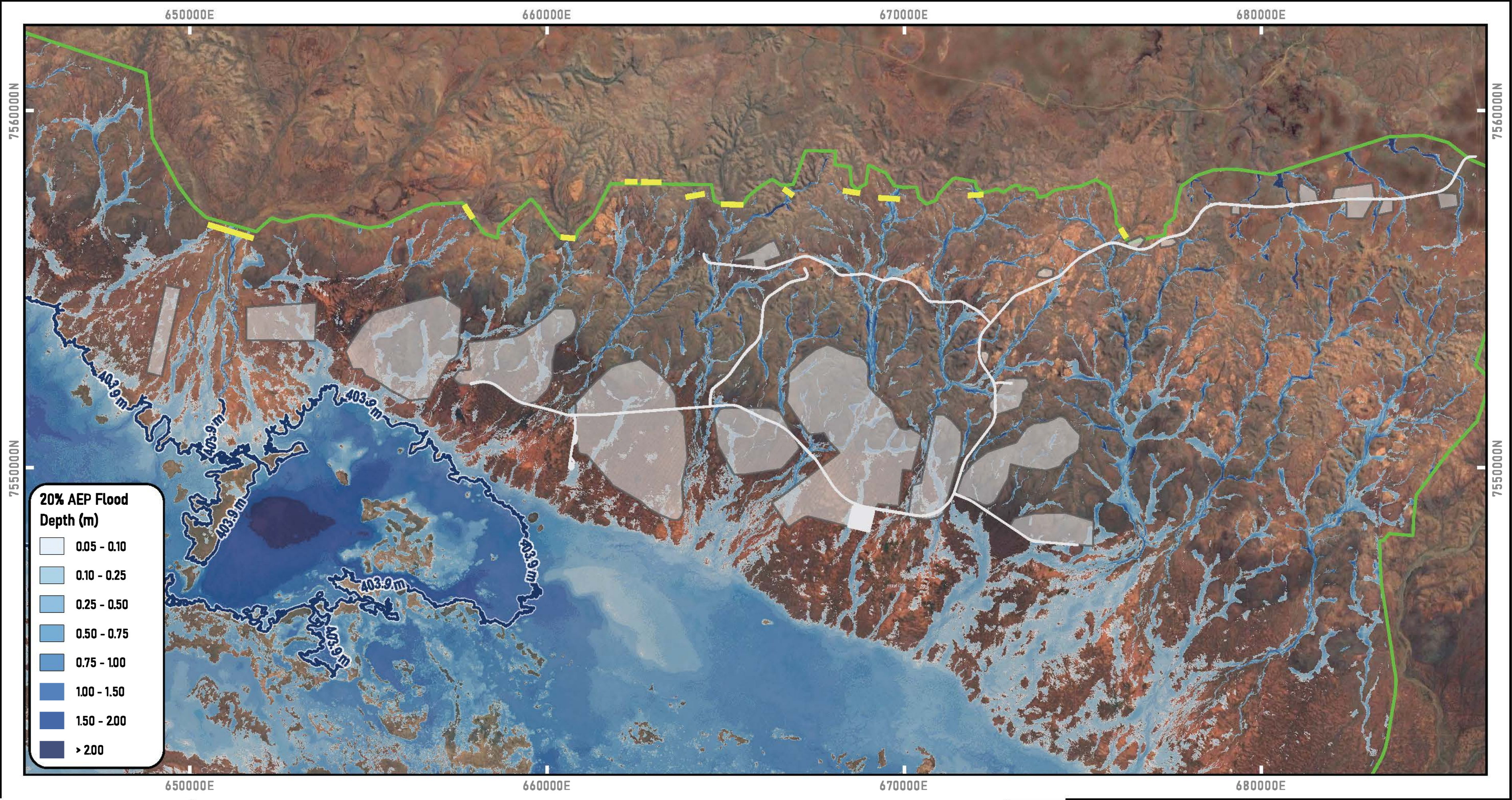


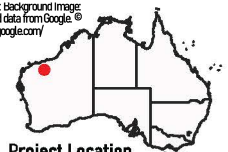
N
2 4 km
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- 20% AEP Claypan Level (403.4 mRL)
- Proposed Haul Road
- Surface Water Containment Area

•Predicted maximum flood depths are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023, excluding depths less than 0.05m.
•The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
•Flood depths upstream of the inflow boundary conditions are not valid.
•Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
•Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.
•Outflow water depths along the north-east of the model boundary are not valid.

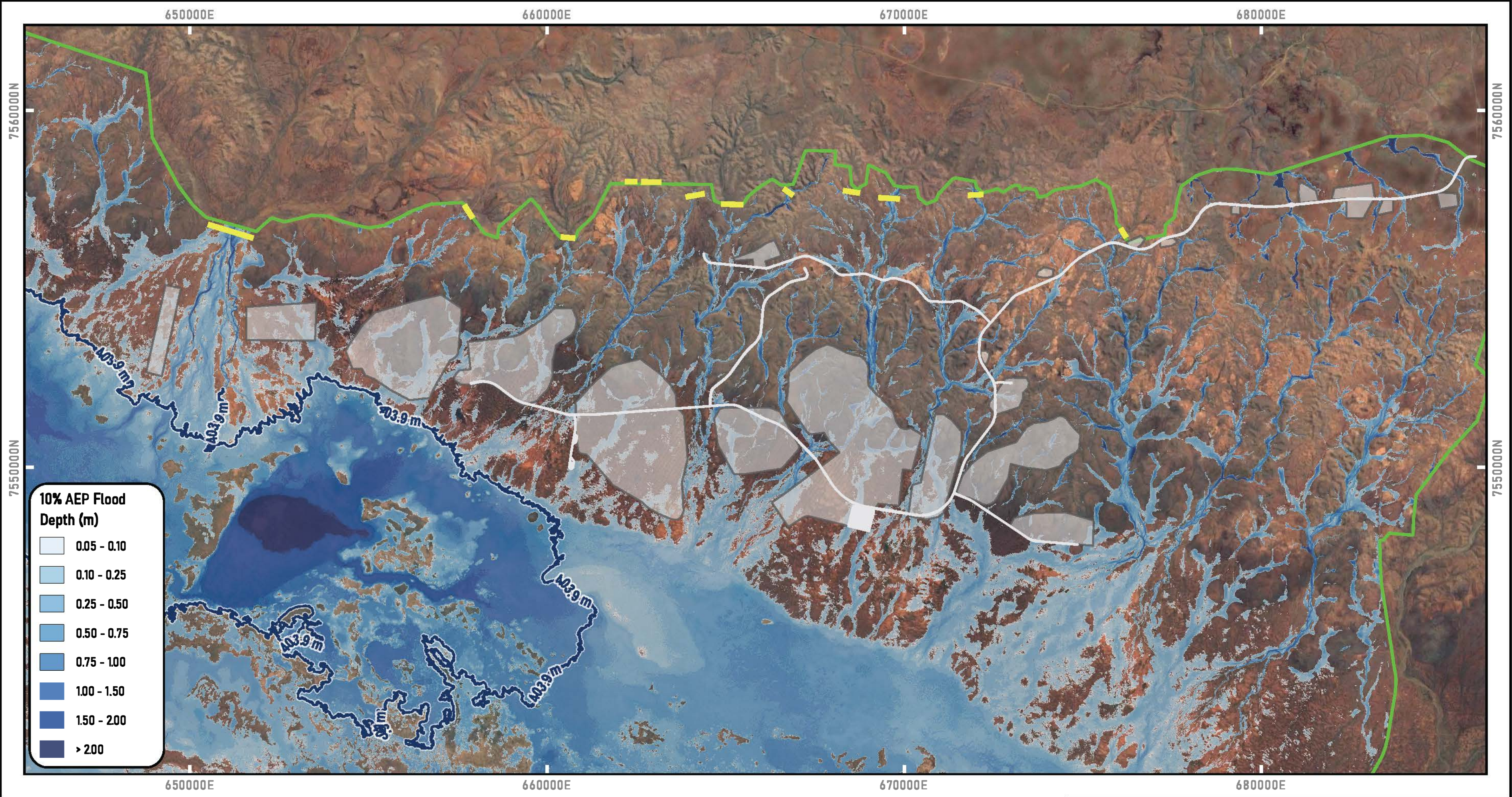
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A3 - 20% Depth (jdart)

AQ2

Hydrology Figure B3
Baseline Scenario
20% AEP Flood Depth



N

2 4 km

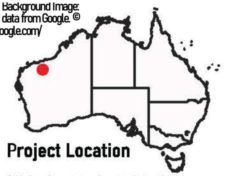
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- 10% AEP Claypan Level (403.9 mRL)
- Proposed Haul Road
- Surface Water Containment Area

•Predicted maximum flood depths are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023, excluding depths less than 0.05m.
•The purpose ofthe model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
•Flood depths upstream of the inflow boundary conditions are not valid.
•Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
•Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.
•Outflow water depths along the north-east of the model boundary are not valid.

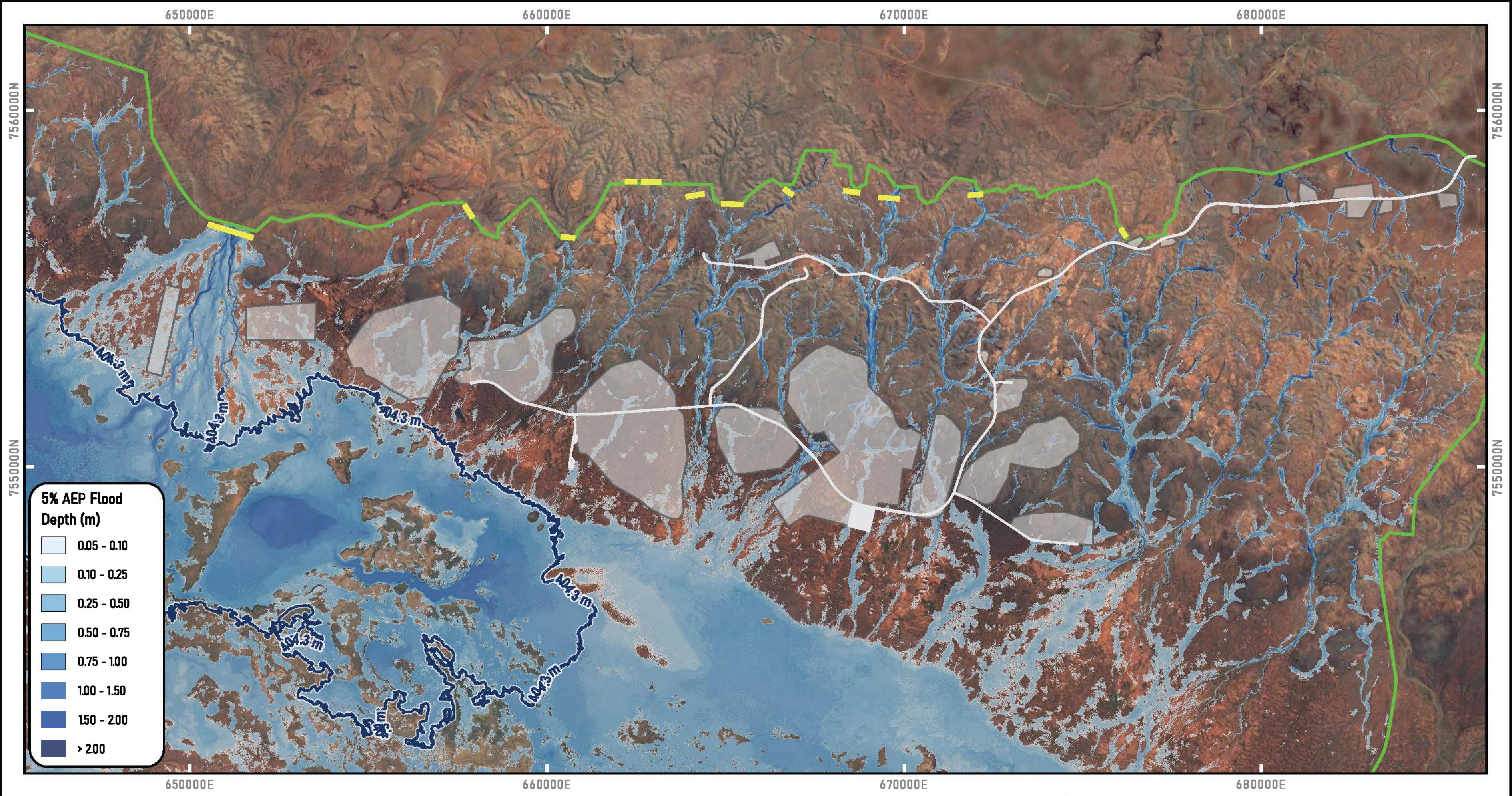
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A4 - 10% Depth (jdart)

AQ2

Hydrology Figure B4
Baseline Scenario
1% AEP Flood Depth



N

2 4 km

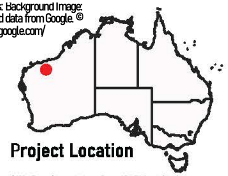
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- 5% AEP Claypan Level (404.3 mRL)
- Proposed Haul Road
- Surface Water Containment Area

•Predicted maximum flood depths are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023, excluding depths less than 0.05m.
•The purpose ofthe model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
•Flood depths upstream of the inflow boundary conditions are not valid.
•Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
•Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.
•Outflow water depths along the north-east of the model boundary are not valid.

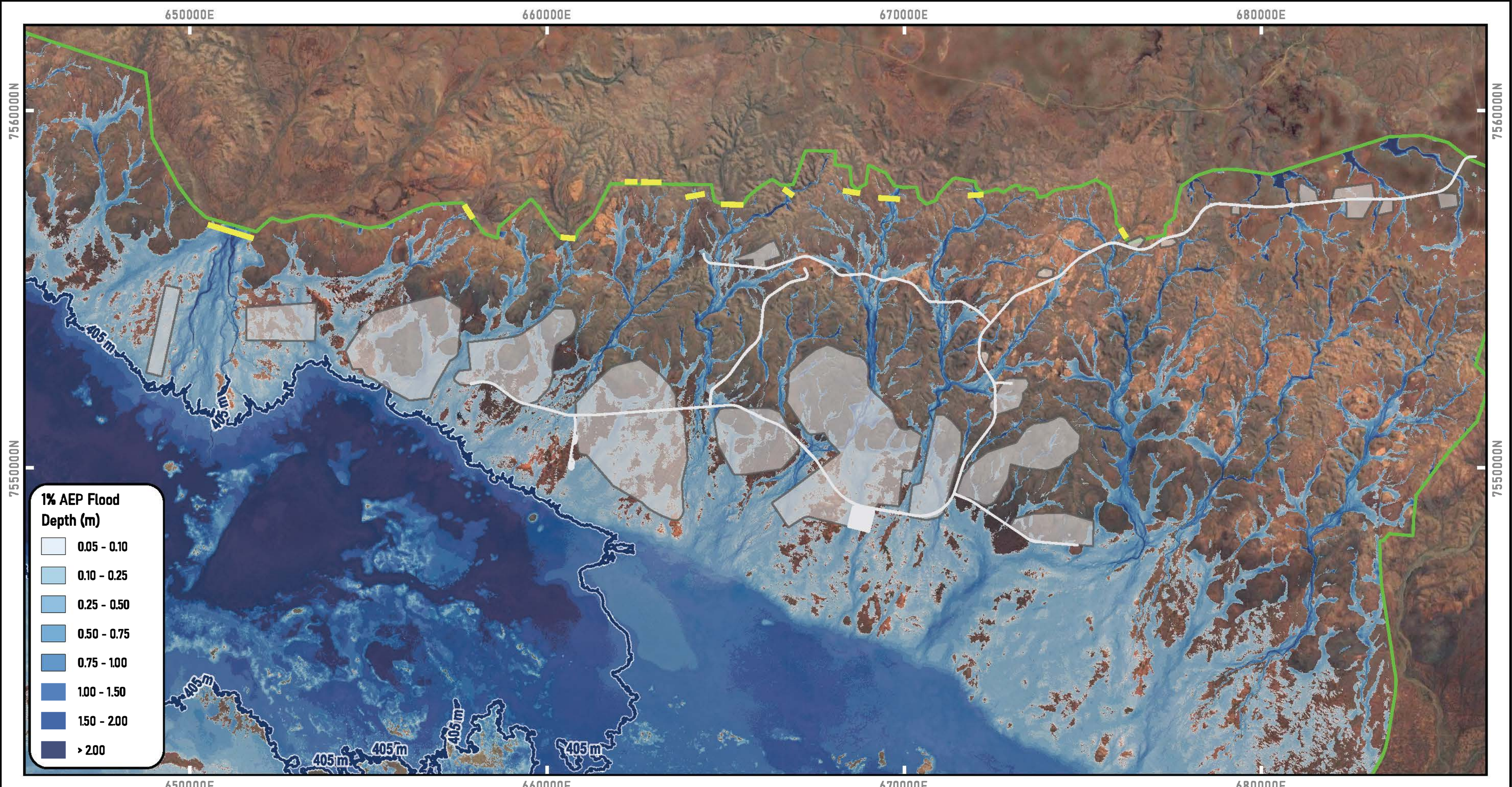
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A5 - 5% Depth (jdart)

AQ2

Hydrology Figure B5 Baseline Scenario 5% AEP Flood Depth



N
2 4 km

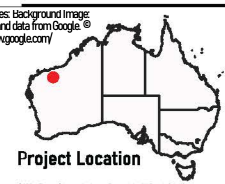
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- 1% AEP Claypan Level (405 mRL)
- Proposed Haul Road
- Surface Water Containment Area

•Predicted maximum flood depths are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023, excluding depths less than 0.05m.
•The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
•Flood depths upstream of the inflow boundary conditions are not valid.
•Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
•Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.
•Outflow water depths along the north-eaat of the model boundary are not valid.

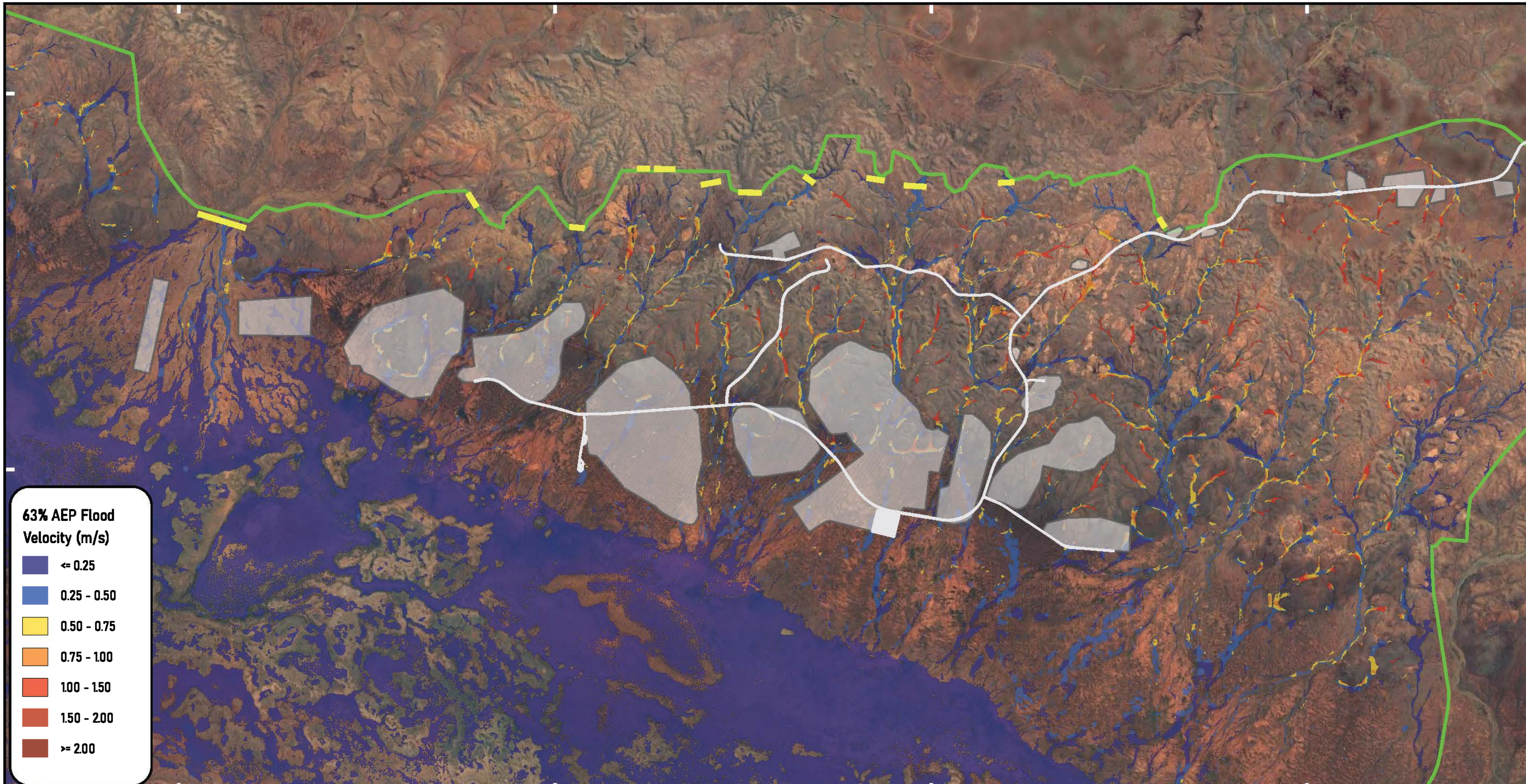
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A6 - 1% Depth (jdart)

AQ2

Hydrology Figure B6 Baseline Scenario 1% AEP Flood Depth



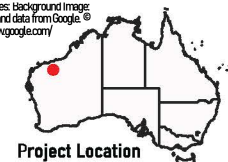
N
2 4 km
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- Proposed Haul Road
- Surface Water Containment Area

- Predicted maximum flood velocities are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023
- The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
- Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
- Flood velocities upstream of the inflow boundary conditions are not valid
- The claypan extent has been output from water balance modelling.

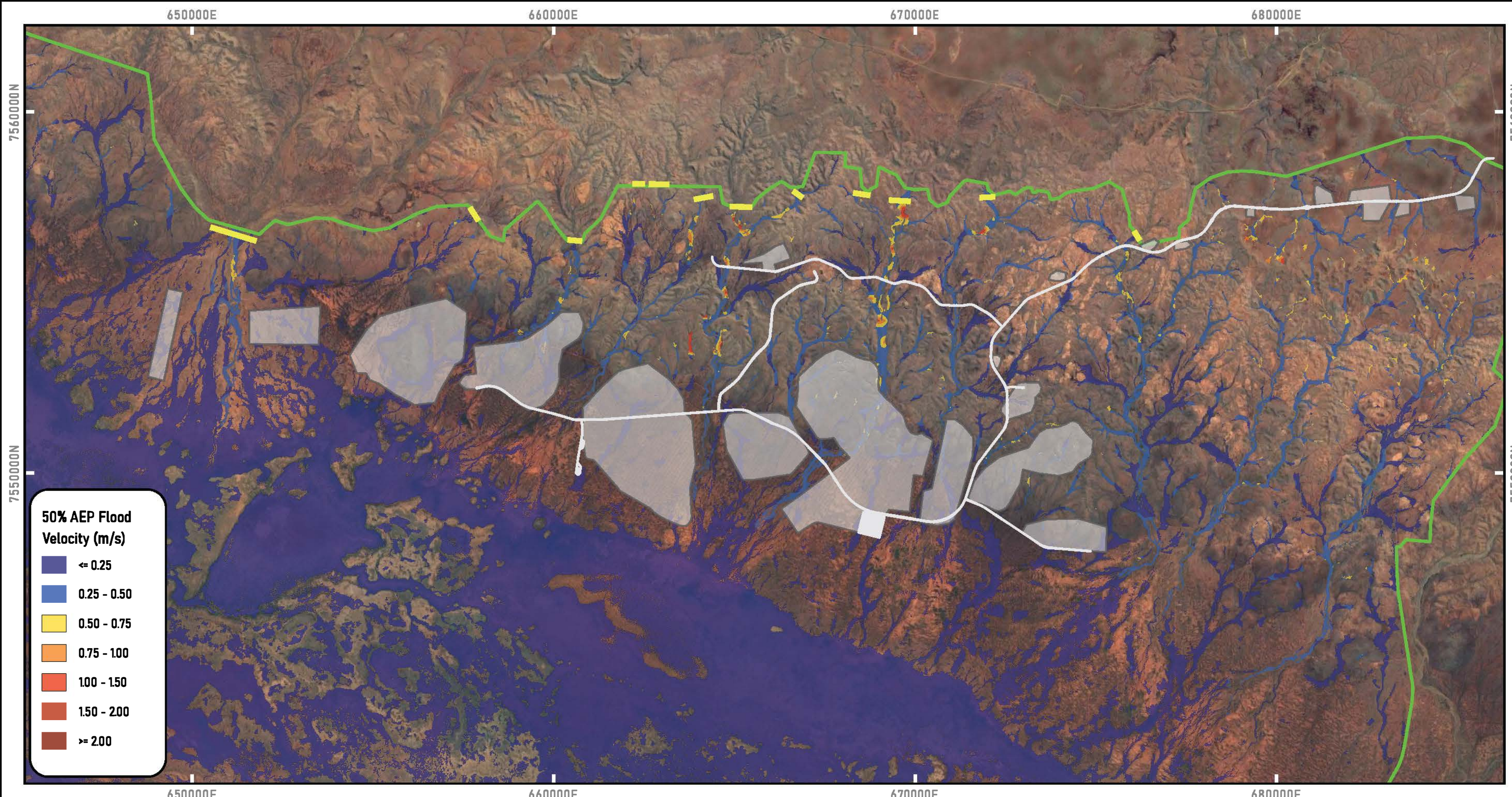
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A7 - 63% Velocity (jdart)

AQ2

Hydrology Figure B7
Baseline Scenario
63% AEP Flood Velocity



GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- Proposed Haul Road
- Surface Water Containment Area
- Proposed Pit Footprint (MDE_LOM_20)

•Predicted maximum flood velocities are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023

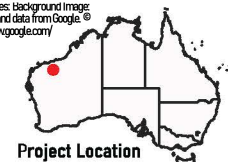
•The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.

•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.

•Flood velocities upstream of the Inflow boundary conditions are not valid

•The claypan extent has been output from water balance modelling.

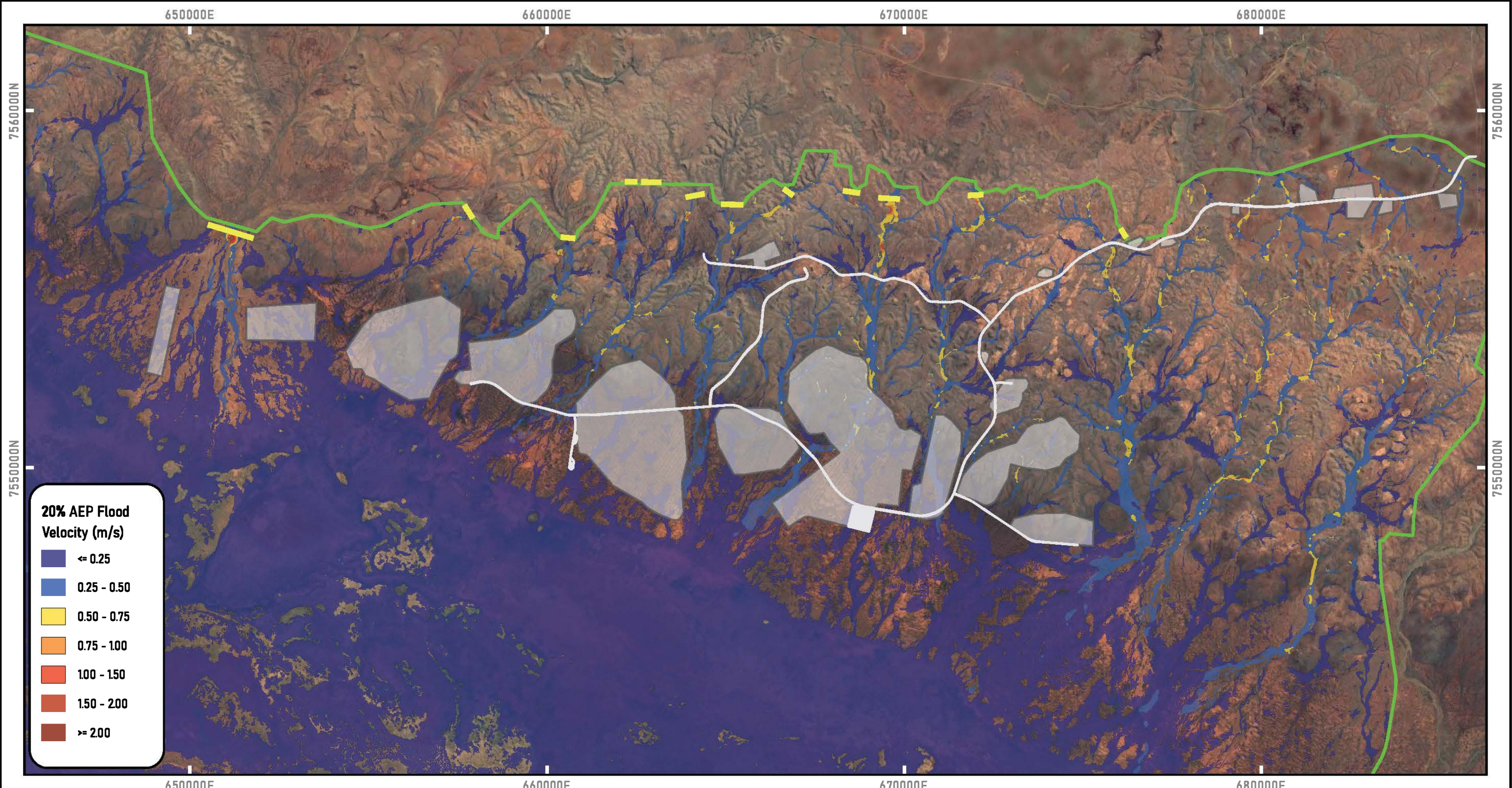
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A8 - 50% Velocity (jdart)

AQ2

Hydrology Figure B8
Baseline Scenario 50% AEP Flood Velocity



N

2 4 km

GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- Proposed Haul Road
- Surface Water Containment Area

•Predicted maximum flood velocities are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023

•The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.

•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.

•Flood velocities upstream of the inflow boundary conditions are not valid

•The claypan extent has been output from water balance modelling.

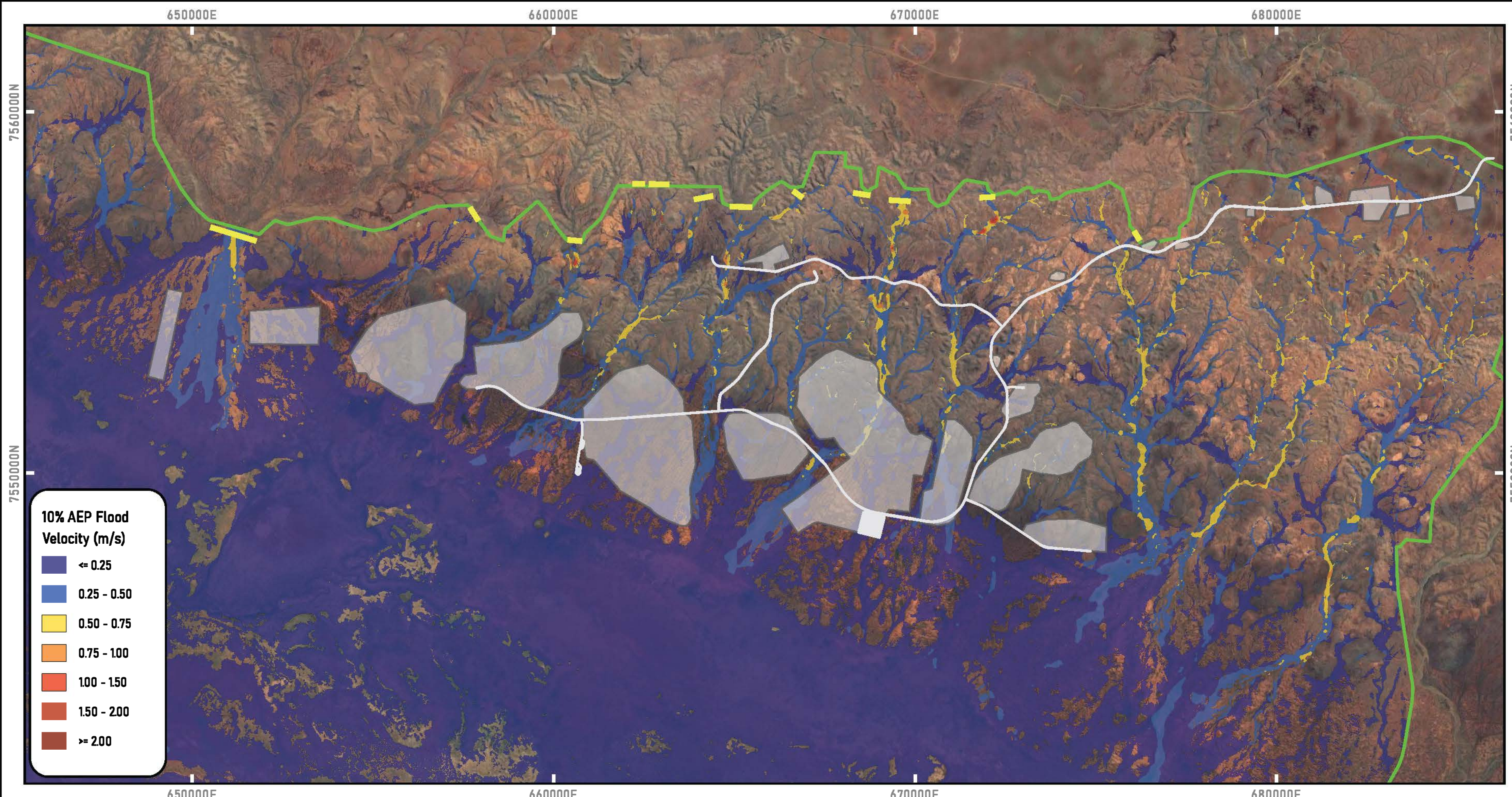
Data sources: Background Image: Base map and data from Google. © https://www.google.com/

F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A9 - 20% Velocity (jdart)

AQ2

Hydrology Figure B9 Baseline Scenario 20% AEP Flood Velocity

Hydrology Figure B10 Baseline Scenario 10% AEP Flood Velocity



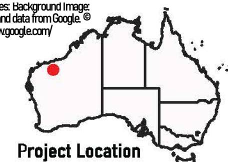
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- Proposed Haul Road
- Surface Water Containment Area

- Predicted maximum flood velocities are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023
- The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
- Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
- Flood velocities upstream of the inflow boundary conditions are not valid
- The claypan extent has been output from water balance modelling.

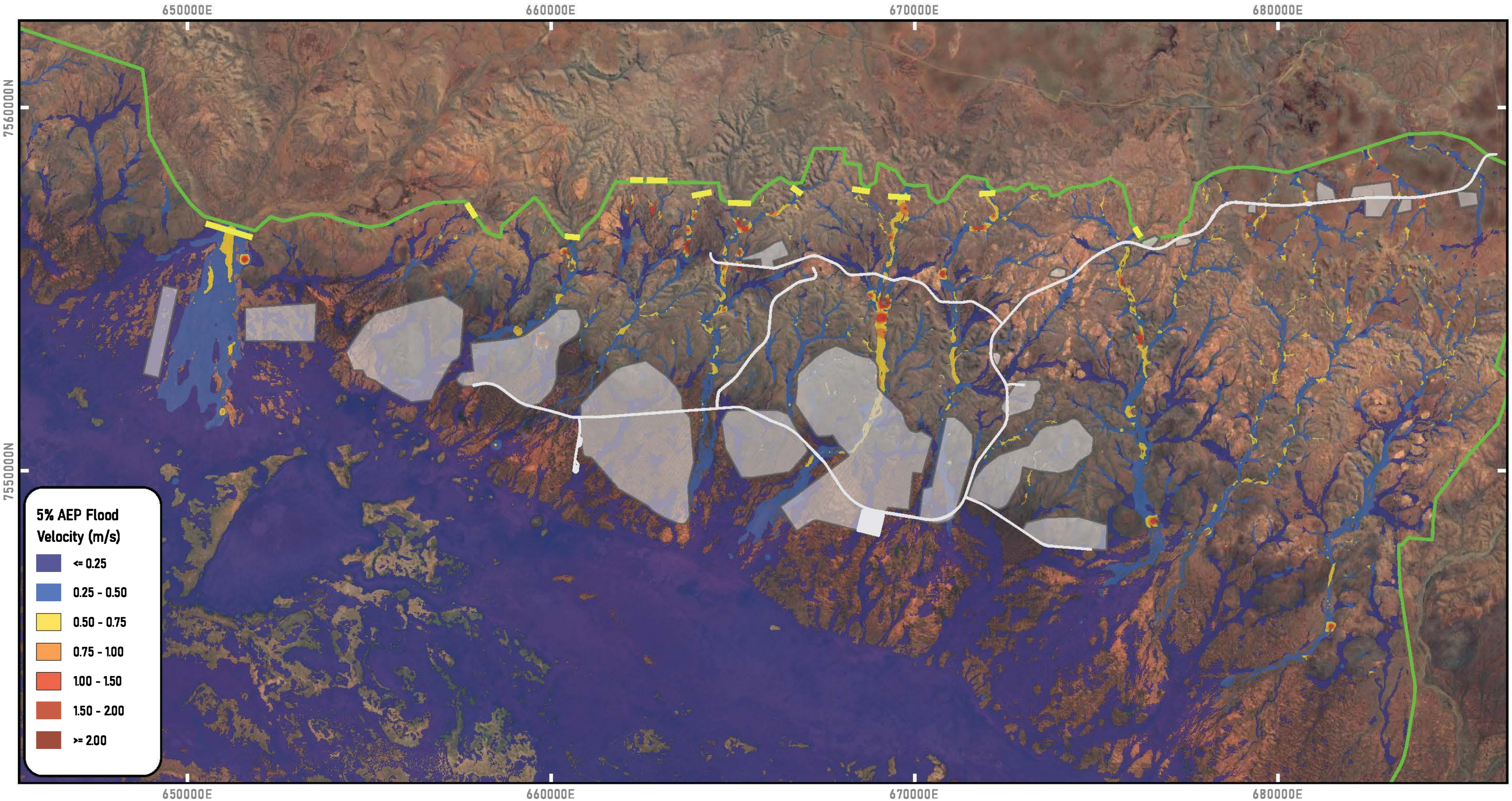
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A10 - 10% Velocity (jdart)

AQ2

Hydrology Figure B10 Baseline Scenario 10% AEP Flood Velocity

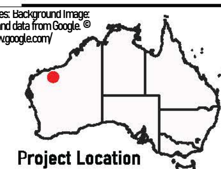


N
2 4 km
GDA94 / MGA zone 50

Legend
Model Inflow
Rain On Grid Model Boundary
Proposed Haul Road
Surface Water Containment Area

- Predicted maximum flood velocities are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023
- The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
- Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
- Flood velocities upstream of the inflow boundary conditions are not valid
- The claypan extent has been output from water balance modelling.

Data sources: Background Image: Base map and data from Google. © https://www.google.com/

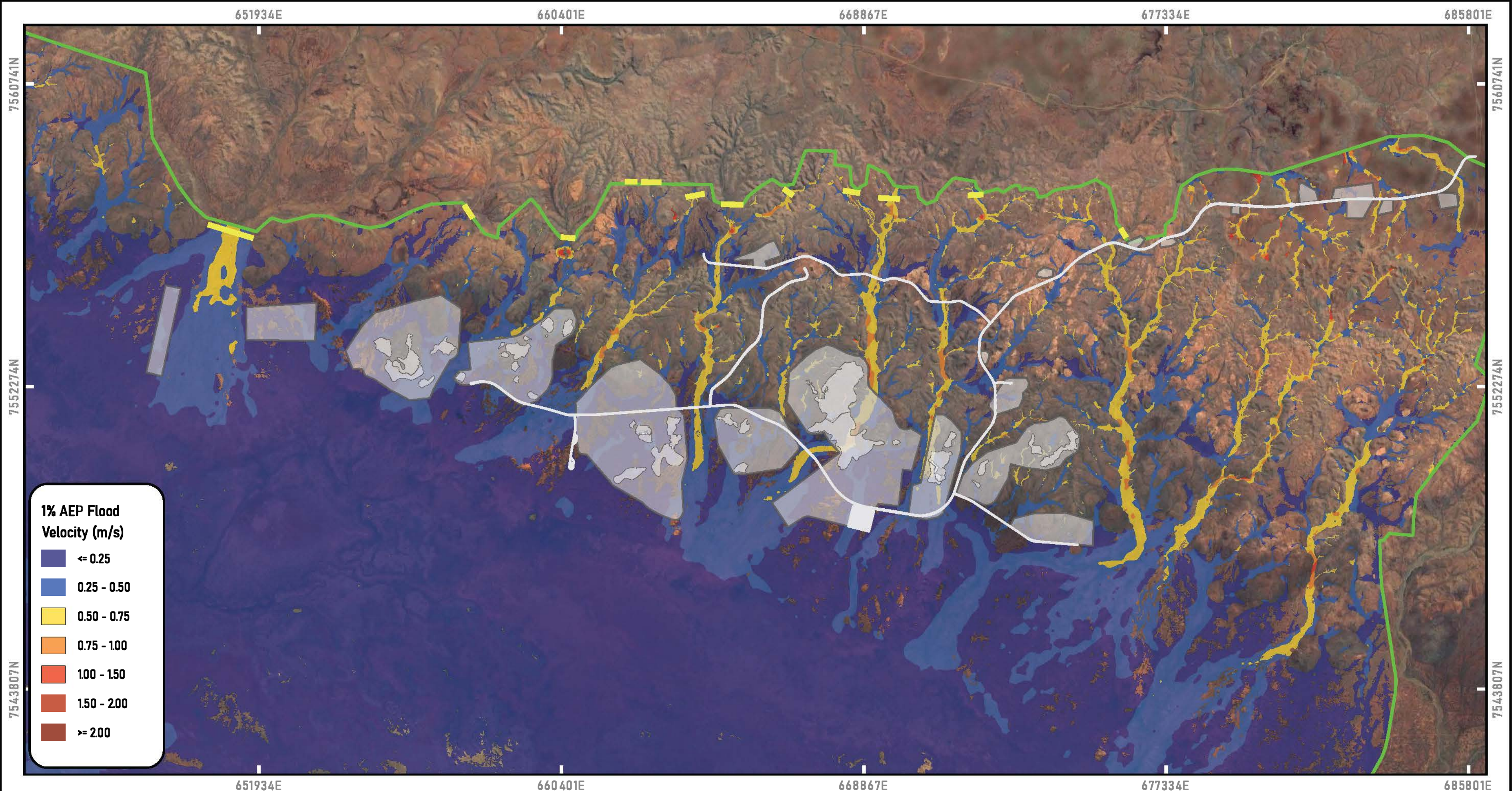


Project Location

F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A11 -5% Velocity (jdart)

AQ2

Hydrology Figure B11
Baseline Scenario
5% AEP Flood Velocity



N

2 4 km

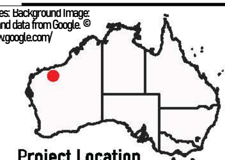
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- Proposed Haul Road
- Surface Water Containment Area

- Predicted maximum flood velocities are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023
- The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
- Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
- Flood velocities upstream of the Inflow boundary conditions are not valid
- The claypan extent has been output from water balance modelling.

Data sources: Background Image: Base map and data from Google. © https://www.google.com/

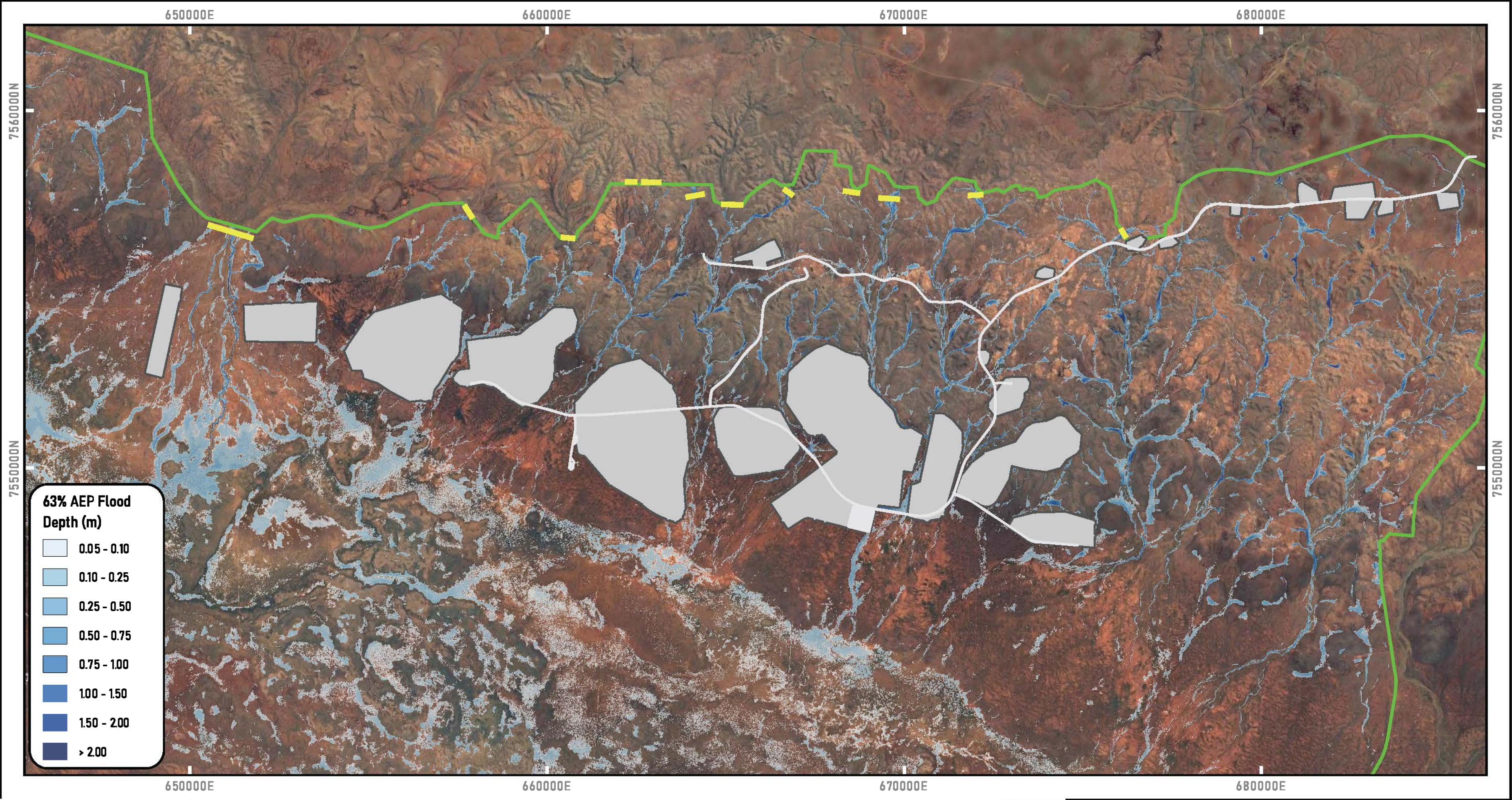


F:\171\4.GIS\Workspaces\493a_Figures\Appendix A.qgz: Figure A12 -1% Velocity (jdart)

AQ2

Hydrology Figure B12
Baseline Scenario
1% AEP Flood Velocity

APPENDIX C
LOM (DEVELOPMENT) FLOOD MAPPING



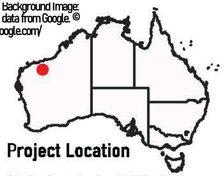
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- Proposed Haul Road
- Surface Water Containment Area

- Predicted maximum flood depths are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023, excluding depths less than 0.05m.
- The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
- Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
- Flood depths upstream of the inflow boundary conditions are not valid.
- Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
- Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.
- Outflow water depths along the north-eaat of the model boundary are not valid.

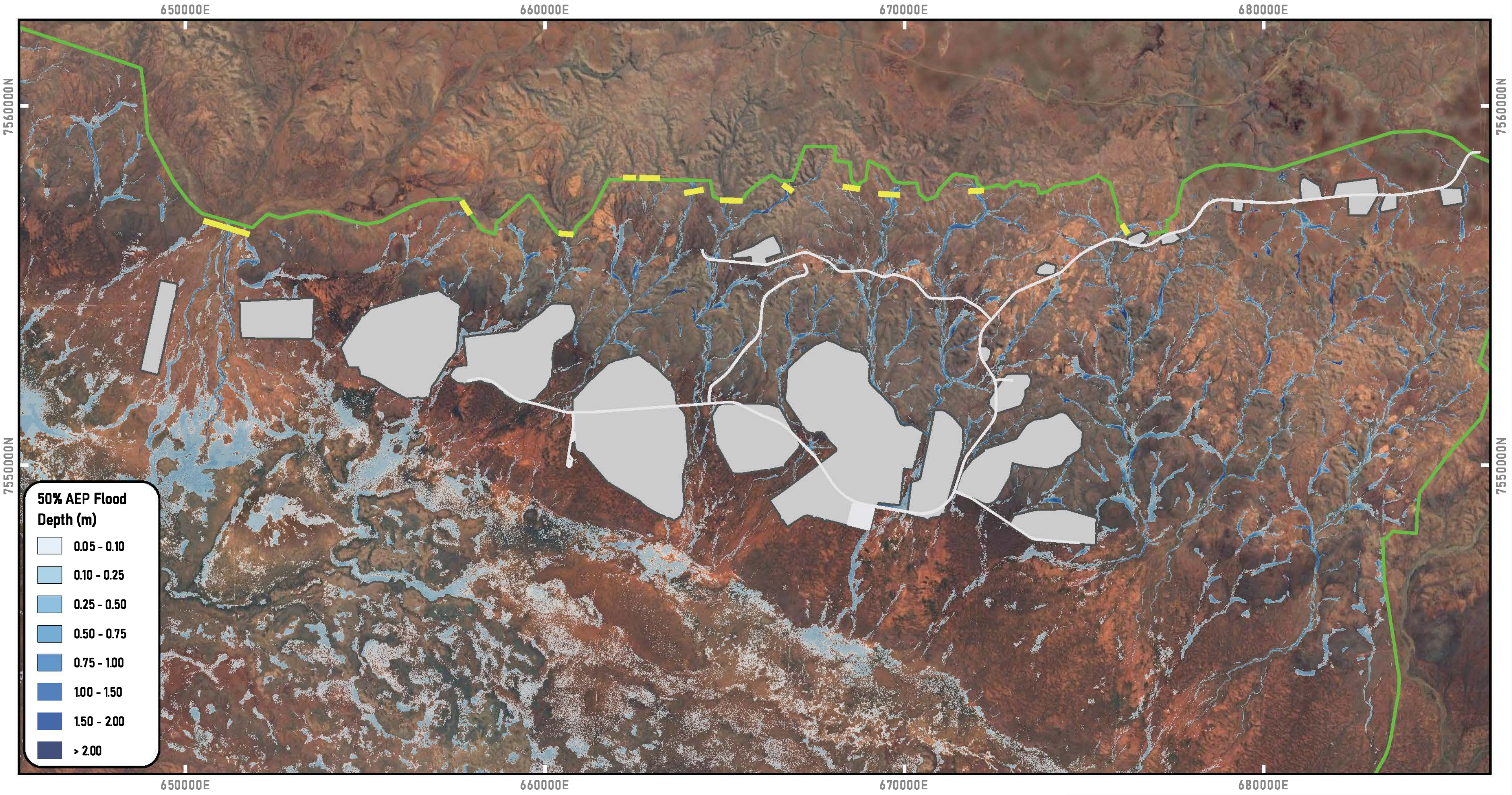
Data sources: Background Image: Base map and data from Google. © https://www.google.com/



F:\171\4.GIS\Workspaces\493a_Figures\Appendix B.qgz: Figure B2 - 50% Depth (jdart)

AQ2

Hydrology Figure C1
Developed Scenario
63% AEP Flood Depth



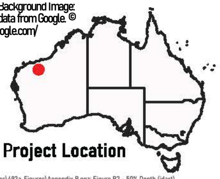
N
2 4 km
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- Proposed Haul Road
- Surface Water Containment Area

•Predicted maximum flood depths are from the simulation period of a 2D HEC RAS model developed using LIDAR data from 2023, excluding depths less than 0.05m.
•The purpose ofthe model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
•Flood depths upstream of the inflow boundary conditions are not valid.
•Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
•Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.
•Outflow water depths along the north-eaat of the model boundary are not valid.

Data sources: Background Image: Base map and data from Google. © https://www.google.com/

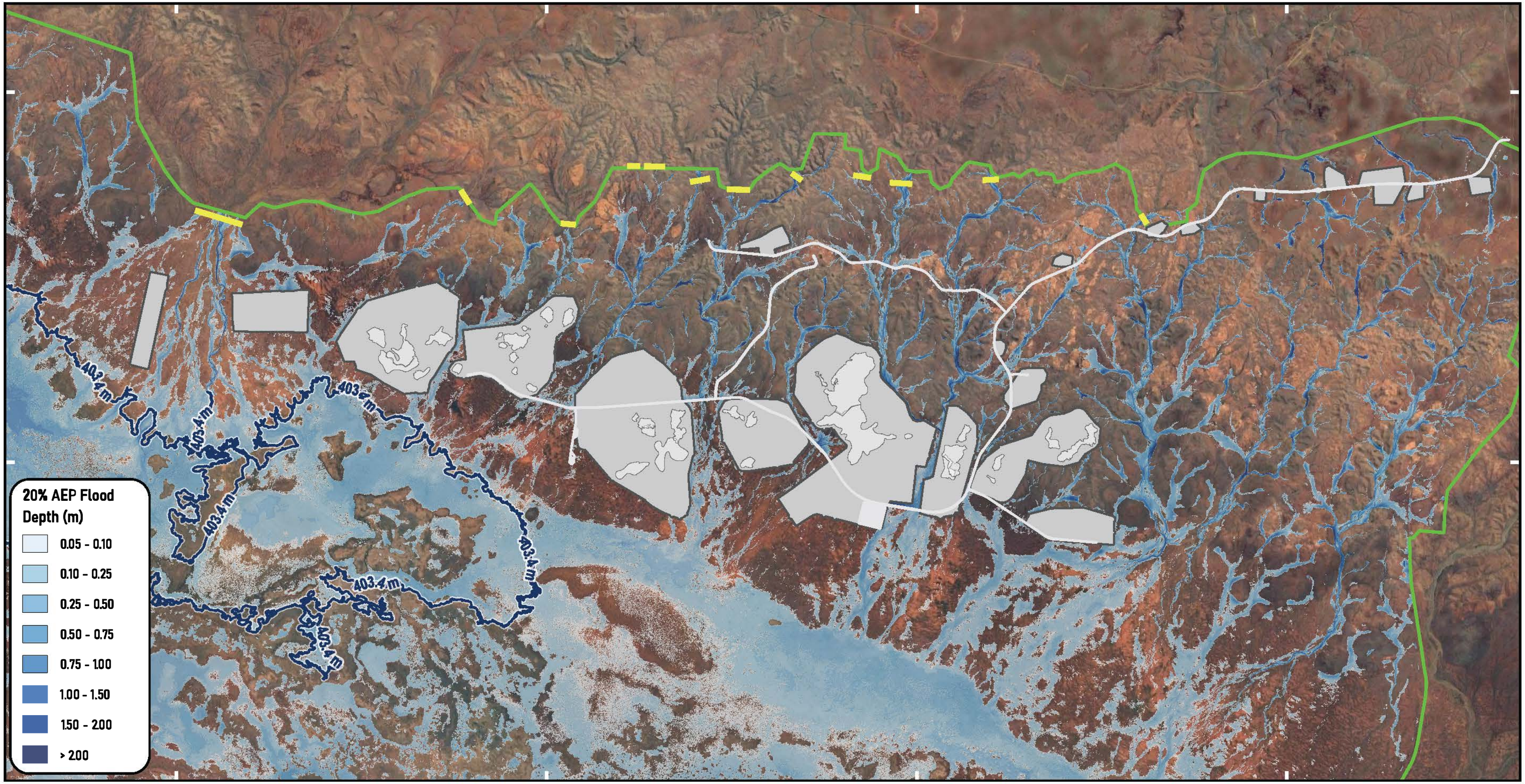


Project Location

F:\171\4.GIS\Workspaces\493a_Figures\Appendix B.qgz: Figure B2 - 50% Depth (jdart)

AQ2

Hydrology Figure C2
Developed Scenario
50% AEP Flood Depth



N

2 4 km

GDA94 / MGA zone 50

Legend

Model Inflow

Rain On Grid Model Boundary

20% AEP Claypan Flood Level (403.4 mRL)

Proposed Haul Road

Surface Water Containment Area

- Predicted maximum flood depths from a 2D HEC RAS model developed using LIDAR data from 2023, plus terrain modifications to simulate the impacts of surface water containment areas and project haul roads
- Flood depths <0.05m not shown
- The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
- Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
- Flood depths upstream of the inflow boundary conditions are not valid.
- Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
- Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.

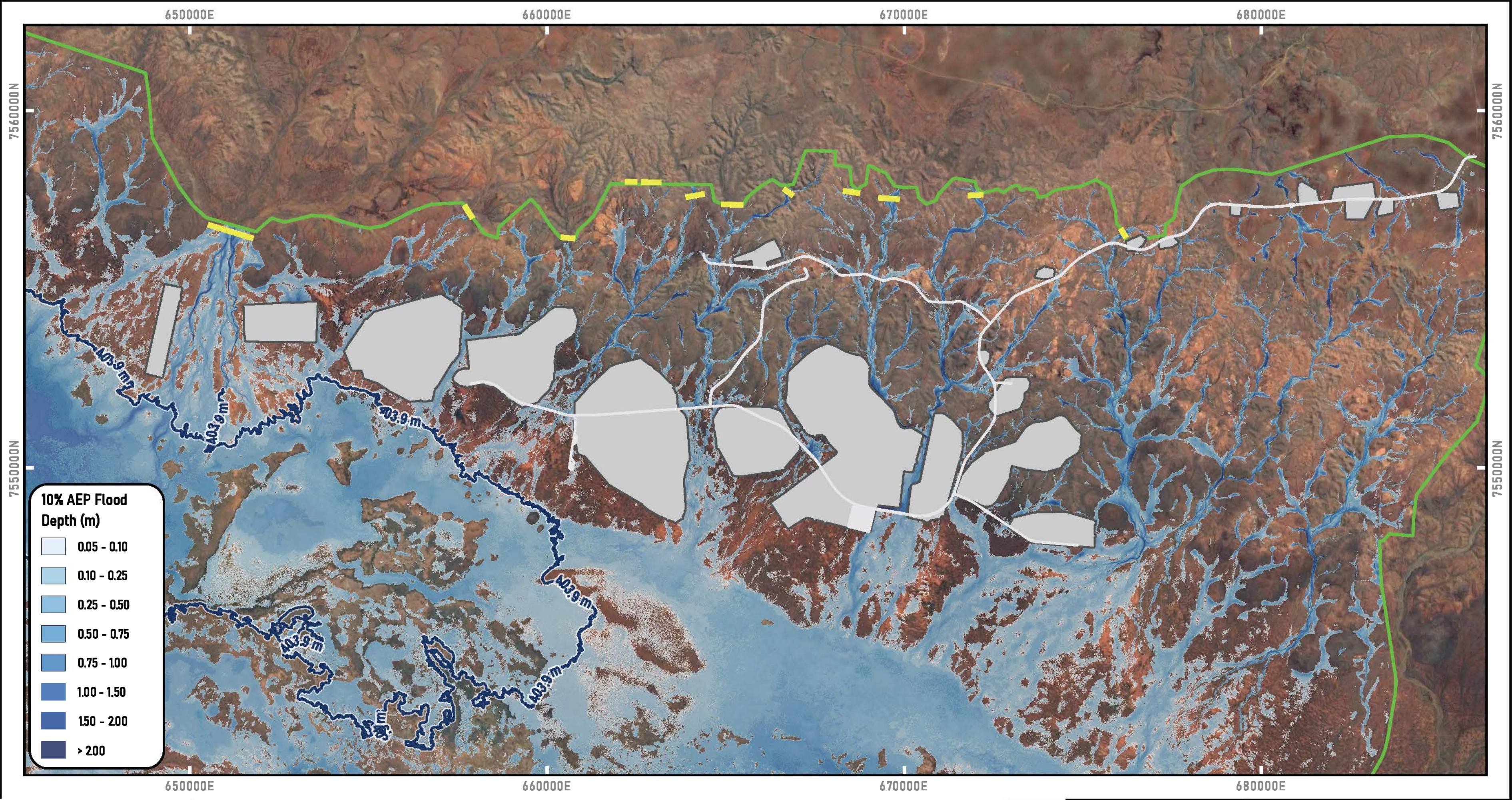
Data sources: Background Image: Base map and data from Google. © https://www.google.com/

Project Location

F:\171\4.GIS\Workspaces\493a_Figures\Appendix B.qgz: Figure B3 - 20% Depth (jdart)

AQ2

Hydrology Figure C3
Developed Scenario
20% AEP Flood Depth



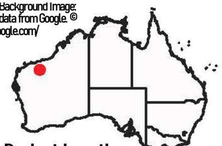
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- 10% AEP Claypan Flood Level (403.9 mRL)
- Proposed Haul Road
- Surface Water Containment Area

•Predicted maximum flood depths from a 2D HEC RAS model developed using LIDAR data from 2023, plus terrain modifications to simulate the impacts of surface water containment areas and project haul roads
•Flood depths <0.05m not shown
•The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
•Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
•Flood depths upstream of the inflow boundary conditions are not valid.
•Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
•Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.

Data sources: Background Image: Base map and data from Google. © https://www.google.com/

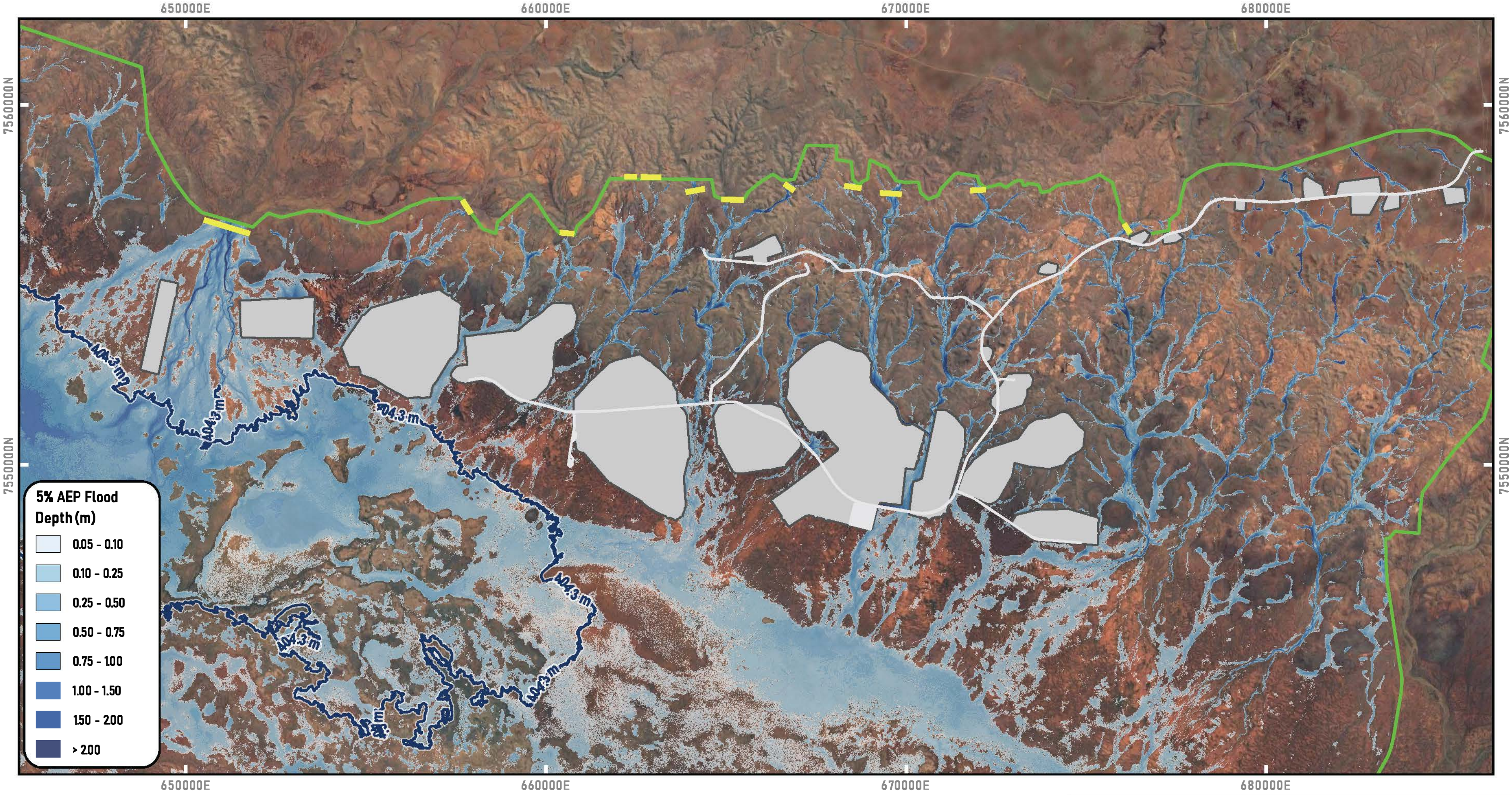


Project Location

F:\171\4.GIS\Workspaces\493a_Figures\Appendix B.qgz: Figure B4 - 10% Depth (jdart)

AQ2

Hydrology Figure C4
Developed Scenario
10% AEP Flood Depth



N

2 4 km

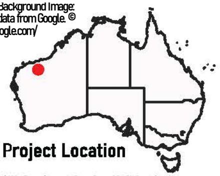
GDA94 / MGA zone 50

Legend

- Model Inflow
- Rain On Grid Model Boundary
- 5% AEP Claypan Flood Level (404.3 mRL)
- Proposed Haul Road
- Surface Water Containment Area

- Predicted maximum flood depths from a 2D HEC RAS model developed using LIDAR data from 2023, plus terrain modifications to simulate the impacts of surface water containment areas and project haul roads
- Flood depths <0.05m not shown
- The purpose of the model was to simulate hydrological conditions within, and immediately downstream of, mine development areas associated with the Mulga Downs Project.
- Inflow hydrographs were input around the boundary of the model and rain-on-grid calculations used to simulate runoff across the model domain.
- Flood depths upstream of the inflow boundary conditions are not valid.
- Depths of ponded water within the valley floor (e.g., in the claypans) are likely to be underpredicted as not all runoff from within the model will have drained by the end of the simulation period
- Maximum water levels resulting from rainfall-runoff (modelled depths) and claypan storage (contour) are unlikely to occur simultaneously as they will be driven by different magnitude and duration rainfall events.

Data sources: Background Image: Base map and data from Google. © https://www.google.com/



Project Location

F:\171\4.GIS\Workspaces\493a_Figures\Appendix B.qgz: Figure B5 - 5% Depth (jdart)

AQ2

Hydrology Figure C5
Developed Scenario
5% AEP Flood Depth