation of the Rozelle Interchange and Iron Cove Link.
- 3. The modification would not result in a change to impacts on the environment beyond those assessed in the project approval.

Consequently, it is recommended that the modification be approved.

7 Recommendation

It is recommended that the **Director, Transport and Water Assessments**, as delegate of the Minister for Planning and Public Spaces:

- considers the findings and recommendations of this report
- **determines** that the application WestConnex M4-M5 Link Modification 8 Modification to Condition E26 (SSI-7485 MOD 8) falls within the scope of section 5.25 of the EP&A Act
- **accepts and adopts** the findings and recommendations in this report as the reasons for making the decision to approve the modification
- modify the approval for the SSI-7485; and
- signs the attached instrument of modification 8 (Appendix C).

Recommended by:

Recommended by:

Angela Sound

M. Ganland

Angela Stewart Senior Planning Officer Transport and Water Assessments

Mary Garland Team Leader Transport and Water Assessments

8 Determination

The recommendation is **adopted** by:

Glenn Snow Director Transport and Water Assessments

Glossary

Abbreviation	Definition
AQCCC	Air Quality Community Consultative Committee
ВАМ	Beta attenuation monitoring
CSSI	Critical State significant infrastructure
Department	Department of Planning and Environment
EIS	Environmental impact statement
ЕРА	NSW Environment Protection Authority
EPL	Environment Protection Licence
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
Minister	Minister for Planning and Public Spaces
ΝΟ	Nitric oxide
NO ₂	Nitrogen dioxide
NOx	Nitrogen oxides
PM _{2.5}	Particles with a diameter of 2.5 micrometres or less
Secretary / Planning Secretary	Planning Secretary of the Department of Planning and Environment
SSI	State significant infrastructure
TfNSW	Transport for NSW

Appendices

Appendix A – Modification to condition E26 report

https://www.planningportal.nsw.gov.au/major-projects/projects/westconnex-m4-m5-link-mod-8modification-condition-e26

Appendix B – EPA agency advice

https://www.planningportal.nsw.gov.au/major-projects/projects/westconnex-m4-m5-link-mod-8-modification-condition-e26

Appendix C – Recommended instrument of modification

https://www.planningportal.nsw.gov.au/major-projects/projects/westconnex-m4-m5-link-mod-8-modification-condition-e26