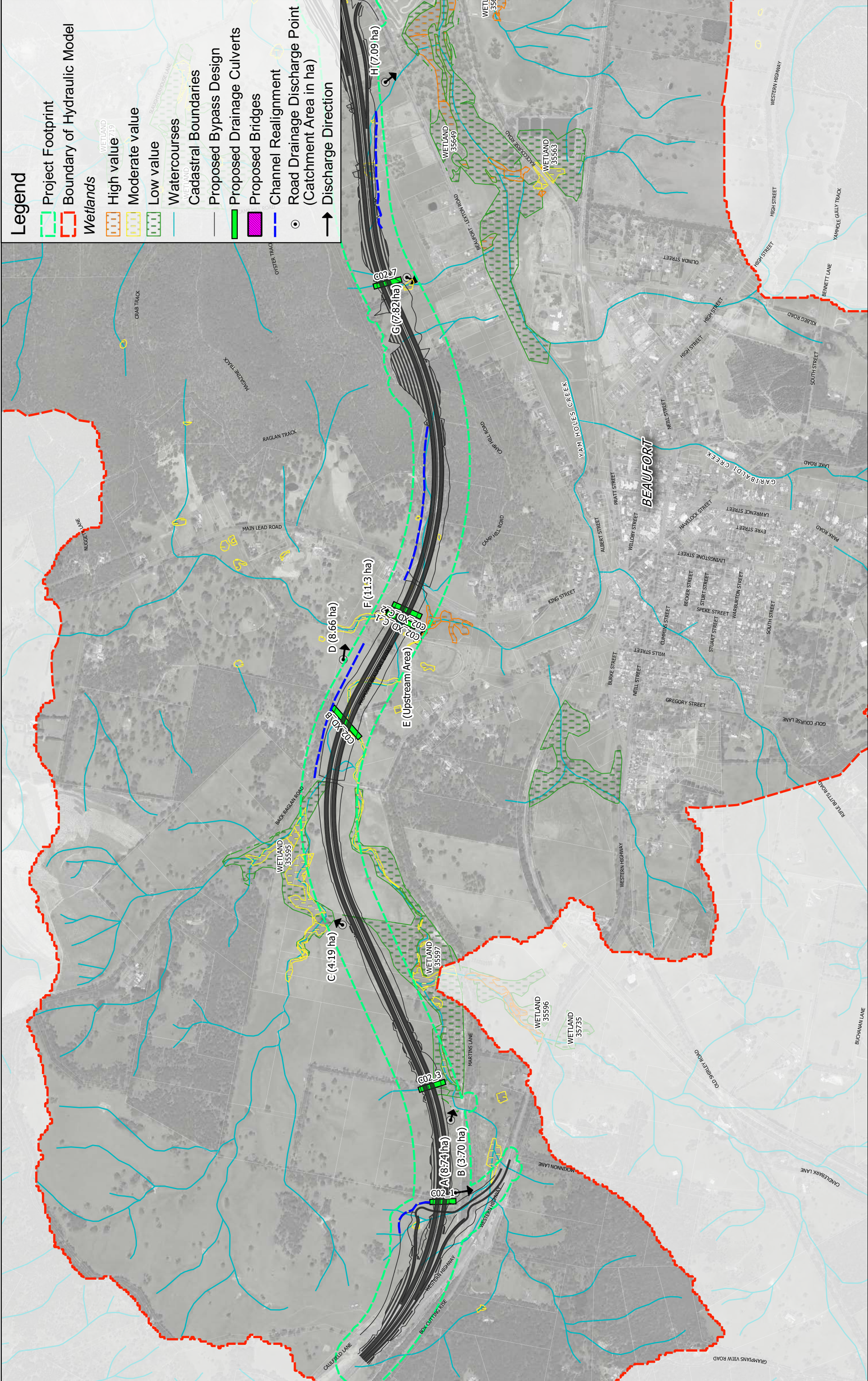


APPENDIX E

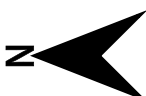
KEY SURFACE WATER FEATURES AND
DRAINAGE INFRASTRUCTURE FOR
PREFERRED ALIGNMENT





Legend

- Project Footprint
- Boundary of Hydraulic Model
- Wetlands
- High value
- Moderate value
- Low value
- Watercourses
- Cadastral Boundaries
- Proposed Bypass Design
- Proposed Drainage Culverts
- Proposed Bridges
- Channel Realignment
- Road Drainage Discharge Point (Catchment Area in ha)
- Discharge Direction



Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3



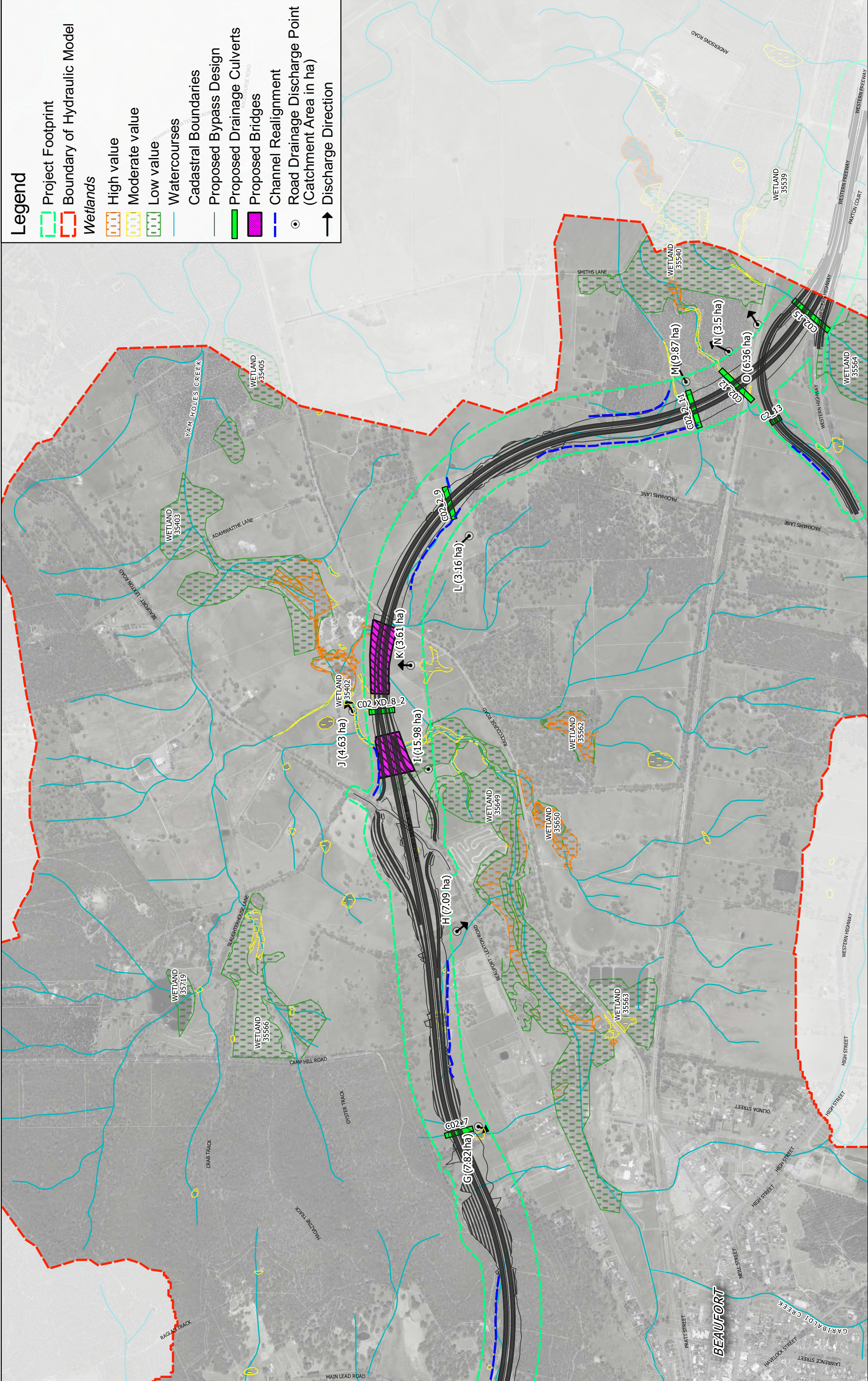
Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021



Beaufort Bypass
Drainage Infrastructure Plan - Proposed Design Scenario
Event: N/A
Sheet 1
Map ID: DES_INF_1

0 200 400 600 800 m

Scale: 1:15000



Legend

Project Footprint

Boundary of Hydraulic Model

Wetlands

High value

Moderate value

Low value

Watercourses

Cadastral Boundaries

Proposed Bypass Design

Proposed Drainage Culverts

Proposed Bridges

Channel Realignment

Road Drainage Discharge Point
(Catchment Area in ha)

Discharge Direction

Prepared for: Regional Roads Victoria

Coordinate system: GDA 1994 MGA Zone 54

Aerial Source: NSW Six Maps

Scale ratio correct when printed at A3

0

200

400

600

800 m

Scale: 1:15000

WSP

Stage: EIS

Version: D

Author: KS

Approved by: RL

Date: 26/05/2021

Beaufort Bypass

Drainage Infrastructure Plan - Proposed Design Scenario

Event: N/A

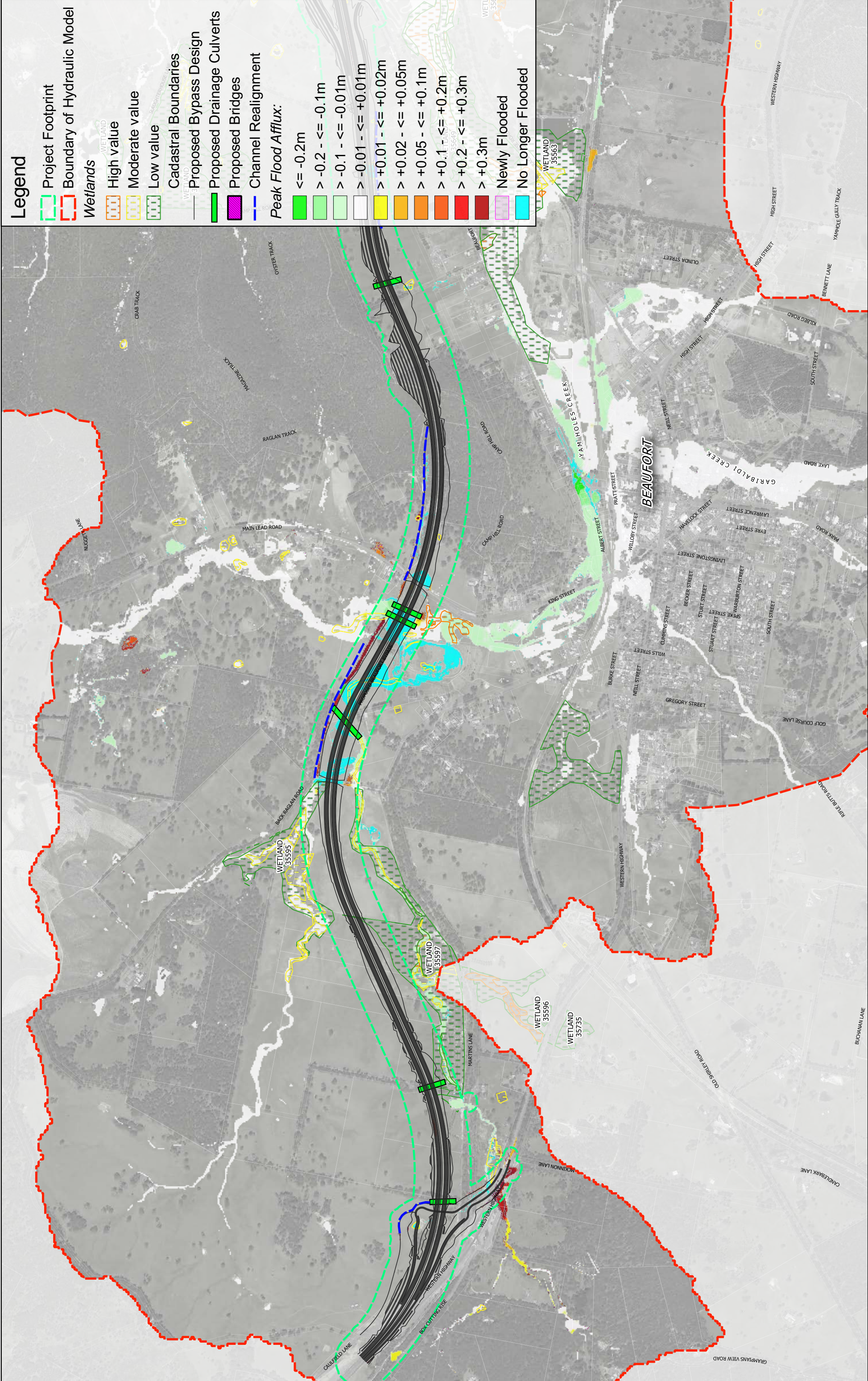
Sheet 2

Map ID: DES_INF_2

APPENDIX F

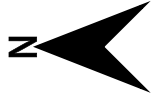
FLOOD IMPACT MAPS FOR PREFERRED ALIGNMENT



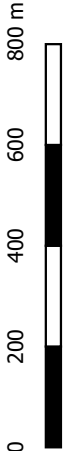


Legend

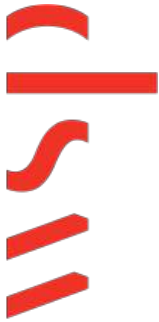
- Project Footprint
- Boundary of Hydraulic Model
- Wetlands
 - High value
 - Moderate value
 - Low value
- Cadastral Boundaries
- Proposed Bypass Design
- Proposed Drainage Culverts
- Proposed Bridges
- Channel Realignment
- Peak Flood Afflux:
 - $\leq -0.2\text{m}$
 - $> -0.2 - \leq -0.1\text{m}$
 - $> -0.1 - \leq -0.01\text{m}$
 - $> -0.01 - \leq +0.01\text{m}$
 - $> +0.01 - \leq +0.02\text{m}$
 - $> +0.02 - \leq +0.05\text{m}$
 - $> +0.05 - \leq +0.1\text{m}$
 - $> +0.1 - \leq +0.2\text{m}$
 - $> +0.2 - \leq +0.3\text{m}$
 - $> +0.3\text{m}$
- Newly Flooded
- No Longer Flooded



Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3



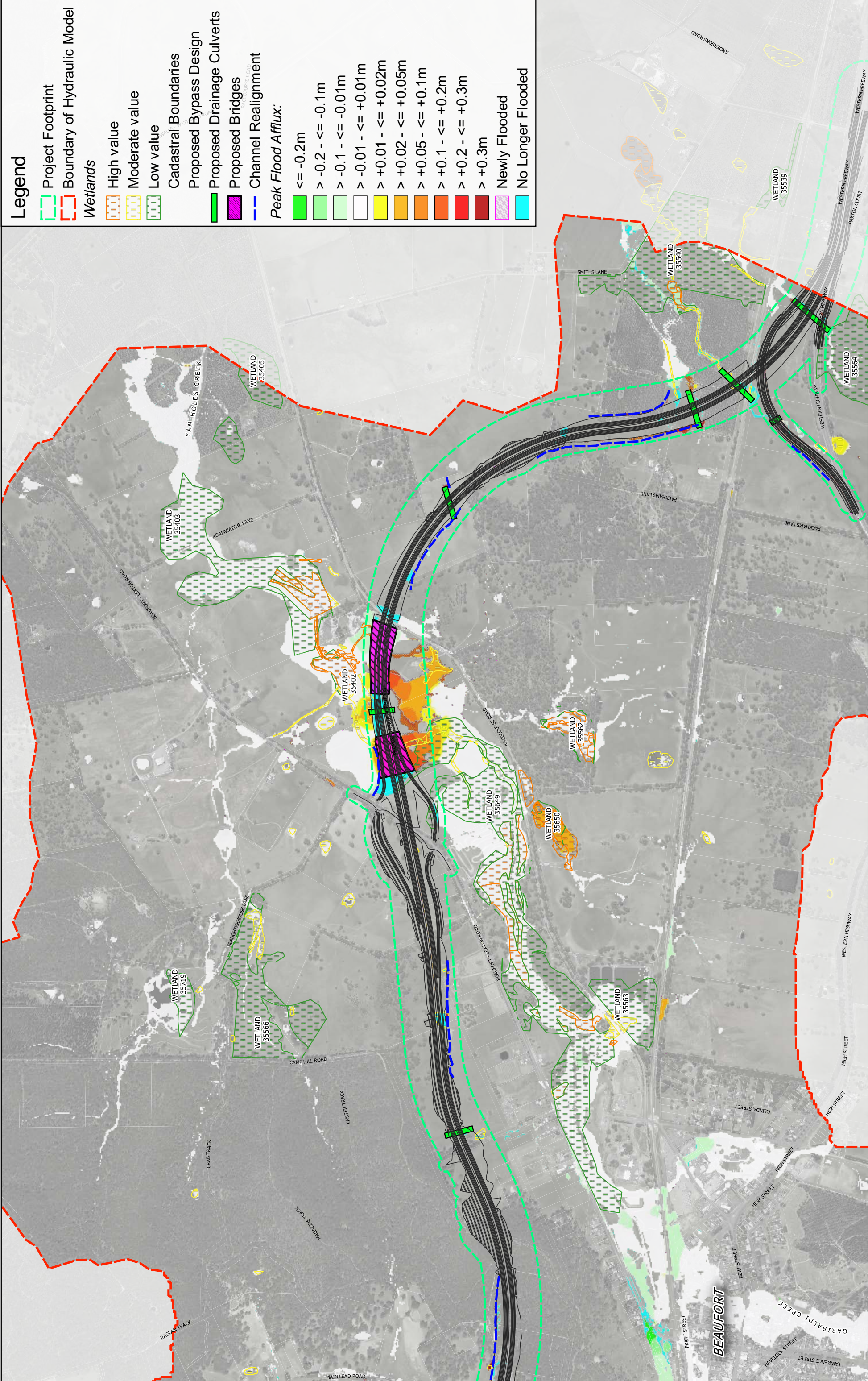
Scale: 1:15000

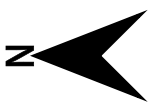


Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021



Beaufort Bypass
Peak Flood Afflux - Proposed Design Scenario
Event: 1 EY
Sheet 1
Map ID: DES_AFF_1EY_1

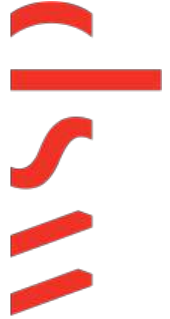




Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3

0 200 400 600 800 m

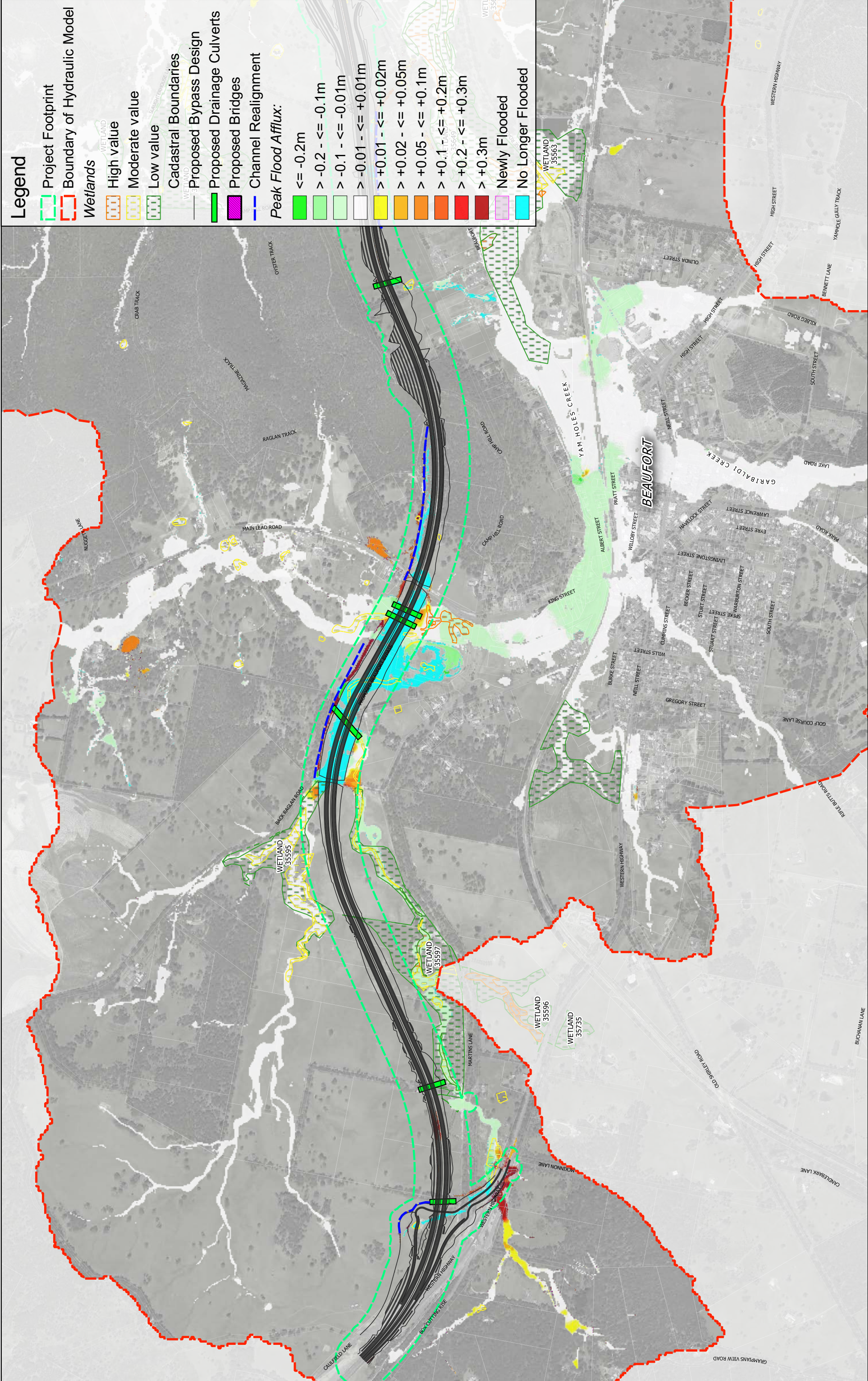
Scale: 1:15000

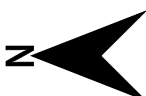


Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021



Beaufort Bypass
Peak Flood Afflux - Proposed Design Scenario
Event: 1 EY
Sheet 2
Map ID: DES_AFF_1EY_2





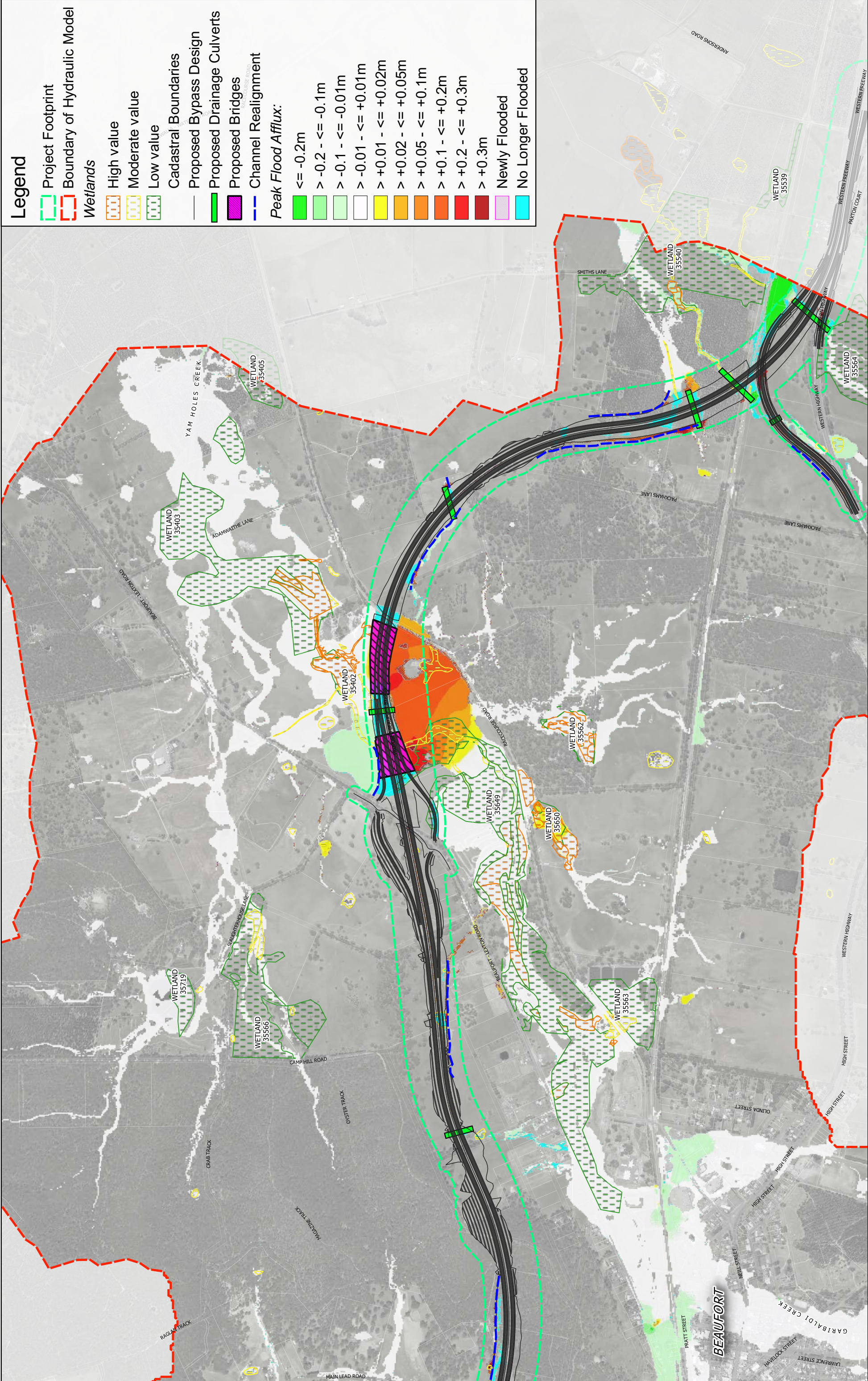
Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3



Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021



Beaufort Bypass
Peak Flood Afflux - Proposed Design Scenario
Event: 10% AEP
Sheet 1
Map ID: DES_AFF_10AEP_1



Legend

- Project Footprint

Boundary of Hydraulic Model

Wetlands

High value

Moderate value

Low value

Cadastral Boundaries

Proposed Bypass Design

Proposed Drainage Culverts

Proposed Bridges

Channel Realignment
- Peak Flood Afflux:
- <= -0.2m
- > -0.2 - <= -0.1m
- > -0.1 - <= -0.01m
- > -0.01 - <= +0.01m
- > +0.01 - <= +0.02m
- > +0.02 - <= +0.05m
- > +0.05 - <= +0.1m
- > +0.1 - <= +0.2m
- > +0.2 - <= +0.3m
- > +0.3m
- Newly Flooded
- No Longer Flooded

Beaufort Bypass

Peak Flood Afflux - Proposed Design Scenario

Event: 10% AEP

Sheet 2

Map ID: DES_AFF_10AEP_2

Stage: EIS

Version: D

Author: KS

Approved by: RL

Date: 26/05/2021

Prepared for: Regional Roads Victoria

Coordinate system: GDA 1984 MGA Zone 54

Aerial Source: NSW Six Maps

Scale ratio correct when printed at A3

0

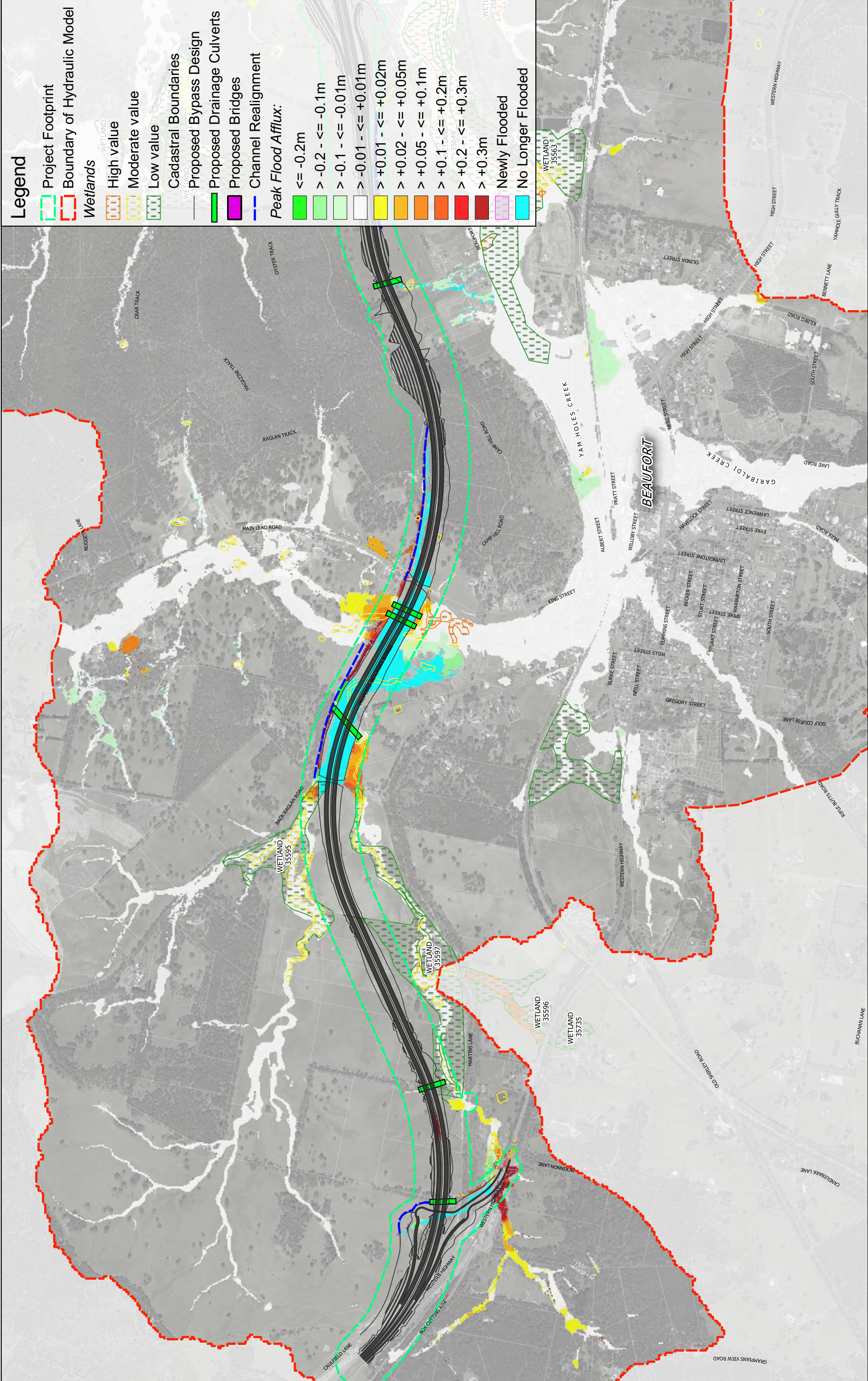
200

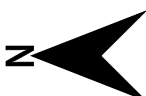
400

600

800 m

Scale: 1:15000





Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3

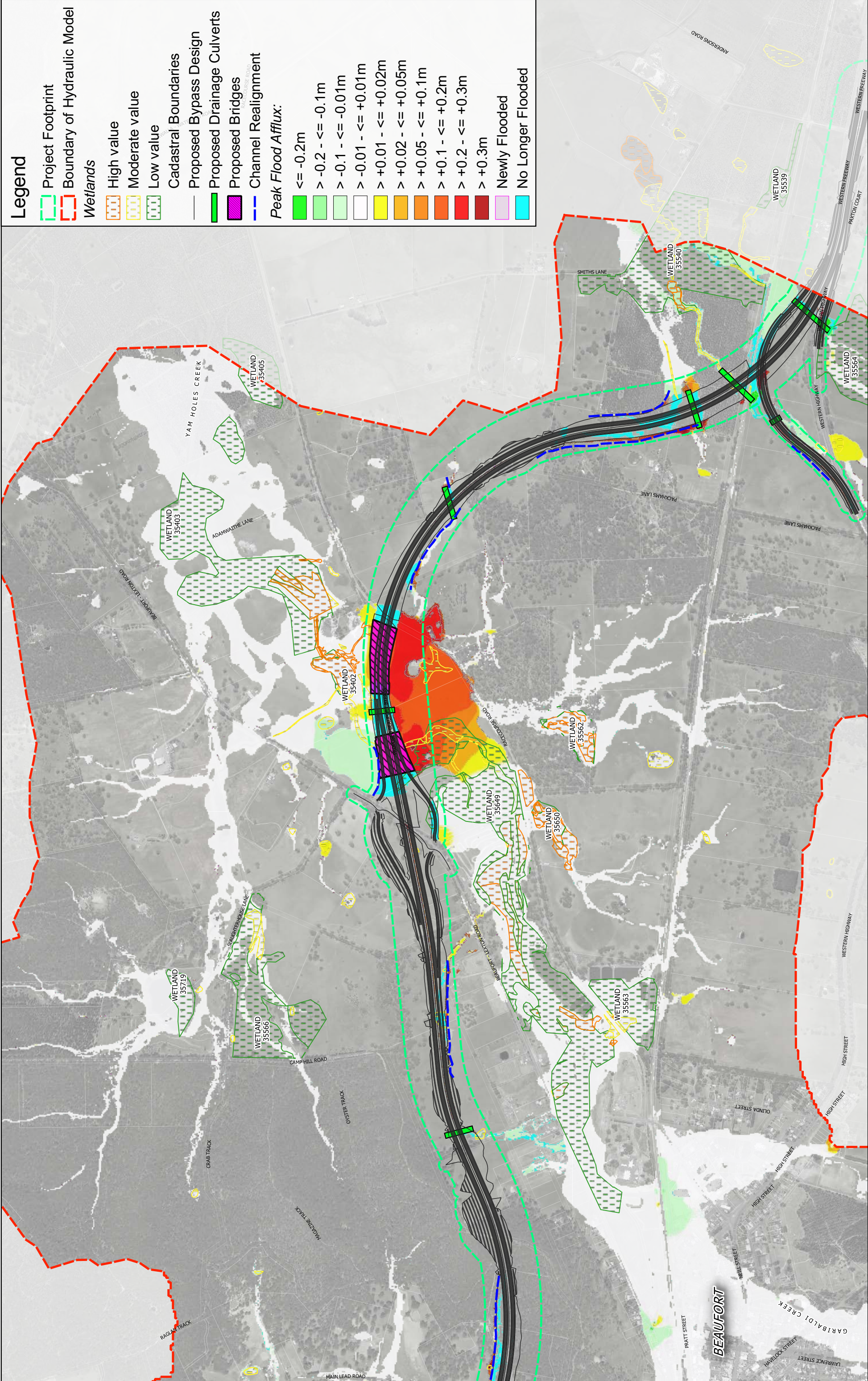


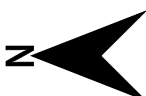
Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021



0 200 400 600 800 m
Scale: 1:15000

Beaufort Bypass
Peak Flood Afflux - Proposed Design Scenario
Event: 1% AEP
Sheet 1
Map ID: DES_AFF_1AEP_1





Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3



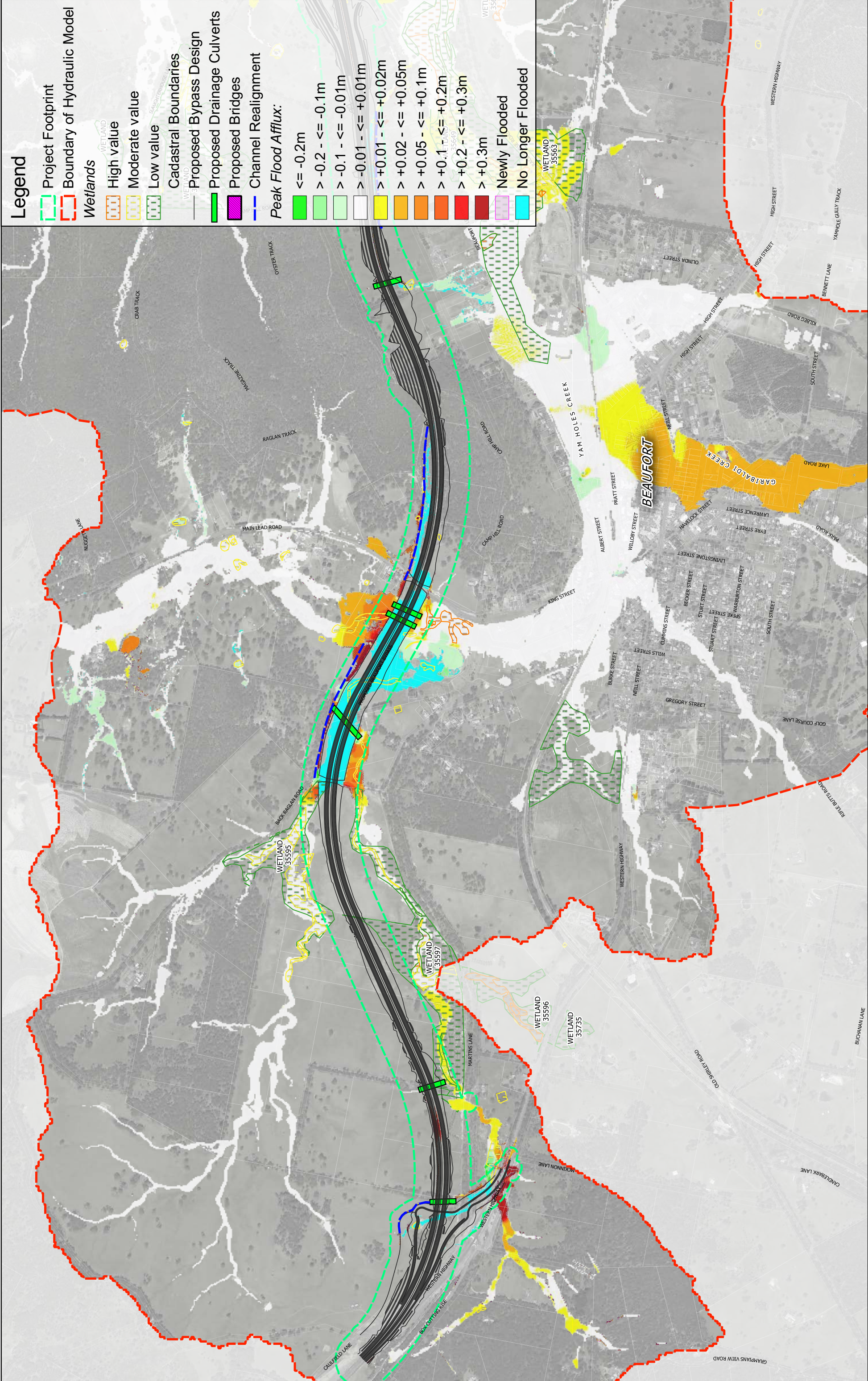
Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021



Beaufort Bypass
Peak Flood Afflux - Proposed Design Scenario
Event: 1% AEP
Sheet 2
Map ID: DES_AFF_1AEP_2

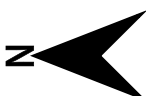
0200400600800m

Scale: 1:15000



Legend

- Project Footprint
- Boundary of Hydraulic Model
- Wetlands
 - High value
 - Moderate value
 - Low value
- Cadastral Boundaries
- Proposed Bypass Design
- Proposed Drainage Culverts
- Proposed Bridges
- Channel Realignment
- Peak Flood Afflux:
 - $\leq -0.2\text{m}$
 - $> -0.2 - \leq -0.1\text{m}$
 - $> -0.1 - \leq -0.01\text{m}$
 - $> -0.01 - \leq +0.01\text{m}$
 - $> +0.01 - \leq +0.02\text{m}$
 - $> +0.02 - \leq +0.05\text{m}$
 - $> +0.05 - \leq +0.1\text{m}$
 - $> +0.1 - \leq +0.2\text{m}$
 - $> +0.2 - \leq +0.3\text{m}$
 - $> +0.3\text{m}$
- Newly Flooded
- No Longer Flooded



Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3

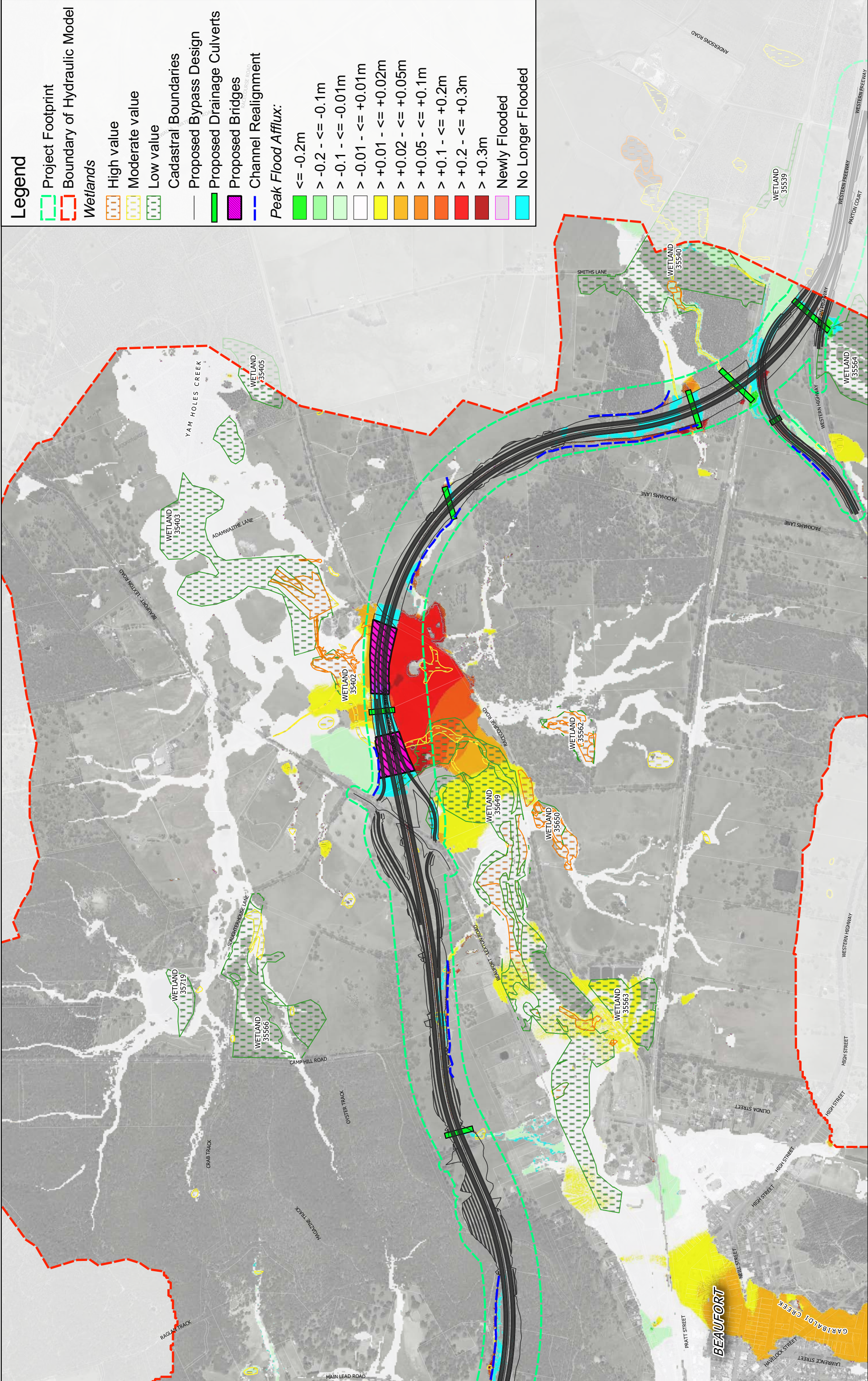
0 200 400 600 800 m
Scale: 1:15000



Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021

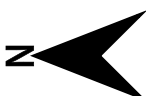


Beaufort Bypass
Peak Flood Afflux - Proposed Design Scenario
Event: 1% AEP Climate Change
Sheet 1
Map ID: DES_AFF_1AEPCC_1



Legend

- Project Footprint
- Boundary of Hydraulic Model
- Wetlands
- High value
- Moderate value
- Low value
- Cadastral Boundaries
- Proposed Bypass Design
- Proposed Drainage Culverts
- Proposed Bridges
- Channel Realignment
- Peak Flood Afflux:
 - $\leq -0.2\text{m}$
 - $> -0.2 - \leq -0.1\text{m}$
 - $> -0.1 - \leq -0.01\text{m}$
 - $> -0.01 - \leq +0.01\text{m}$
 - $> +0.01 - \leq +0.02\text{m}$
 - $> +0.02 - \leq +0.05\text{m}$
 - $> +0.05 - \leq +0.1\text{m}$
 - $> +0.1 - \leq +0.2\text{m}$
 - $> +0.2 - \leq +0.3\text{m}$
 - $> +0.3\text{m}$
- Newly Flooded
- No Longer Flooded



Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3

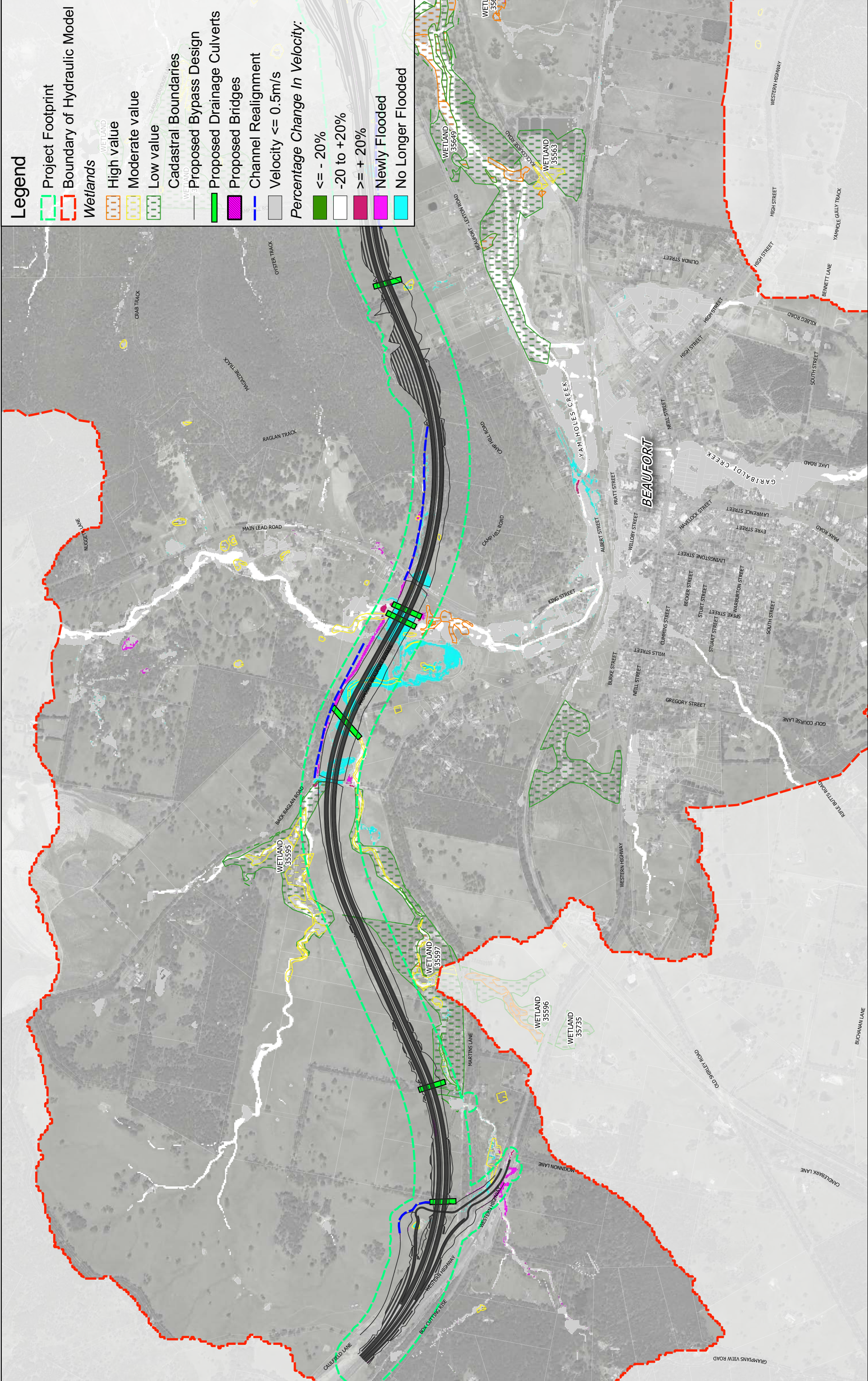


Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021



0 200 400 600 800 m
Scale: 1:15000

Beaufort Bypass
Peak Flood Afflux - Proposed Design Scenario
Event: 1% AEP Climate Change
Sheet 2
Map ID: DES_AFF_1AEPCC_2



Legend

Project Footprint

Boundary of Hydraulic Model

Wetlands

High value

Moderate value

Low value

Cadastral Boundaries

Proposed Bypass Design

Proposed Drainage Culverts

Proposed Bridges

Channel Realignment

Velocity <= 0.5m/s

Percentage Change In Velocity:

<= - 20%

-20 to +20%

>= + 20%

Newly Flooded

No Longer Flooded

Prepared for: Regional Roads Victoria

Coordinate system: GDA 1994 MGA Zone 54

Aerial Source: NSW Six Maps

Scale ratio correct when printed at A3

0

200

400

600

800 m

Scale: 1:15000

N

WSP

Stage: EIS

Version: D

Author: KS

Approved by: RL

Date: 26/05/2021

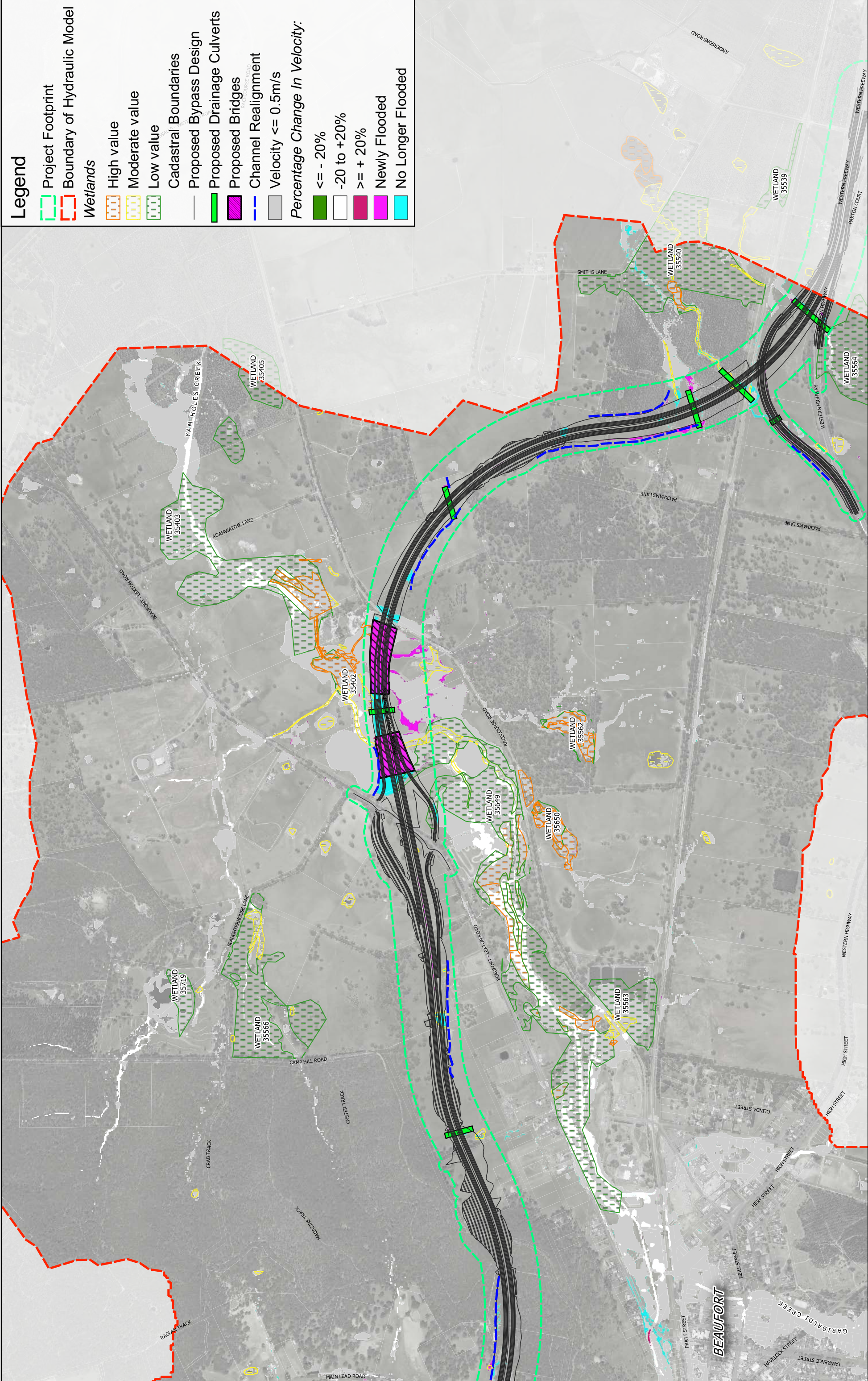
Beaufort Bypass

Peak Flood Change In Velocity - Proposed Design Scenario

Event: 1 EY

Sheet 1

Map ID: DES_CHVEL_1EY_1



Legend

- Project Footprint
- Boundary of Hydraulic Model
- Wetlands
- High value
- Moderate value
- Low value
- Cadastral Boundaries
- Proposed Bypass Design
- Proposed Drainage Culverts
- Proposed Bridges
- Channel Realignment
- Velocity <= 0.5m/s
- Percentage Change In Velocity:
 - <= - 20%
 - 20 to +20%
 - >= + 20%
- Newly Flooded
- No Longer Flooded

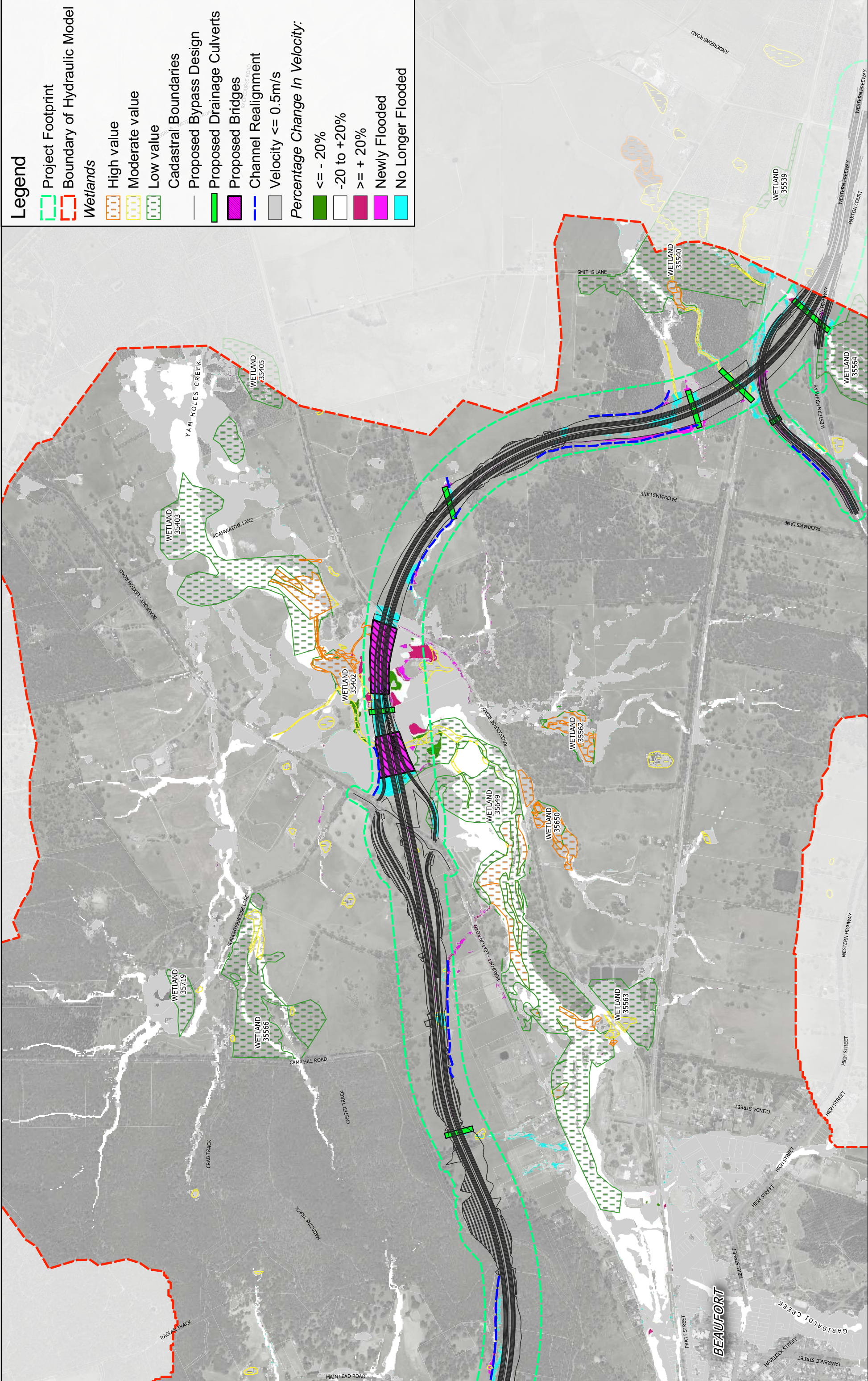
Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3

0 200 400 600 800 m

Scale: 1:15000

Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021

Beaufort Bypass
Peak Flood Change In Velocity - Proposed Design Scenario
Event: 1 EY
Sheet 2
Map ID: DES_CHVEL_1EY_2



- Legend
- Project Footprint

Boundary of Hydraulic Model

Wetlands

High value

Moderate value

Low value

Cadastral Boundaries

Proposed Bypass Design

Proposed Drainage Culverts

Proposed Bridges

Channel Realignment

Velocity <= 0.5m/s

Percentage Change In Velocity:

<= - 20%

-20 to +20%

>= + 20%

Newly Flooded

No Longer Flooded
- WSP

Prepared for: Regional Roads Victoria

Coordinate system: GDA 1994 MGA Zone 54

Aerial Source: NSW Six Maps

Scale ratio correct when printed at A3

N

0200400600800 m

Scale: 1:15000

Stage: EIS

Version: D

Author: KS

Approved by: RL

Date: 26/05/2021

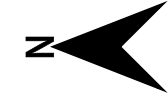
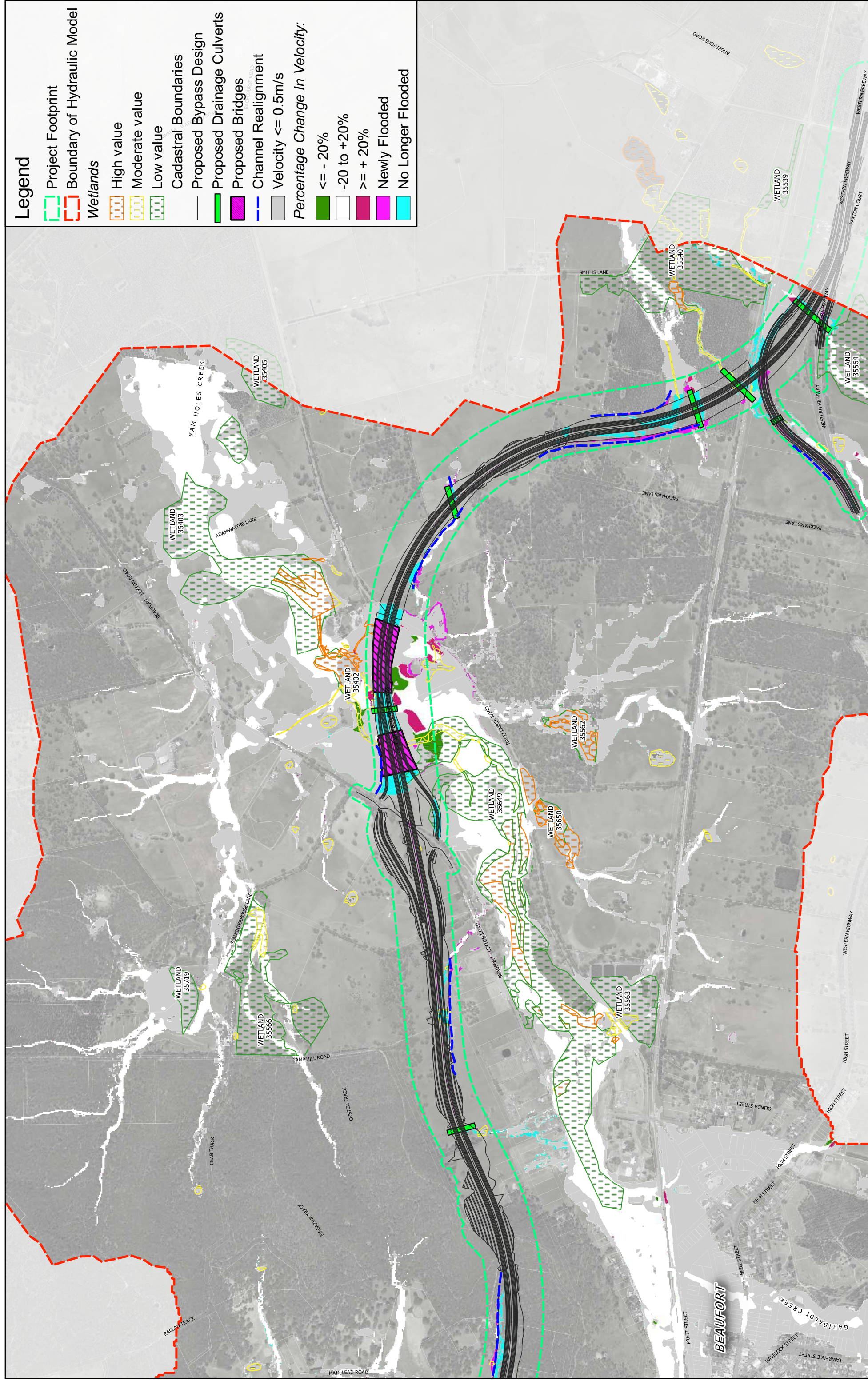
Beaufort Bypass

Peak Flood Change In Velocity - Proposed Design Scenario

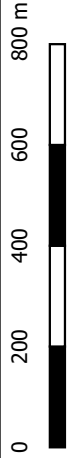
Event: 10% AEP

Sheet 2

Map ID: DES_CHVEL_10AEP_2



Prepared for: Regional Roads Victoria
Coordinate system: GDA 1994 MGA Zone 54
Aerial Source: NSW Six Maps
Scale ratio correct when printed at A3



Scale: 1:15000



Stage: EIS
Version: D
Author: KS
Approved by: RL
Date: 26/05/2021

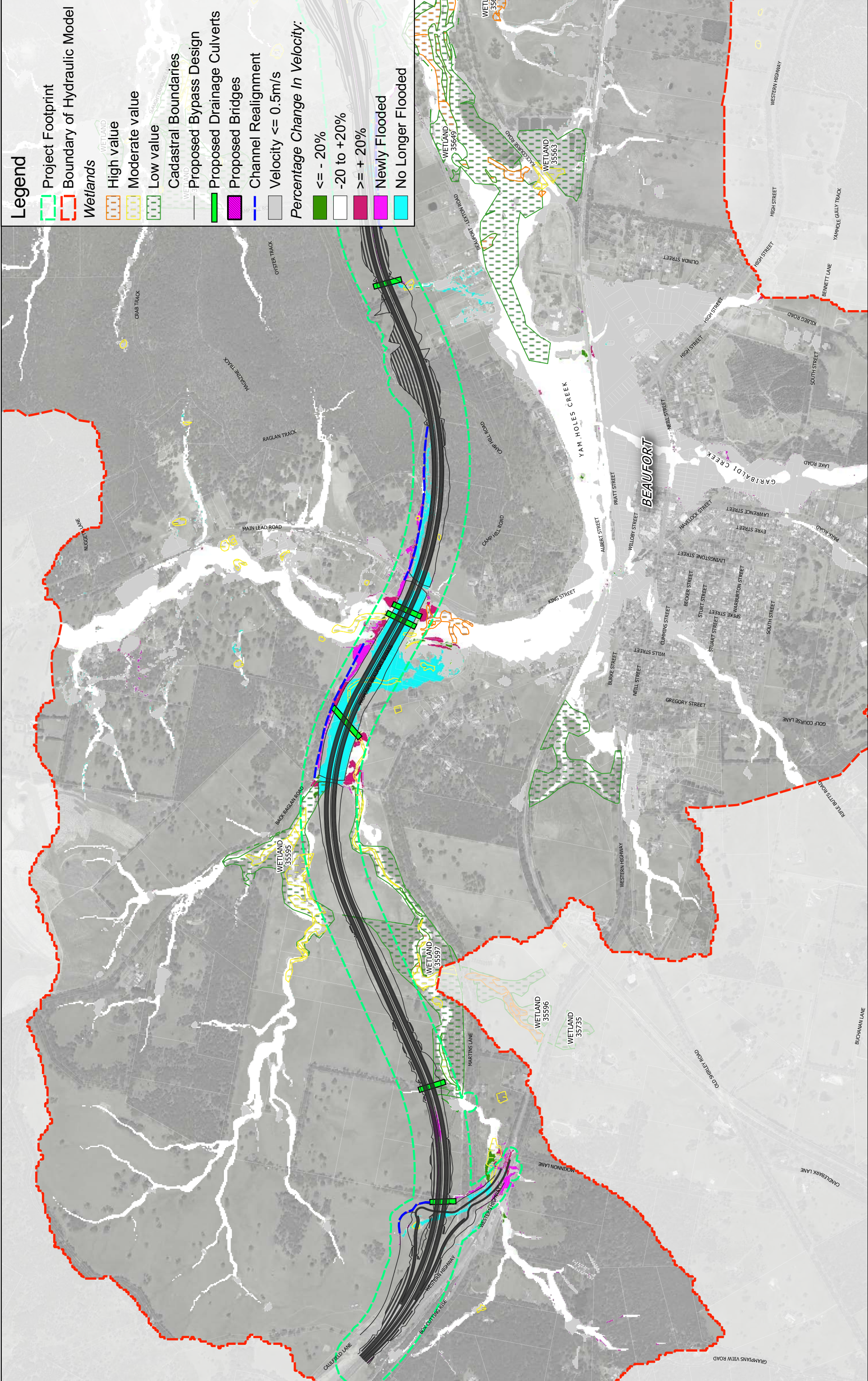


Beaufort Bypass

Peak Flood Change In Velocity - Proposed Design Scenario

Sheet 2

Map ID: DES_CHVEL_1AEP_2



- Legend
- Project Footprint

Boundary of Hydraulic Model

Wetlands

High value

Moderate value

Low value

Cadastral Boundaries

Proposed Bypass Design

Proposed Drainage Culverts

Proposed Bridges

Channel Realignment

Velocity <= 0.5m/s

Percentage Change In Velocity:

<= - 20%

-20 to +20%

>= + 20%

Newly Flooded

No Longer Flooded
- Prepared for: Regional Roads Victoria

Coordinate system: GDA 1994 MGA Zone 54

Aerial Source: NSW Six Maps

Scale ratio correct when printed at A3

0

200

400

600

800 m

Scale: 1:15000

N

WSP

Stage: EIS

Version: D

Author: KS

Approved by: RL

Date: 26/05/2021

Beaufort Bypass

Peak Flood Change In Velocity - Proposed Design Scenario

Event: 1% AEP Climate Change

Sheet 1

Map ID: DES_CHVEL_1AEPCC_1