

Legend

- VicTrack Reserve boundary
- Project Area
- MSA BCS Extent
- Impacted Vegetation

MSA Time-stamped

- 132 Plains Grassland

Significant Species

- Spiny Rice-flower

Map 1 of 49

0 5 10
Kilometres

Ballarat Line Upgrade Project

Native Vegetation Mapping

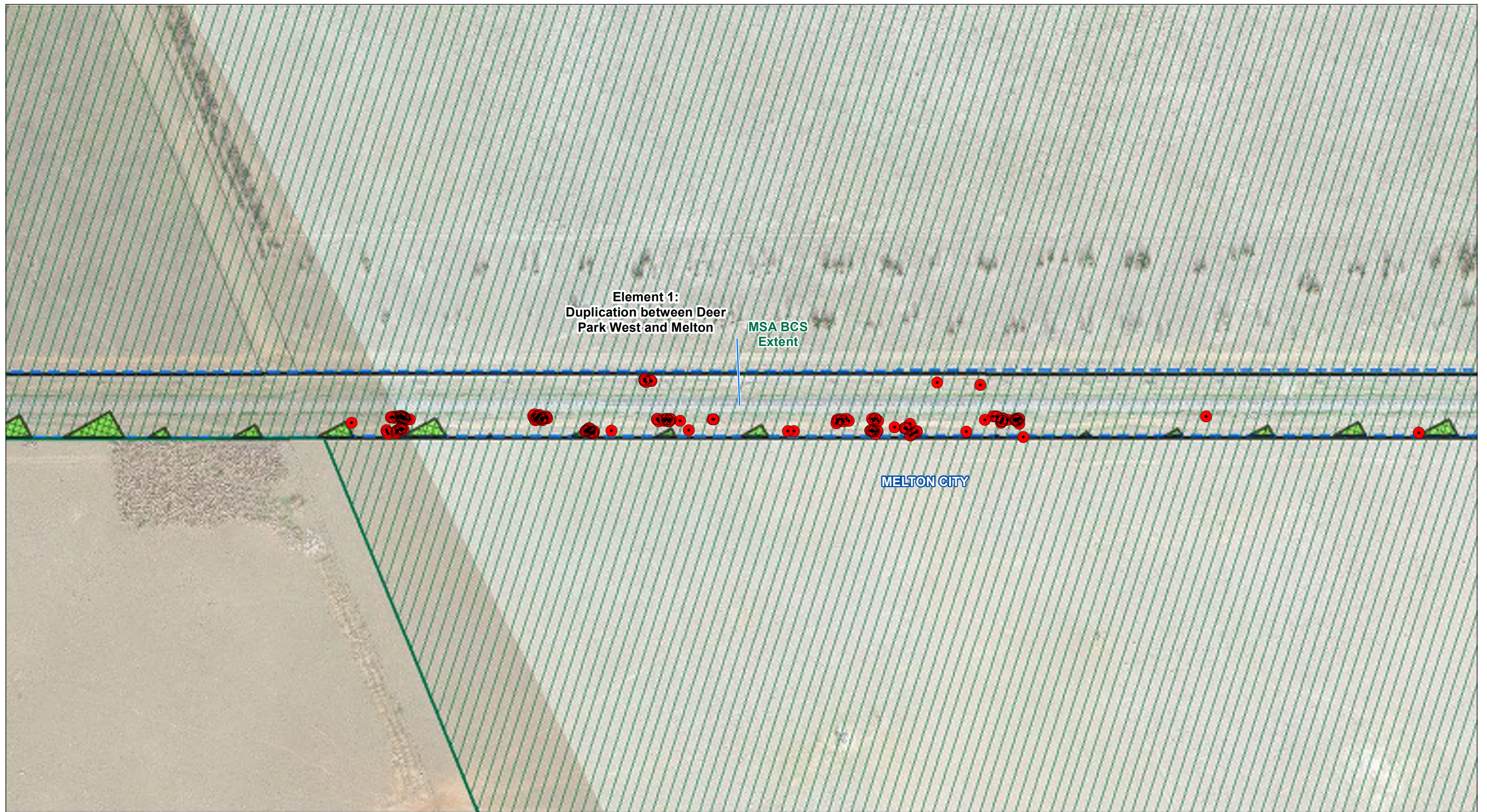
Drawing Number: BLU-AJM-PWAA-MP-NF-600058

Revision: P1.1

Drawn By: A. Berman	Approved By: A. Michael	Date: 5/07/2017	Map Size: A3
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0 50 100
Metres

Coordinate System: GDA 1994 MGA Zone 55



Element 1:
Duplication between Deer
Park West and Melton

MSA BCS
Extent

MELTON CITY

Legend

- - - VicTrack Reserve boundary
- Project Area
- MSA BCS Extent
- MSA Time-stamped
- 132 Plains Grassland
- Impacted Vegetation
- Significant Species
- Spiny Rice-flower

Map 2 of 49



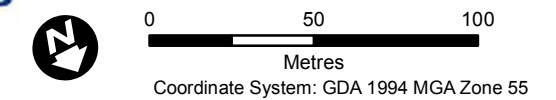
Data Sources:
BLU Reference Design: May 2017
EHP Ecology data: 25/01/2017
Vicmap 2016
VicTrack 2017
Aerial photo: DELWP 2016

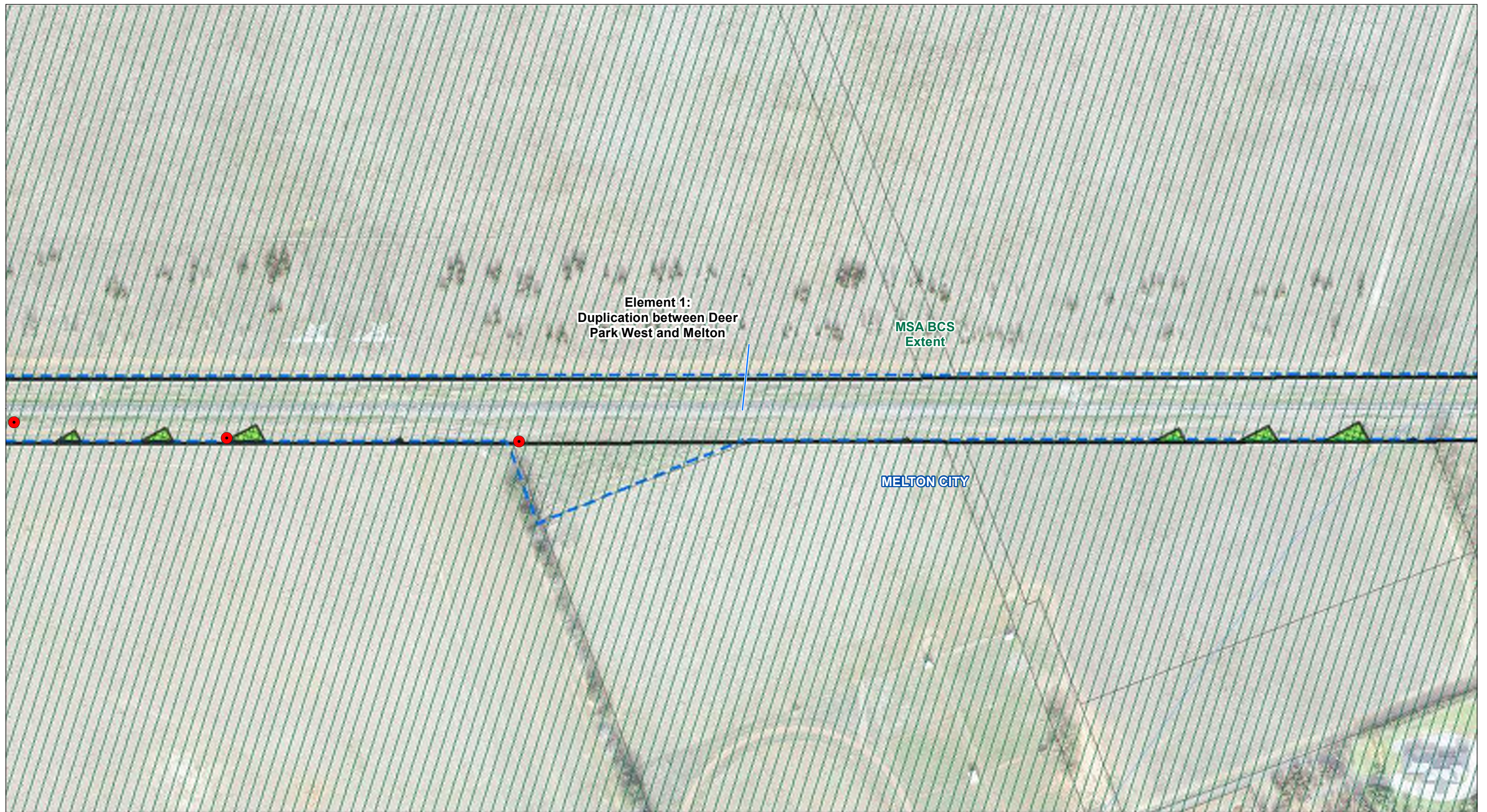


Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number:		Revision:	
BLU-AJM-PWAA-MP-NF-600058		P1.1	
Drawn By:	Approved By:	Date:	Map Size:
A. Berman	A. Michael	5/07/2017	A3





Legend

- - - VicTrack Reserve boundary
- Watercourse
- Project Area
- MSA BCS Extent
- Impacted Vegetation

MSA Time-stamped

- 132 Plains Grassland

Significant Species

- Spiny Rice-flower

Map 3 of 49

Data Sources:
BLU Reference Design: May 2017
EHP Ecology data: 25/01/2017
Vicmap 2016
VicTrack 2017
Aerial photo: DELWP 2016

Ballarat Line Upgrade Project

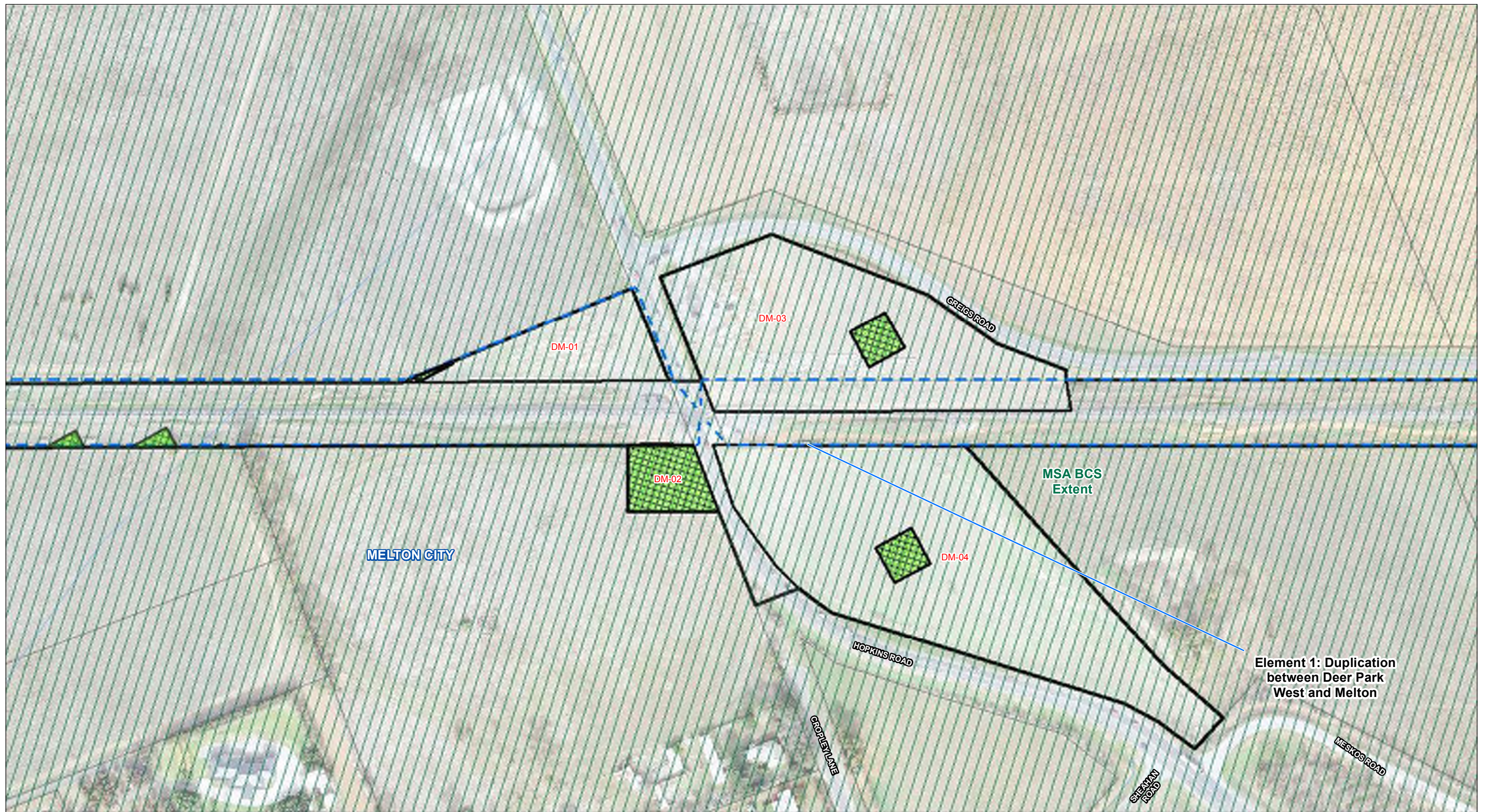
Native Vegetation Mapping

Drawing Number:		Revision:	
BLU-AJM-PWAA-MP-NF-600058		P1.1	
Drawn By:	Approved By:	Date:	Map Size:
A. Berman	A. Michael	5/07/2017	A3

0 50 100

Metres

Coordinate System: GDA 1994 MGA Zone 55



Element 1: Duplication between Deer Park West and Melton

Legend

- VicTrack Reserve boundary
- Watercourse
- Secondary Construction Area (SCA)
- Project Area
- MSA BCS Extent
- Impacted Vegetation within SCA
- Impacted Vegetation

MSA Time-stamped

- 132 Plains Grassland

Map 4 of 49



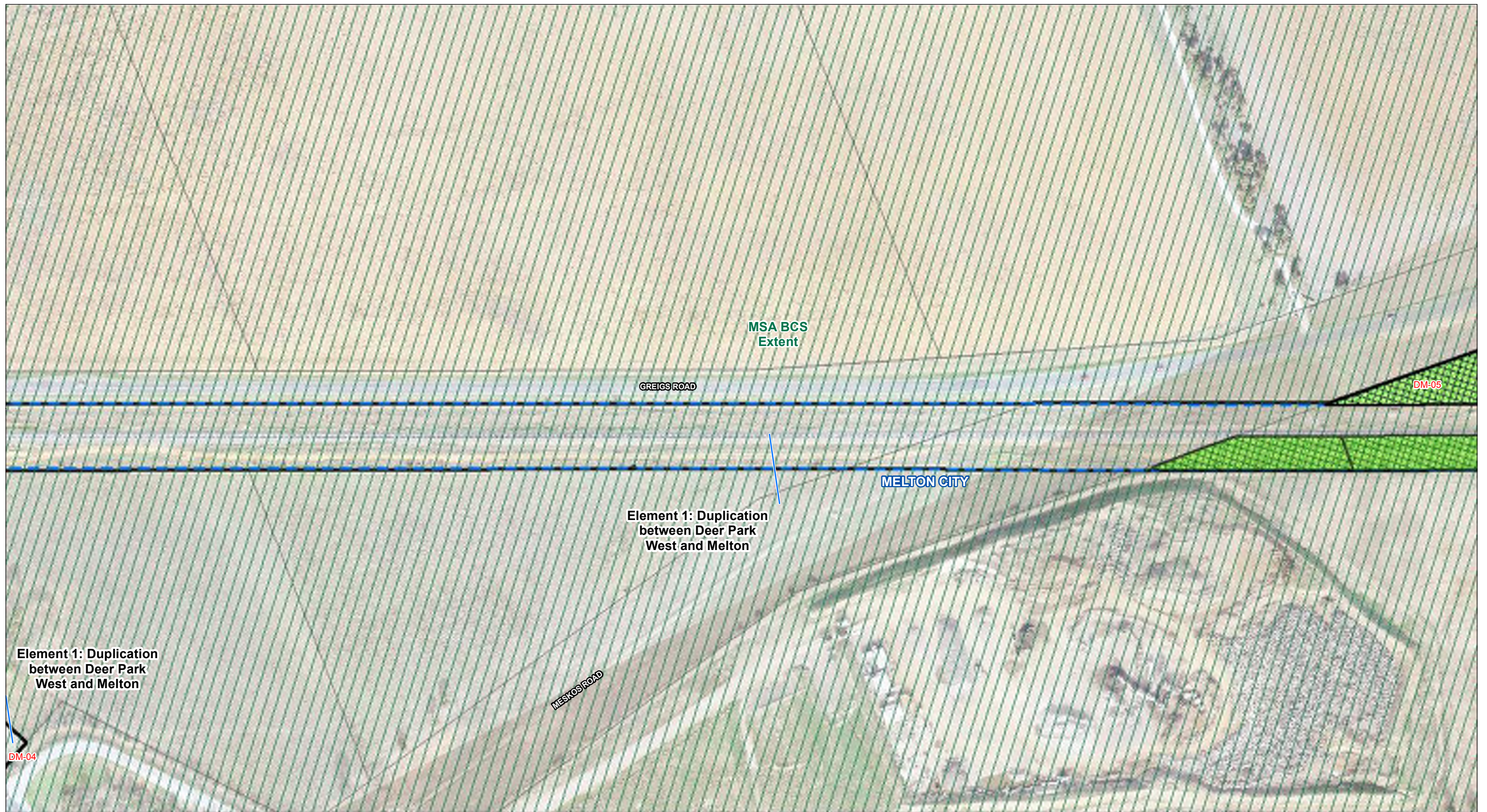
Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058	Revision: P1.1
Drawn By: A. Berman	Approved By: A. Michael
Date: 5/07/2017	Map Size: A3

0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- MSA BCS Extent
- 132 Plains Grassland
- Secondary Construction Area (SCA)
- Project Area
- Impacted Vegetation within SCA
- Impacted Vegetation

Map 5 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016



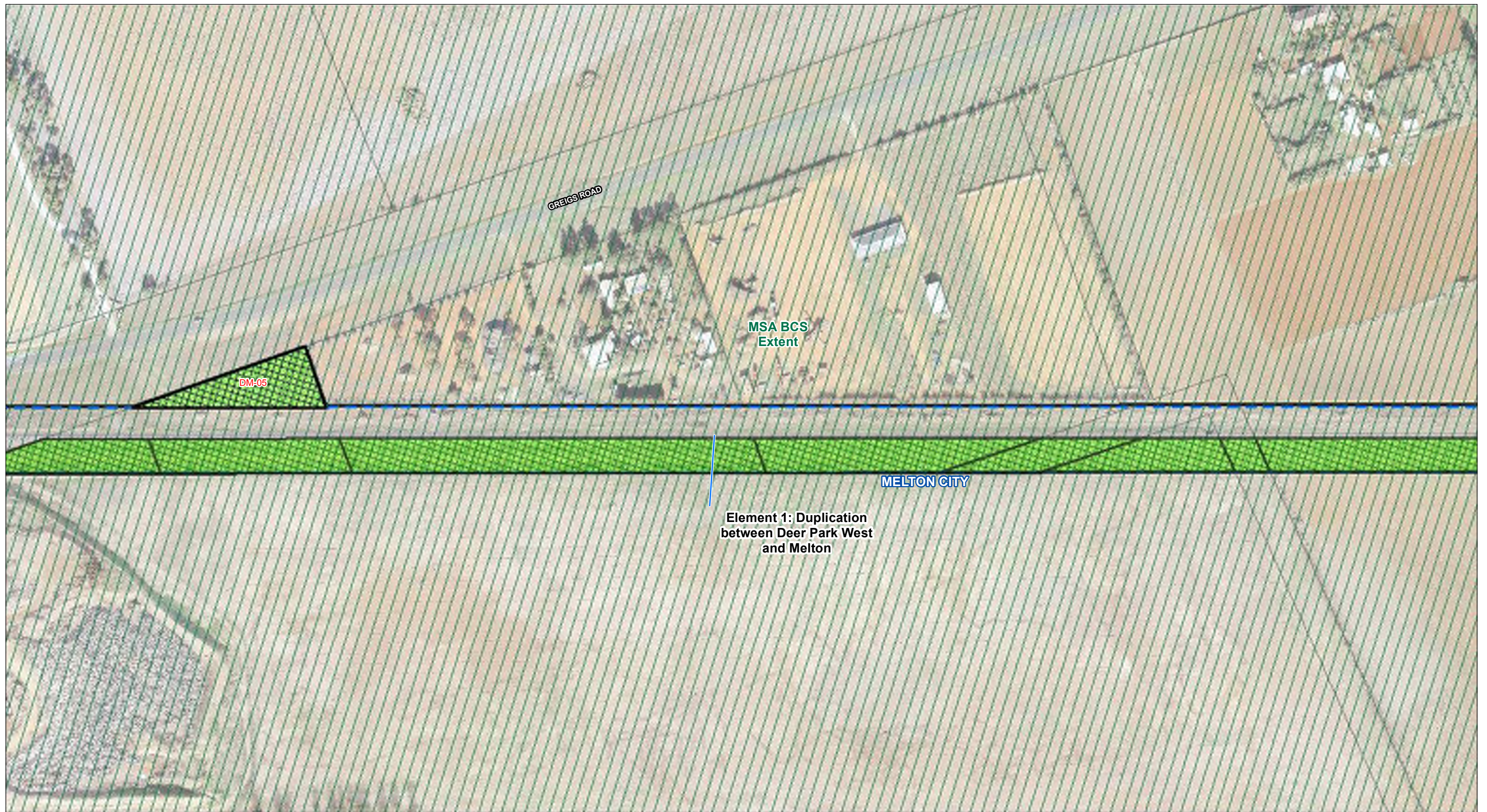
Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058
 Revision: P1.1

Drawn By: A. Berman	Approved By: A. Michael	Date: 5/07/2017	Map Size: A3
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0 50 100
 Metres
 Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Secondary Construction Area (SCA)
- Project Area
- MSA BCS Extent
- Impacted Vegetation within SCA
- Impacted Vegetation

MSA Time-stamped

- 132 Plains Grassland

Map 6 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

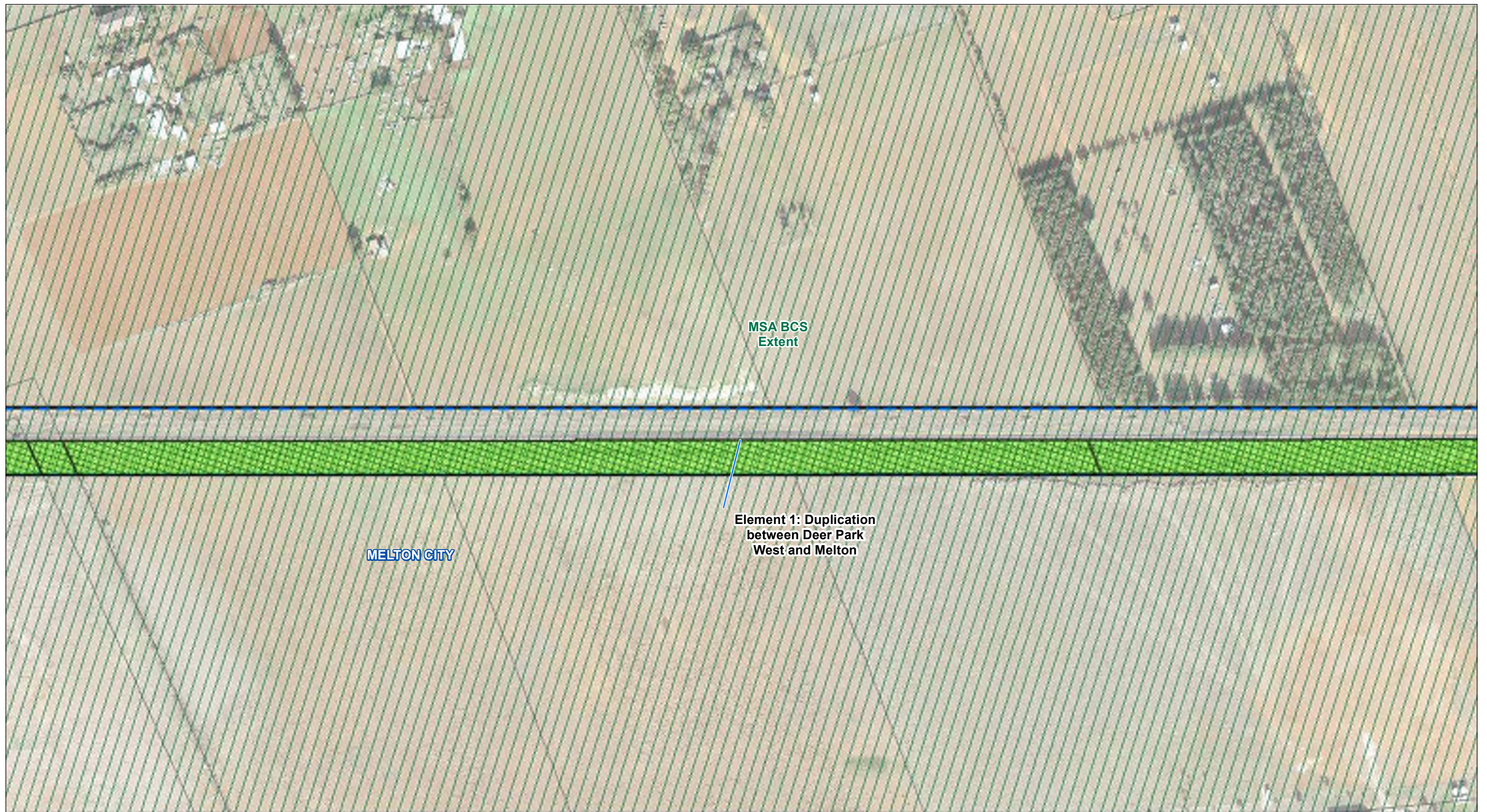


Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058	Revision: P1.1
Drawn By: A. Berman	Approved By: A. Michael
Date: 5/07/2017	Map Size: A3

0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55



- Legend**
- VicTrack Reserve boundary
 - Project Area
 - MSA BCS Extent
 - Impacted Vegetation
 - MSA Time-stamped**
 - 132 Plains Grassland

Map 7 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

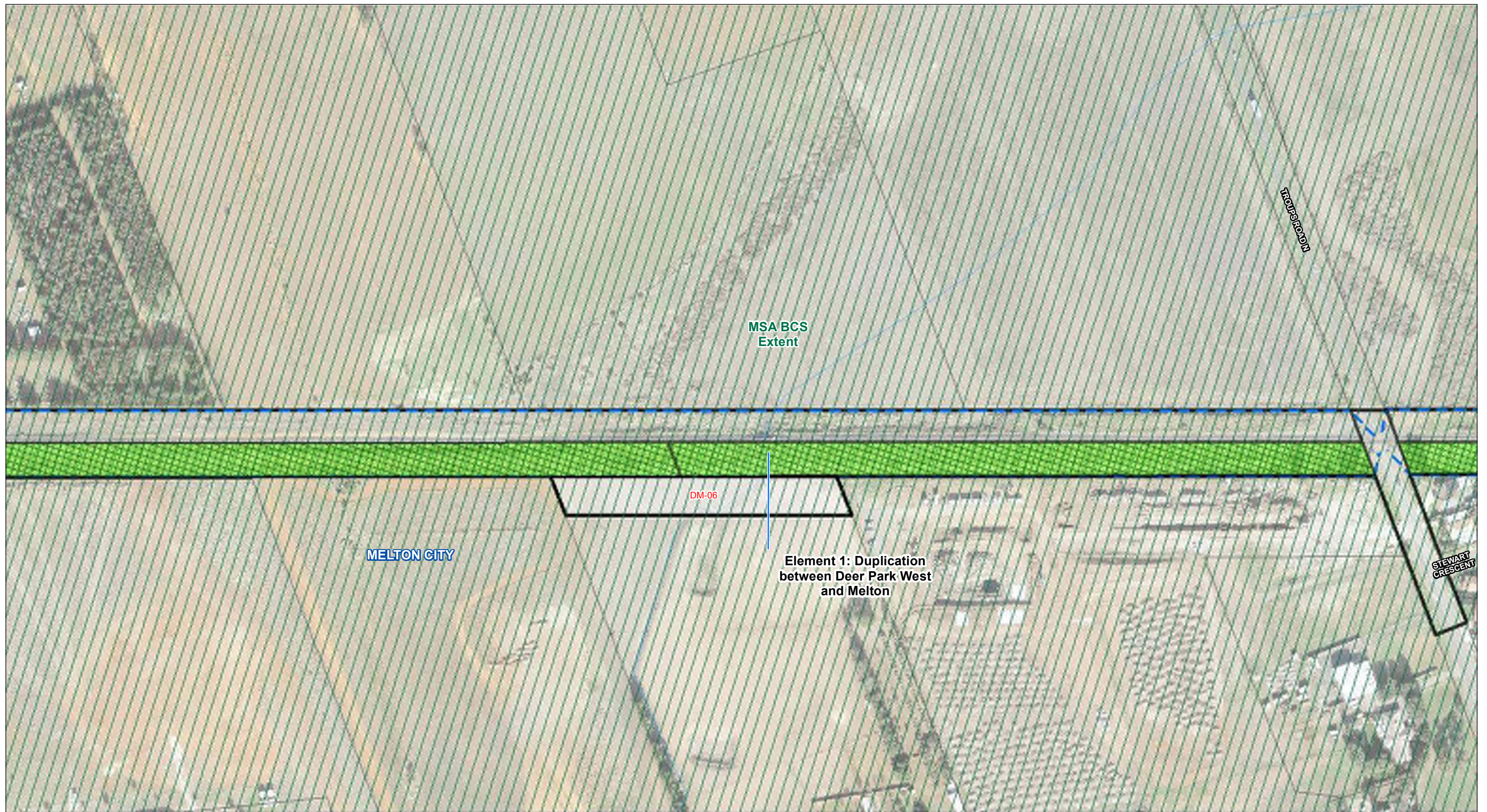


Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058	Revision: P1.1		
Drawn By: A. Berman	Approved By: A. Michael	Date: 5/07/2017	Map Size: A3

0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55



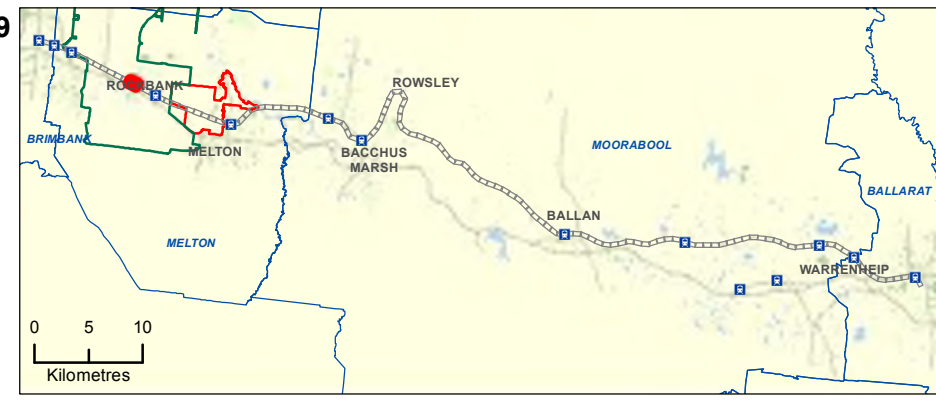
Legend

- VicTrack Reserve boundary
- Watercourse
- Secondary Construction Area (SCA)
- Project Area
- MSA BCS Extent
- Impacted Vegetation within SCA
- Impacted Vegetation

MSA Time-stamped

- 104 Lignum Swamp
- 132 Plains Grassland

Map 8 of 49



Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

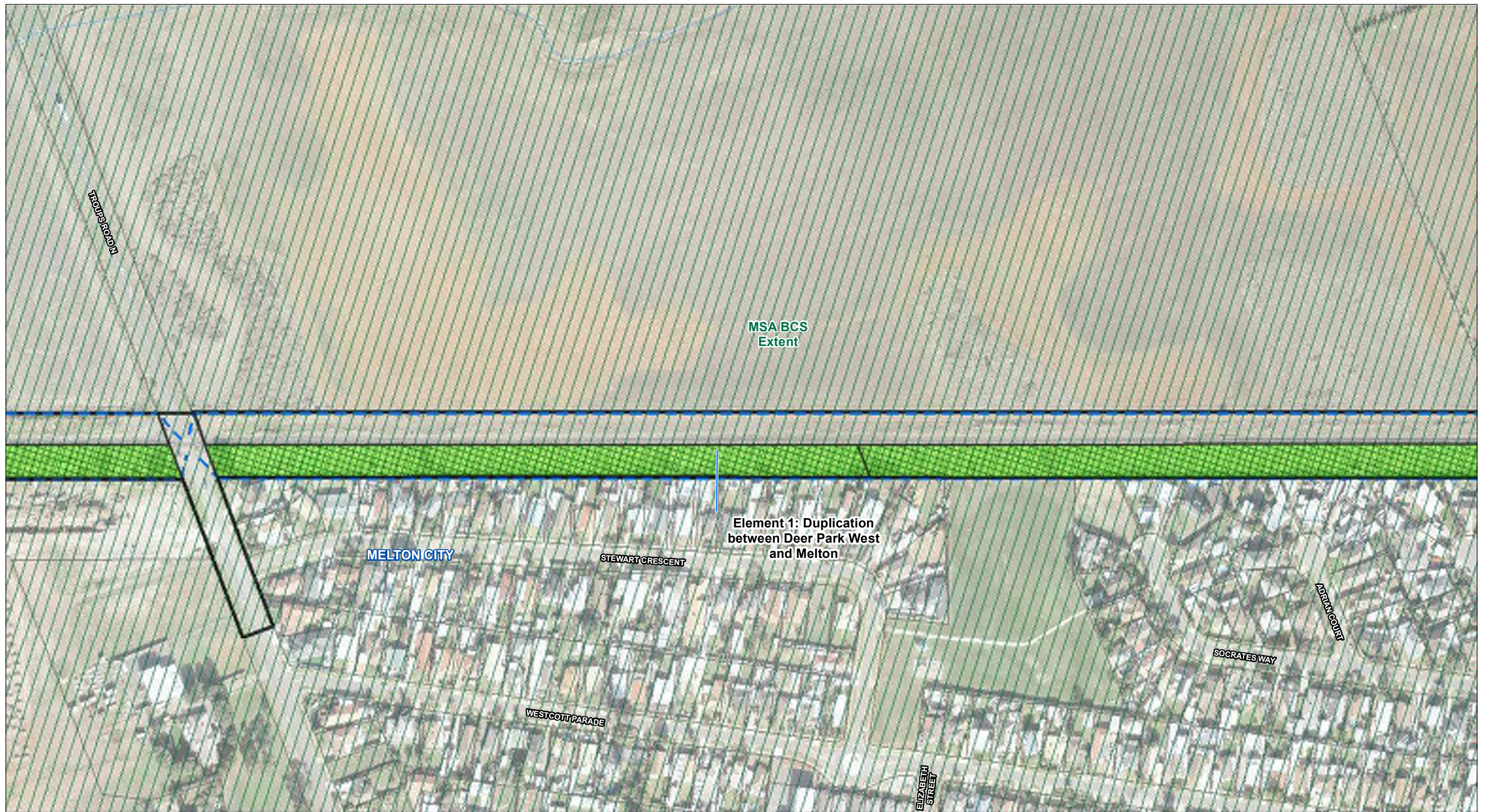
Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058
 Revision: P1.1

Drawn By: A. Berman
 Approved By: A. Michael
 Date: 5/07/2017
 Map Size: A3

0 50 100
 Metres
 Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Watercourse
- Project Area
- MSA BCS Extent
- Impacted Vegetation

MSA Time-stamped

- 104 Lignum Swamp
- 132 Plains Grassland

Map 9 of 49

Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058

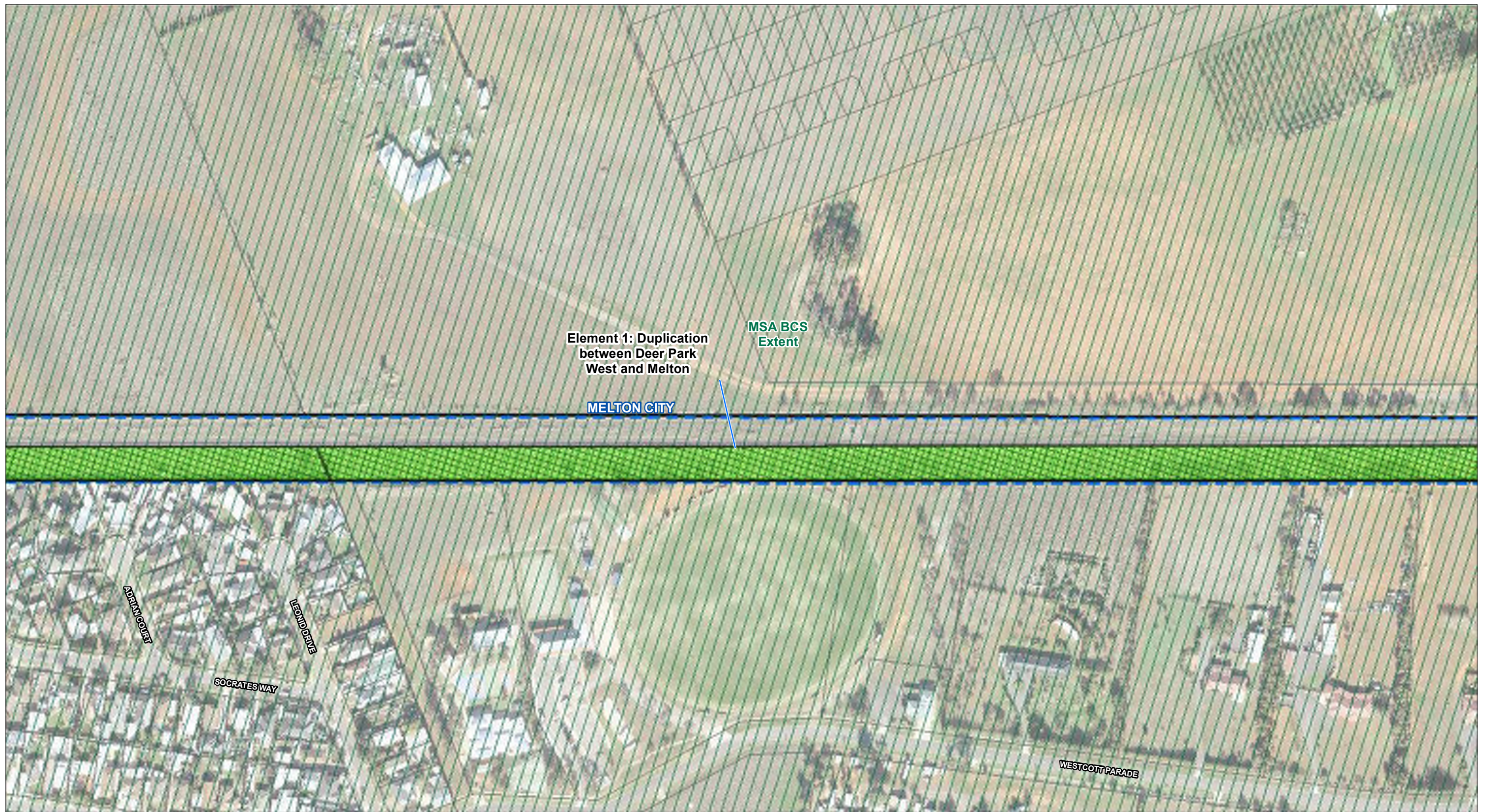
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0 50 100

Metres

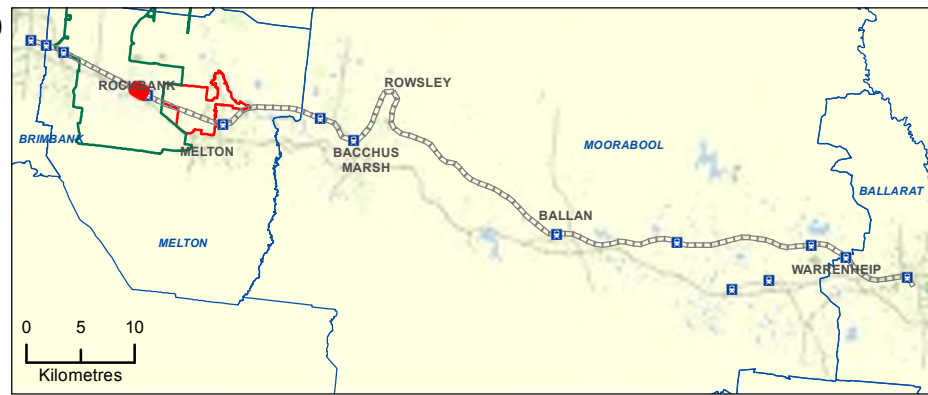
Coordinate System: GDA 1994 MGA Zone 55



- Legend**
- VicTrack Reserve boundary
 - Project Area
 - MSA BCS Extent
 - Impacted Vegetation
 - MSA Time-stamped
 - 132 Plains Grassland

Map 10 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

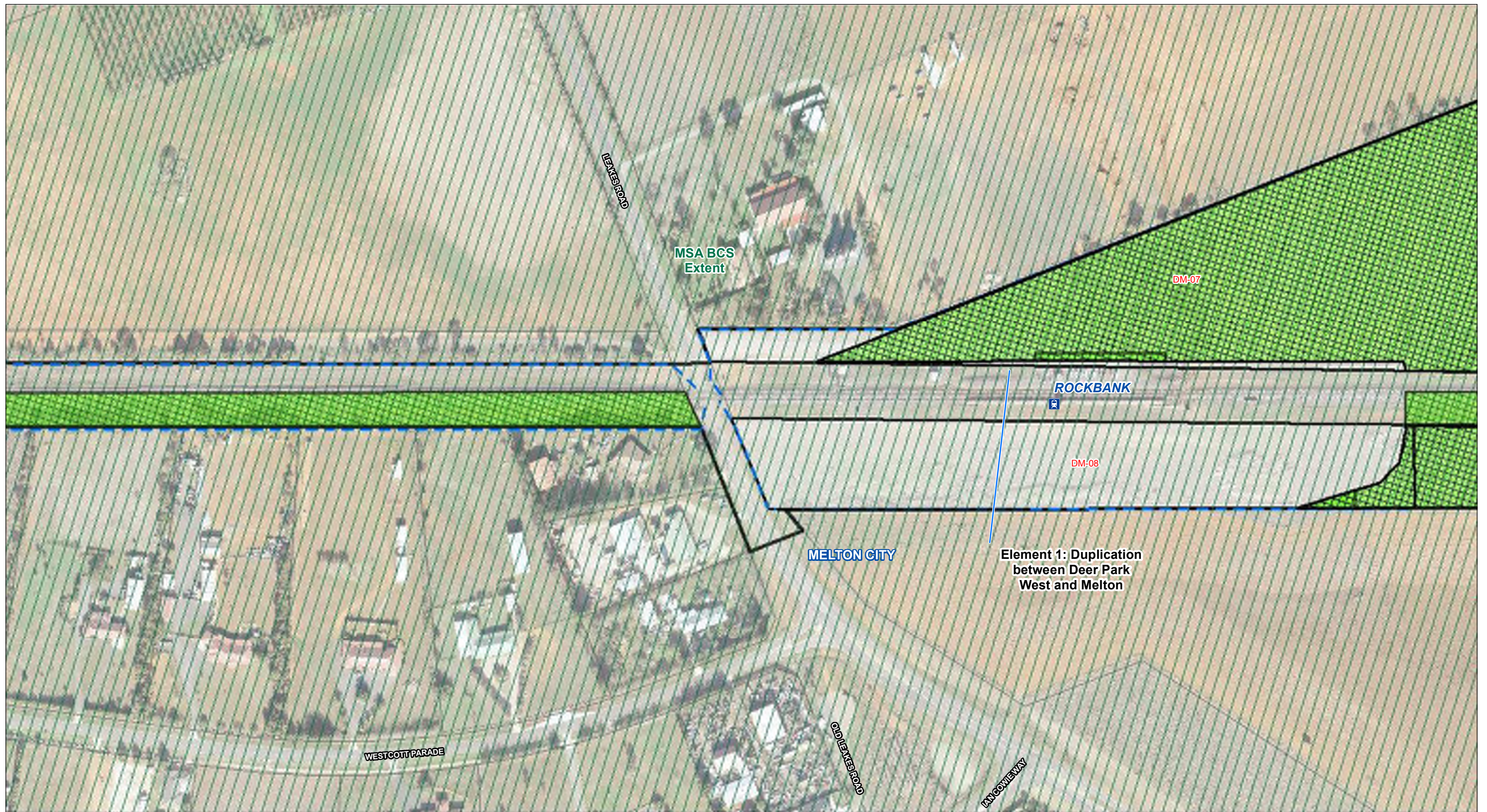


Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number:	BLU-AJM-PWAA-MP-NF-600058			Revision:	P1.1
Drawn By:	A. Berman	Approved By:	A. Michael	Date:	5/07/2017
				Map Size:	A3

0 50 100 Metres
 Coordinate System: GDA 1994 MGA Zone 55



Legend

- Rail Station
- VicTrack Reserve boundary
- Secondary Construction Area (SCA)
- Project Area
- MSA BCS Extent
- Impacted Vegetation within SCA
- Impacted Vegetation

MSA Time-stamped

- 132 Plains Grassland

Map 11 of 49



Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058
 Revision: P1.1

Drawn By: A. Berman	Approved By: A. Michael	Date: 5/07/2017	Map Size: A3
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0 50 100
 Metres
 Coordinate System: GDA 1994 MGA Zone 55



Legend

- - - VicTrack Reserve boundary
- Secondary Construction Area
- Project Area
- MSA BCS Extent
- Impacted Vegetation within SCA
- Impacted Vegetation

MSA Time-stamped

- 132 Plains Grassland

Map 12 of 49

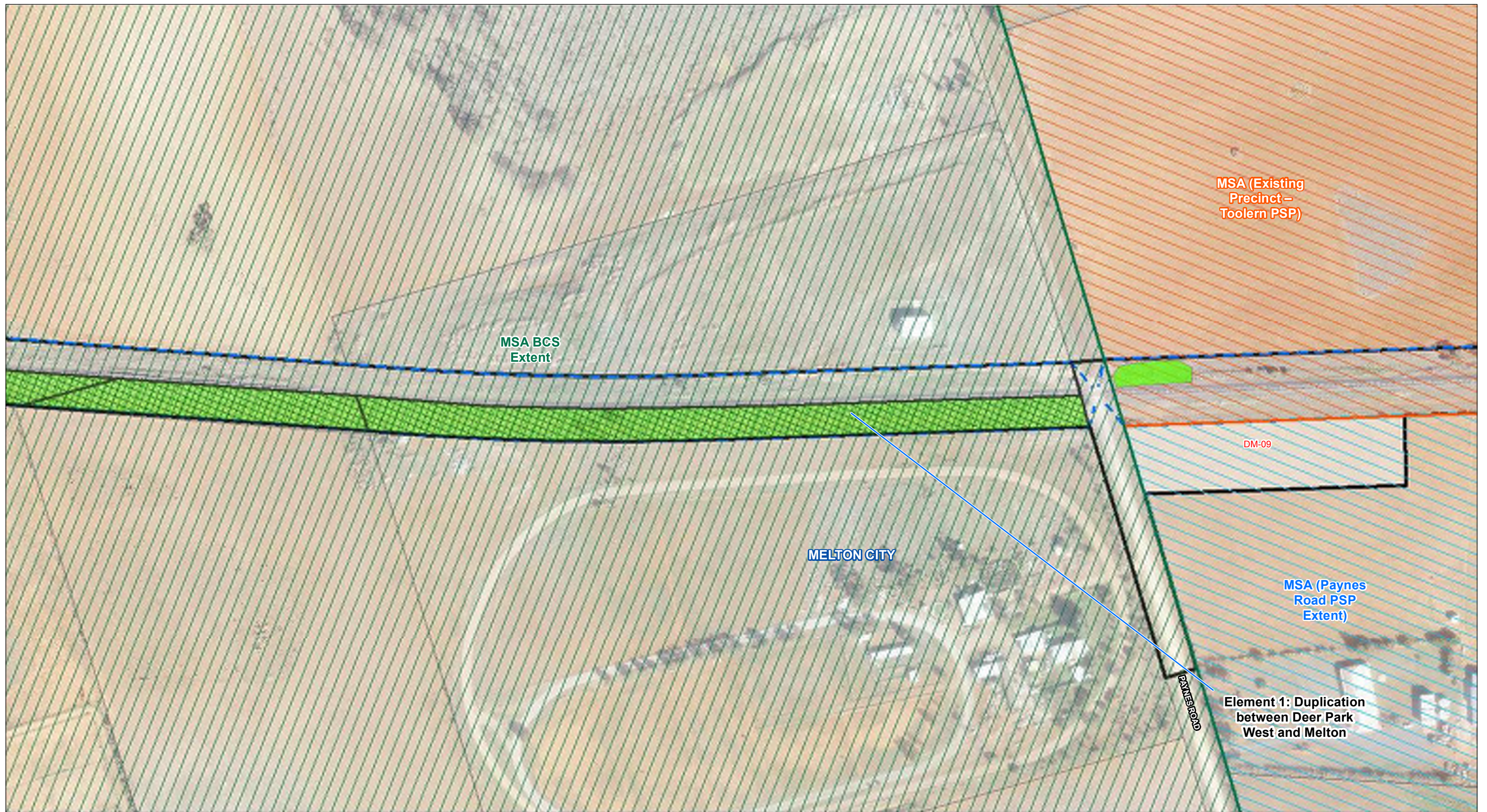
Data Sources:
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 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058		Revision: P1.1	
Drawn By: A. Berman	Approved By: A. Michael	Date: 5/07/2017	Map Size: A3

0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Secondary Construction Area
- Project Area
- MSA BCS Extent
- MSA (Existing Precinct - Toolern PSP)
- MSA (Paynes Road PSP Extent)
- Impacted Vegetation
- Plains Grassland
- 132 Plains Grassland
- MSA Time-stamped**

Map 13 of 49



Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

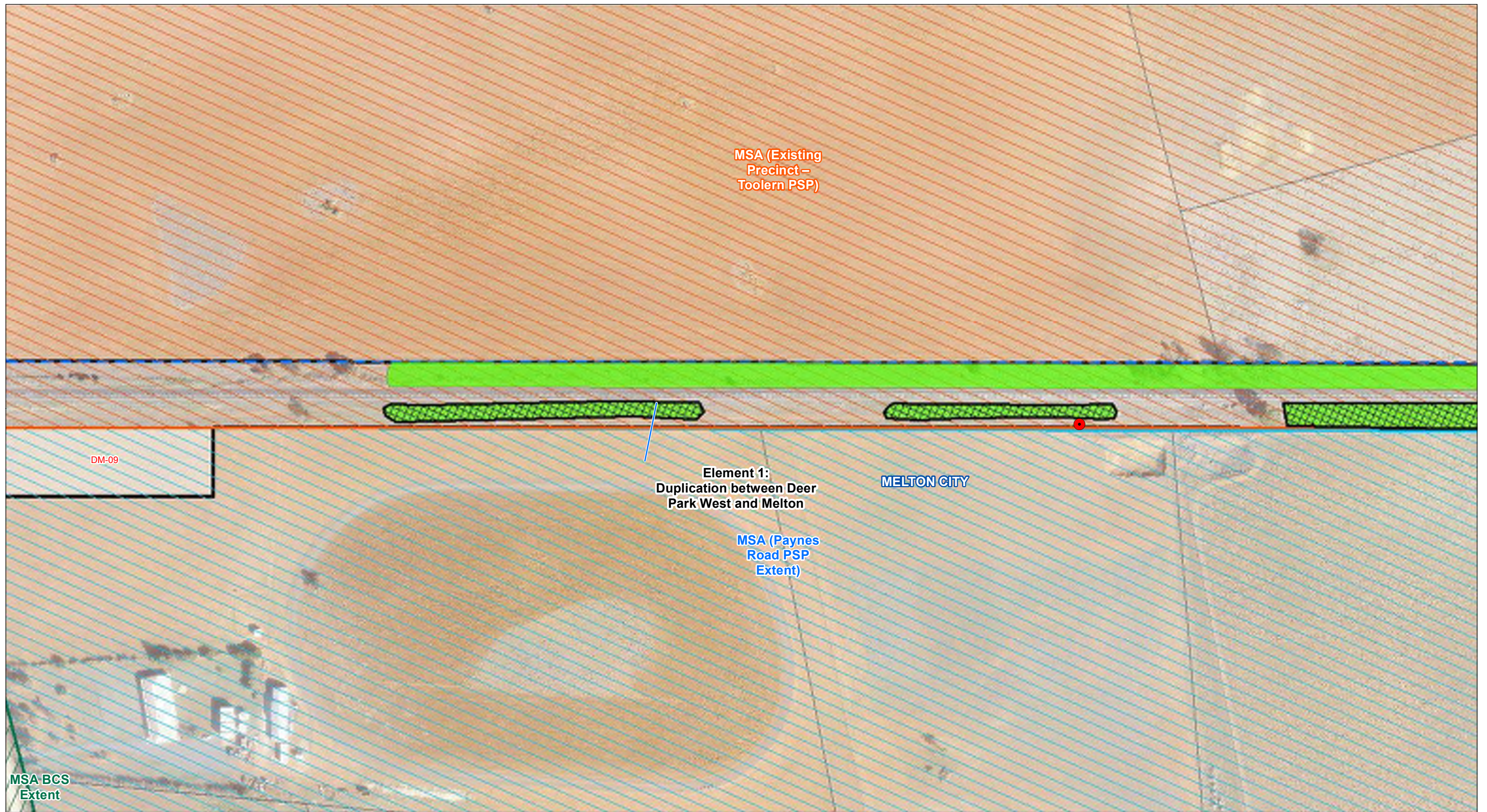
Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058
 Revision: P1.1

Drawn By: A. Berman	Approved By: A. Michael	Date: 5/07/2017	Map Size: A3
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0 50 100
 Metres
 Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Plains Grassland
- Secondary Construction Area (SCA)
- Project Area
- Impacted Vegetation
- MSA BCS Extent
- MSA (Existing Precinct - Toolern PSP)
- MSA (Paynes Road PSP Extent)

Significant Species

- Spiny Rice-flower

Map 14 of 49



Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

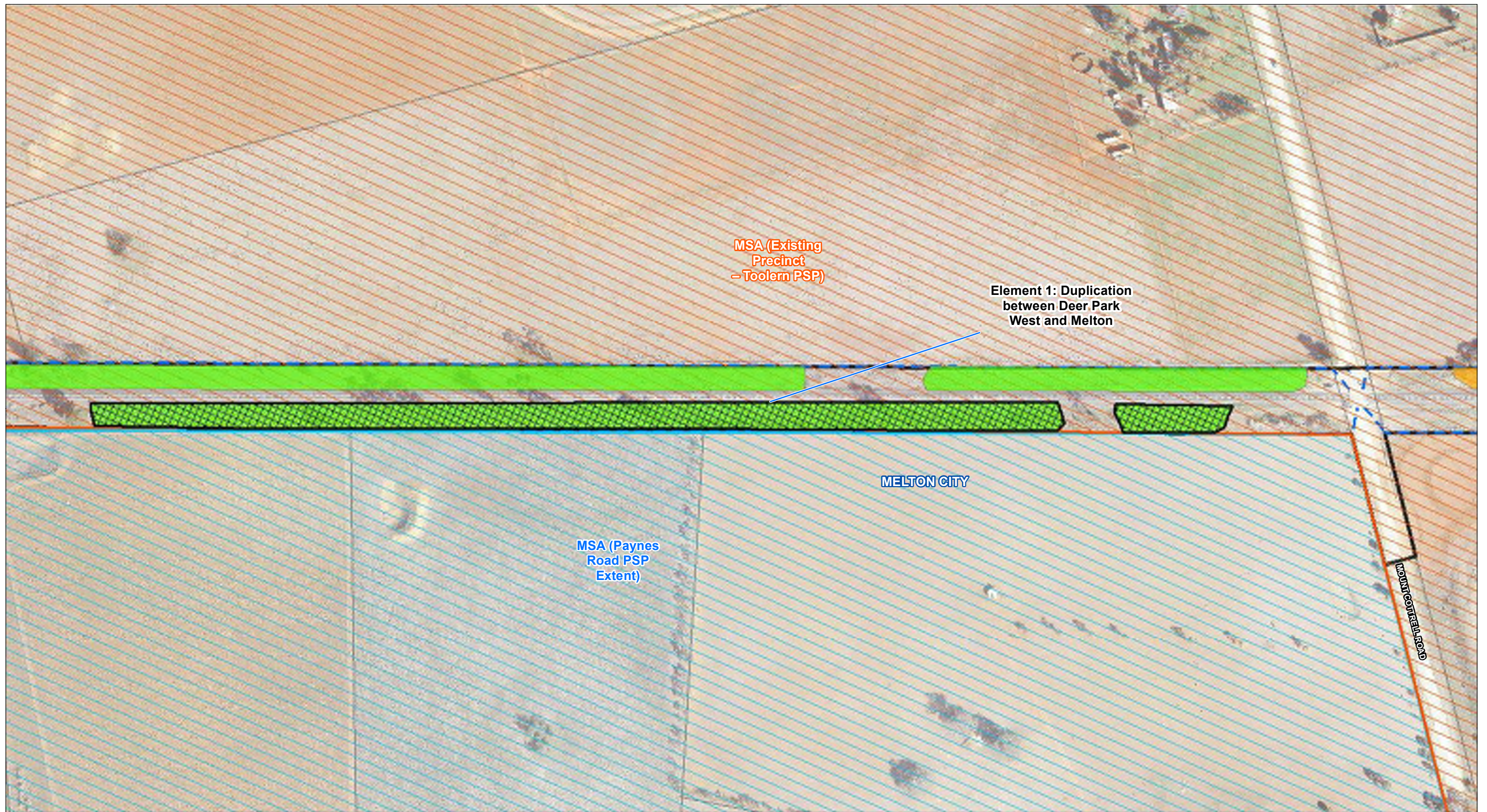
Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058 Revision: P1.1

Drawn By: A. Berman	Approved By: A. Michael	Date: 5/07/2017	Map Size: A3
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0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Project Area
- Impacted Vegetation
- MSA (Existing Precinct - Toolern PSP)
- MSA (Paynes Road PSP Extent)
- Plains Grassland
- Plains Grassy Woodland

Map 15 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016



Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058	Revision: P1.1
Drawn By: A. Berman	Approved By: A. Michael
Date: 5/07/2017	Map Size: A3

0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55

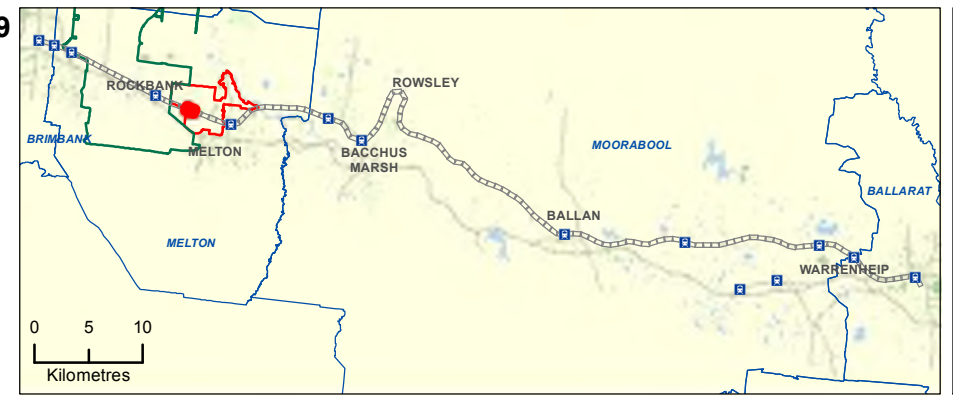


Legend

- VicTrack Reserve boundary
- Project Area
- Impacted Vegetation
- MSA (Existing Precinct - Toolern PSP)
- MSA (Paynes Road PSP Extent)
- Plains Grassland
- Plains Grassy Woodland

Map 16 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016



MELBOURNE METRO RAIL AUTHORITY

aurecon JACOBS

AJM MOTT MACDONALD
Joint Venture

Ballarat Line Upgrade Project

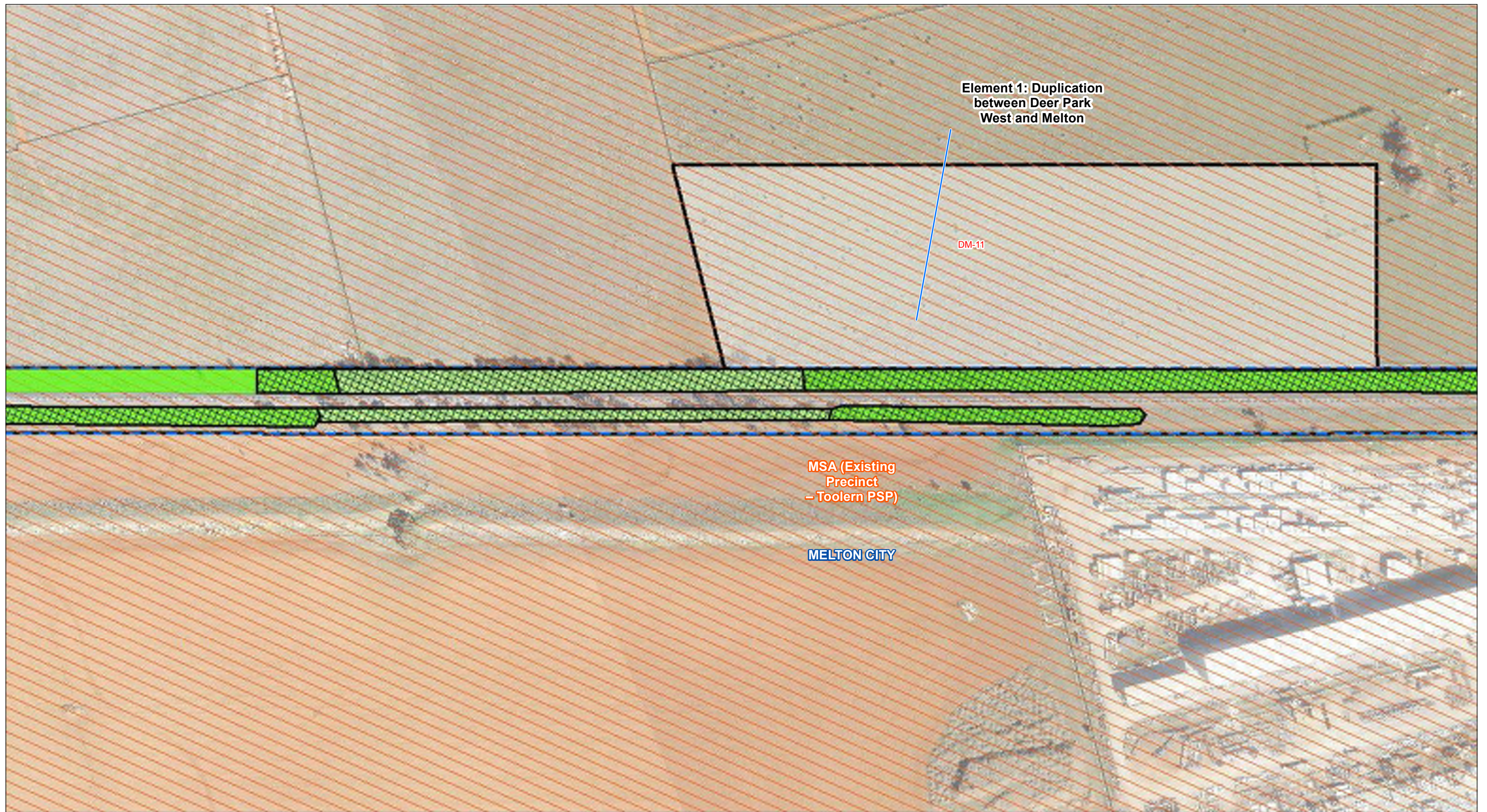
Native Vegetation Mapping

Drawing Number:		Revision:	
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Drawn By:	Approved By:	Date:	Map Size:
A. Berman	A. Michael	5/07/2017	A3

0 50 100

Metres

Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Secondary Construction Area (SCA)
- Project Area
- Impacted Vegetation
- MSA (Existing Precinct - Toolern PSP)
- Plains Grassland
- Plains Woodland

Map 17 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

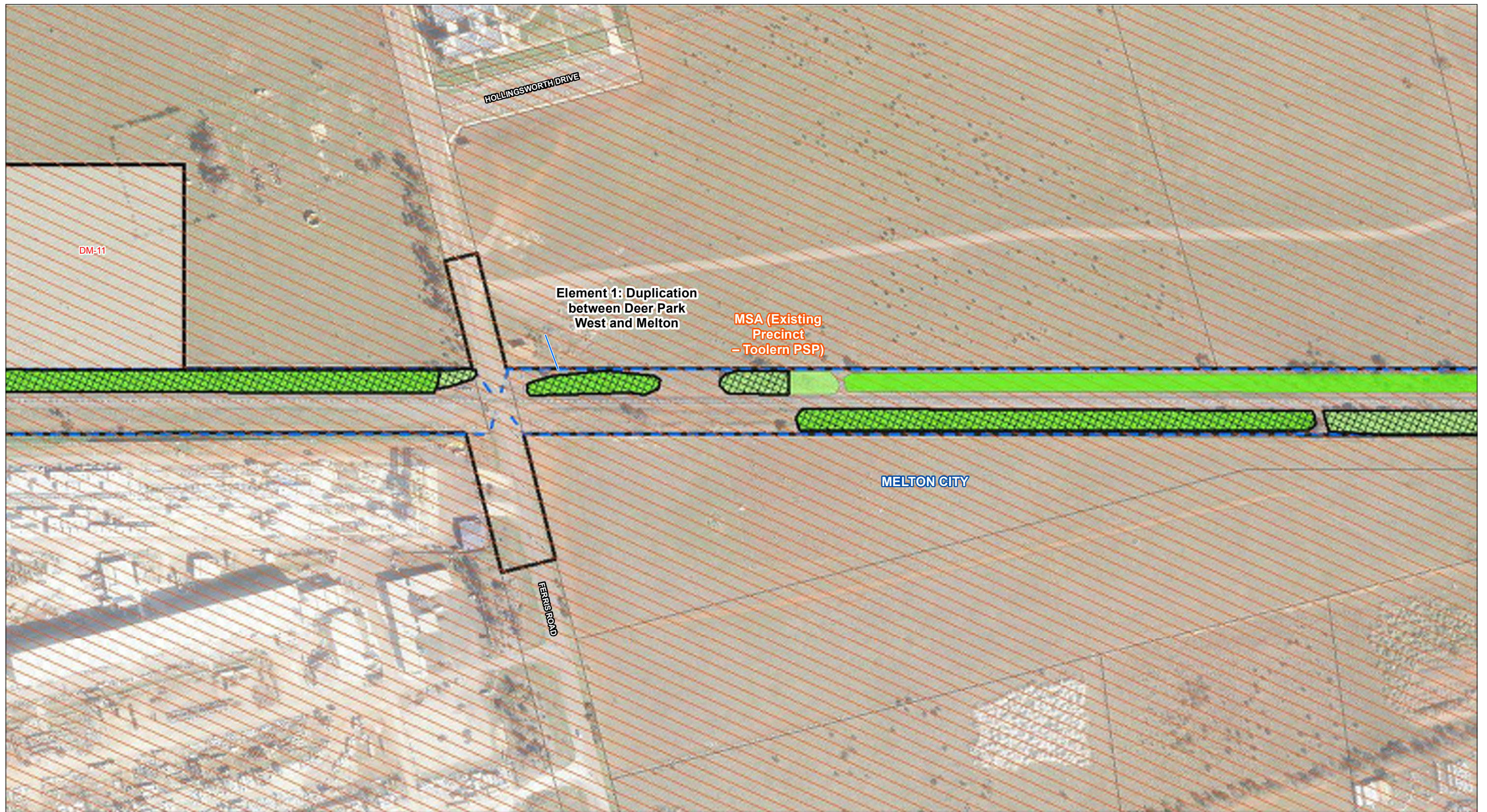


Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058	Revision: P1.1
Drawn By: A. Berman	Approved By: A. Michael
Date: 5/07/2017	Map Size: A3

0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Secondary Construction Area
- Project Area
- Impacted Vegetation
- MSA (Existing Precinct - Toolern PSP)
- Plains Grassland
- Plains Woodland

Map 18 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

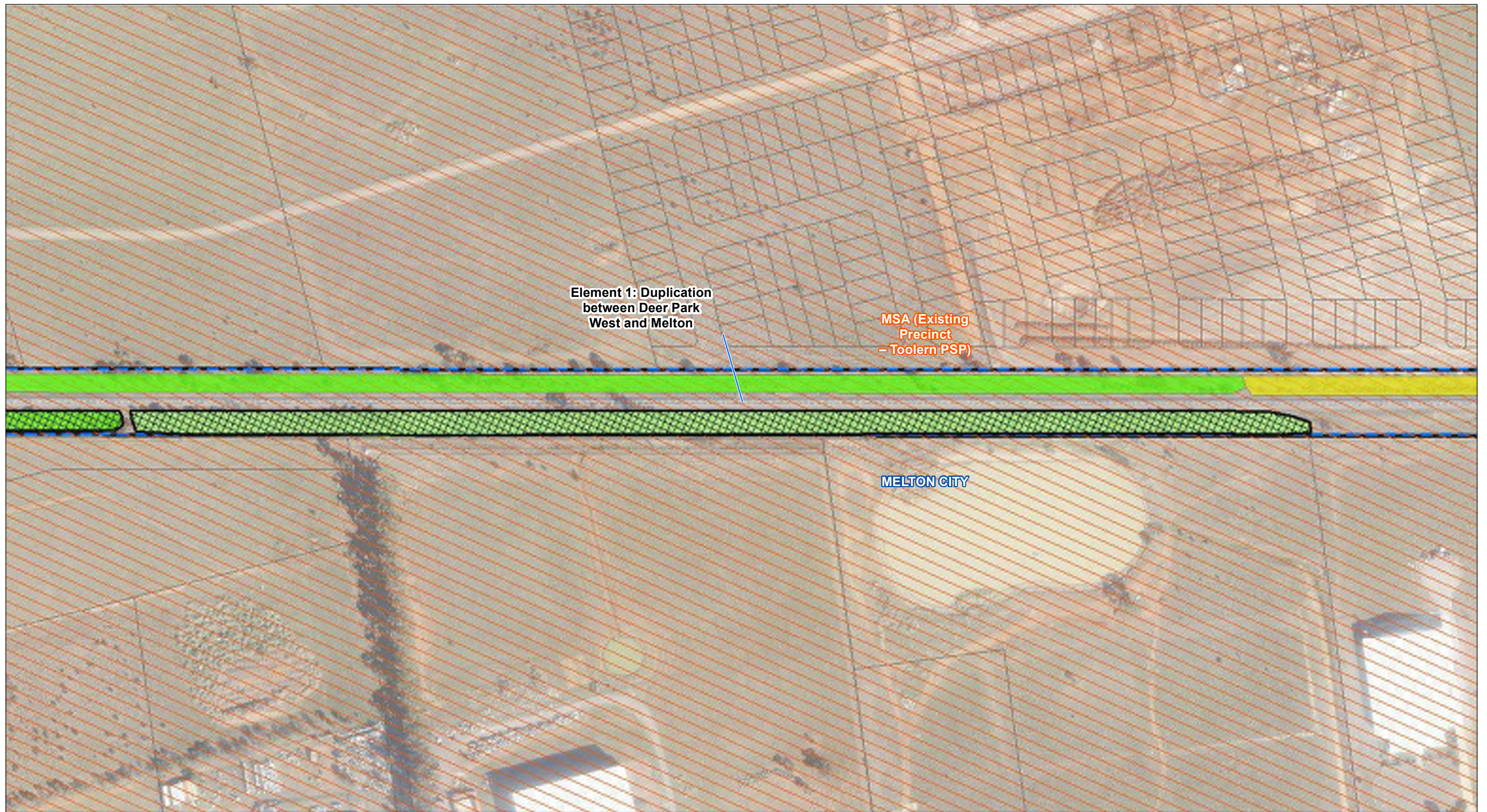


Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058	Revision: P1.1
Drawn By: A. Berman	Approved By: A. Michael
Date: 5/07/2017	Map Size: A3

0 50 100
Metres
Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Project Area
- Impacted Vegetation
- MSA (Existing Precinct – Toolern PSP)
- Lignum Swamp
- Plains Grassland
- Plains Woodland

Map 19 of 49

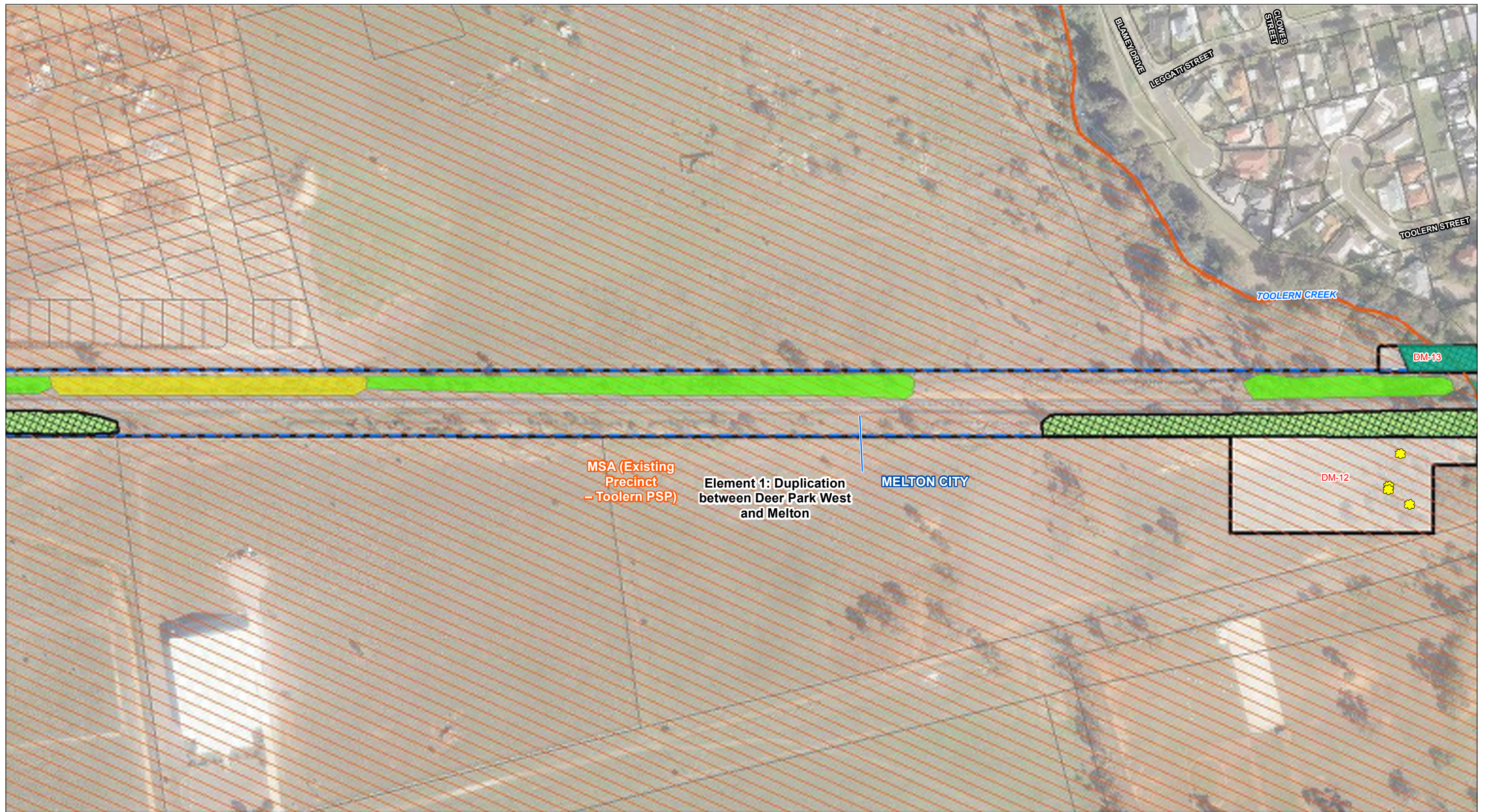
Ballarat Line Upgrade Project

Native Vegetation Mapping

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Drawn By:	Approved By:	Date:	Map Size:
A. Berman	A. Michael	5/07/2017	A3

Coordinate System: GDA 1994 MGA Zone 55

Data Sources:
BLU Reference Design: May 2017
EHP Ecology data: 25/01/2017
Vicmap 2016
VicTrack 2017
Aerial photo: DELWP 2016



Legend

- VicTrack Reserve boundary
- Watercourse
- Secondary Construction Area (SCA)
- Project Area
- Impacted Vegetation
- Impacted Vegetation within SCA
- MSA (Existing Precinct - Toolern PSP)
- Creekline Grassy Woodland
- Lignum Swamp
- Plains Grassland
- Plains Grassy Woodland
- Plains Woodland
- ✿ Impacted Tree

Map 20 of 49

Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

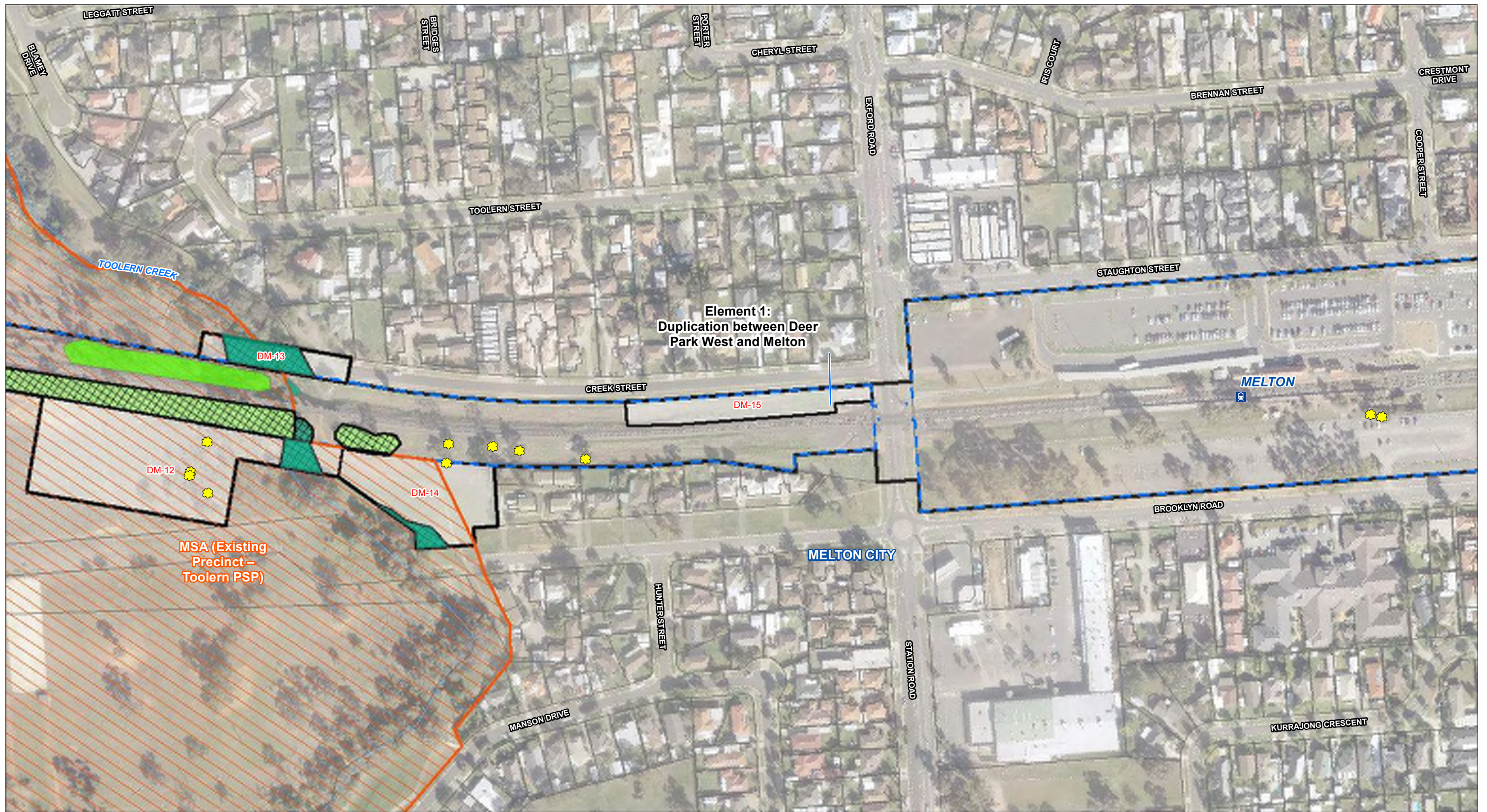
MELBOURNE METRO RAIL AUTHORITY

Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number:		Revision:	
BLU-AJM-PWAA-MP-NF-600058		P1.1	
Drawn By:	Approved By:	Date:	Map Size:
A. Berman	A. Michael	5/07/2017	A3

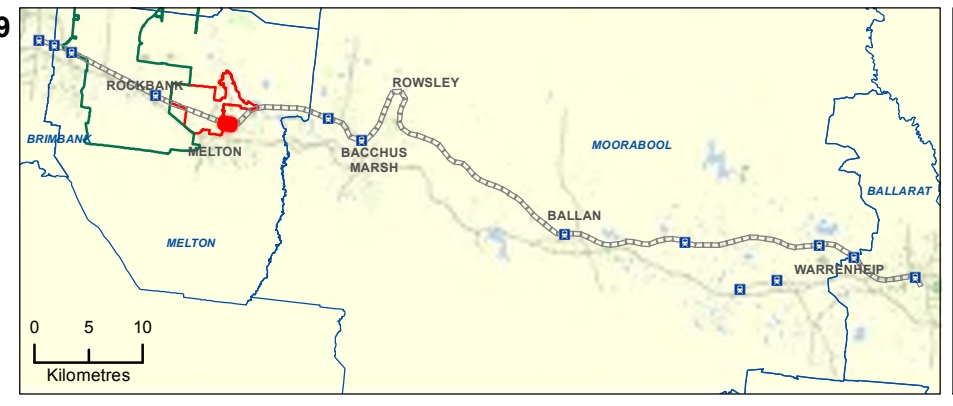
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 Coordinate System: GDA 1994 MGA Zone 55



Legend

- Rail Station
- VicTrack Reserve boundary
- Watercourse
- Secondary Construction Area (SCA)
- Project Area
- Impacted Vegetation
- Impacted Vegetation within SCA
- MSA (Existing Precinct - Toolern PSP)
- Creekline Grassy Woodland
- Plains Grassland
- Plains Grassy Woodland
- Plains Woodland
- Impacted Tree

Map 21 of 49



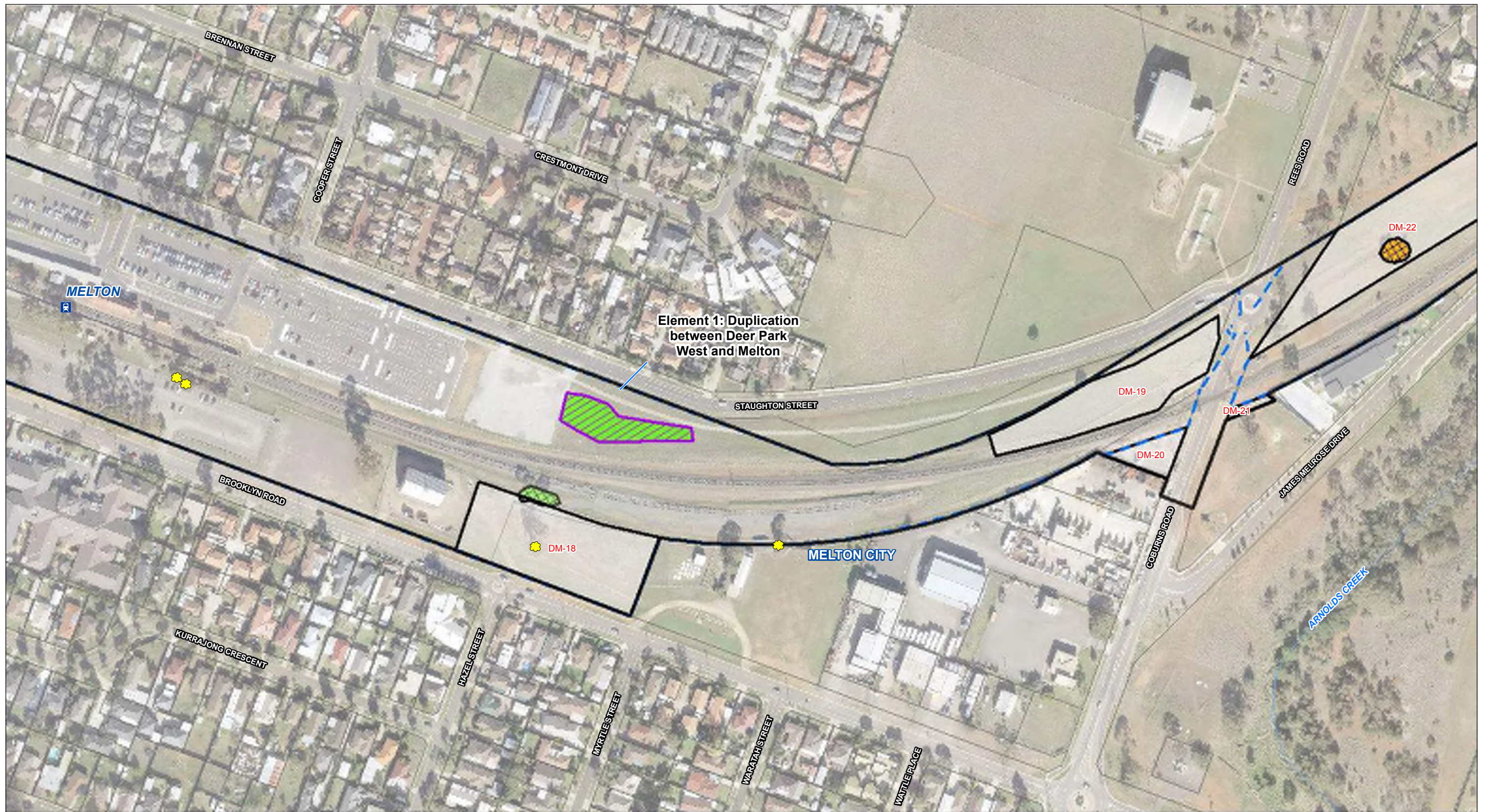
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 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number:	Revision:		
BLU-AJM-PWAA-MP-NF-600058	P1.1		
Drawn By:	Approved By:	Date:	Map Size:
A. Berman	A. Michael	5/07/2017	A3

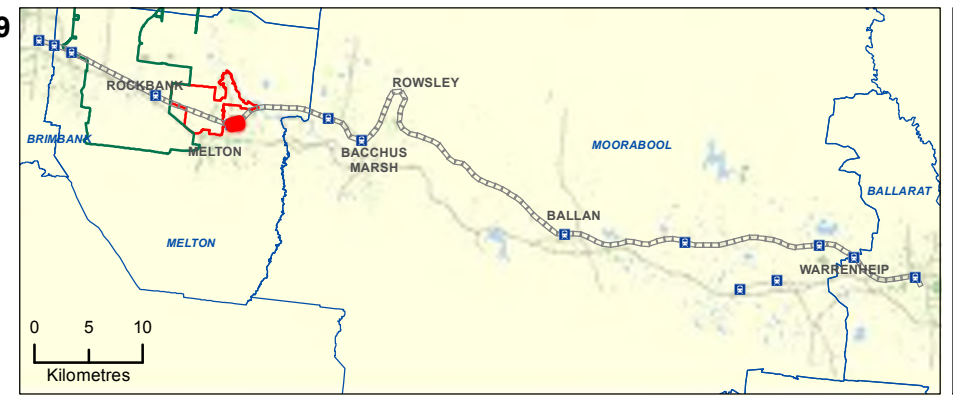
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 Coordinate System: GDA 1994 MGA Zone 55



Legend

- Rail Station
- VicTrack Reserve boundary
- Secondary Construction Area (SCA)
- Project Area
- Impacted Vegetation within SCA
- Impacted Vegetation
- Natural Temperate Grassland of the Victorian Volcanic Plain
- Creekline Grassy Woodland
- Lignum Swamp
- Plains Grassland
- Plains Grassy Wetland
- Plains Grassy Woodland
- Plains Woodland
- Tall Marsh
- Impacted Tree
- Watercourse

Map 22 of 49



Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

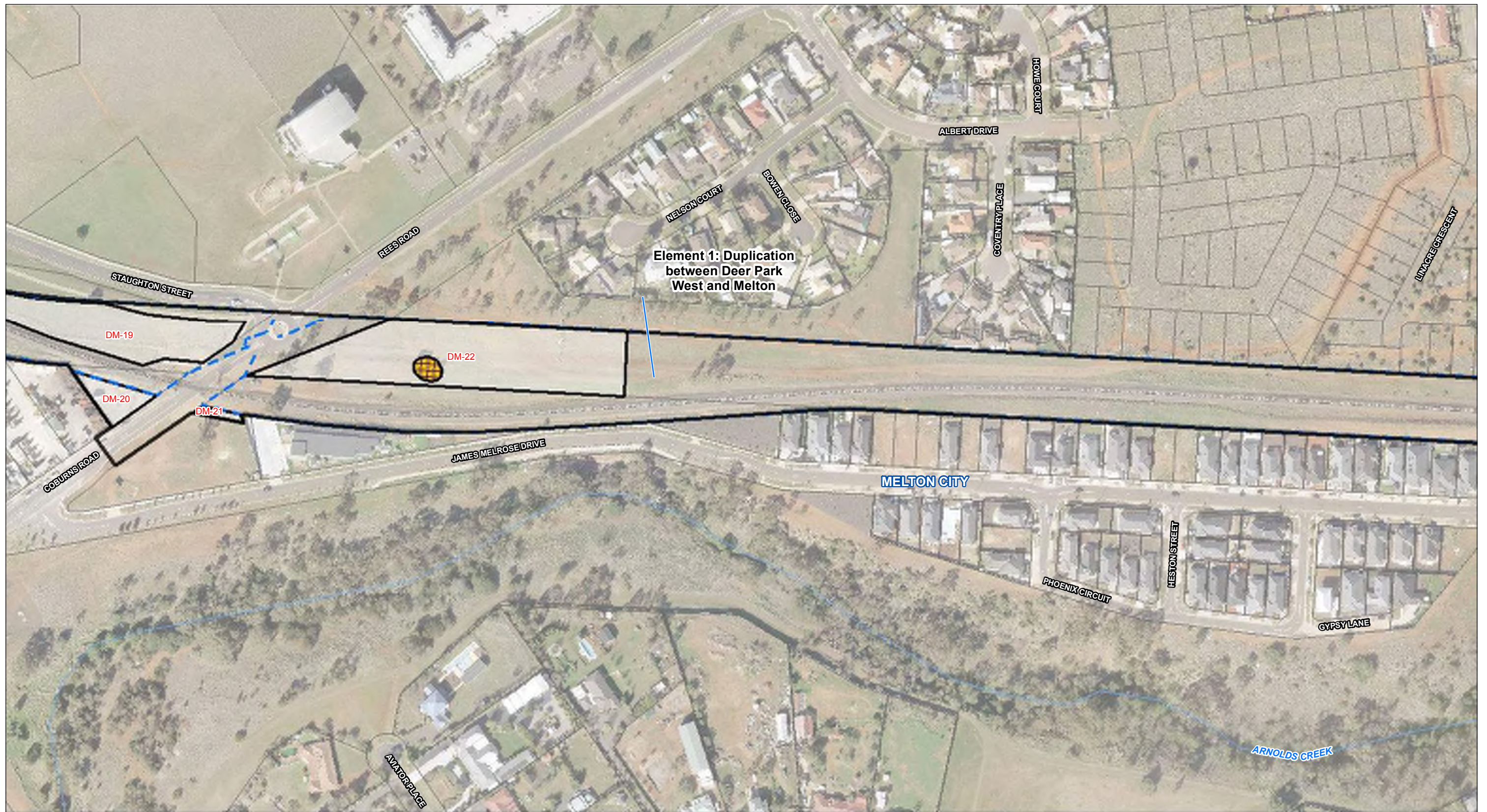
Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058
 Revision: P1.1

Drawn By: A. Berman
 Approved By: A. Michael
 Date: 5/07/2017
 Map Size: A3

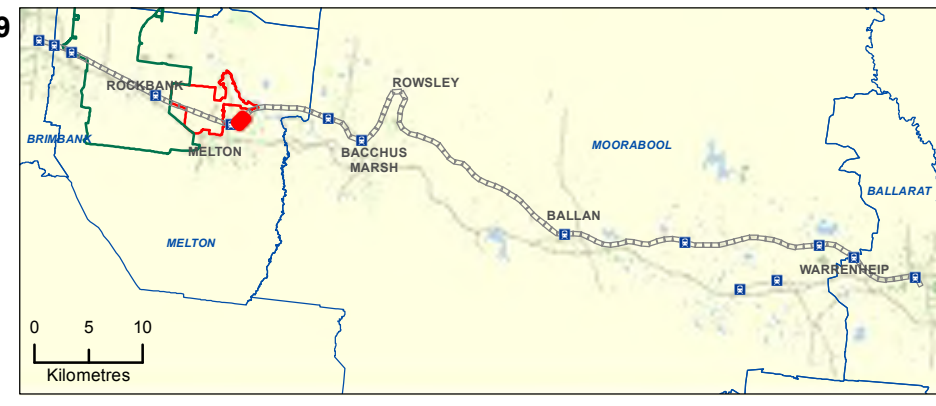
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 Metres
 Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Secondary Construction Area (SCA)
- Project Area
- Impacted Vegetation within SCA
- Creekline Grassy Woodland
- Lignum Swamp
- Plains Grassland
- Plains Grassy Wetland
- Plains Grassy Woodland
- Plains Woodland
- Tall Marsh
- Watercourse

Map 23 of 49



Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

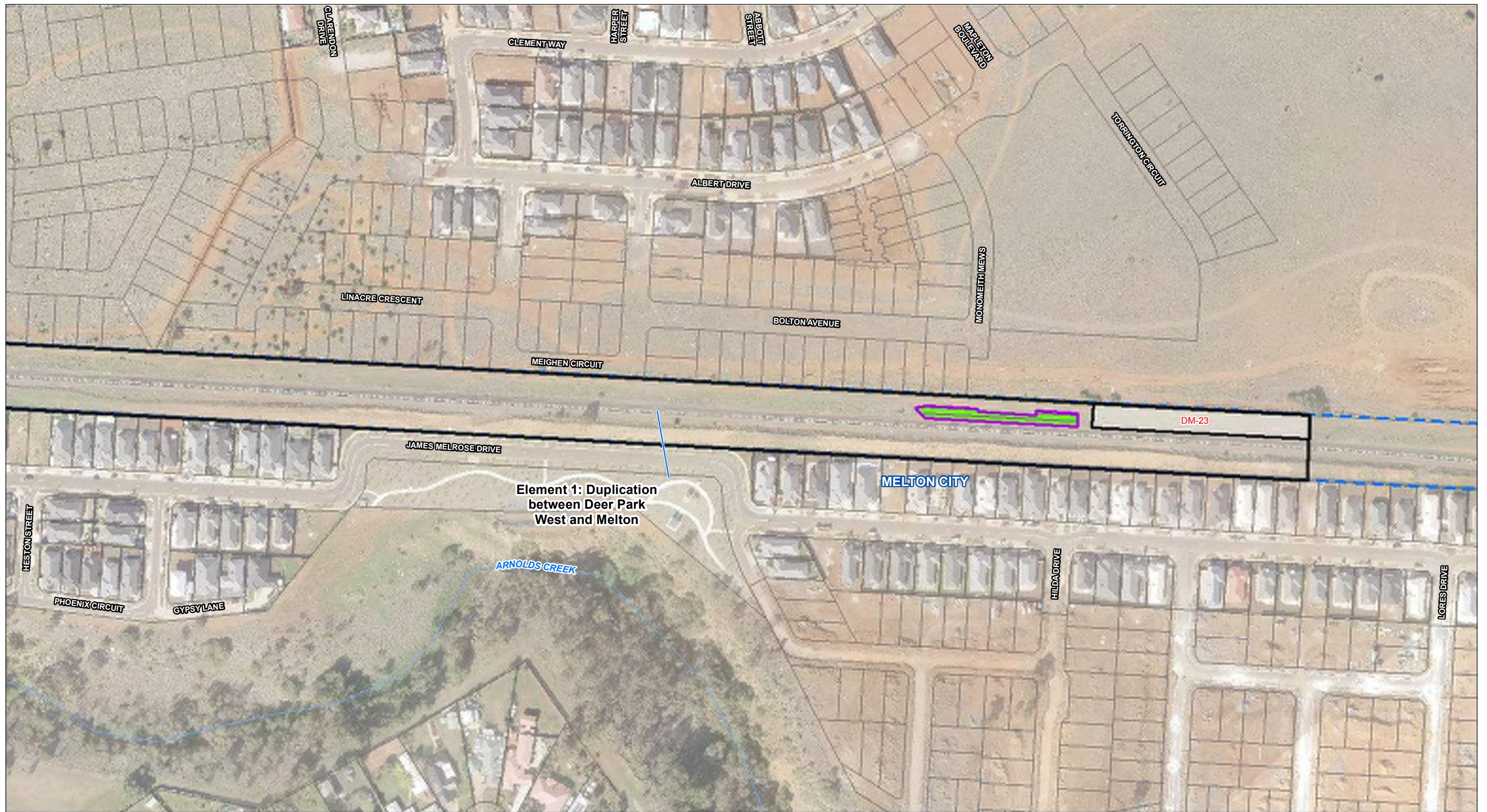
Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058
 Revision: P1.1

Drawn By: A. Berman
 Approved By: A. Michael
 Date: 5/07/2017
 Map Size: A3

0 50 100
 Metres
 Coordinate System: GDA 1994 MGA Zone 55



Legend

- VicTrack Reserve boundary
- Secondary Construction Area (SCA)
- Project Area
- Natural Temperate Grassland of the Victorian Volcanic Plain
- Creekline Grassy Woodland
- Lignum Swamp
- Plains Grassland
- Plains Grassy Wetland
- Plains Grassy Woodland
- Plains Woodland
- Tall Marsh
- Watercourse

Map 24 of 49



Data Sources:
 BLU Reference Design: May 2017
 EHP Ecology data: 25/01/2017
 Vicmap 2016
 VicTrack 2017
 Aerial photo: DELWP 2016

Ballarat Line Upgrade Project

Native Vegetation Mapping

Drawing Number: BLU-AJM-PWAA-MP-NF-600058
 Revision: P1.1

Drawn By: A. Berman
 Approved By: A. Michael
 Date: 5/07/2017
 Map Size: A3

0 50 100
 Metres
 Coordinate System: GDA 1994 MGA Zone 55