

3 June 2021

Mandana Mazaheri
Team Leader - Resource Assessments
Department of Environment, Planning and Industry
Locked Bag 5022
Parramatta NSW 2124

Re: McPhillamys Gold Project (SSD-9505) – Response to additional information

Dear Mandana,

1 Introduction

The letter provides a response to the request for additional information (RFI) from the NSW Department of Planning, Industry and Environment (DPIE) in relation to the McPhillamys Gold Project (the project) and the revised air quality and visual impact assessments.

2 Response to RFI

Each request from the RFI is provided verbatim followed directly by the response.

DPIE Request:

Confirm if Year 6 was considered representative of worst-case scenario for air emissions.

Response:

Year 6 is considered to be the worst-case scenario from the perspective of air pollutant emission generation for the amended mine development. Figure 6.1 of the *Amendment Report - Revised Air Quality Impact Assessment* (Revised AQIA, EMM 2020) shows the projected material handling and processing by mine development year. It can be seen from Figure 6.1 that Year 6 represents the maximum year with regards to overall material extraction and waste rock extraction (ie haulage from pit to waste rock emplacement area). Furthermore, Figure 6.2 of the Revised AQIA shows that the annual particulate matter emissions during Year 6 are the highest estimated for the project.

DPIE Request:

Incremental contour plots in App D of the revised AQIA are for operations only. Were construction works in Year considered in Year 1 plots?

Response:

It is noted that all mine scenarios between Year 1 and Year 6 incorporate some level of construction activities (eg topsoil clearing, handling and storage and waste rock emplacement for infrastructure construction). While the contour plots in Appendix D are labelled, "Year X operations only", this is purely to identify that the plots are relevant to project emission sources only and do not account for background. The Year 1 emissions scenario incorporates the initial year construction activities relating to the acoustics bund and ROM pad development.

DPIE request:

Provide a brief description of Figure B.1 to B.5, including description of the emission sources referred to in the legends, where in Appendix B of the revised AQIA these figures would belong, and provide a high-resolution jpeg map showing the worst-case (Year 6?) emission sources within the mine development area.

Response:

A high-resolution jpeg of Figures B.1 – B.5 and a high-resolution jpeg map showing the worst-case Year 6 emission sources will be uploaded with this RFI response. Figures B.1 through to B.5 show the location of modelled emission sources for Year 1 through to Year 8. Emissions sources are represented as follows:

- wind erosion emissions (eg waste rock emplacement, open cut pit, ROM pad, topsoil stockpiles, bunds and TSF) are represented by area sources marked by irregular polygons with hashed fill in the figures;
- material handling (eg excavator handling, truck loading, truck unloading, dozer operations) are represented by volume sources marked by squares filled with a cross in the figures;
- unpaved haul road (waste rock and ore from the pit, topsoil), paved road (product export) and the processing plant circuit are represented by line-volume sources marked by lines in the figures; and
- processing plant combustion sources (eg furnace) represented by point sources marked by circles.

DPIE Request:

Provide a high-resolution jpeg map showing worst-case (Year 6) cumulative:

- Annual average and 24-hour average PM₁₀ concentrations
- Annual average and 1-hour average NO²

Response:

High-resolution jpegs of annual average and 24-hour average PM₁₀ concentrations and annual average and 1-hour average NO² will be uploaded with the RFI response.

DPIRE Request:

Provide a high-resolution jpeg map showing worst-case predictions for HCN and 1-hour average arsenic (representative of metals).

Response:

The criteria for HCN and arsenic are applicable at the mine development project boundary. The results of the maximum predicted concentrations at the mine development project boundary are listed in Table 7.1 of the Revised AQIA. No gridded modelling was conducted for HCN or arsenic, therefore contour plots were not generated during the modelling process and cannot be presented as requested. However, as highlighted in Table 7.1, the maximum arsenic concentration at the mine development project boundary is below the applicable impact assessment criterion at all locations along the mine development project boundary.

It is noted that, as stated in Section 6.4.1 of the Revised AQIA, due to negligible changes to the processing circuit under the amended mine development, HCN emissions were not remodelled from the original EIS AQIA. The results for HCN in the original AQIA were below the applicable impact assessment criterion at all modelled locations along the mine development project boundary.

DPIE request:

Provide a high-resolution jpeg for Figure 6.50 (view sectors and photomontages locations – mine development) in the Amendment Report (main document).

Response:

A high-resolution jpeg of Figure 6.50 from the Amendment Report will be uploaded with the RFI response.

3 Closing

Please do not hesitate to contact Janet Krick (jkrick@emmconsulting.com.au) or Nicole Armit (narmit@emmconsulting.com.au) should you require further information or wish to discuss the information provided.

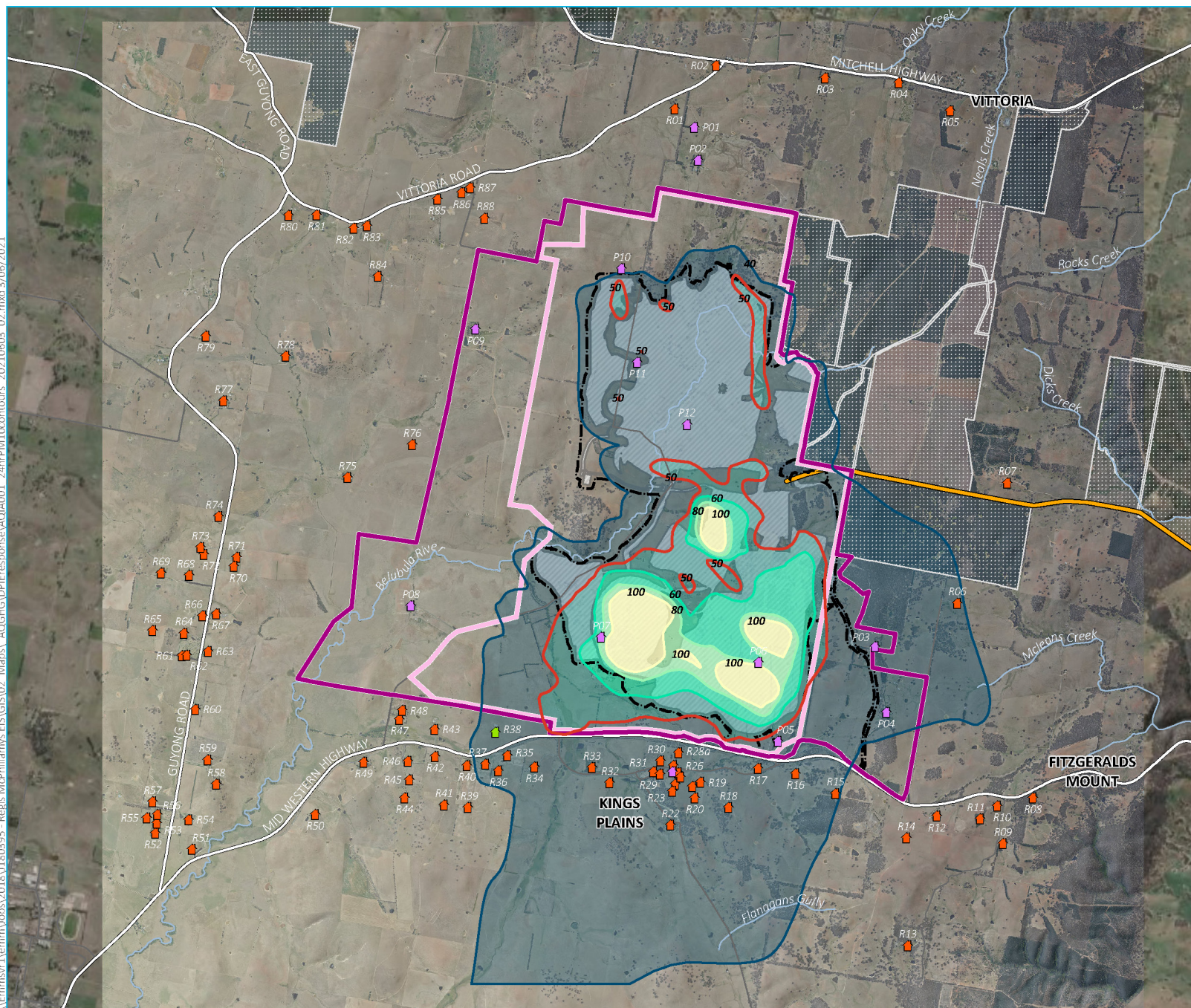
Yours sincerely



Janet Krick

Associate Environmental Planner

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- KEY**
- Project application area
 - Mine development project area
 - Mining lease application area (Note: boundary offset for clarity)
 - Disturbance footprint
 - Pipeline
 - Mine development general arrangement - Year 6
 - Sensitive receptor
 - Private
 - Residences under option
 - Project related (Regis-owned)
 - 24-hour average PM₁₀ concentrations
 - 40 µg/m³
 - 50 µg/m³
 - 60 µg/m³
 - 80 µg/m³
 - 100 µg/m³
 - 24-hour average PM₁₀ concentration range
 - 40 - 50 µg/m³
 - 50 - 60 µg/m³
 - 60 - 80 µg/m³
 - 80 - 100 µg/m³
 - >100 µg/m³
 - Existing environment
 - Major road
 - Minor road
 - Named watercourse
 - Vittoria State Forest

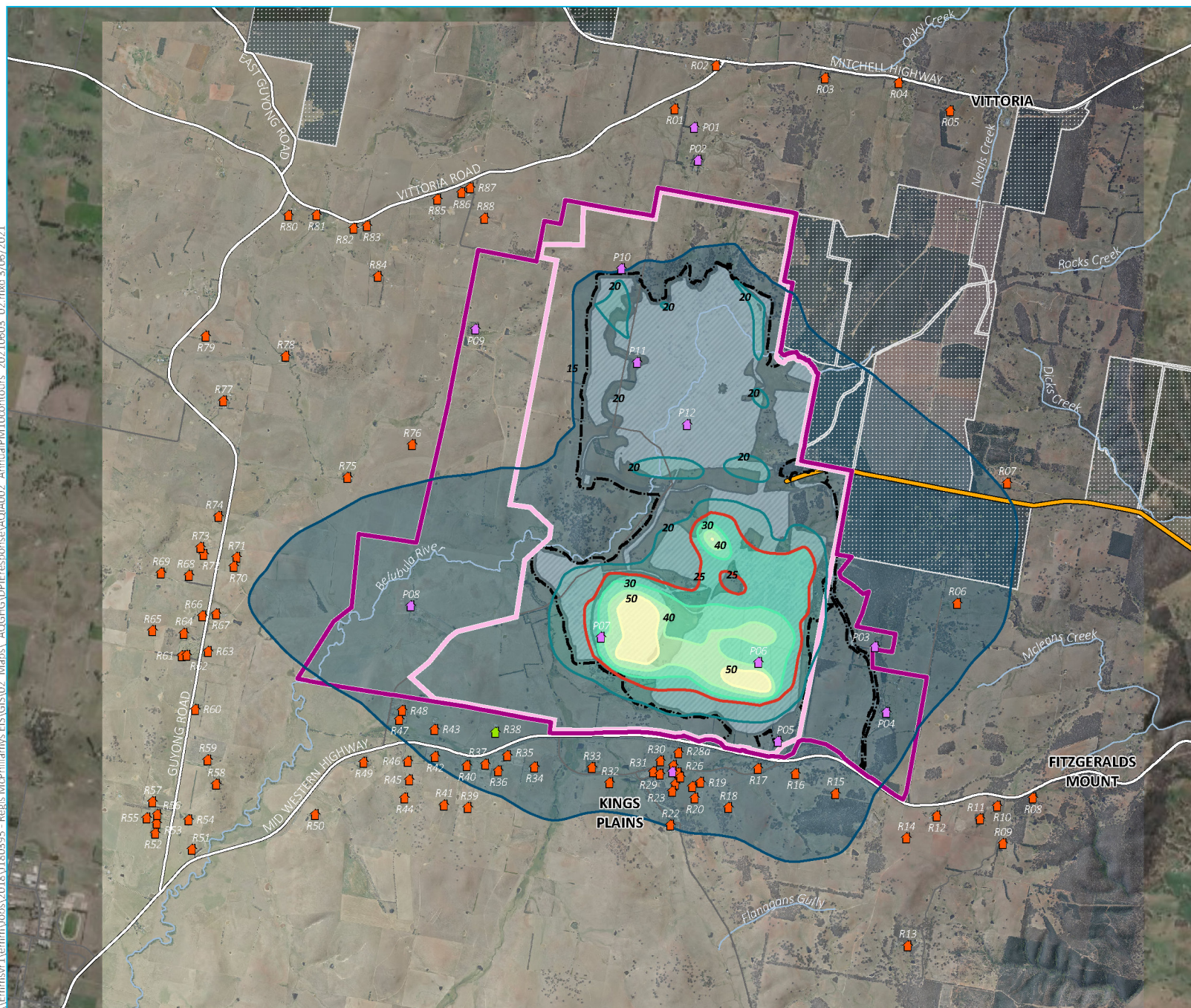
3rd-highest predicted cumulative
24-hour average PM₁₀ concentrations
(µg/m³) – Year 6 operations

McPhillamys Gold Project
DPIE response
Air quality impact assessment
Figure 1

Source: EMM (2021); Regis Resources (2020); Survey Graphics (2019); DFSI (2017); ELVIS (2014)



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- KEY**
- Project application area
 - Mine development project area
 - Mining lease application area (Note: boundary offset for clarity)
 - Disturbance footprint
 - Pipeline
 - Mine development general arrangement - Year 6
 - Sensitive receptor
 - Private
 - Residences under option
 - Project related (Regis-owned)
 - Annual average PM_{10} concentrations
 - 15 $\mu g/m^3$
 - 20 $\mu g/m^3$
 - 25 $\mu g/m^3$
 - 30 $\mu g/m^3$
 - 40 $\mu g/m^3$
 - 50 $\mu g/m^3$
 - Annual average PM_{10} concentration range
 - 15 - 20 $\mu g/m^3$
 - 20 - 25 $\mu g/m^3$
 - 25 - 30 $\mu g/m^3$
 - 30 - 40 $\mu g/m^3$
 - 40 - 50 $\mu g/m^3$
 - >50 $\mu g/m^3$
 - Existing environment
 - Major road
 - Minor road
 - Named watercourse
 - Vittoria State Forest

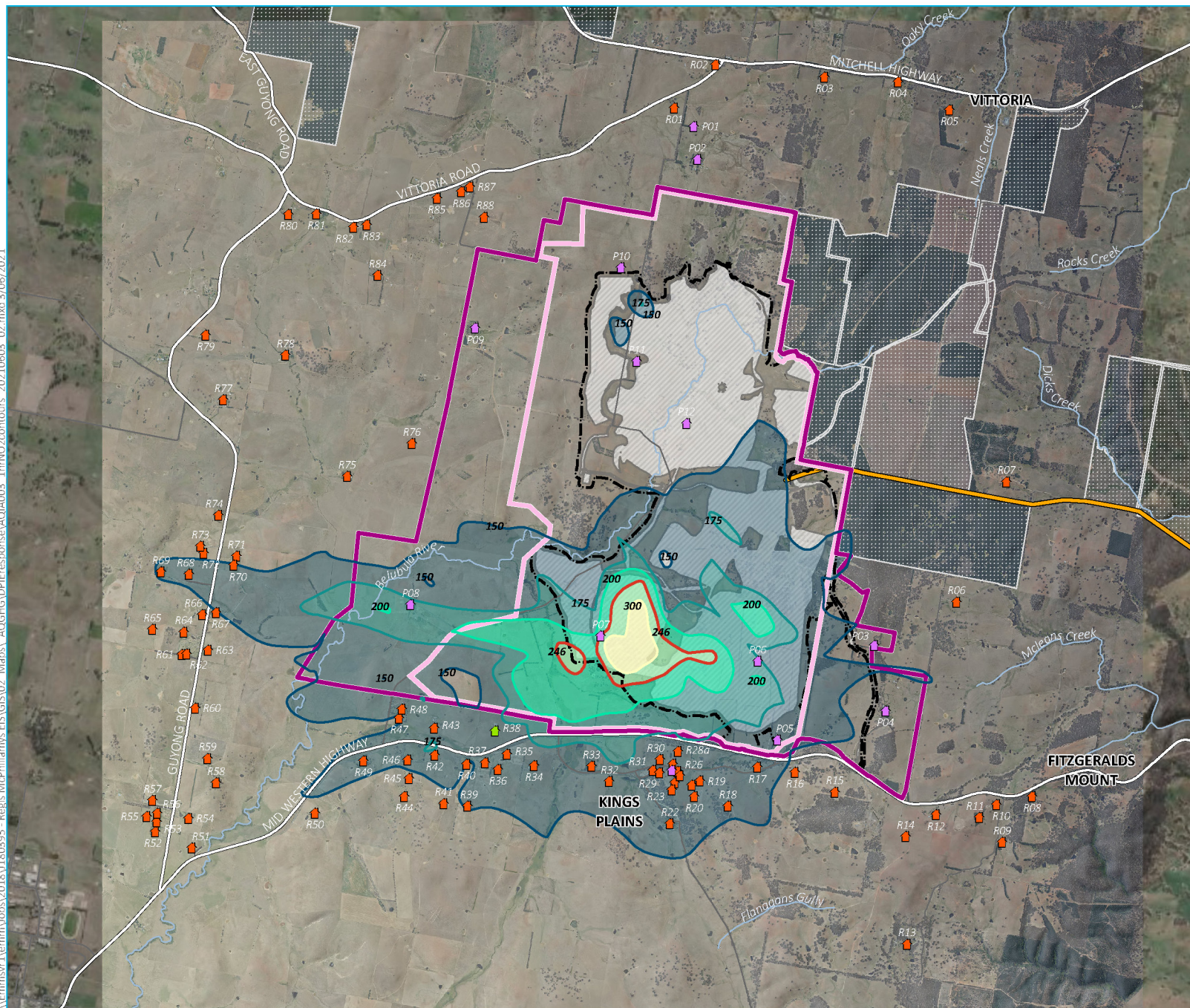
Predicted cumulative annual average PM_{10} concentrations ($\mu g/m^3$) – Year 6 operations

McPhillamys Gold Project
DPIE response
Air quality impact assessment
Figure 2

Source: EMM (2021); Regis Resources (2020); Survey Graphics (2019); DFSI (2017); ELVIS (2014)



\\Emsvr1\emr\Jobs\2018\180395 - Regis McPhillamys ELIS\GIS\02 Maps\ AOGHG\DP\IResponse\AQIA003_1hrNO2\contours_20210603_02.mxd 3/06/2021



- KEY**
- Project application area
 - Mine development project area
 - Mining lease application area (Note: boundary offset for clarity)
 - Disturbance footprint
 - Pipeline
 - Mine development general arrangement - Year 6
 - Sensitive receptor
 - Private
 - Residences under option
 - Project related (Regis-owned)
 - Maximum 1-hour average NO₂ concentrations
 - 150 µg/m³
 - 175 µg/m³
 - 200 µg/m³
 - 246 µg/m³
 - 300 µg/m³
 - Maximum 1-hour average NO₂ concentration range
 - 150 - 175 µg/m³
 - 175 - 200 µg/m³
 - 200 - 246 µg/m³
 - 246 - 300 µg/m³
 - >300 µg/m³
 - Existing environment
 - Major road
 - Minor road
 - Named watercourse
 - Vittoria State Forest

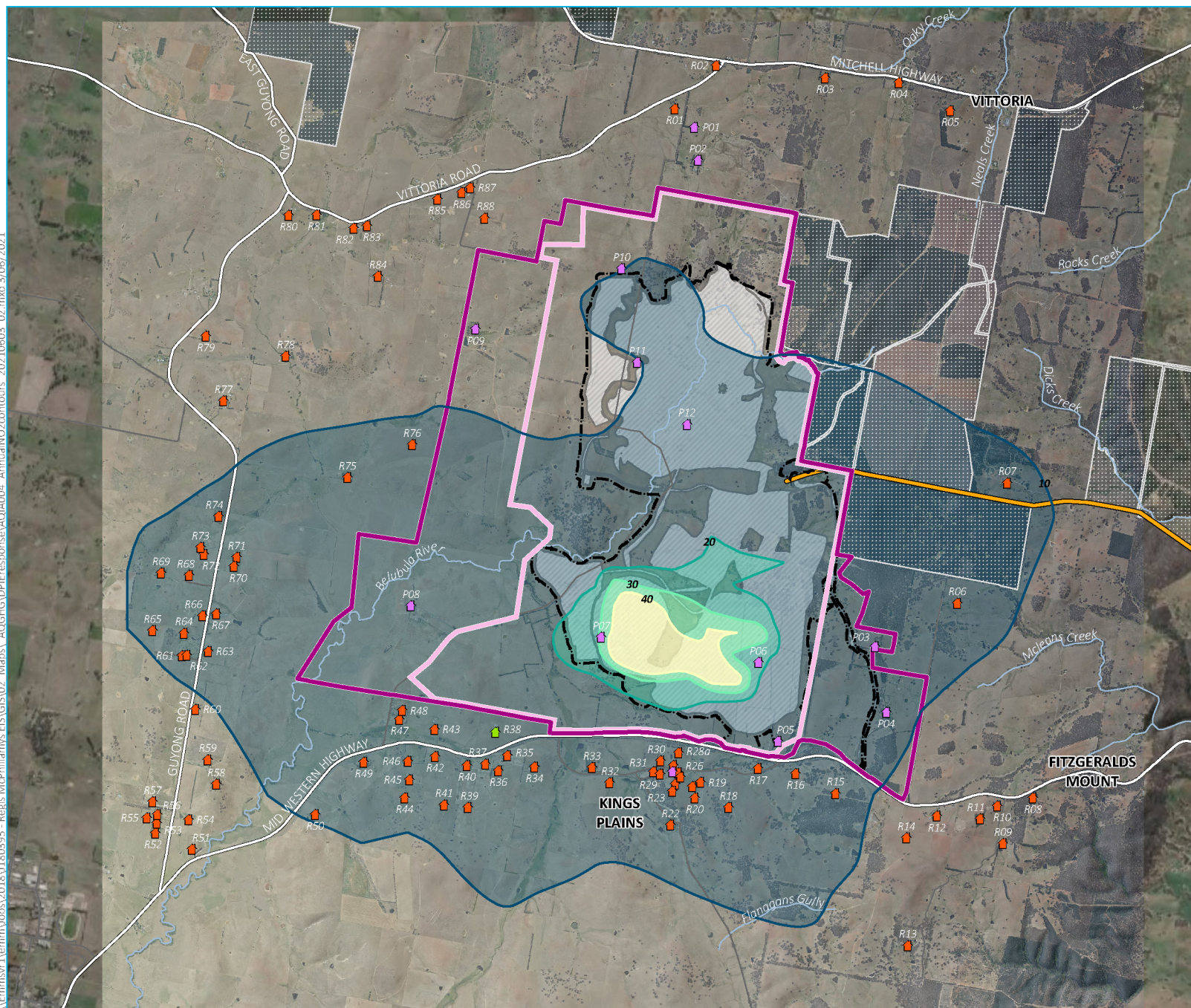
Maximum predicted cumulative
1-hour average NO₂ concentrations
(µg/m³) – maximum diesel
combustion operations

McPhillamys Gold Project
DPIE response
Air quality impact assessment
Figure 3

Source: EMM (2021); Regis Resources (2020); Survey Graphics (2019); DFSI (2017); ELVIS (2014)



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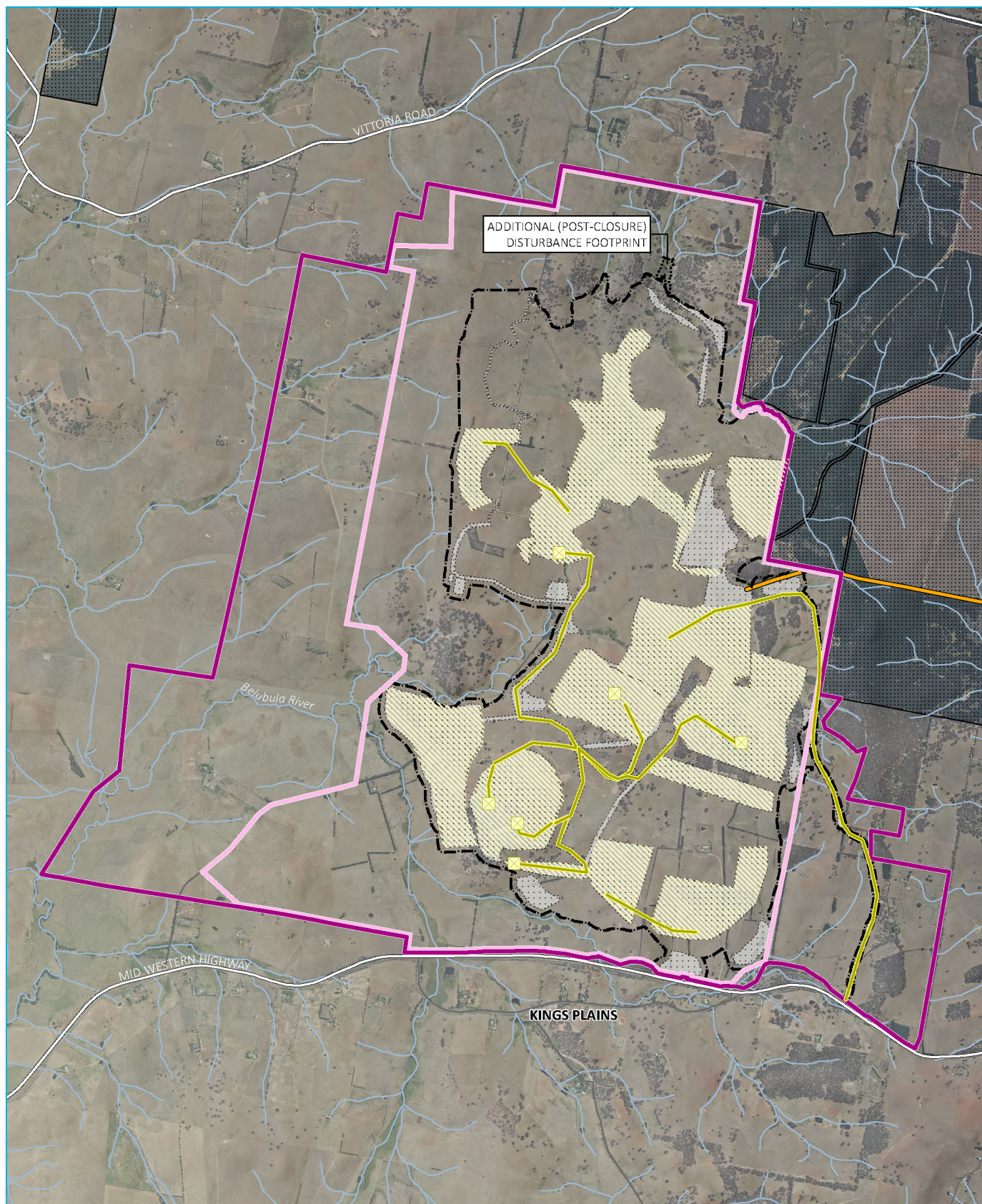
- KEY**
- Project application area
 - Mine development project area
 - Mining lease application area (Note: boundary offset for clarity)
 - Disturbance footprint
 - Pipeline
 - Mine development general arrangement - Year 6
 - Sensitive receptor
 - Private
 - Residences under option
 - Project related (Regis-owned)
 - Annual average NO₂ concentrations
 - 10 µg/m³
 - 20 µg/m³
 - 30 µg/m³
 - 40 µg/m³
 - Annual average NO₂ concentration range
 - 10 - 20 µg/m³
 - 20 - 30 µg/m³
 - 30 - 40 µg/m³
 - >40 µg/m³
 - Existing environment
 - Major road
 - Minor road
 - Named watercourse
 - Vittoria State Forest

Predicted cumulative annual average NO₂ concentrations (µg/m³) – maximum diesel combustion operations

McPhillamys Gold Project
DPIE response
Air quality impact assessment
Figure 4

Source: EMM (2021); Regis Resources (2020); Survey Graphics (2019); DFSI (2017); ELVIS (2014)





Source: EMM (2020); Regis Resources (2020); Survey Graphics (2019); DFSI (2017)

0 0.5 1 km
GDA 1994 MGA Zone 55

KEY

Project application area

Mine development project area

Mining lease application area
(Note: boundary offset for clarity)

Disturbance footprint

Additional (post-closure) disturbance footprint

Mine development general arrangement - Year 1

Pipeline

Emission source

Volume

Line volume

Area

Existing environment

Major road

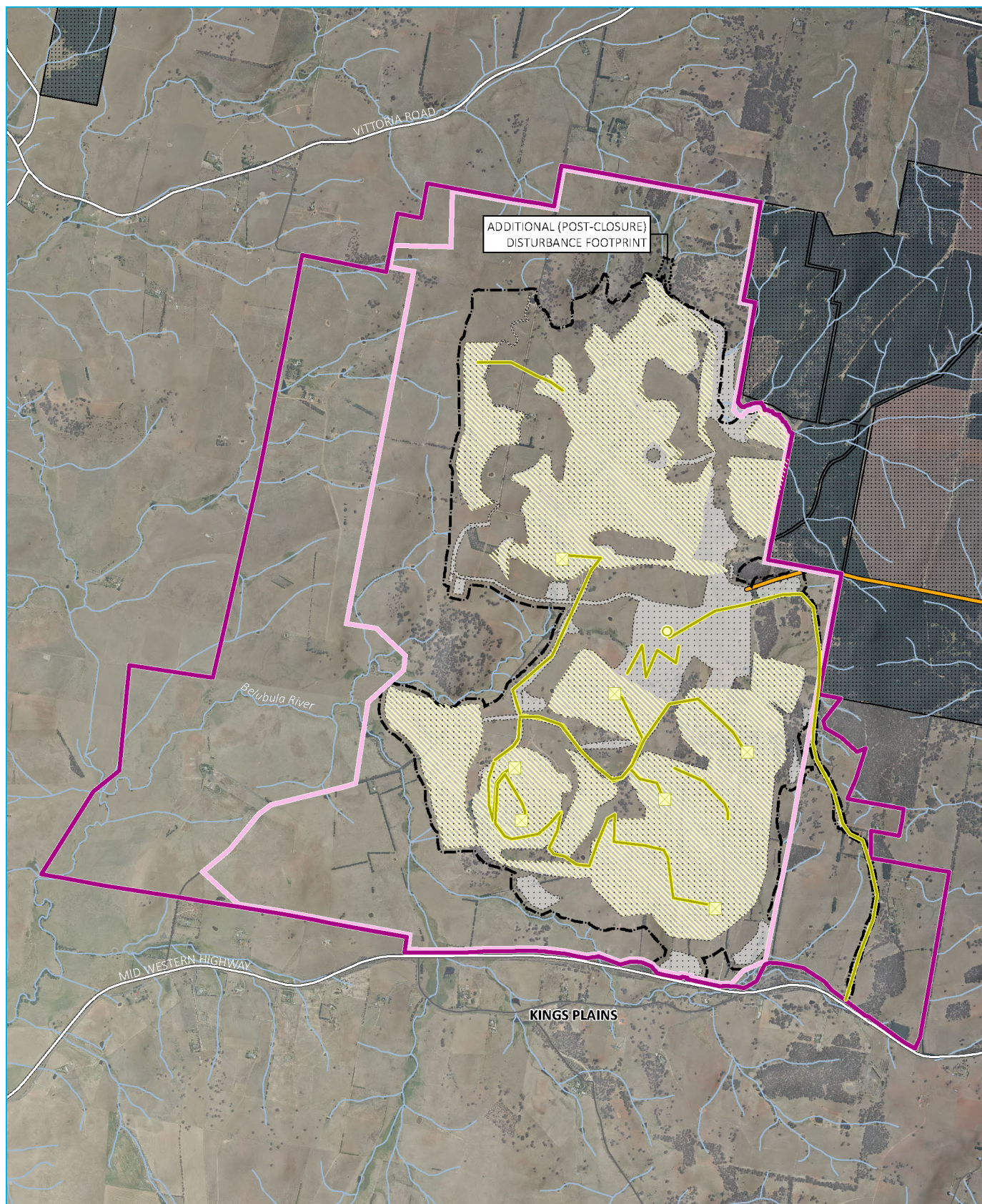
Minor road

Watercourse/drainage line

Vittoria State Forest

Emission source locations – Year 1

McPhillamys Gold Project
Amendment report –
revised air quality and greenhouse gas assessment
Figure B.1



Source: EMM (2020); Regis Resources (2020); Survey Graphics (2019); DFSI (2017)

KEY

Project application area

Mine development project area

Mining lease application area
(Note: boundary offset for clarity)

Disturbance footprint

Additional (post-closure) disturbance footprint

Mine development general arrangement - Year 2

Pipeline

Emission source

Point

Volume

Line volume

Area

Existing environment

Major road

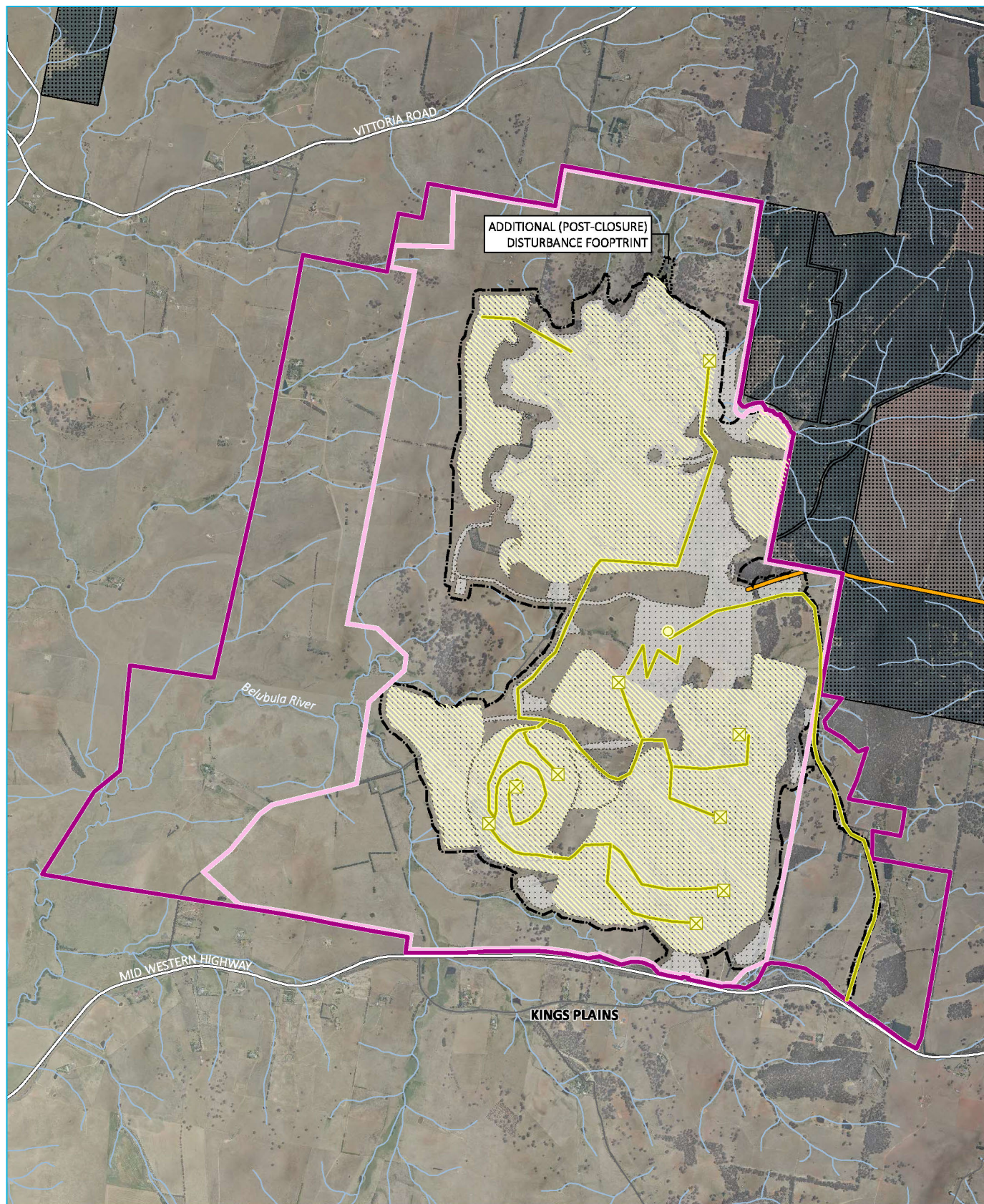
Minor road

Watercourse/drainage line

Vittoria State Forest

Emission source locations – Year 2

McPhillamys Gold Project
Amendment report –
revised air quality and greenhouse gas assessment
Figure B.2



KEY

Project application area

Mine development project area

Mining lease application area
(Note: boundary offset for clarity)

Disturbance footprint

Additional (post-closure) disturbance footprint

Mine development general arrangement - Year 4

Pipeline

Emission source

Point

Volume

Line volume

Area

Existing environment

Major road

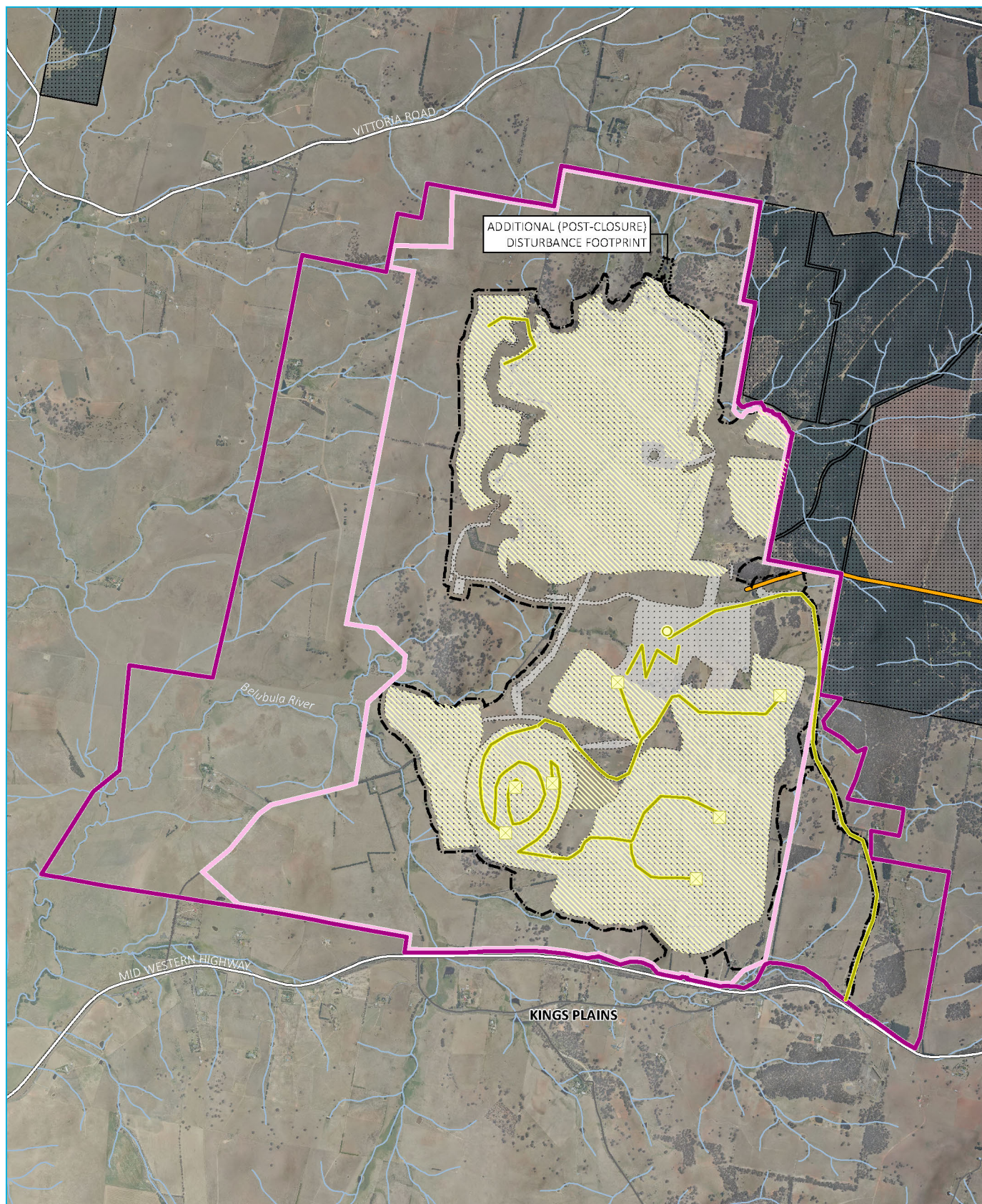
Minor road

Watercourse/drainage line

Vittoria State Forest

Emission source locations – Year 4

McPhillamys Gold Project
Amendment report –
revised air quality and greenhouse gas assessment
Figure B.3



Source: EMM (2020); Regis Resources (2020); Survey Graphics (2019); DFSI (2017)

KEY

Project application area

Mine development project area

Mining lease application area
(Note: boundary offset for clarity)

Disturbance footprint

Additional (post-closure) disturbance footprint

Mine development general arrangement - Year 6

Pipeline

Emission source

Point

Volume

Line volume

Area

Existing environment

Major road

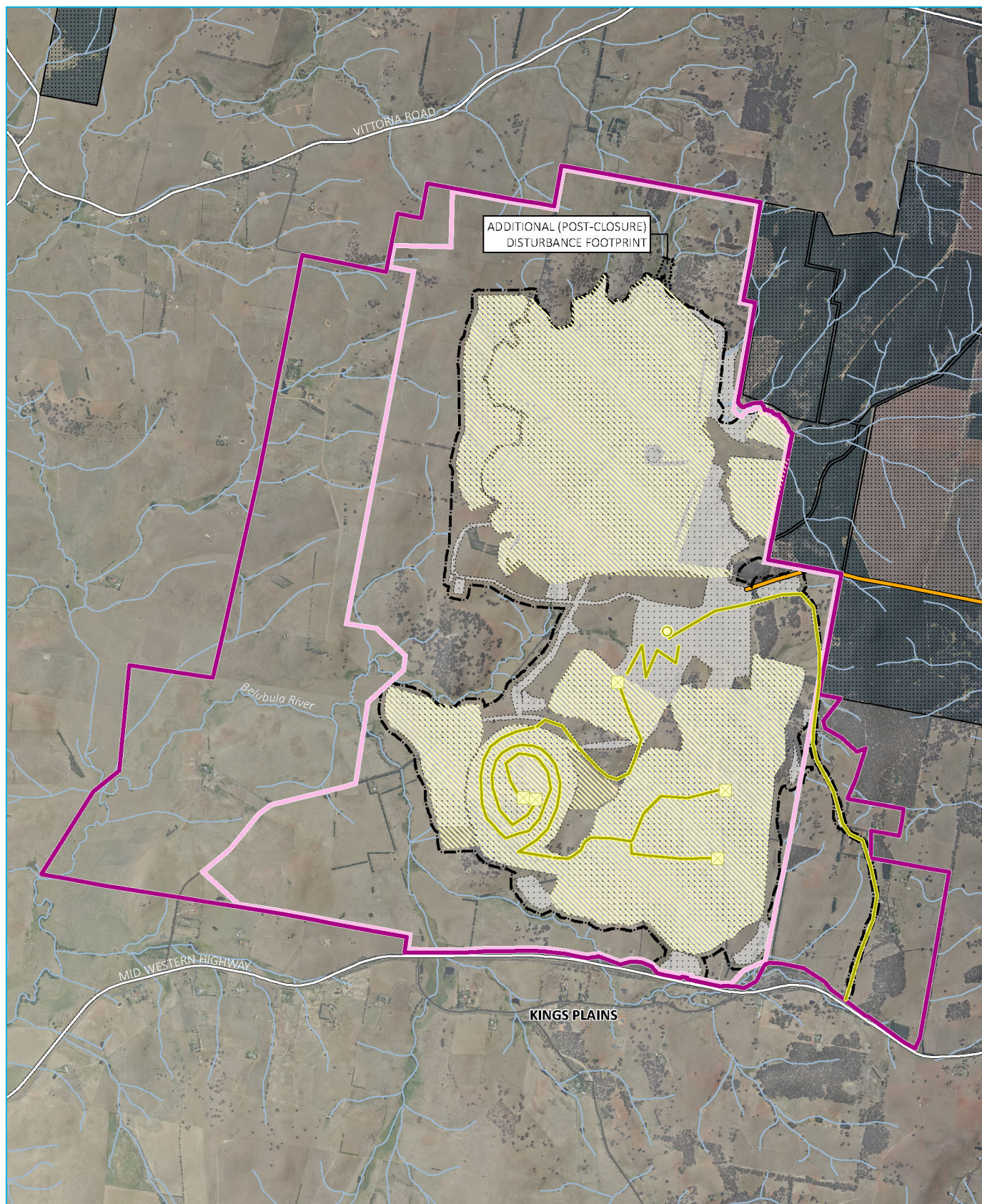
Minor road

Watercourse/drainage line

Vittoria State Forest

Emission source locations – Year 6

McPhillamys Gold Project
Amendment report –
revised air quality and greenhouse gas assessment
Figure B.4



Source: EMM (2020); Regis Resources (2020); Survey Graphics (2019); DFSI (2017)

KEY

Project application area

Mine development project area

Mining lease application area
(Note: boundary offset for clarity)

Disturbance footprint

Additional (post-closure) disturbance footprint

Mine development general arrangement - Year 8

Pipeline

Emission source

Point

Volume

Line volume

Area

Existing environment

Major road

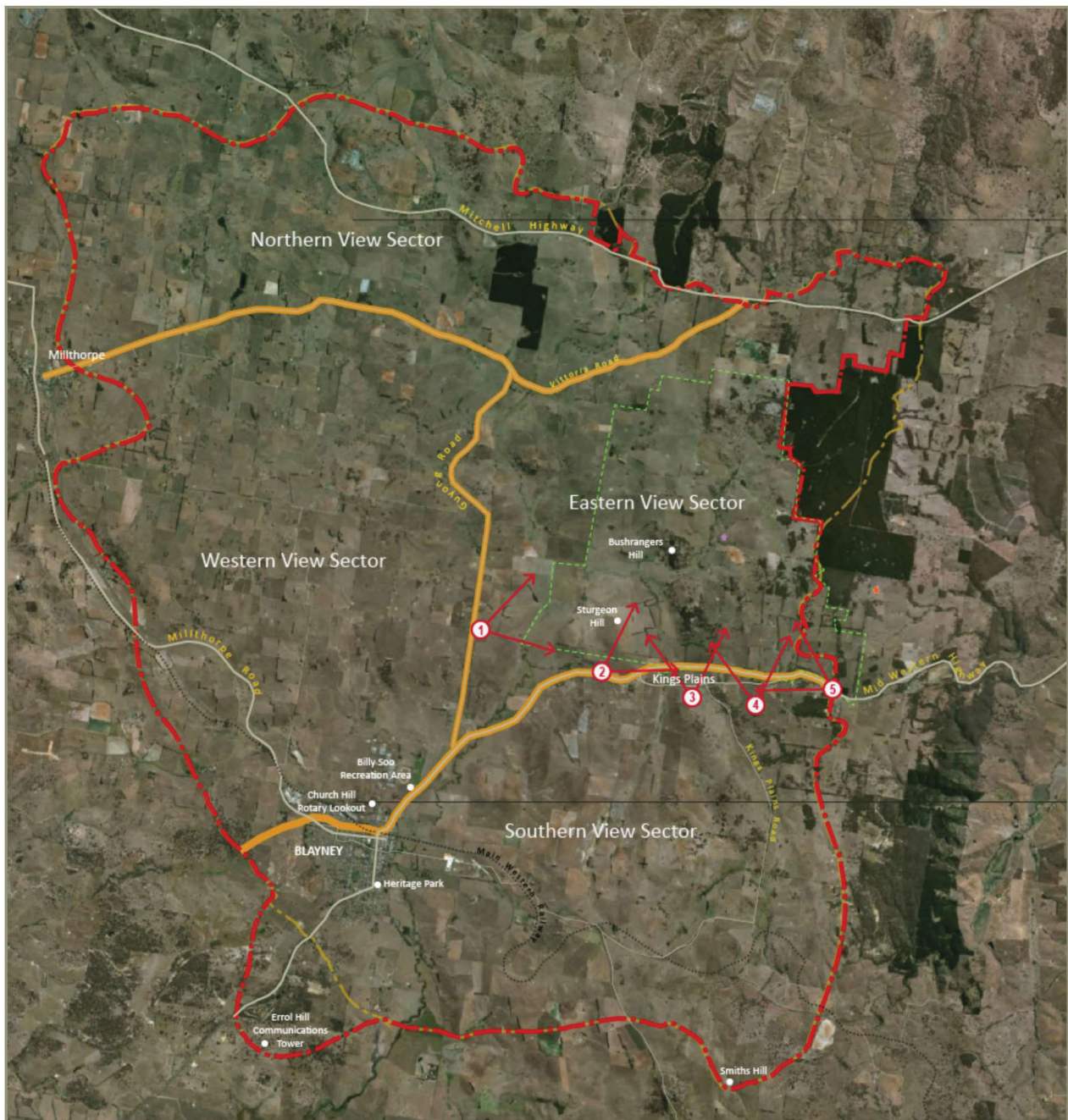
Minor road

Watercourse/drainage line

Vittoria State Forest

Emission source locations – Year 8

McPhillamys Gold Project
Amendment report –
revised air quality and greenhouse gas assessment
Figure B.5



key

-  Primary visual catchment
-  Roads
-  Main Western Railway
-  Mine Development Project area



Photomontage view locations



0 1 2 5km

Ref: VPA 2019