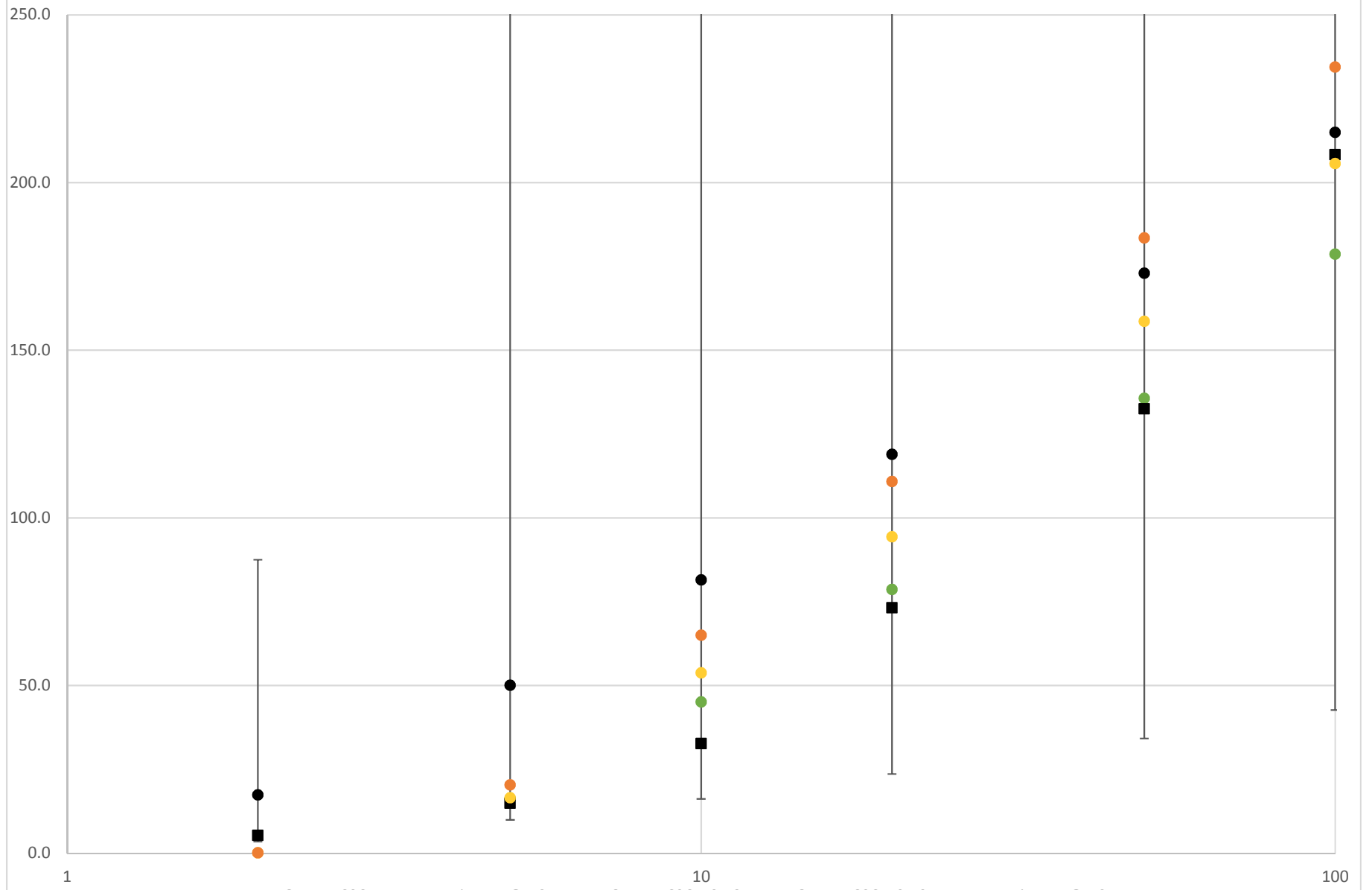
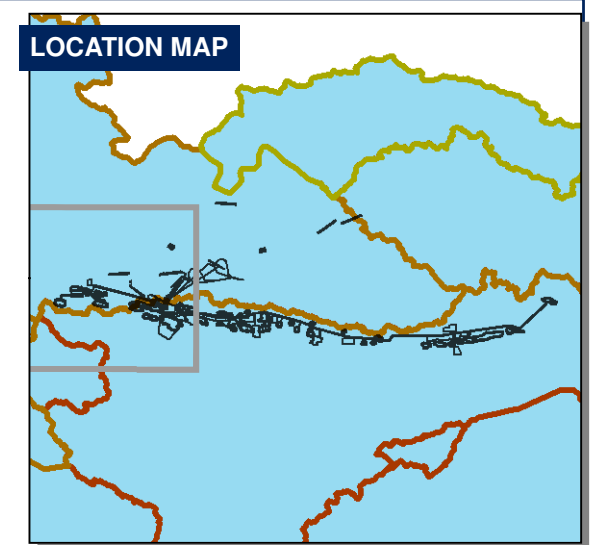
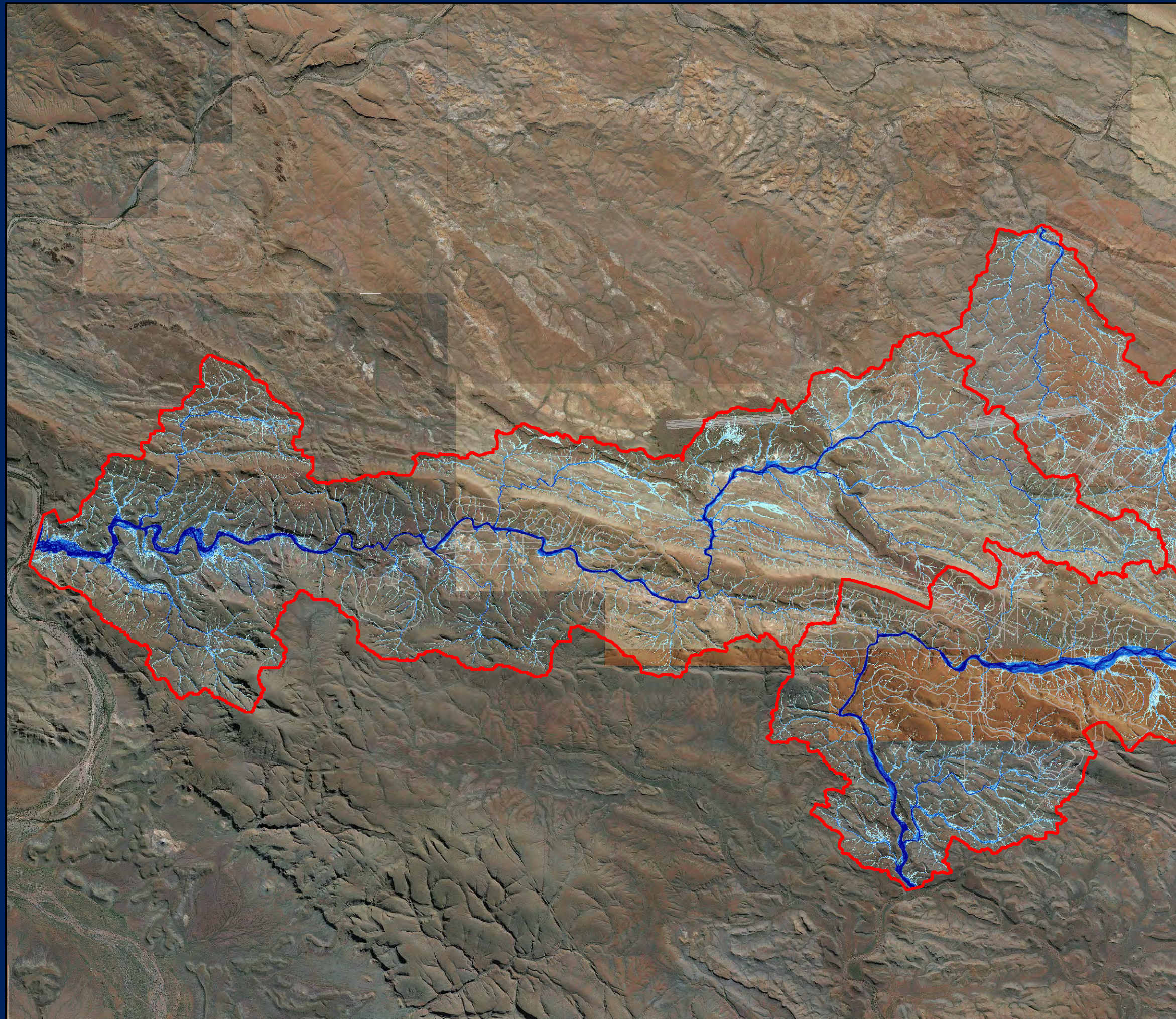


Pinarra Creek at Broadway Gorge: Varied RORB C Parameter



W:\Surface Water\02 Projects\Western Hub\06_Tech Work Area\Mine Model Comparisons\[Mine Scale Model Comparisons.xlsx]Mine Scale

Appendix 4: West Creek Model Results



LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

Model Boundary

Baseline Scenario

Flow Depth (m)

- < 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

**West Creek Baseline Flow Depths
1%AEP 6hr Event**

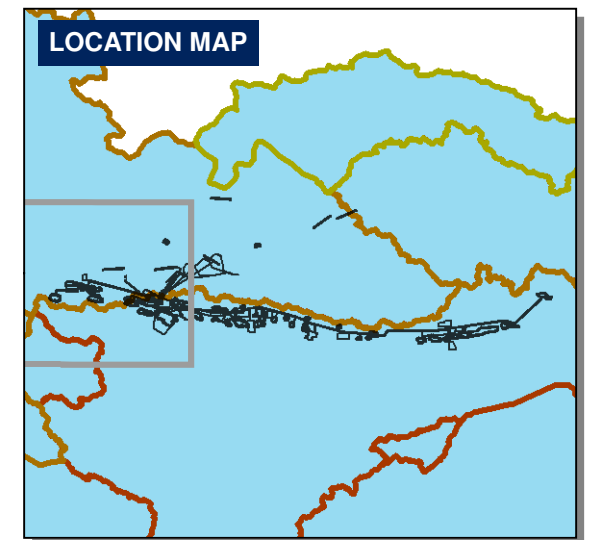
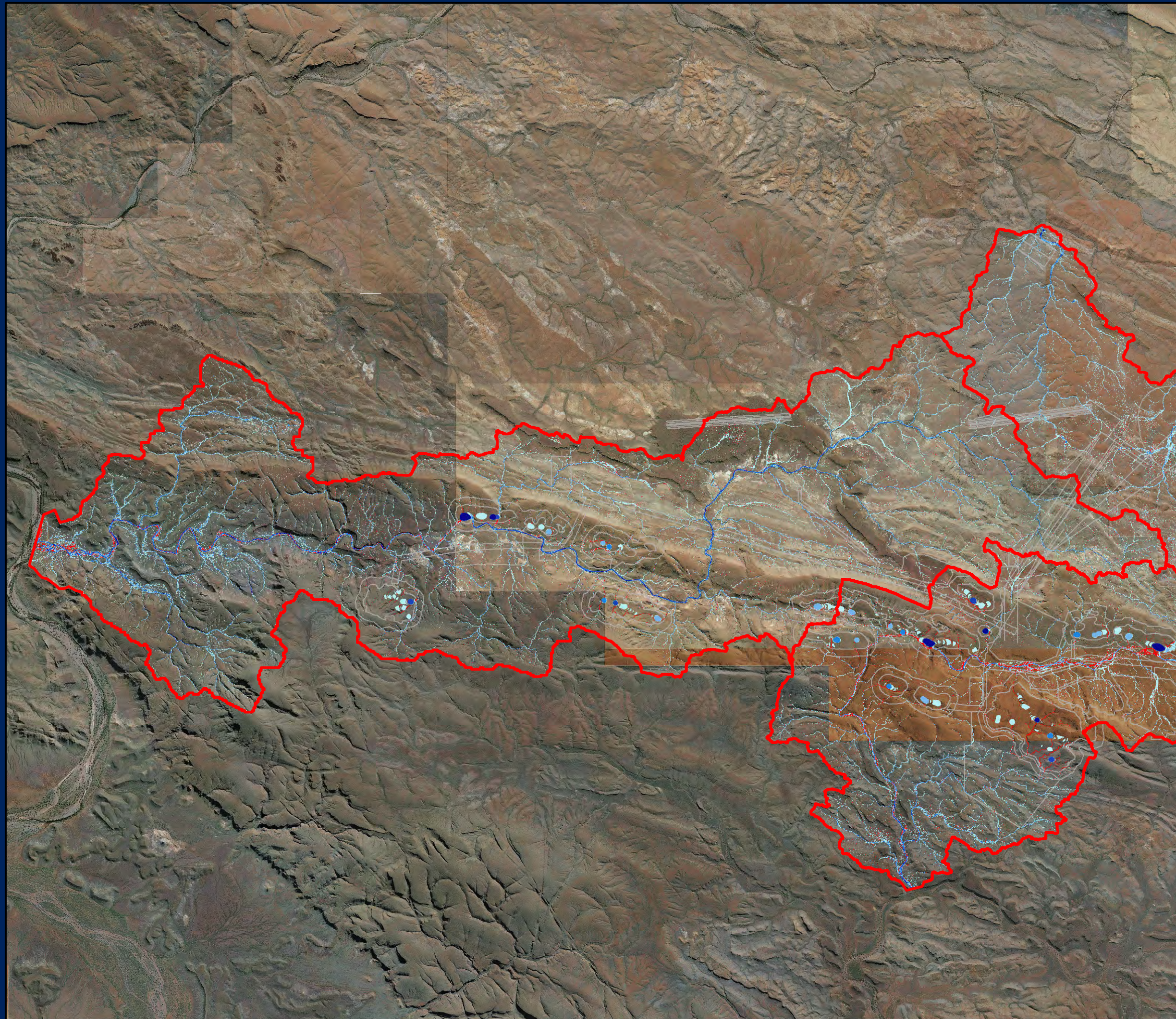
Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50
Document Name: West Creek Baseline Flow Depths 1%AEP 6hr Event

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

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The New Force in Iron Ore



LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Scenario

Flow Depth (m)

□ < 0.1

□ 0.1 - 0.25

□ 0.25 - 0.5

□ 0.5 - 1

□ > 1

□ Wet In Baseline Dry in Ultimate



0 0.5 1 2 3 4 Kilometers

West Creek Ultimate Flow Depths 50% AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50

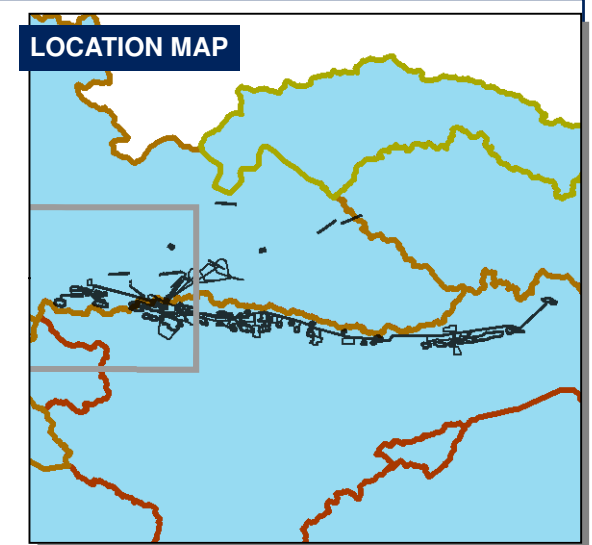
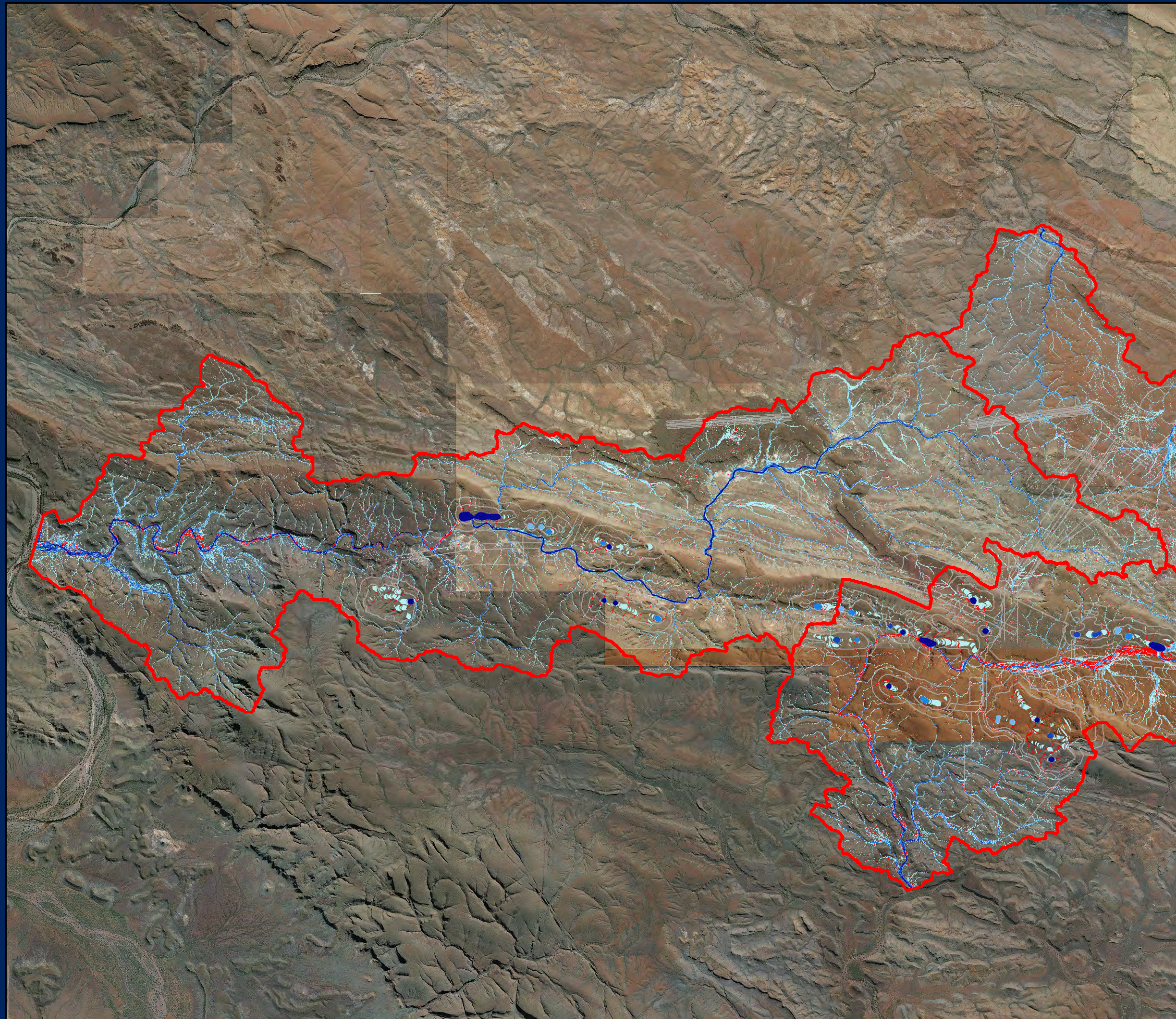
Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

Document Name: West Creek Ultimate Flow Depths 50% AEP 6hr Event

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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Scenario

Flow Depth (m)

□ < 0.1

□ 0.1 - 0.25

□ 0.25 - 0.5

□ 0.5 - 1

□ > 1

□ Wet In Baseline Dry in Ultimate



0 0.5 1 2 3 4 Kilometers

West Creek Ultimate Flow Depths 10%AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50

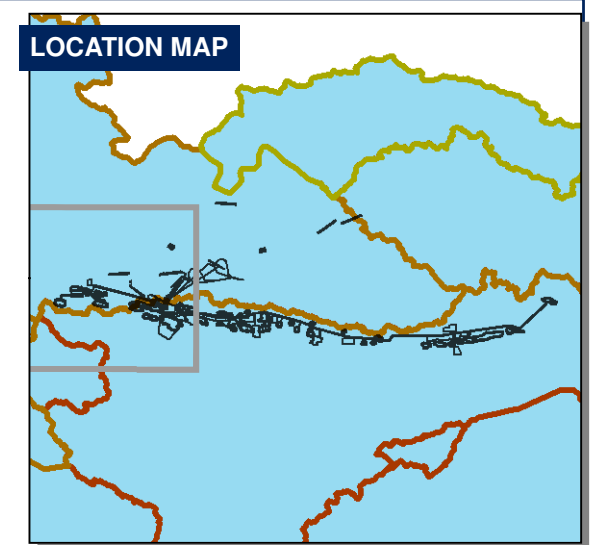
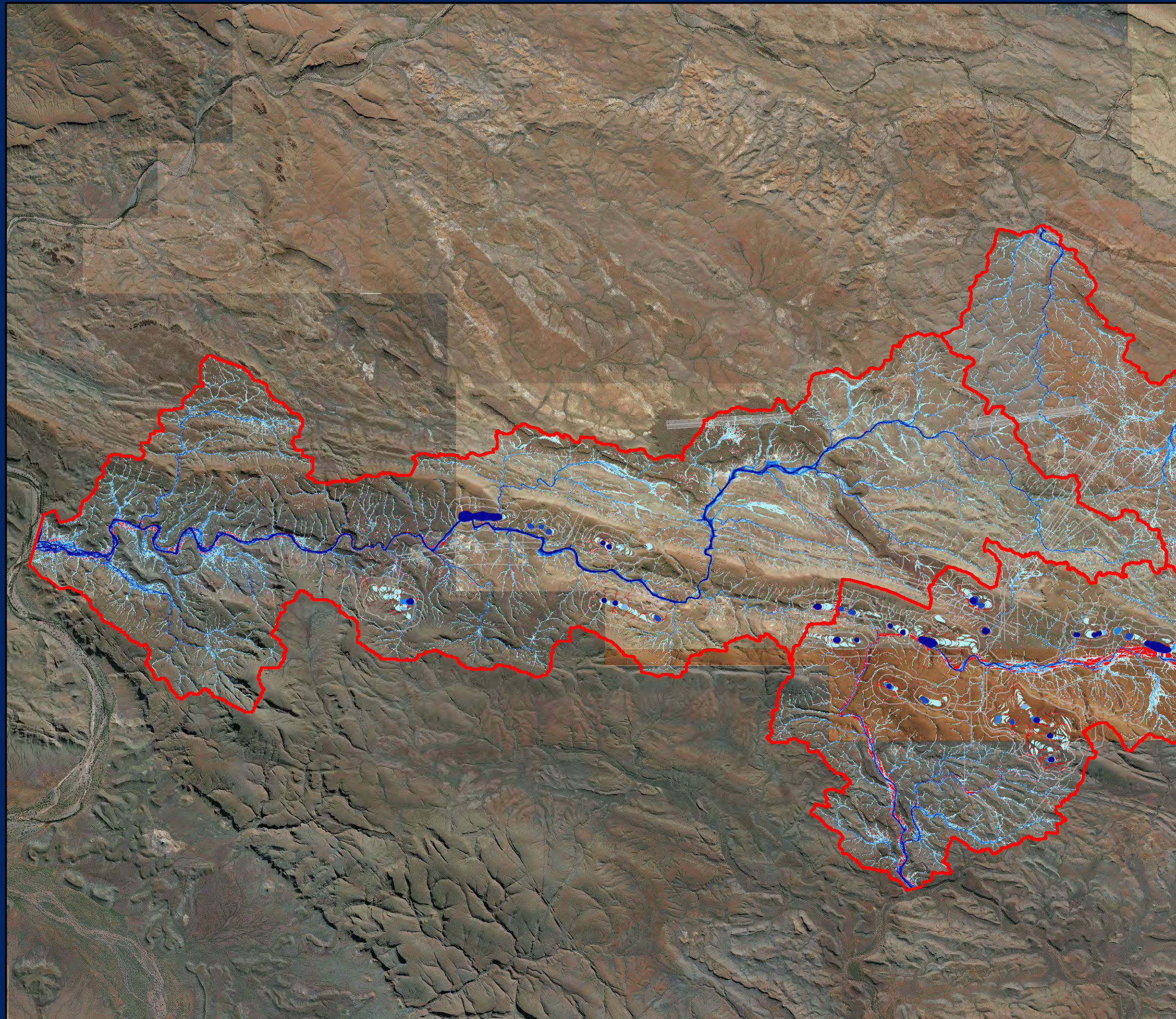
Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

Document Name: West Creek Ultimate Flow Depths 10%AEP 6hr Event

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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

Model Boundary

Ultimate Scenario

Flow Depth (m)

< 0.1

0.1 - 0.25

0.25 - 0.5

0.5 - 1

> 1

Wet In Baseline Dry in Ultimate



0 0.5 1 2 3 4 Kilometers

West Creek Ultimate Flow Depths 1%AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

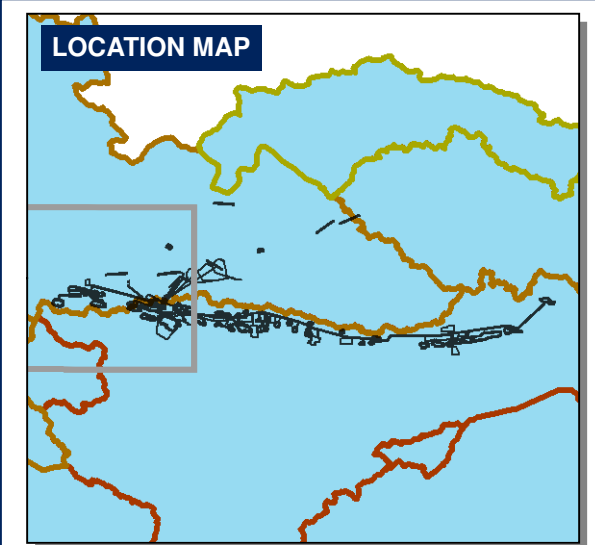
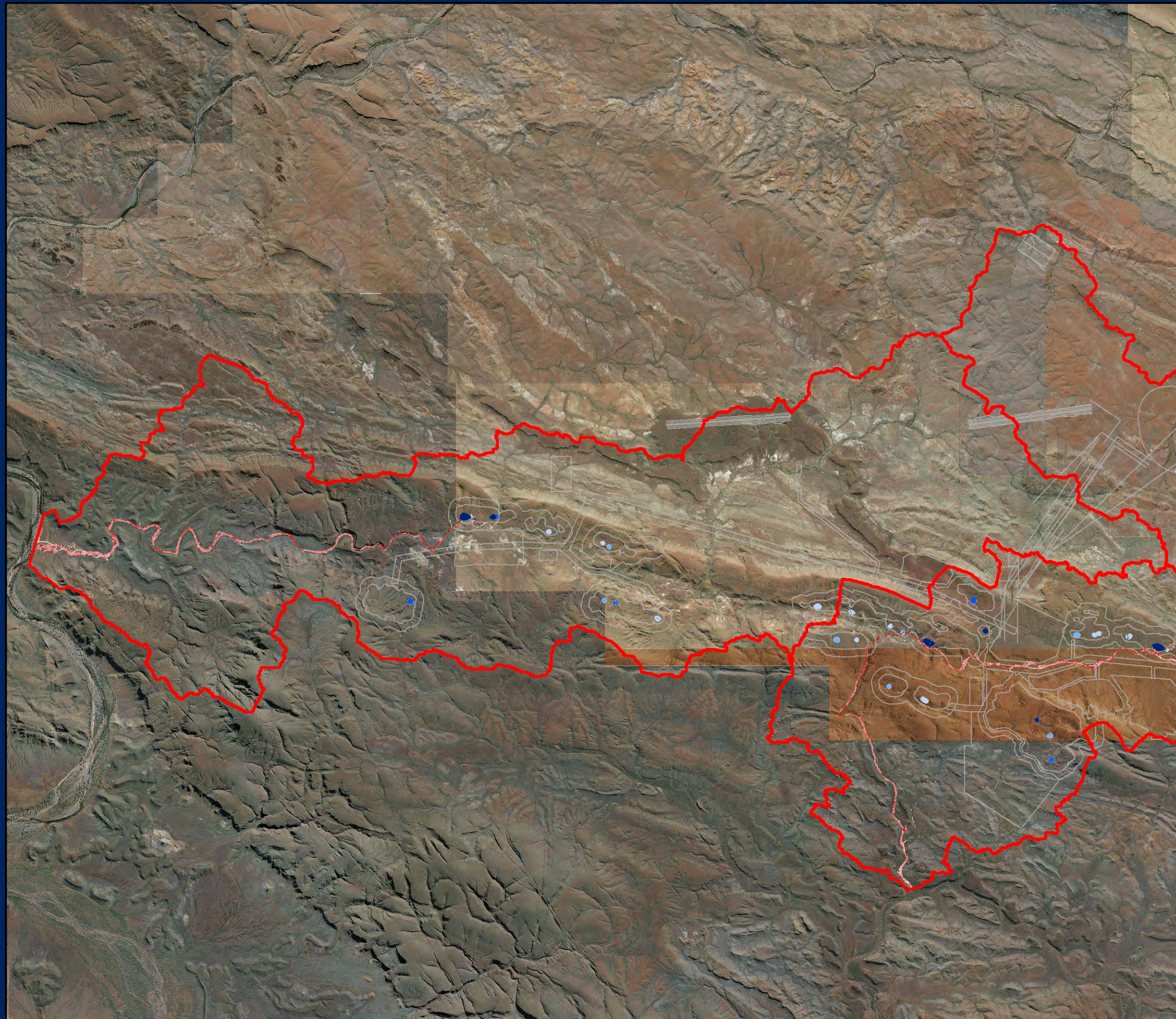
Coordinate System: MGA50

Document Name: West Creek Ultimate Flow Depths 1%AEP 6hr Event

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LEGEND

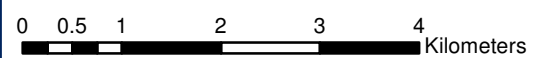
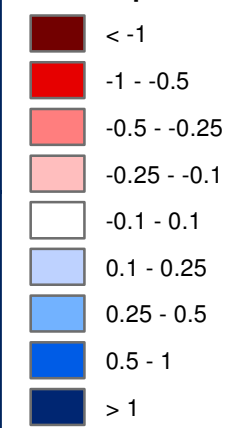
— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Minus Baseline Scenario

Flow Depth Change (m)

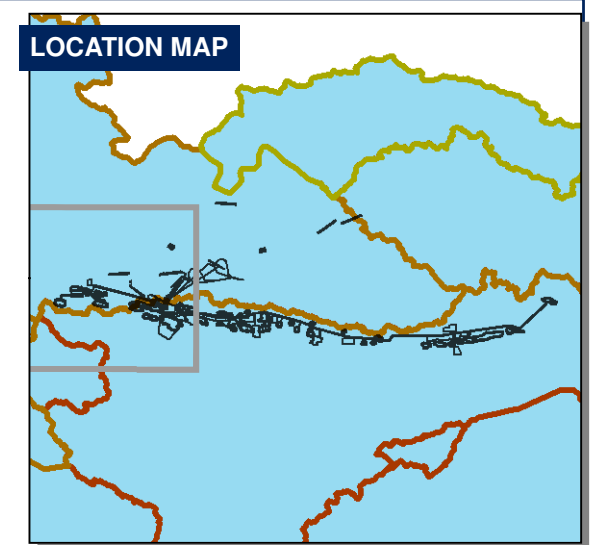
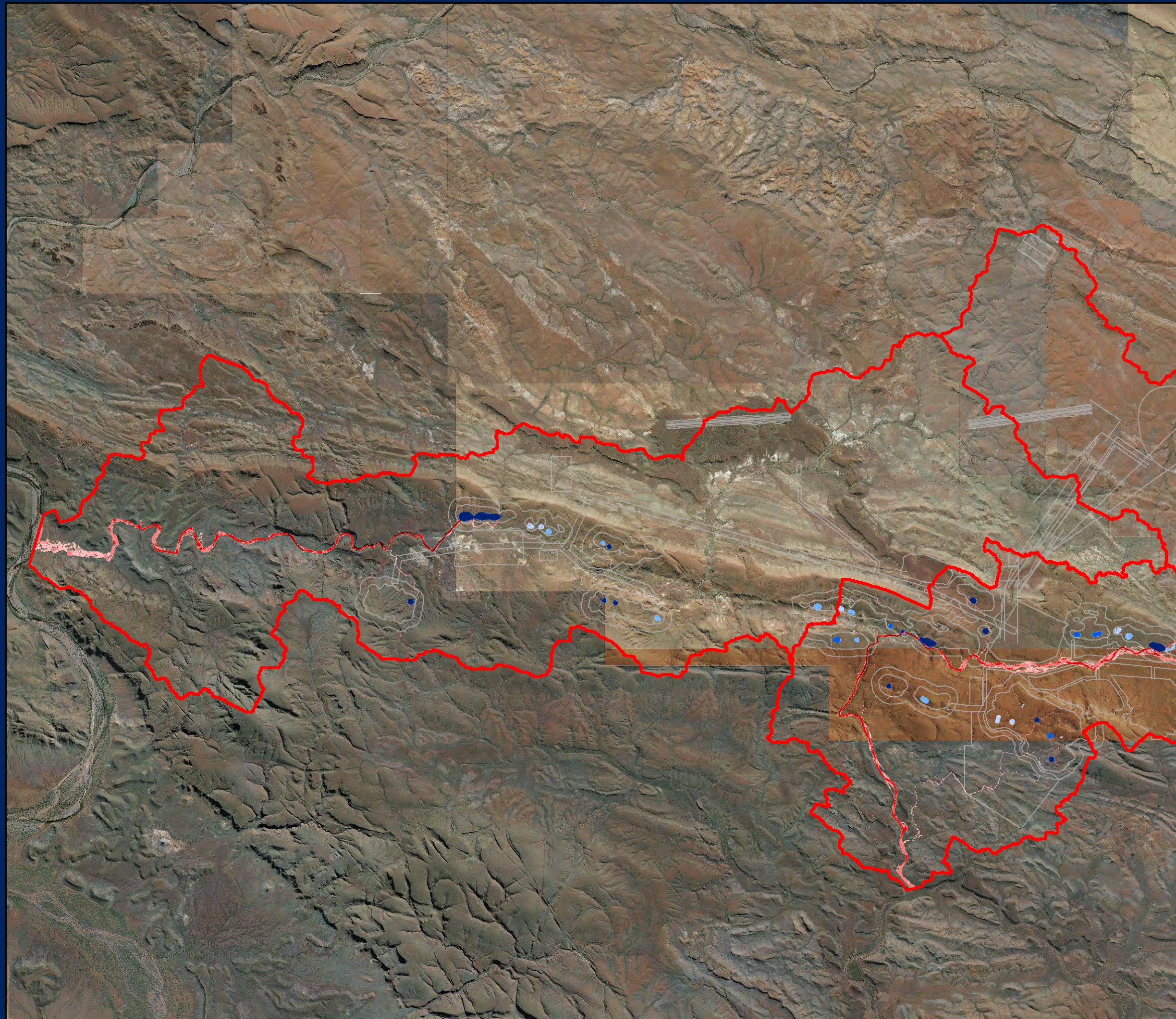


**West Creek Flow Depth Differences
50% AEP 6hr Event**

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50
Document Name: West Creek Flow Depth Differences 50% AEP 6hr Event

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

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LEGEND

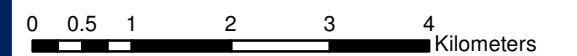
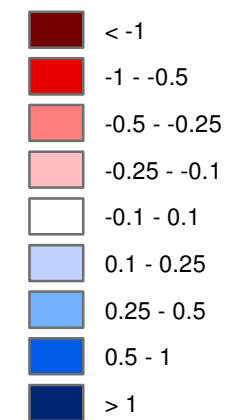
— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Minus Baseline Scenario

Flow Depth Change (m)



West Creek Flow Depth Differences 10% AEP 6hr Event

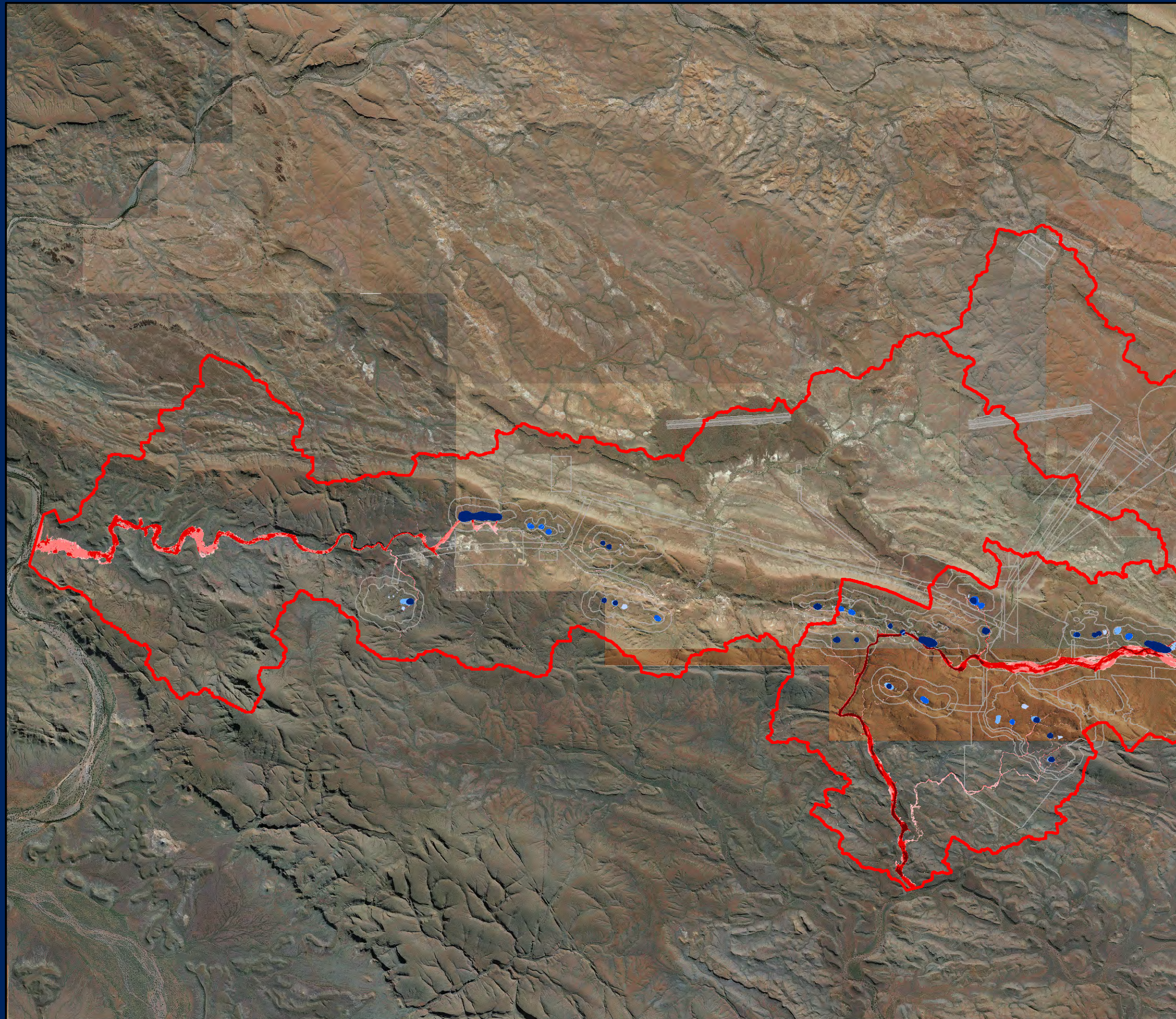
Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50
Document Name: West Creek Flow Depth Differences 10% AEP 6hr Event

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

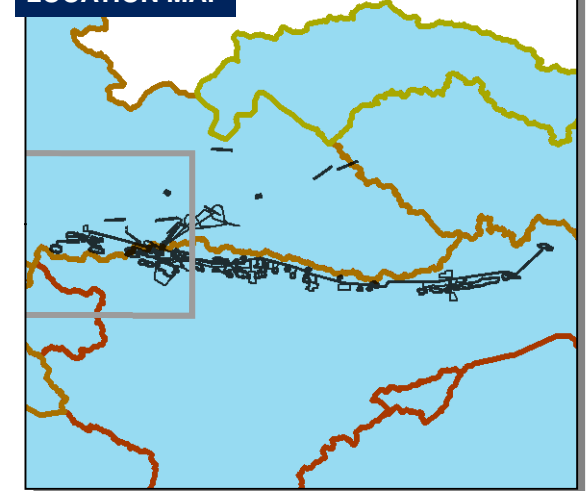
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LOCATION MAP



LEGEND

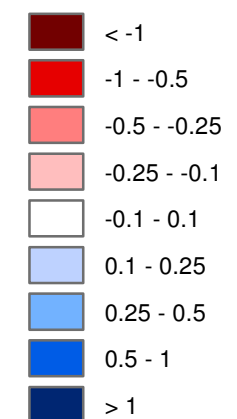
— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Minus Baseline Scenario

Flow Depth Change (m)



0 0.5 1 2 3 4 Kilometers

West Creek Flow Depth Differences 1%AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50

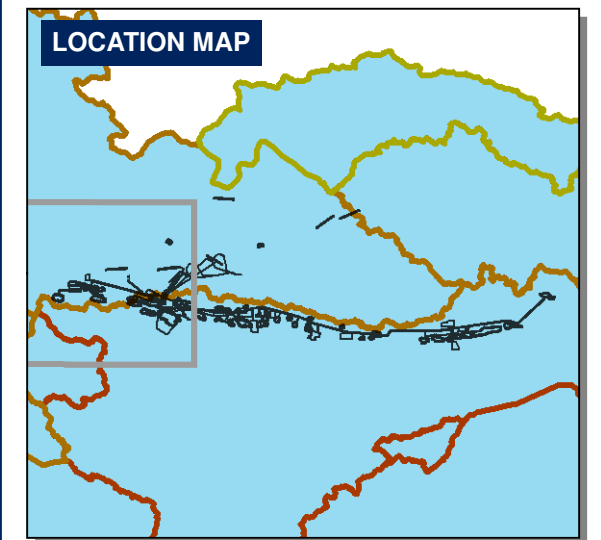
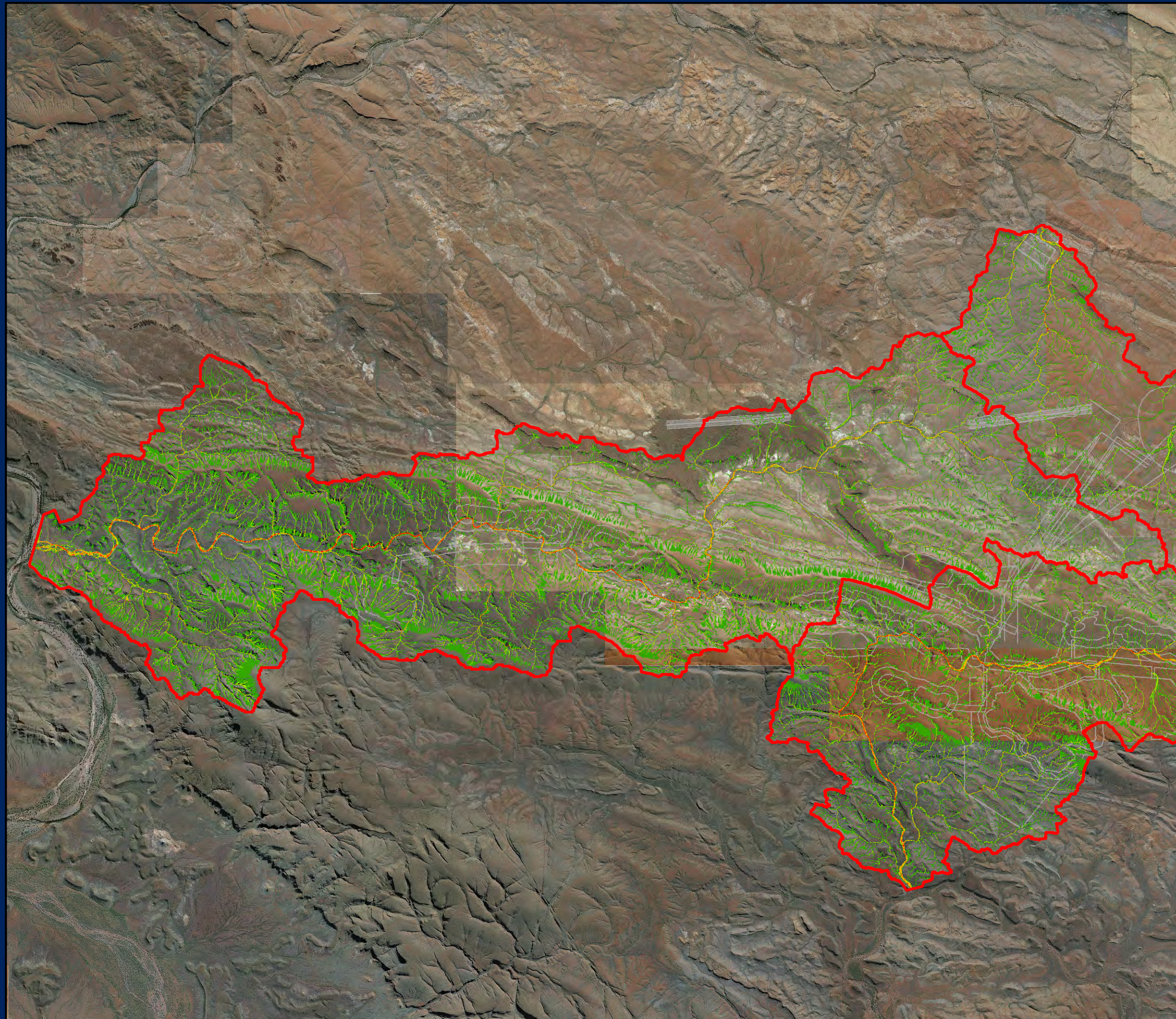
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Size: A3L
Revision: 2
Confidentiality: 1

Document Name: West Creek Flow Depth Differences 1%AEP 6hr Event

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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Baseline Scenario

Flow Velocity (m/s)

- < 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

West Creek Baseline Flow Velocities 50% AEP 6hr Event

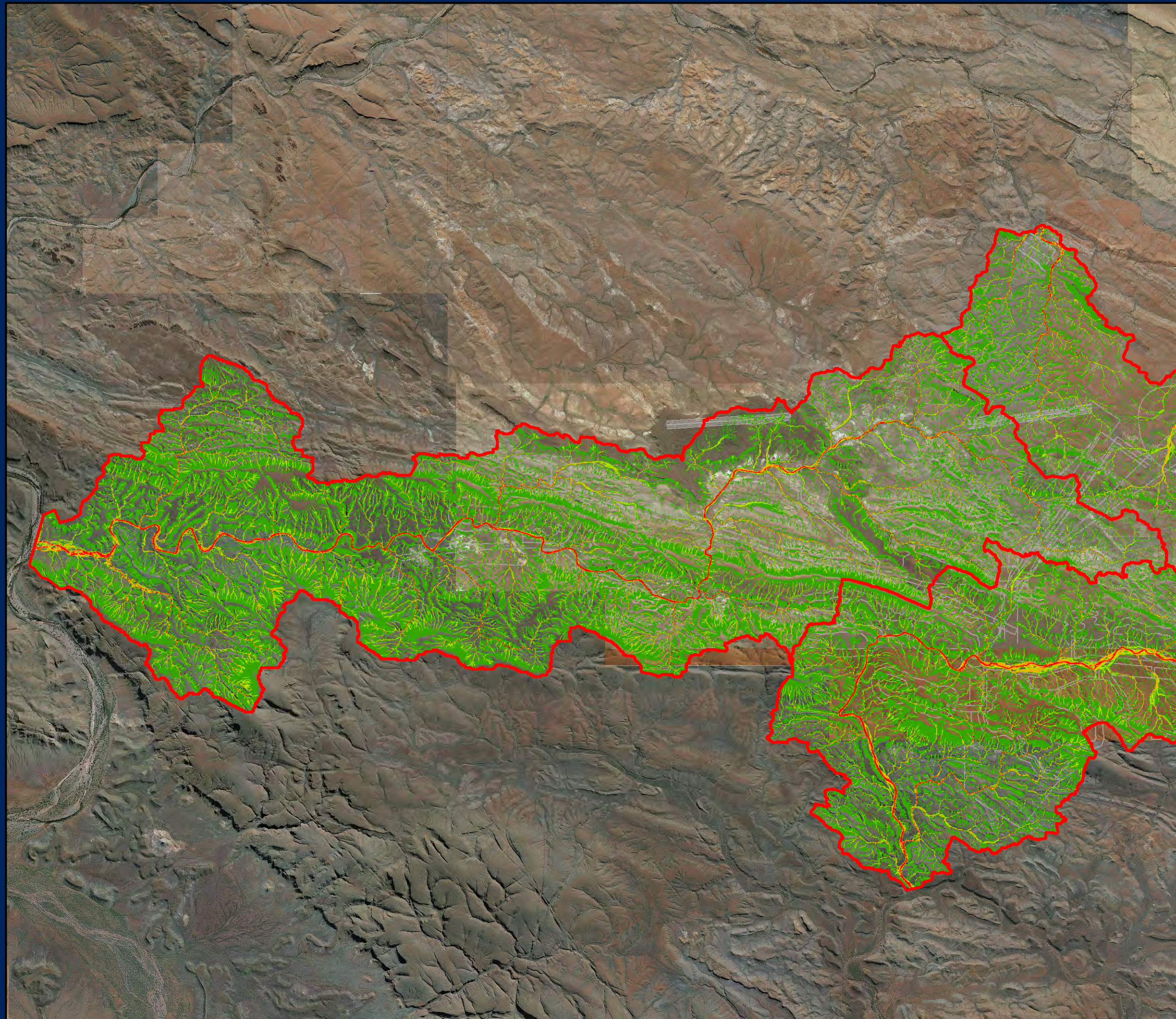
Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50
Document Name: West Creek Baseline Flow Velocities 50% AEP 6hr Event

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

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LOCATION MAP



LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Baseline Scenario

Flow Velocity (m/s)

- < 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

West Creek Baseline Flow Velocities 10% AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50

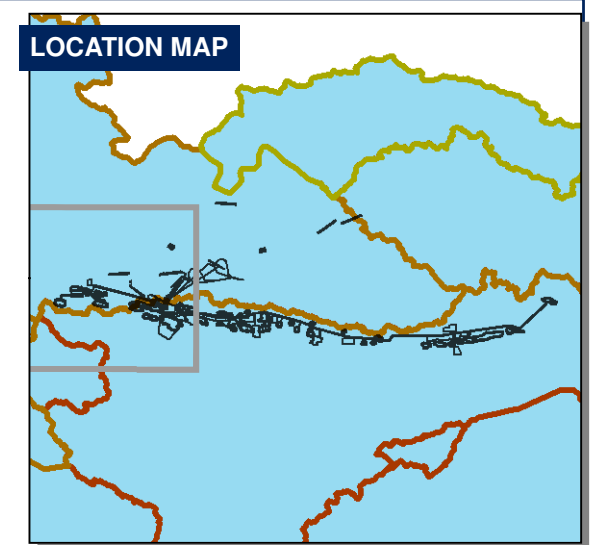
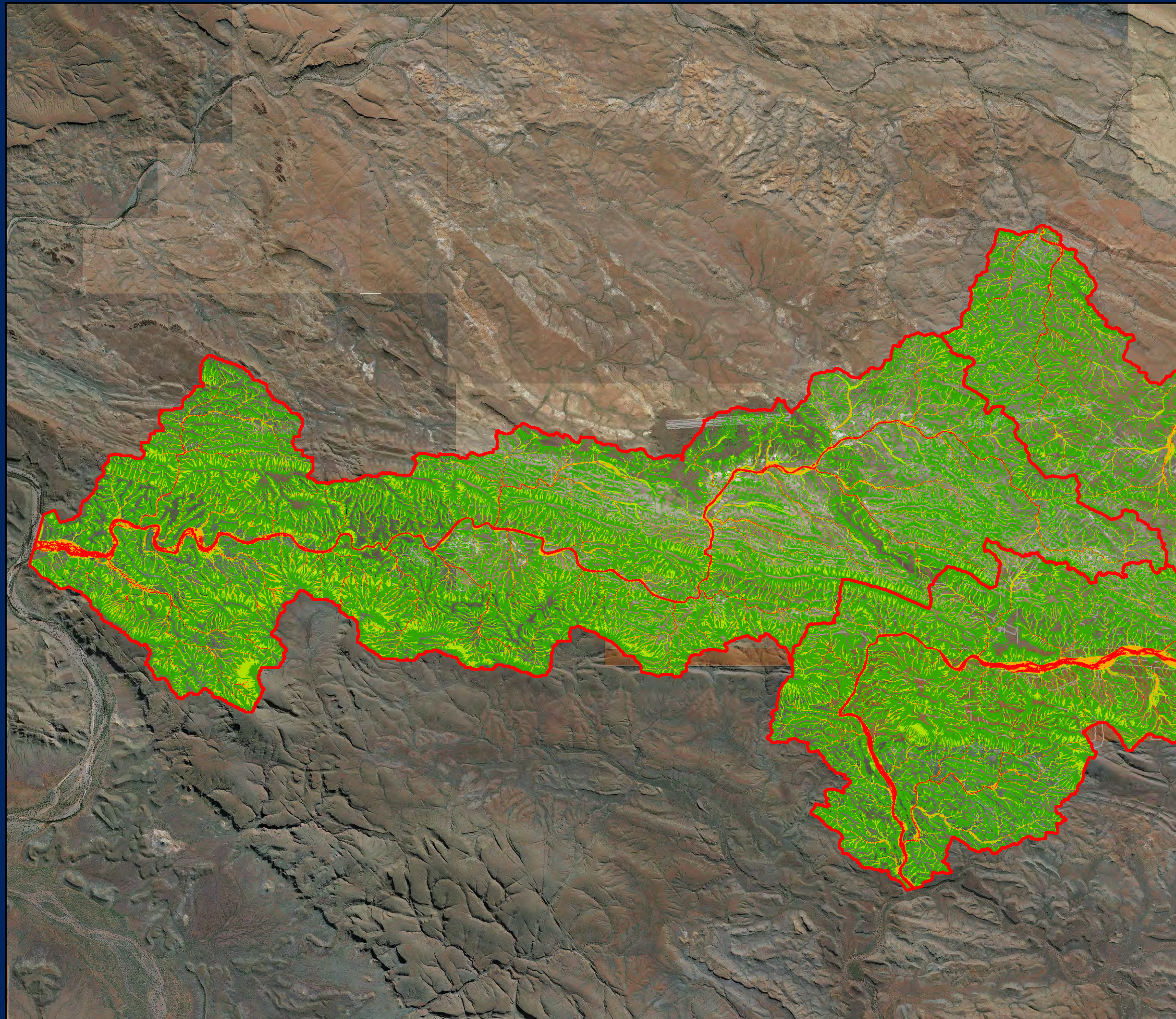
Date: 25/08/2017
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Revision: 2
Confidentiality: 1

Document Name: West Creek Baseline Flow Velocities 10% AEP 6hr Event

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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Baseline Scenario

Flow Velocity (m/s)

- < 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

West Creek Baseline Flow Velocities 1%AEP 6hr Event

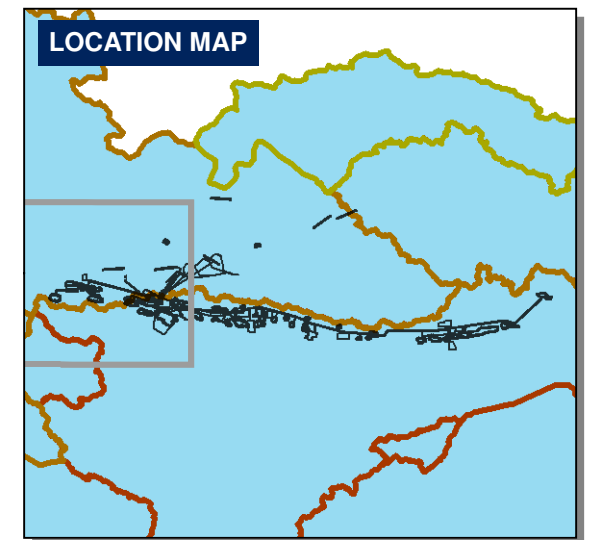
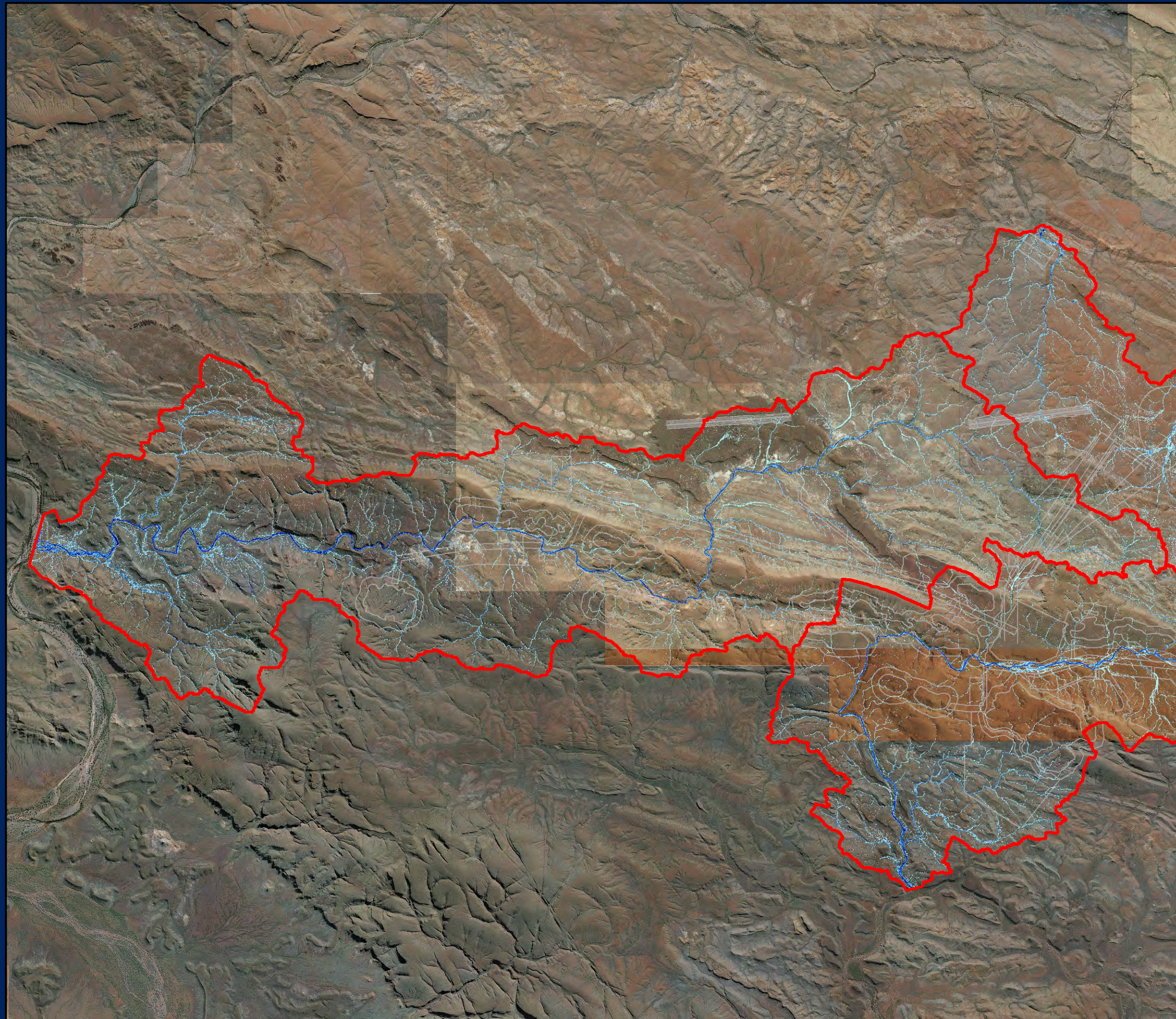
Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50
Document Name: West Creek Baseline Flow Velocities 1%AEP 6hr Event

Date: 25/08/2017
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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

Model Boundary

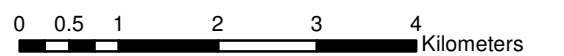
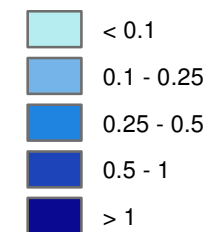
Outflow Boundaries

Source-Area Inflows

Reporting Hydrographs

Baseline Scenario

Flow Depth (m)



West Creek Baseline Flow Depths 50% AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50

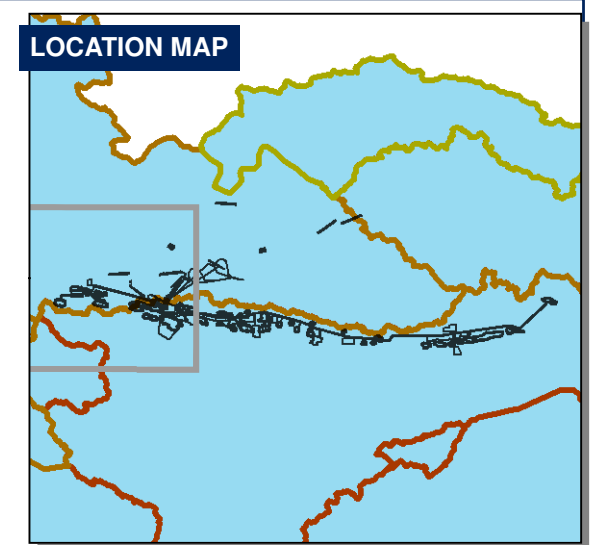
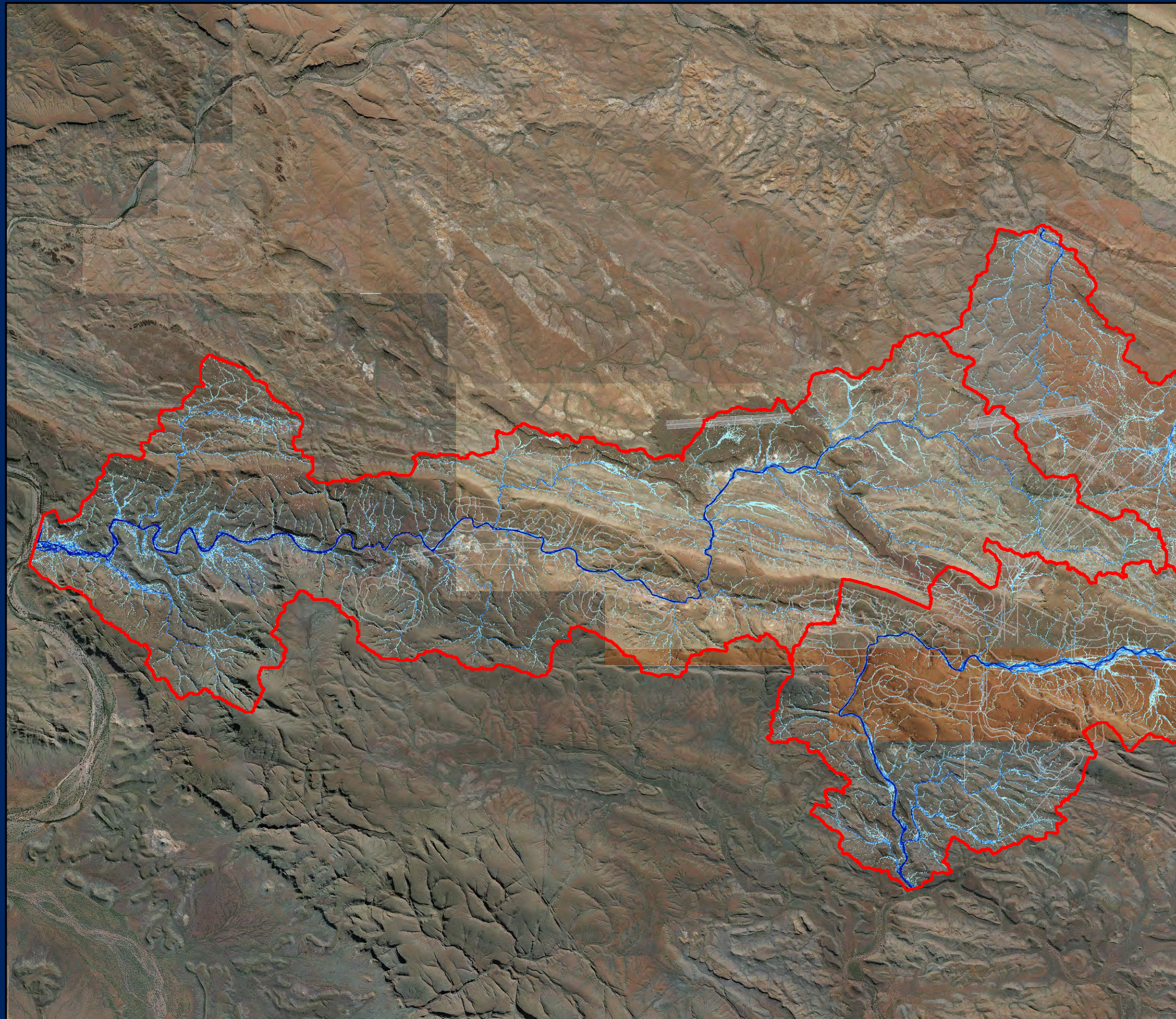
Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

Document Name: West Creek Baseline Flow Depths 50% AEP 6hr Event

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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Baseline Scenario

Flow Depth (m)

- < 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

**West Creek Baseline Flow Depths
10%AEP 6hr Event**

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:76,288
Coordinate System: MGA50
Document Name: West Creek Baseline Flow Depths 10%AEP 6hr Event

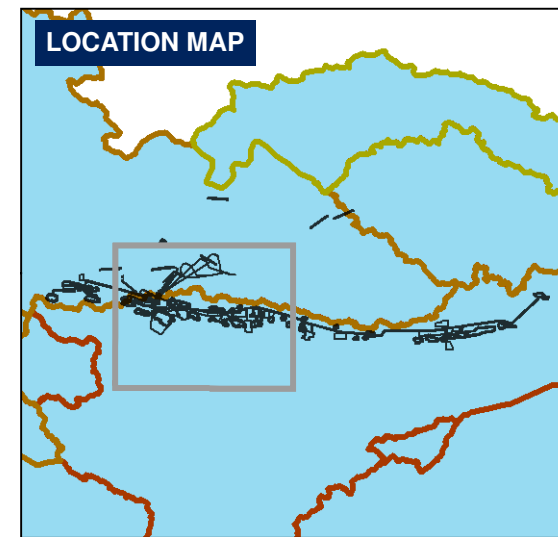
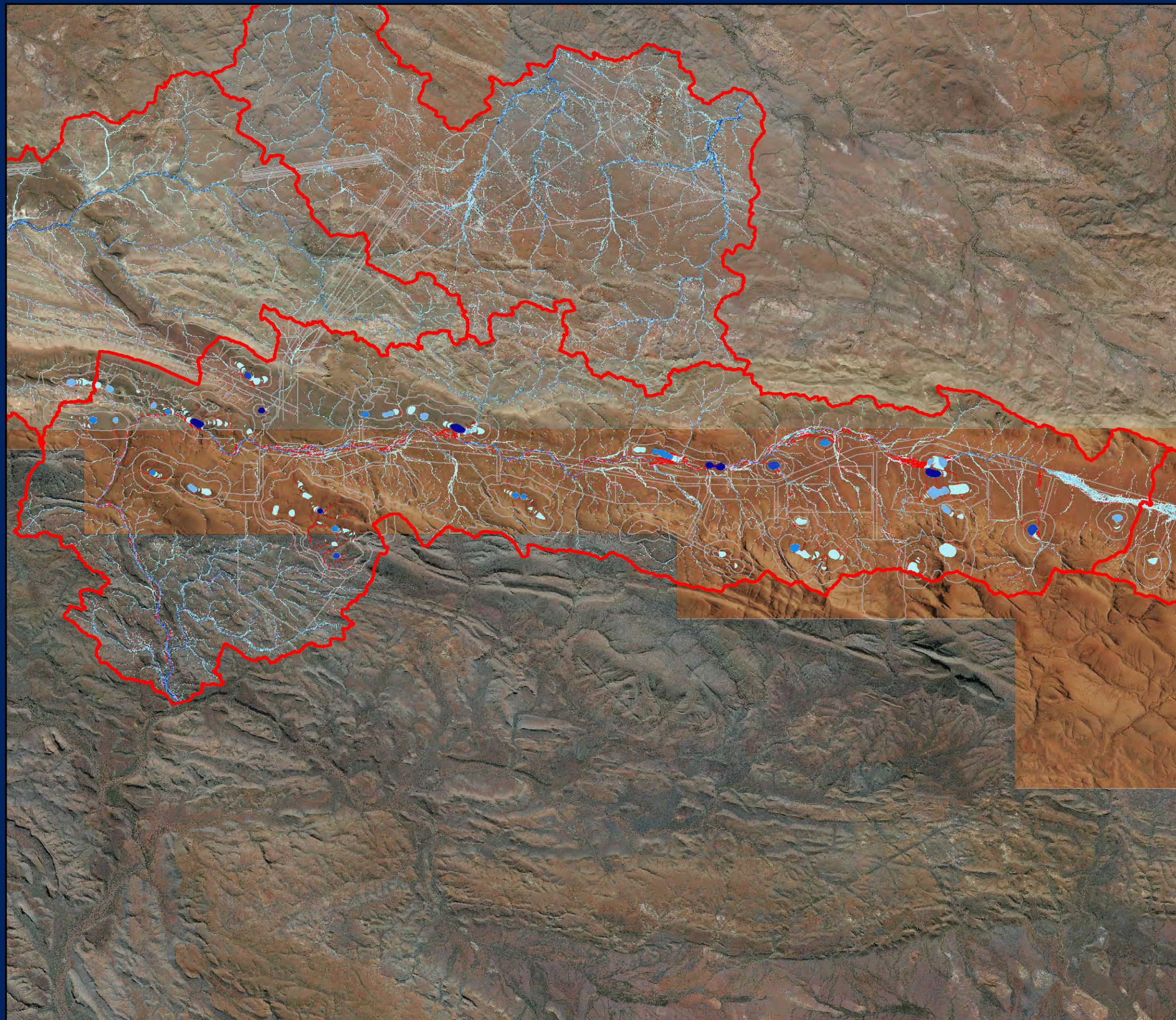
Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

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Appendix 5: Pinarra Creek Model Results



LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Scenario

Flow Depth (m)

□ < 0.1

□ 0.1 - 0.25

□ 0.25 - 0.5

□ 0.5 - 1

□ > 1

□ Wet In Baseline Dry in Ultimate



0 0.5 1 2 3 4 Kilometers

Pinarra Creek Ultimate Flow Depths 50%AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

Scale: 1:67,255

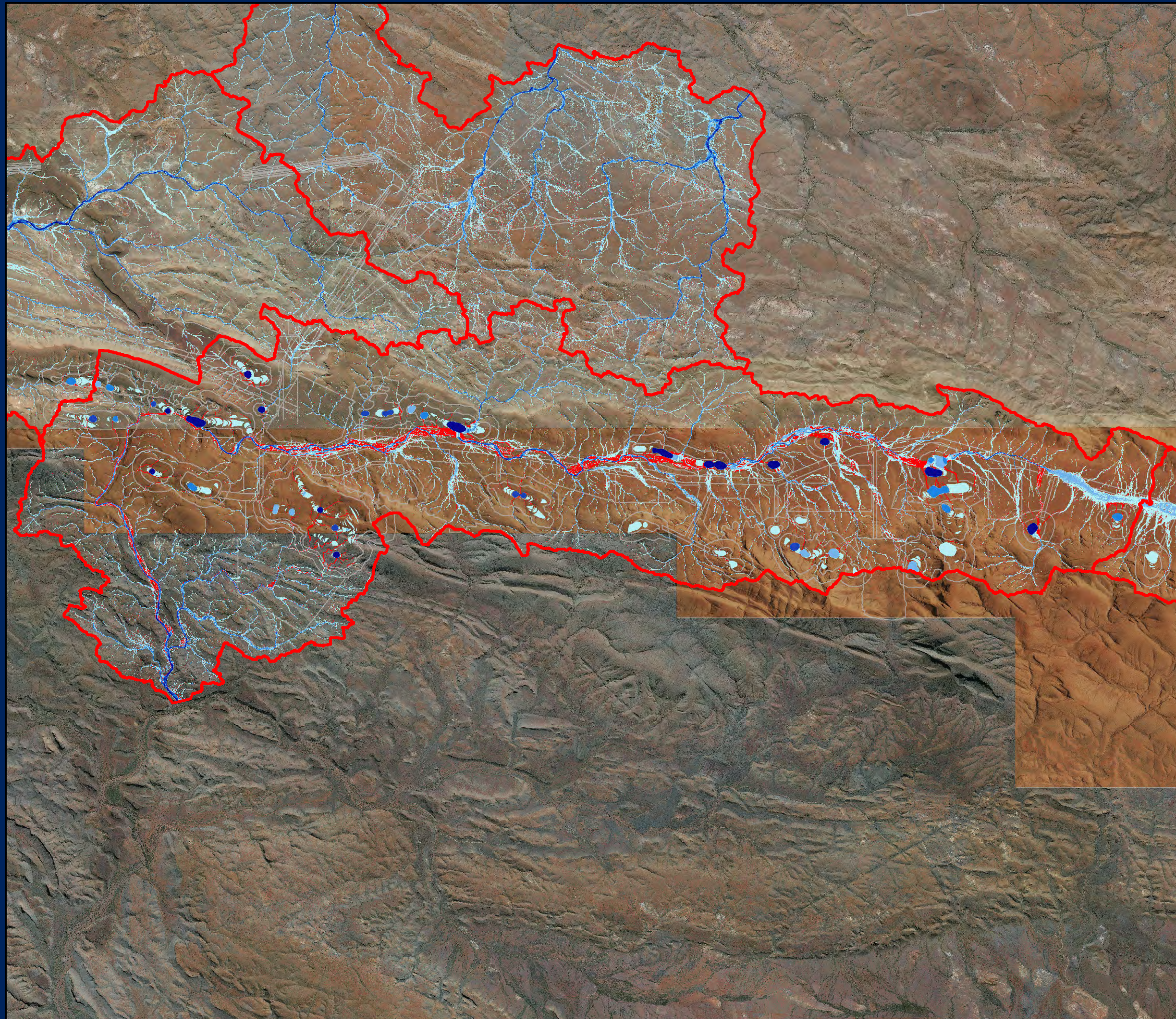
Coordinate System: MGA50

Document Name: Pinarra Creek Ultimate Flow Depths 50%AEP 6hr Event

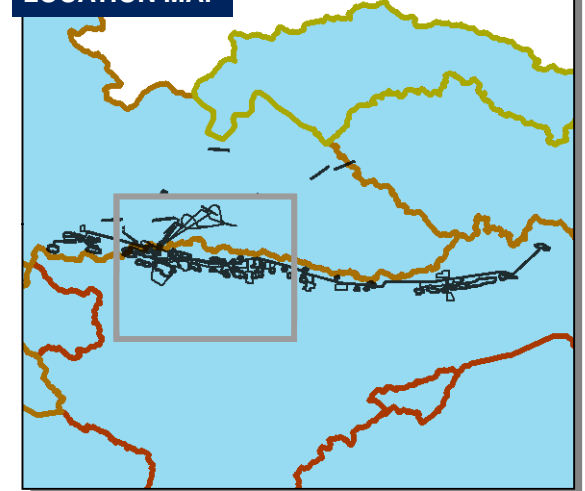
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LOCATION MAP



LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

Model Boundary

Ultimate Scenario

Flow Depth (m)

< 0.1

0.1 - 0.25

0.25 - 0.5

0.5 - 1

> 1

Wet In Baseline Dry in Ultimate



0 0.5 1 2 3 4 Kilometers

Pinarra Creek Ultimate Flow Depths 10%AEP 6hr Event

Requested By: XX

Drawn By: XX

Revised By: pbussemaker

Approved By: XX

Scale: 1:67,255

Coordinate System: MGA50

Document Name: Pinarra Creek Ultimate Flow Depths 10%AEP 6hr Event

Date: 25/08/2017

Size: A3L

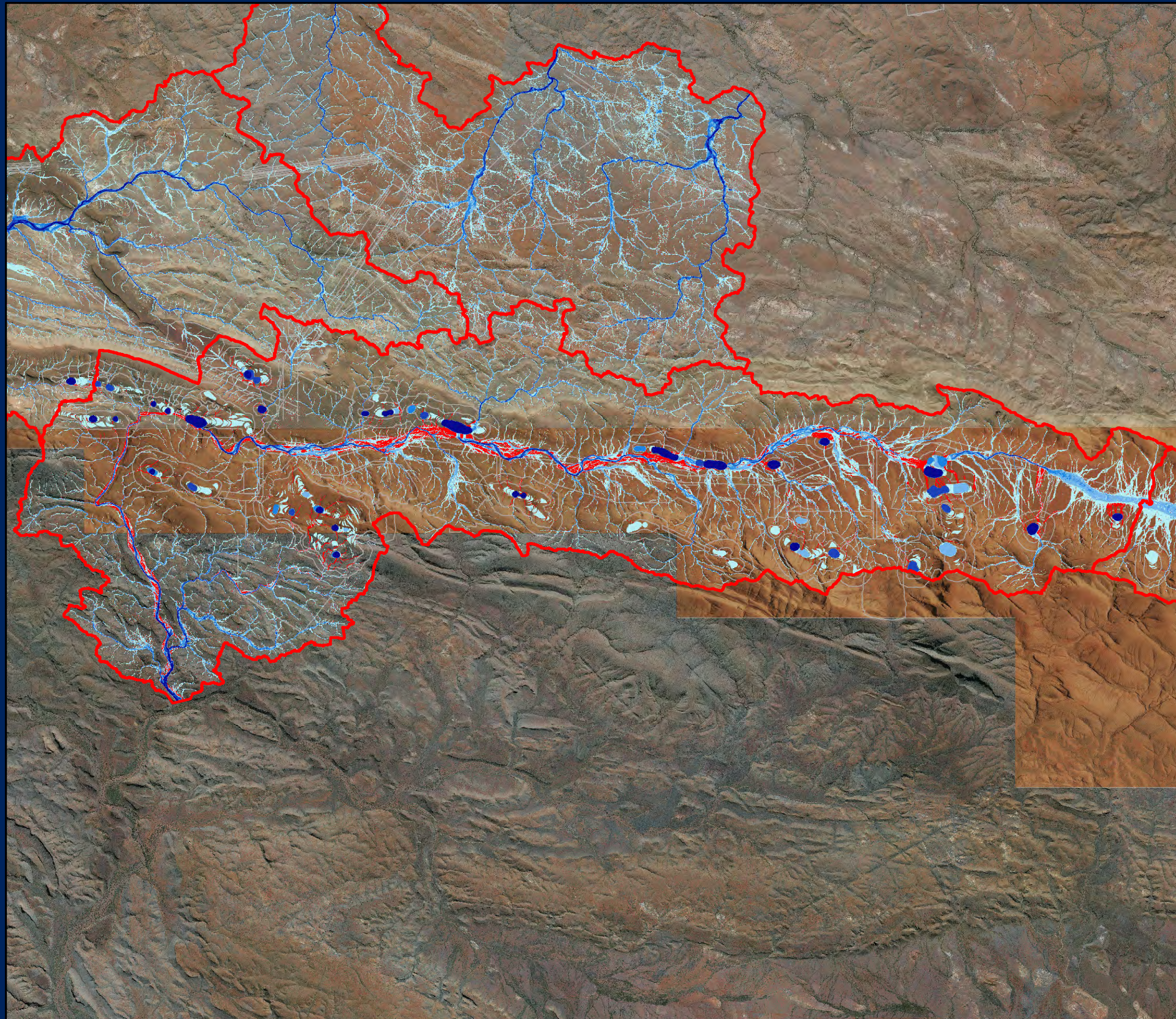
Revision: 2

Confidentiality: 1

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LOCATION MAP



LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

Model Boundary

Ultimate Scenario

Flow Depth (m)

< 0.1

0.1 - 0.25

0.25 - 0.5

0.5 - 1

> 1

Wet In Baseline Dry in Ultimate



0 0.5 1 2 3 4 Kilometers

Pinarra Creek Ultimate Flow Depths 1%AEP 6hr Event

Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:67,255
Coordinate System: MGA50

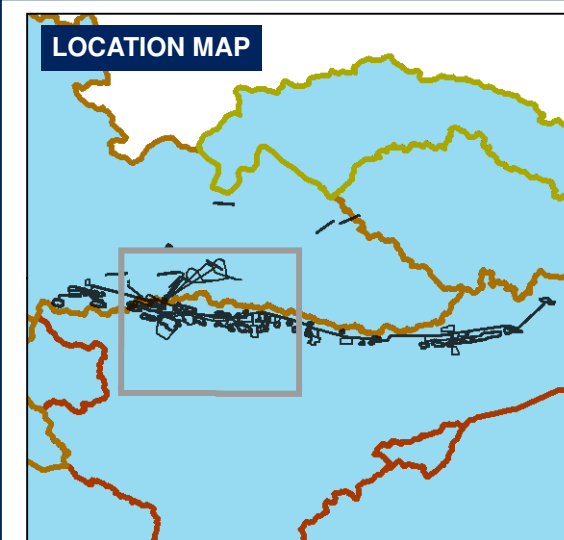
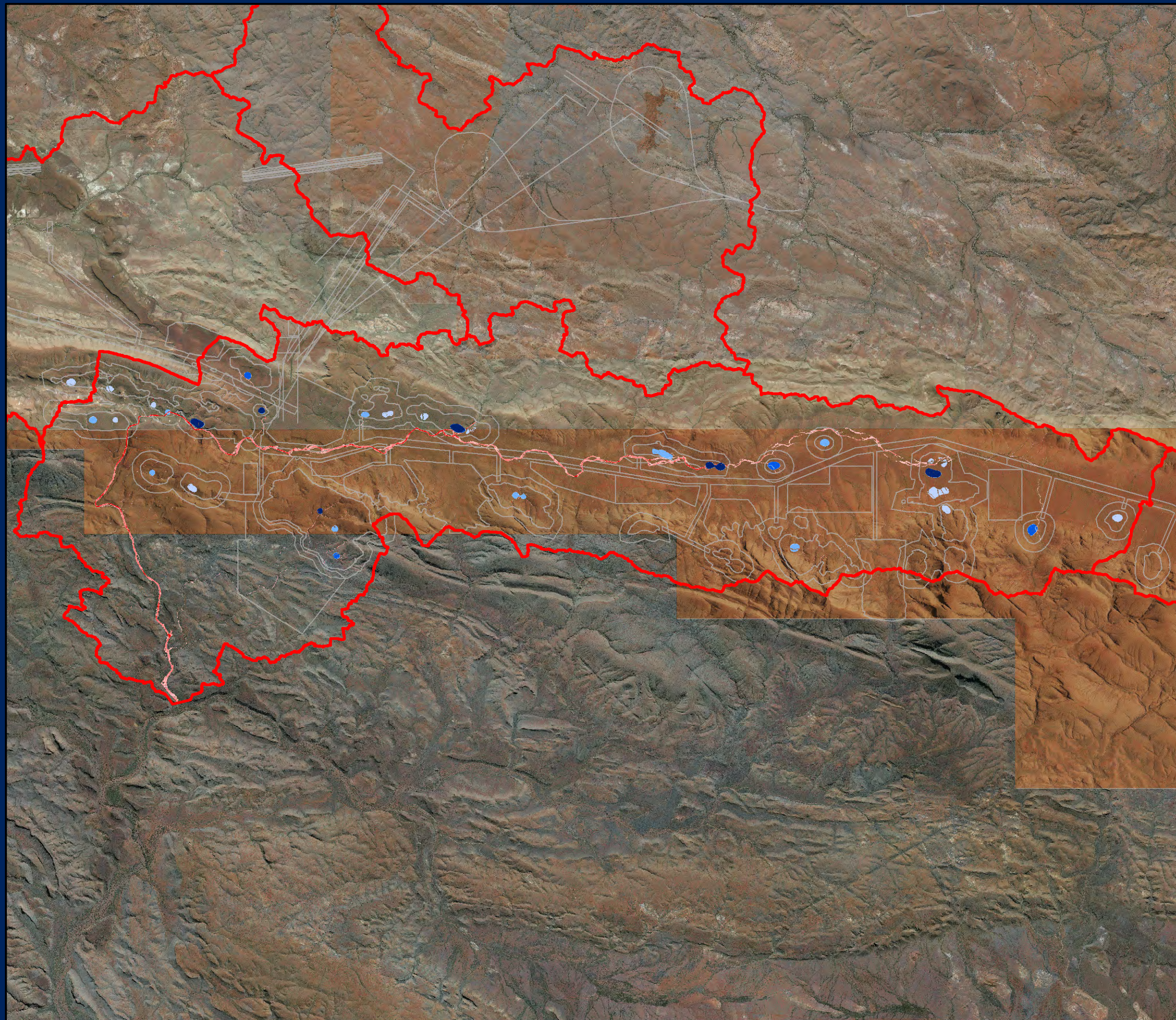
Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

Document Name: Pinarra Creek Ultimate Flow Depths 1%AEP 6hr Event

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The New Force in Iron Ore



LEGEND

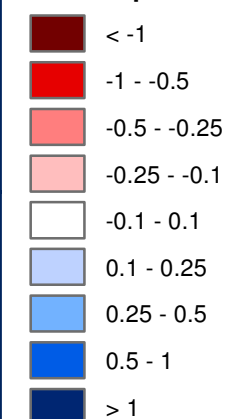
— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Minus Baseline Scenario

Flow Depth Change (m)



Pinarra Creek Flow Depth Differences 50%AEP 6hr Event

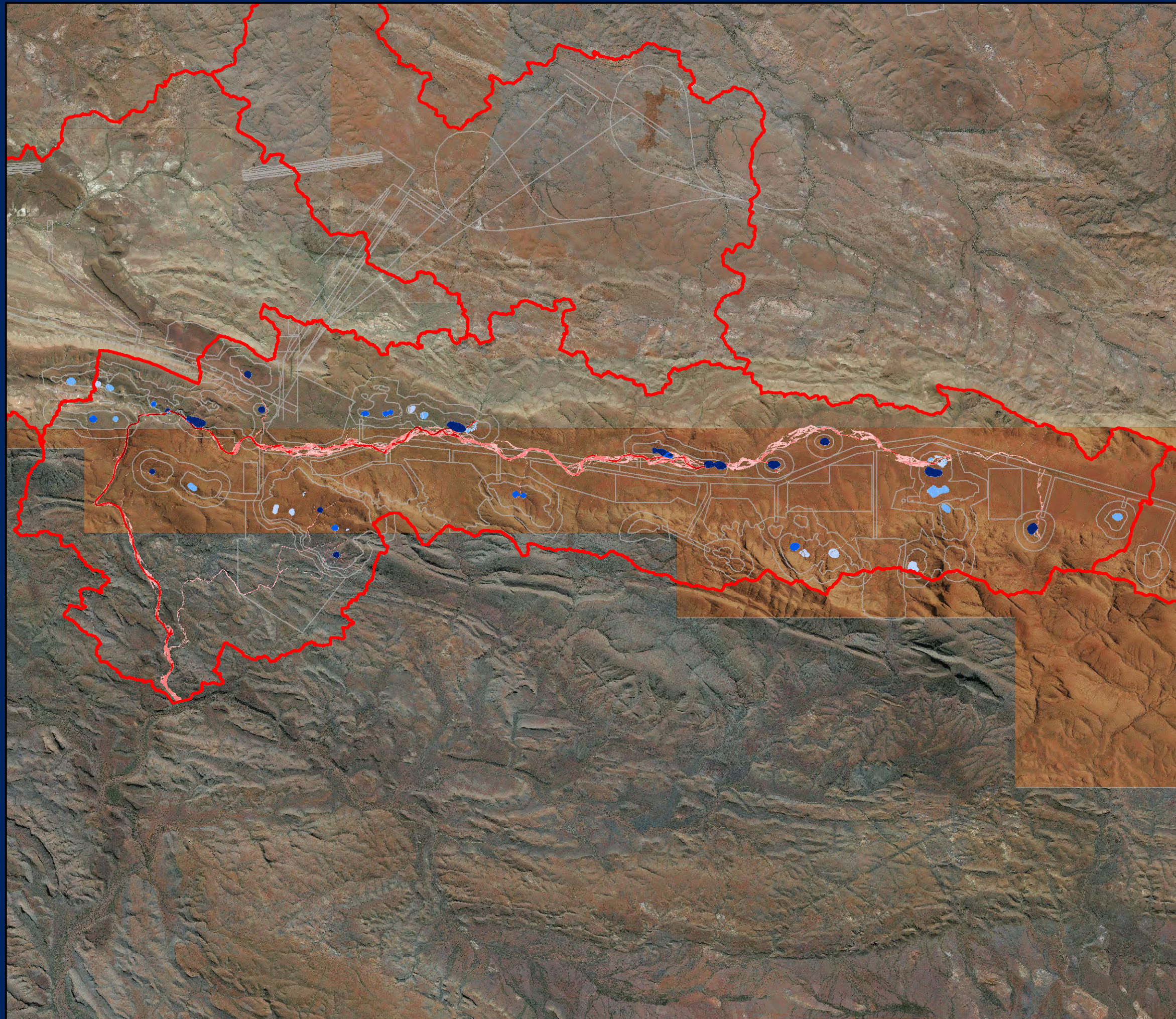
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Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:67,255
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Document Name: Pinarra Creek Flow Depth Differences 50%AEP 6hr Event

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

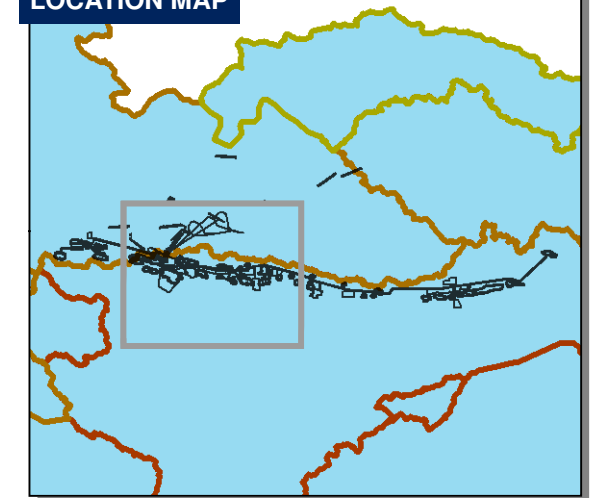
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The New Force in Iron Ore



LOCATION MAP



LEGEND

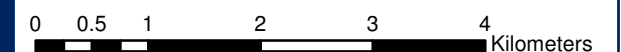
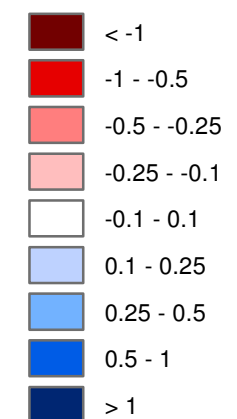
— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Minus Baseline Scenario

Flow Depth Change (m)



Pinarra Creek Flow Depth Differences
10%AEP 6hr Event

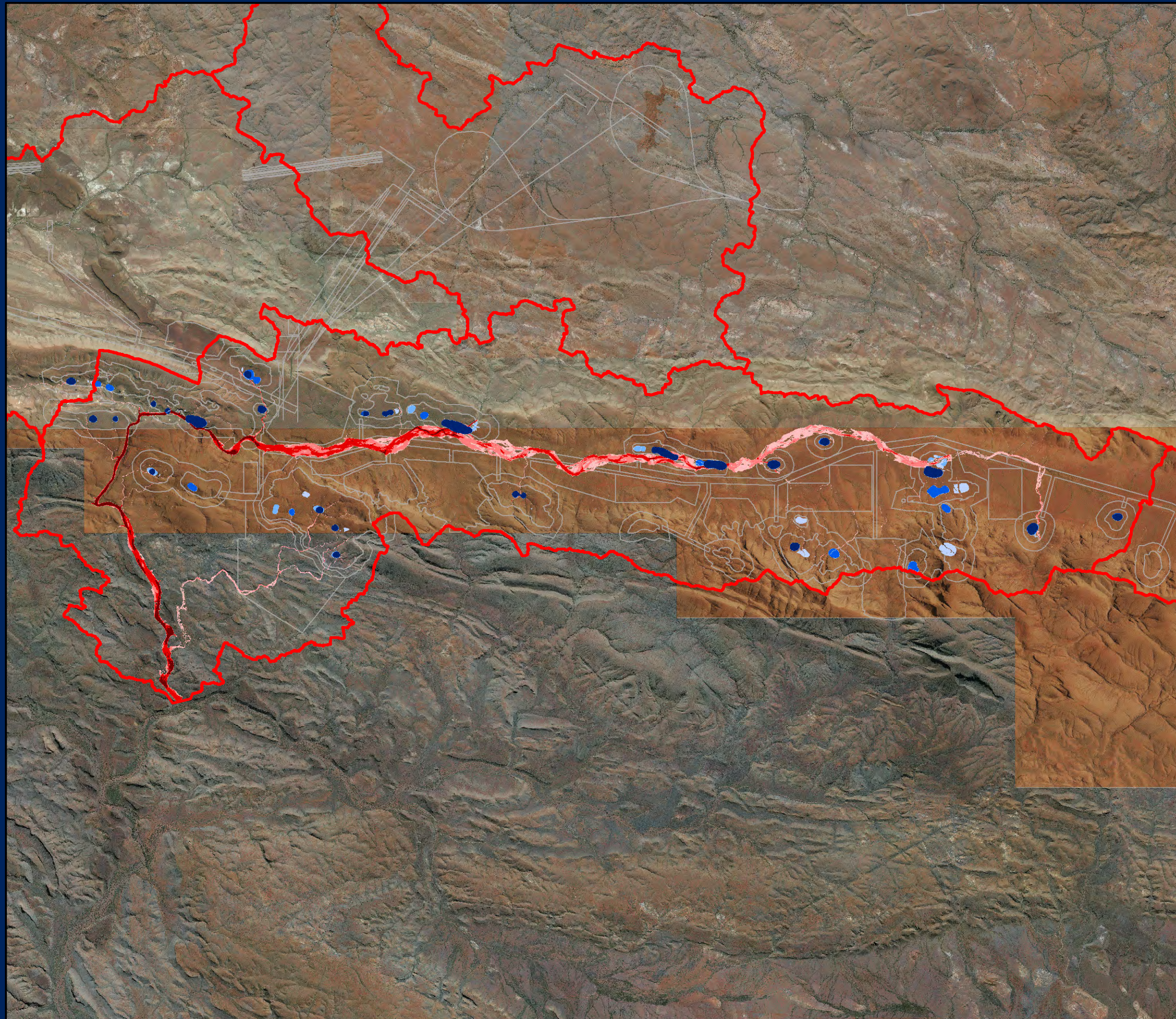
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Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

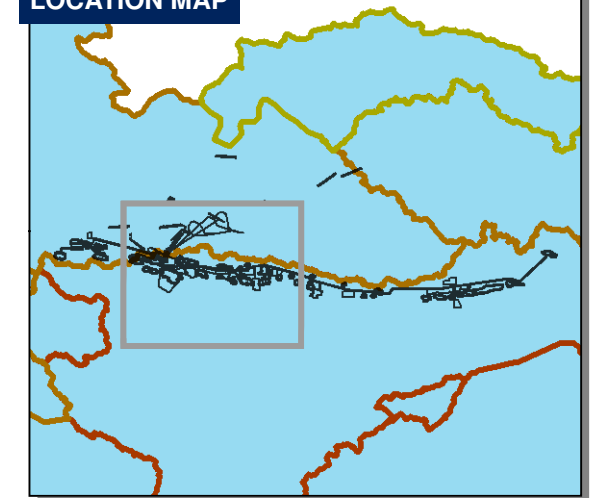
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Fortescue Metals Group Ltd
The New Force in Iron Ore



LOCATION MAP



LEGEND

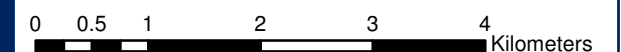
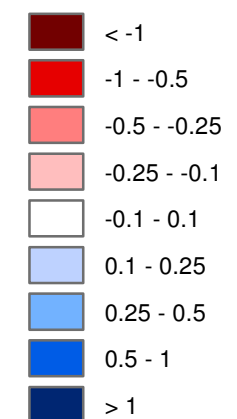
— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Ultimate Minus Baseline Scenario

Flow Depth Change (m)



Pinarra Creek Flow Depth Differences
1%AEP 6hr Event

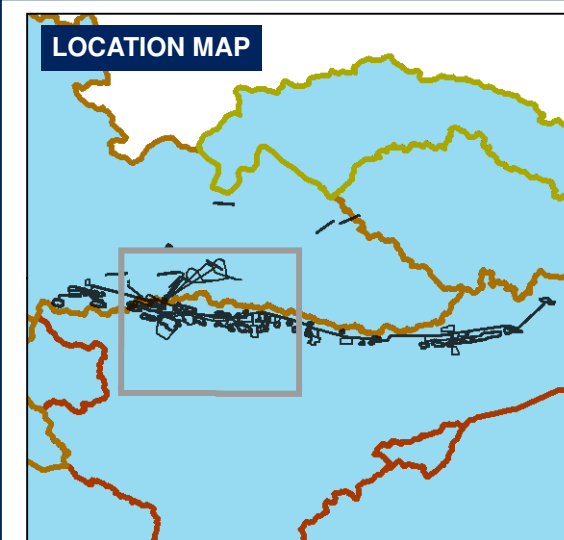
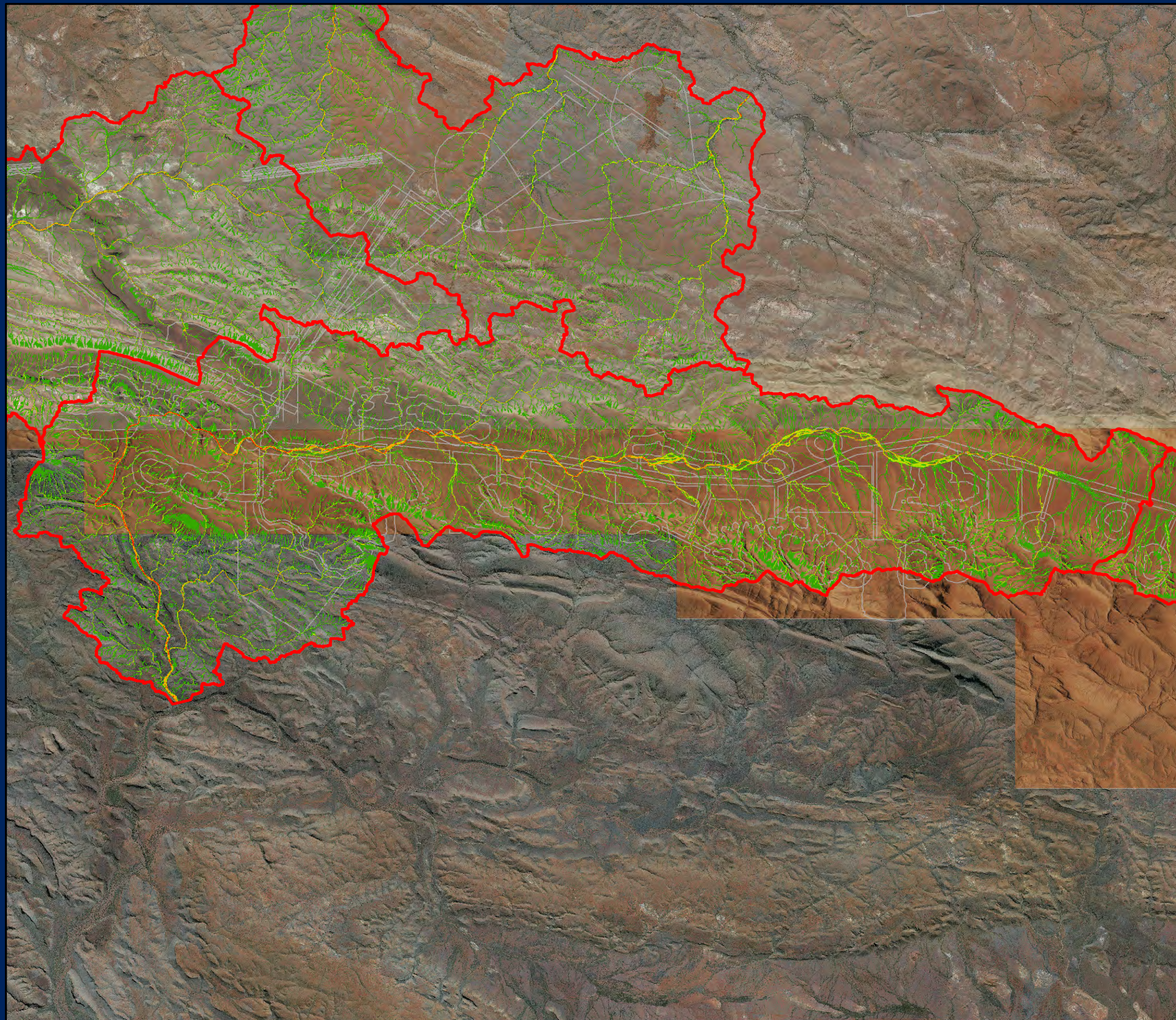
Requested By: XX
Drawn By: XX
Revised By: pbussemaier
Approved By: XX
Scale: 1:67,255
Coordinate System: MGA50
Document Name: Pinarra Creek Flow Depth Differences 1%AEP 6hr Event

Date: 25/08/2017
Size: A3L
Revision: 2
Confidentiality: 1

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LEGEND

— Proposed Mine Infrastructure Options

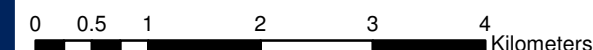
TUFLOW Inputs

□ Model Boundary

Baseline Scenario

Flow Velocity (m/s)

- < 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



**Pinarra Creek Baseline Flow Velocities
50%AEP 6hr Event**

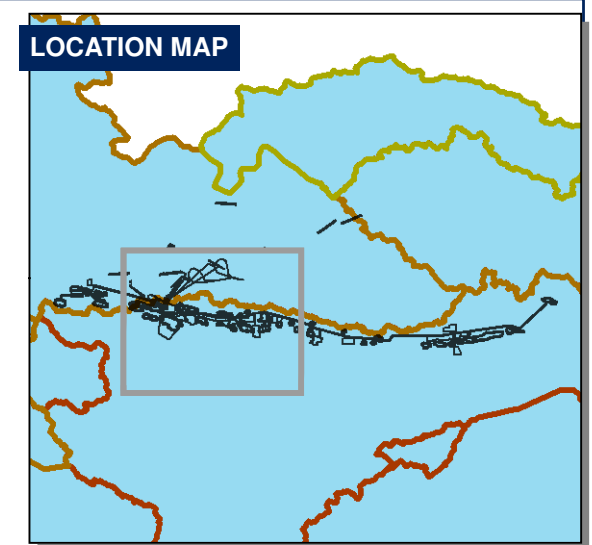
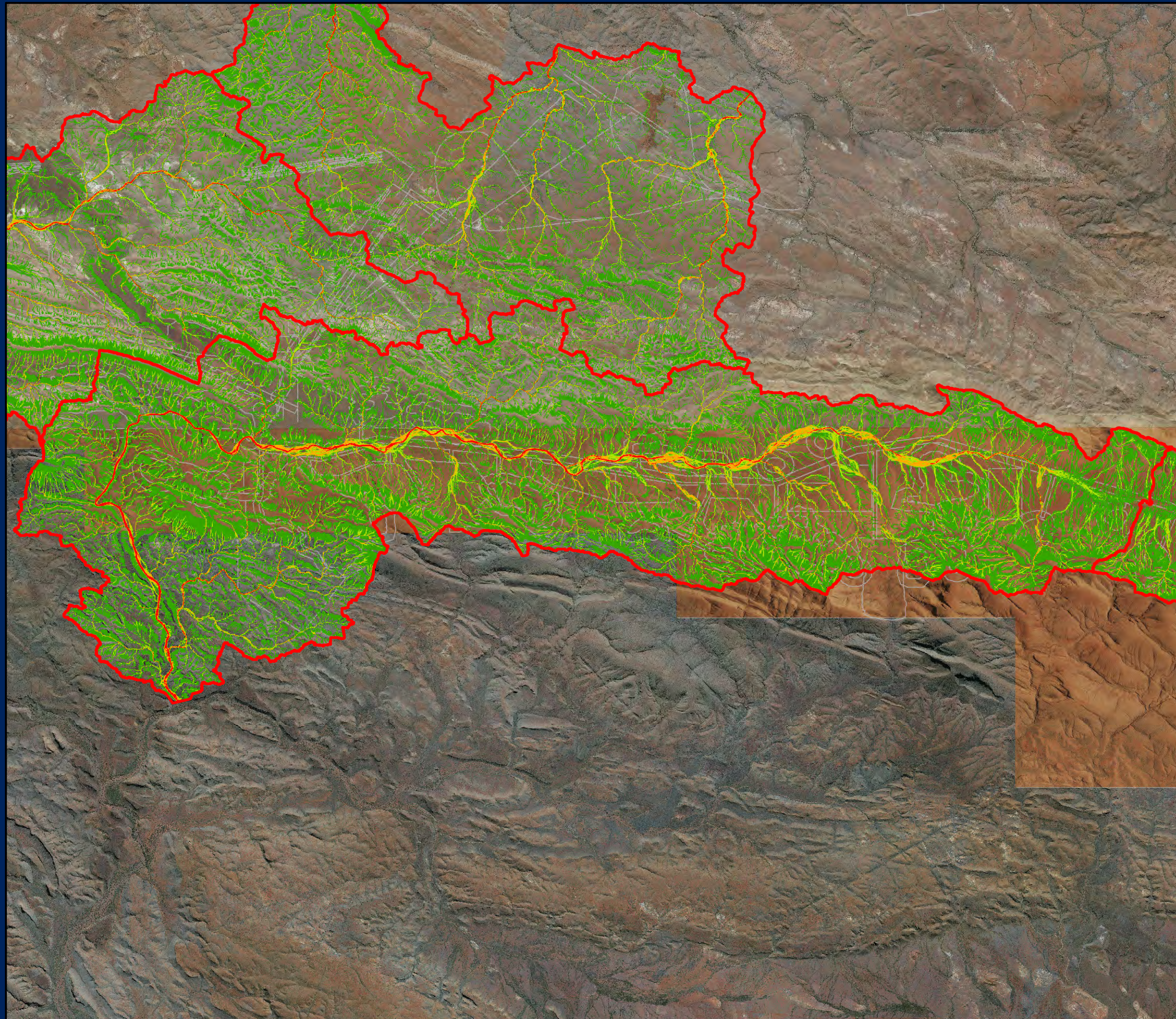
Requested By: XX
Drawn By: XX
Revised By: pbussemaker
Approved By: XX
Scale: 1:67,255
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Document Name: Pinarra Creek Baseline Flow Velocities 50%AEP 6hr Event

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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Baseline Scenario

Flow Velocity (m/s)

- < 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

Pinarra Creek Baseline Flow Velocities 10%AEP 6hr Event

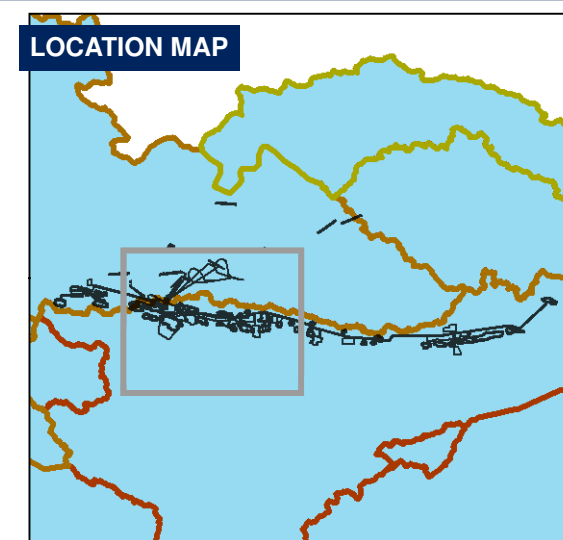
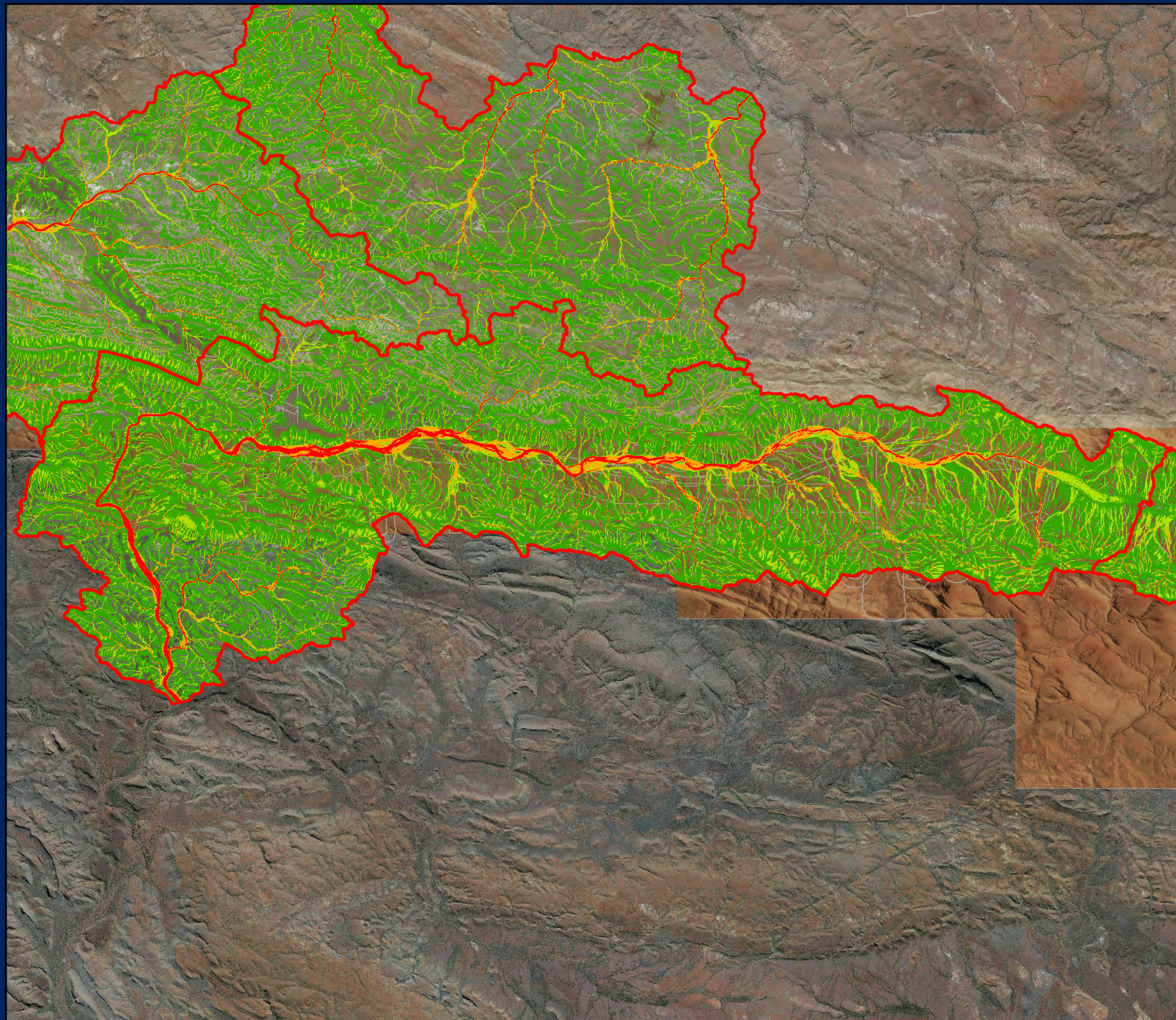
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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

□ Model Boundary

Baseline Scenario

Flow Velocity (m/s)

- < 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

Pinarra Creek Baseline Flow Velocities 1%AEP 6hr Event

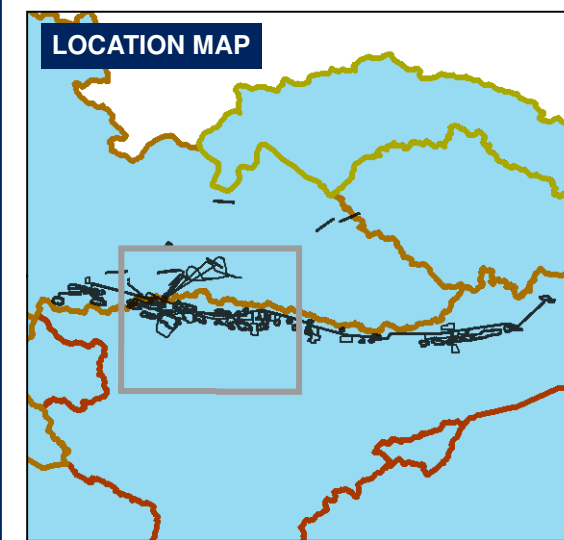
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LEGEND

— Proposed Mine Infrastructure Options

TUFLOW Inputs

Model Boundary

Outflow Boundaries

Source-Area Inflows

Reporting Hydrographs

Baseline Scenario

Flow Depth (m)

- < 0.1
- 0.1 - 0.25
- 0.25 - 0.5
- 0.5 - 1
- > 1



0 0.5 1 2 3 4 Kilometers

Pinarra Creek Baseline Flow Depths 50% AEP 6hr Event

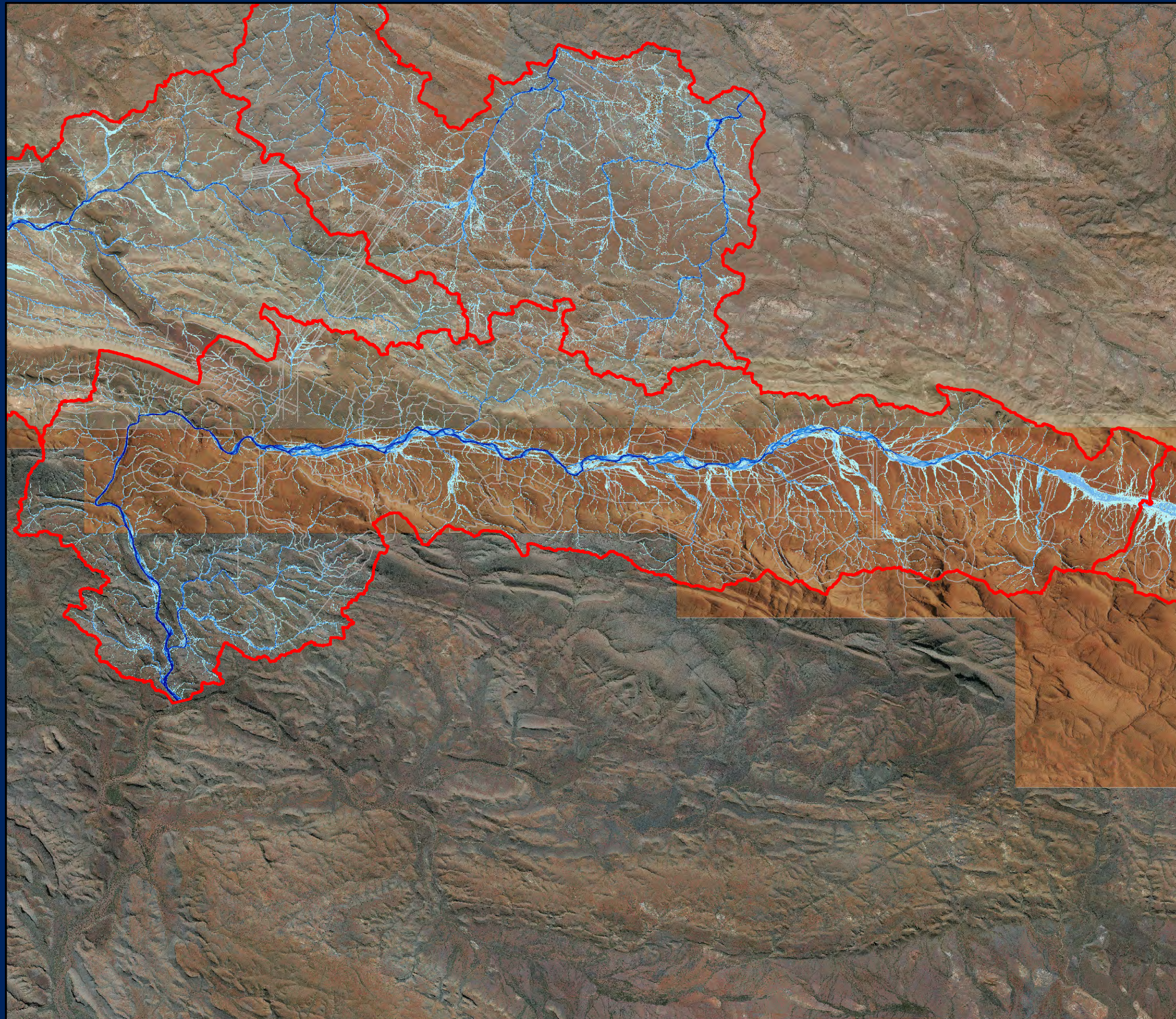
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LOCATION MAP



LEGEND

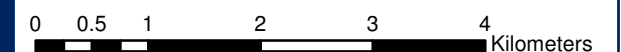
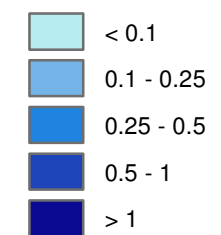
— Proposed Mine Infrastructure Options

TUFLOW Inputs

Model Boundary

Baseline Scenario

Flow Depth (m)



Pinarra Creek Baseline Flow Depths 10%AEP 6hr Event

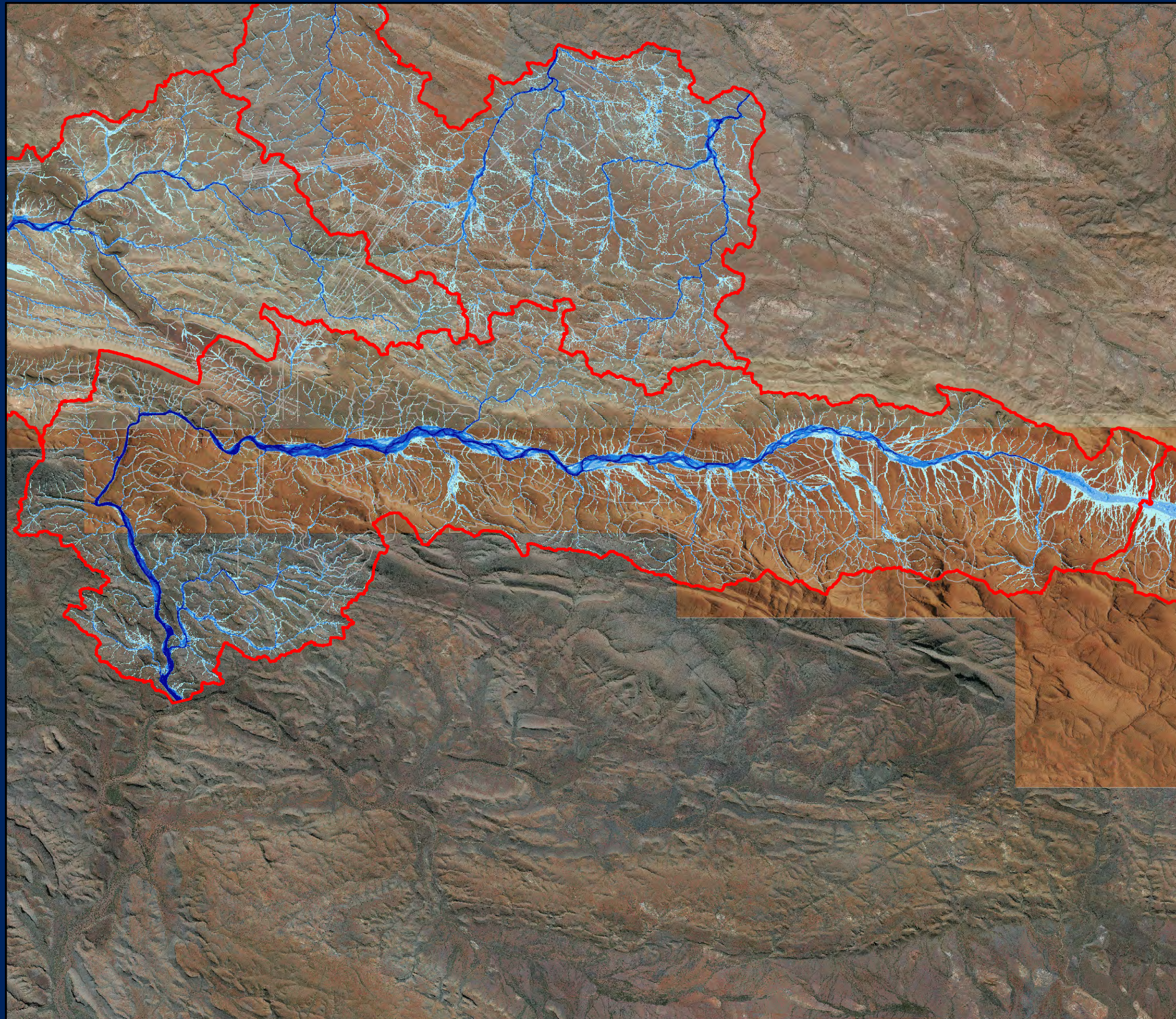
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LOCATION MAP



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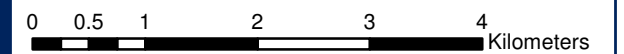
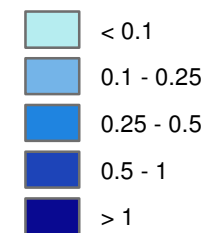
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Flow Depth (m)



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