COLIBAN WATER SUPPLY SYSTEM

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coliban water supply registration plan 605361(A)1

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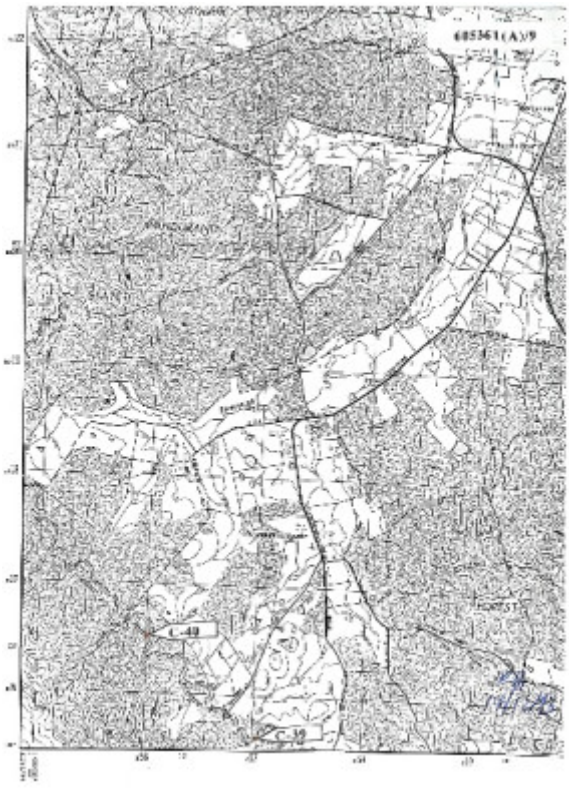

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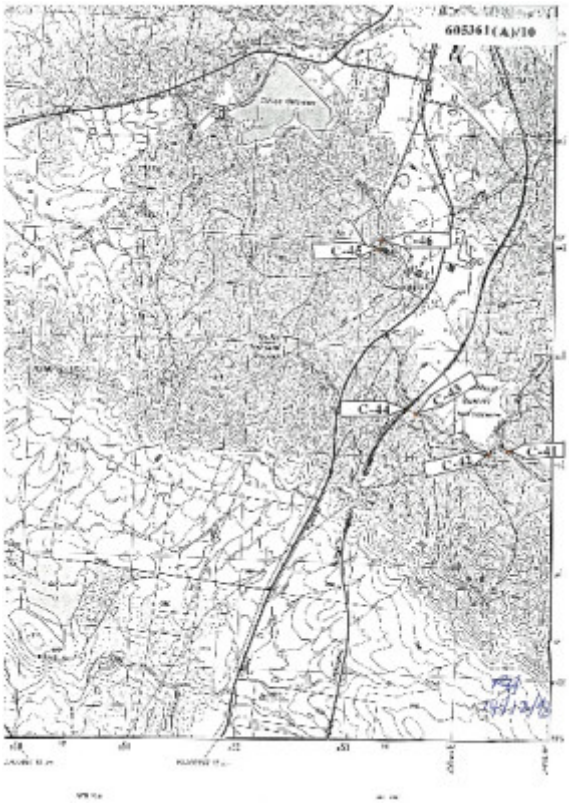

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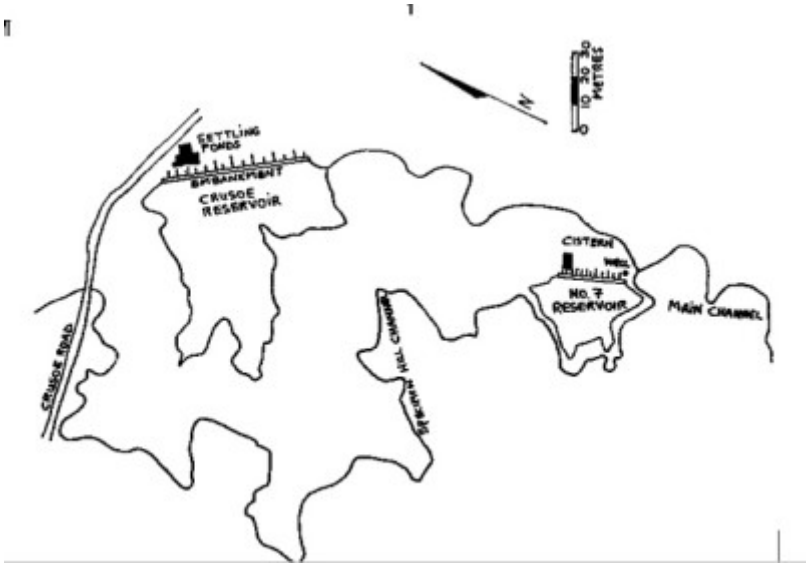

coliban water supply registration plan 605361(A)11

Location

TYLDEN TO BIG HILL, MACEDON RANGES SHIRE, HEPBURN SHIRE, MOUNT ALEXANDER SHIRE, GREATER BENDIGO CITY

Municipality

GREATER BENDIGO CITY

MOUNT ALEXANDER SHIRE

HEPBURN SHIRE

MACEDON RANGES SHIRE

Level of significance

Registered

Victorian Heritage Register (VHR) Number

H1021

Heritage Overlay Numbers

HO309

HO837

VHR Registration

November 24, 1994

Amendment to Registration

May 21, 1998

Heritage Listing

Victorian Heritage Register

Statement of Significance

Last updated on - May 4, 1999

* The Coliban water supply system is a historically important engineering system designed to bring water to the City of Bendigo which commenced operation in 1877. The Coliban water supply system is still essentially operating in the manner that was first proposed by Joseph Brady in 1862.

* The Coliban system is one of the earliest water supply system in the state. It is a vast, gravity operated, open channel water supply system which supplied water for both domestic and irrigation purposes.

* It demonstrates significant technical accomplishment though the engineers who, over a period of eleven years between 1866 and 1877, overcame some major technical difficulties in bringing the Coliban system into operation. This water system is particularly interesting as the construction was commenced without adequate investigation and planning yet is still functional in the 1990s.

* The system is important for the role that it has played firstly in maintaining Bendigo as a major mining centre, and then in ensuring its future as a major regional centre.

* The Coliban water supply system, through a secure supply of water, has a strong association with the Bendigo - Castlemaine region for nearly 120 years.

* Its development demonstrates an association with the following significant people: Joseph Brady, the engineer, James Forrestre Sullivan (MCA Mandurang, Minister for Mines, C.1862-1866) and Angus Mackay (MCA

Sandhurst, Minister for Mines, 1869).

* It demonstrates some fine examples of craftsmanship and skill expanding evident in those structures that are still operating effectively today:
Malmsbury reservoir embankment, the Malmsbury outlet tunnel the inlet and outlet structures of the back creek syphon, the faul structures, the five large tunnels, the expedition pass reservoir embankment, the Barkers Creek reservoir embankment and outlet tower, and the aqueduct system.

* The system contains a vast collection of structures of varying standards of sophistication which collectively reflect how the system has been modified over time. The abutments and foundations of the flumes which still exist along the aqueduct are important artefacts of the earlier methods used for transporting water through difficult terrain.

Permit Exemptions

General Exemptions:

General exemptions apply to all places and objects included in the Victorian Heritage Register (VHR). General exemptions have been designed to allow everyday activities, maintenance and changes to your property, which don't harm its cultural heritage significance, to proceed without the need to obtain approvals under the Heritage Act 2017.

Places of worship: In some circumstances, you can alter a place of worship to accommodate religious practices without a permit, but you must notify the Executive Director of Heritage Victoria before you start the works or activities at least 20 business days before the works or activities are to commence.

Subdivision/consolidation: Permit exemptions exist for some subdivisions and consolidations. If the subdivision or consolidation is in accordance with a planning permit granted under Part 4 of the *Planning and Environment Act 1987* and the application for the planning permit was referred to the Executive Director of Heritage Victoria as a determining referral authority, a permit is not required.

Specific exemptions may also apply to your registered place or object. If applicable, these are listed below. Specific exemptions are tailored to the conservation and management needs of an individual registered place or object and set out works and activities that are exempt from the requirements of a permit. Specific exemptions prevail if they conflict with general exemptions.

Find out more about heritage permit exemptions here.

Construction dates	1936,
Heritage Act Categories	Registered place,
Hermes Number	3784
Property Number	

Extent of Registration

NOTICE OF REGISTRATION

As Executive Director for the purpose of the Heritage Act, I give notice under Section 46 that the Victorian Heritage Register is amended in that the Heritage Register Number 1021 in the category described as a Heritage

Place is now described as:

Coliban Water Supply System. Commencing at the Upper Coliban Reservoir, 8 km south-west of Kyneton, and concluding at Kangaroo Flat, 8 km south of Bendigo, Greater Bendigo City Council, Mt Alexander Shire Council, Macedon Ranges Shire Council.

EXTENT:

1. All of the buildings works and structures known as the Coliban Water Supply System marked on Diagram 605361(A)/1-10 held by the Executive Director and listed in the Recommendation to the Minister for Planning from the Historic Buildings Council, signed by the Chairperson and dated 14 December 1993, held by the Executive Director.

AND

2. All of the buildings works and structures which are part of the Coliban Water Supply System marked on Diagram 605361(A)11 held by the Executive Director and known as:

(a) Crusoe Reservoir settling ponds, reservoir embankment and any associated archaeological deposits and artefacts; and

(b) No. 7 Reservoir treatment works, underground water storage cistern, reservoir embankment and any associated archaeological deposits and artefacts.

Dated 7 May 1998

RAY TONKIN
Executive Director
[*Victoria Government Gazette* No. G20 21 May 1998 pp.1130-1131]

[*Recommendation to the Minister referred to in 1. above]*

1. The buildings, works and structures known as the Coliban Water Supply System including:

Upper Coliban Reservoir Outlet Tower, a brick and concrete structure at the upstream end of the outlet conduit. C-1 on Plan 605361(A)/1, AMG Co-ordinates 2-69-000 E, 58-70-155 N, Photograph 605361(B)/1 and Coliban Water Authority Storages and Main Channel Heritage Asset No. 1.

Upper Coliban Reservoir Bye-wash from downstream of the Ogee Spillway Apron constructed in 1993 to the final drop north of the road bridge (including the large drop structure, cascade steps, grouted bluestone pitchers in the Bye-wash floor, brick training walls with bluestone coping and the arched brick road bridge). C-2 on Plan 605361(A)/1, AMG Co-ordinates 2-69-160 E, 58-70-160N, Photograph 605361(B)/2 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 2.

Malmsbury Reservoir Eastern Bye-wash from immediately downstream of the spillway gates to the end of the bluestone lined bye-wash including the bluestone bye-wash floor, training walls, drop structure, cascades, and rendered transverse buttress wall with bluestone coping on the west side. But excluding the spillway gates, piers and steel superstructure. C-3 on Plan 605361(A)/2, AMG Co-ordinates 2-67-520 E, 58-79-900 N, Photograph 605361(B)/3 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 3.

Malmsbury Reservoir Outlet Tunnel and Channel including the bluestone lined tunnel, the bluestone lined outlet channel to both the Coliban Main Channel and to the Coliban River, and the remnants of the cast iron regulating gates for controlling flows to the Coliban River and the Main Channel. But excluding the concrete invert placed inside the bluestone channel in 1989. C-4 on Plan 605361(A)/3, AMG Co-ordinates 2-67-000 E, 58-80-100 N, Photograph 605361(B)/4 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 4.

Malmsbury Reservoir Outlet Tower and Cast Iron Access Bridge. C-5 on Plan 605361(A)/3, AMG Co-ordinates 2-67-000 E, 58-80-000 N, Photograph 605361(B)/5 and Coliban Region Water Authority Storages and Main Channel Heritage asset No. 5.

Malmsbury Reservoir Embankment, an earth fill dam with a puddle clay core. C-6 on Plan 605361(A)/2, AMG Co-ordinates 2-67-250 E, 58-80-050 N, Photograph 605361(B)/6 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 6.

Arched Brick Culvert under the Calder Highway including the brick head walls and the curved brick transition walls with bluestone copings. C-7 on Plan 605361(A)/2, AMG Co-ordinates 2-67-130 E, 58-80-890 N, Main Channel Running Distance 0.9 km, Photograph 605361(B)/7 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 7.

No. 1 Tunnel which is brick lined and has bluestone portals. C-8 on Plan 605361(A)/4, AMG Co-ordinates 2-65-200 E, 58-82-900 N, Main Channel Running Distance of 5.378 km, Photograph 605361(B)/7 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 8.

Back Creek Syphon Inlet Structure including the bluestone structures, cast iron sluice gates and brick lined inlet channel. But excluding the galvanised steel walkways, trash racks and safety grids, mesh security fence, concrete diaphragm walls and drop bar slots. C-9 on Plan 605361(A)/4 AMG Co-ordinates 2-63-560 E, 58-82-760 N, Main Channel Running Distance of 5.735 km, Photograph 605361(B)/9 and Coliban Region Water Authority Storage and Main Channel Heritage Asset No. 9.

Back Creek Syphon Outlet Structure including the bluestone structures but excluding the steel grid-mesh flooring and its angle iron frame. C-10 on Plan 605361(A)/4, AMG Co-ordinates 2-64-020 E, 62-82-850 N, Main Channel Running Distance of 6.344 km, Photograph 605361(B)/10 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 10.

Stone In-chute erosion control structure, where surface water run-off enters the Coliban Main Channel. C-11 on Plan 605361(A)/4, AMG Co-ordinates 2-62-420 E, 58-83-100 N, Main Channel Running Distance of 9.33 km, Photograph 605361(B)/11 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 11.

Brick Abutments of old flume which took the Coliban Main Channel over a creek. C-12 on Plan 605361(A)/4, AMG Co-ordinates 2-62-320 E, 58-83-050 N, Main Channel Running Distance of 9.434 km, Photograph 605361(B)/12 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 12.

Arched brick lined tunnel 42m long with brick portals topped with bluestone copings. C-13 on Plan 605361(A)/4, AMG Co-ordinates 2-62-240 E 58-84-240 N, Main Channel Running Distance from 12.073 to 12.115 km, Photograph 605361(B)/13 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 13.

Brick, bluestone and concrete creek over-chute. An arched brick culvert takes the channel under a creek, the bed of which is lined with bluestone immediately downstream of the channel. The upper sections of the transition walls are made of concrete. C-14 on Plan 605361(A)/4, AMG Co-ordinates 2-62-580 E, 58-86-060 N, Main Channel Running Distance of 15.395 km, Photograph 605361(B)/14 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 14.

Box Section Brick flume, 1.8m by 1.5m deep. A concrete addition raised the height of each wall. Includes a 0.75m brick drainage conduit with brick head walls and stone copings and brick transitions between the trapezoidal section of the channel and the box section of the flume. C-15 on Plan 605361(A)/5, AMG Co-ordinates 2-63-620 E, 58-88-830 N, Main Channel Running Distance of 19.64 km, Photograph 605361(B)/15 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 15.

Harcourt Main Channel Tunnel which is brick lined and includes four brick lined air/access shafts each with a bluestone coping. C-16 on Plan 605361(A)/5, AMG Co-ordinates 2-59-940 E, 58-94-160 N, approximately 600m from the junction of the Main and Harcourt Channels, Photographs 605361(B)/16 and 16a and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 16.

Expedition Pass Reservoir Embankment, an earth fill dam with puddle clay core. C-17 on Plan 605361(A)/6, AMG Co-ordinates 2-57-500 E, 58-95-700 N, Photograph 605361(B)/17 and 17a and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 17.

Expedition Pass Reservoir Outlet Tower, a cast iron structure bolted together, positioned above the upstream guard valve of the outlet conduit. C-18 on Plan 605361(A)/6, AMG Co-ordinates 2-57-500 E, 58-95-680 N, Photograph 60361(B)/18 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 18.

Expedition Pass Reservoir Outlet Conduit, Regulating Valve, and Outlet Portal. C-19 on Plan 605361(A)/7, AMG Co-ordinates 2-57-500 E, 58-95-650 N, Photograph 605361(B)/19 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 19.

Expedition Pass Reservoir Bye-wash, which is excavated through rock at the north end of the reservoir embankment and includes a granite block training wall with bluestone coping along its southern side. C-20 on Plan605361(A)/6 AMG Co-ordinates 2-57-450 E, 58-95-800 N, Photographs 605361(B)/20 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 20.

Sandy Creek Flume Abutments and Support Piers including granite ashlar masonry abutments, trapezoidal transitions and six piers, plus the remnants of the upstream timber pier and timber stringers from the first two spans. These structures are set at a skew from the line of the channel. C-21 on Plan 605361(A)/6, AMG Co-ordinates 2-61-520 E, 58-95-650 N, Main Channel Running Distance of 29.98 km at an offset of 15m east of the channel, Photograph 605361(B)/21, 21a & 21b and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 21.

Granite Ashlar Masonry Wall, 110m long on the east side of the Main Channel, constructed of granite blocks with granite coping. C-22 on Plan 605361(A)/6 AMG Co-ordinates 2-61-800 E, 58-98-800 N, Main Channel Running Distance from 34.275 to 34.385 km, Photograph 605361(B)/22 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 22.

Granite Ashlar Masonry Flume Abutments and Granite Pier. C-23 on Plan 604361(A)/6, AMG Co-ordinates 2-61-800 E, 58-98-900 N, Main Channel Running Distance of 34.4 km, Photograph 605361(B)/23 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 23.

Granite Ashlar Masonry Wall, 112m long on the west side of the Main Channel, constructed of granite blocks with granite coping. C-24 on Plan 603561(A)/69, AMG Co-ordinates 2-62-050 E, 58-99-820 N, Main Channel Running Distance from 35.565 to 36.677 km, at an offset of 4m from the Main Channel, Photograph 605361(B)/24 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 24.

Whiskey Gully Syphon Inlet Structure. C-25 on Plan 605361(A)/6, AMG Co-ordinates 2-61-950 E, 58-99-980 N, Main Channel Running Distance of 35.78 km at an offset of 4m west of Main Channel, Photograph 605361(B)/25 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 25.

Upstream Granite Ashlar Masonry Flue Abutment. C-26 on Plan 605361(A)/6, AMG Co-ordinates 2-61-960 E, 59-00-680 N, Main Channel Running Distance of 37.168 km, at an offset of 2m east of the Main Channel, Photograph 605361(B)/26 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 26.

Granite Ashlar Masonry Flume Foundation Wall, 85m long, and Downstream Abutment. The downstream end of the wall terminates at the flume abutment. C-27 on Plan 605361(A)/6 AMG Co-ordinates 2-62-060 E, 59-00-700 N, Main Channel Running Distance from 37.240 to 37.325 km, an offset of 1m east of the Main Channel, Photograph 605361(B)/27 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 27.

Granite Ashlar Masonry Wall, 140m long, Flume Abutments and Piers. The down stream end of the wall terminates at the upstream flume abutment. C-28 on Plan 605361(A)/6, AMG Co-ordinates 2-62-190 E, 59-01-250 N, Main Channel Running Distance from 37.97 to 38.08 km, Photograph 605361(B)/28 Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 28.

Granite Ashlar Masonry Wall 280m long along the east side of the Main Channel. C-29 on Plan 605361(A)/6M, AMG Co-ordinates 2-62-020 E, 59-01-750 N, Main Channel Running Distance from 38.58 to 38.86 km, Photograph 605361(B)/29 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 29.

Byrnes Tunnel, an unlined tunnel 217m long with granite portals. C-30 on Plan 605361(A)/7, AMG Co-ordinates 2-61-950 E, 58-02-750 N, Main Channel Running Distance from 39.603 to 39.82 km, Photograph 605361(B)/30 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 30.

Granite Ashlar Masonry Flume Abutments and 8 Piers. C-31 on Plan 605361(A)/7 AMG Co-ordinates 2-61-540 E, 59-2-860 N, Main Channel Running Distance 40.2 to 40.32 km, Photographs 6053619B0/31 and 31a and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 31.

Granite Ashlar Masonry Flume Abutments and 7 Piers. C-32 on Plan 605361(A)/7, AMG Co-ordinates 2-59-750 E, 59-06-650 N, Main Channel Running Distance from 45.325 to 45.41 km, Photograph 605361(B)/32 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 32.

Wirths Tunnel, 623m long is partially lined and has granite portals. C-33 on Plan 605361(A)/7, AMG co- rdinates 2-59-200 E, 59-08-400 N, Main Channel Running Distance from 47.072 to 47.895 km, Photograph 605361(B)/33 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 33.

Granite Ashlar Masonry and Brick Flume Abutments and 2 Piers. C-34 on Plan 605361(A)/8, AMG Co-ordinates 2-59-000 E, 59-09-280 N, Main Channel Running Distance of 48.425 km, Photograph 605361(B)/34 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 34.

Brennans Tunnel is unlined and 511m long. C-35 on Plan 605361(A)/8, AMG Co-ordinates 2-59-000 E, 59-11-250 N, Main Channel Running Distance from 50.78 to 51.291 km, Photograph 605361(B)/35 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 35.

Drop structure, Chute, Energy Dissapator, and Upstream Brick Flume Abutment. C-36 on Plan 605361(A)/8, AMG Co-ordinates 2-58-880 E, 59-11-800 N, Main Channel Running Distance of 51.7 km, Photographs 605361(B)/36 and 36a and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 36.

Drop Structure, Chute and Energy Dissapator. C-37 on Plan 605361(A)/8 AMG Co-ordinates 2-58-650 E, 59-12-250 N, Main Channel Running Distance of 52.3 km, Photograph 605361(B)/37 and 37a and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 37.

Concrete Chute topped with granite blocks, Brick Energy Dissapator with granite coping, Brick Flume Abutments with granite coping and granite piers. The chute leads into the energy dissapator which adjoins the upstream flume abutment. C-38 on Plan 605361(A)/8, AMG Co-ordinates 2-58-600 E, 59-12-300 N, Main Channel Running Distance of 52.41 km, Photograph 605361(B)/38 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 38.

Stone In-chute erosion control structure where surface run-off water enters the Coliban Main Channel. C-39 on Plan 605361(A)/9, AMG Co-ordinates 2-57-090 E, 59-15-680 N, Main Channel Running Distance of 58.646 km, Photograph 605361(B)/39 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 39.

Stone In-chute erosion control structure where surface run-off water from a gully enters the Coliban Main Channel. C-40 on Plan 605361(A)/9 AMG Co-ordinates 2-56-000 E, 59-16-540 N, Main Channel Running Distance of 60.908 km, Photograph 605361(B)/40 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 40.

Flow Regulator on Coliban Main Channel and Offtake Structure to the Spring Gully Channel. This structure is made of brick with granite coping and cast iron. C-41 on Plan 605361(A)/10, AMG Co-ordinates 2-54-400 E, 59-18-100 N, Main Channel Running Distance of 64.331 km, Photograph 605361(B)/41 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 41.

Cascade of 4 Steps constructed of sandstone blocks, the channel of which has been rendered with cement mortar, includes an In-chute at the downstream end. C-42 on Plan 605361(A)/10, AMG Co-ordinates 2-54-300 E, 59-18-080 N, Main Channel Running Distance of 64.481 km, Photograph 605361(B)/42 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 42.

Cascade of 7 Steps and 110m long, constructed of sandstone blocks. C-43 on Plan 605361(A)/10, AMG Co-

ordinates 2-53-580 E, 59-18-400 N, Main Channel Running Distance from 65.297 to 65.407 km, Photograph 605361(B)/43 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 43.

Granite Culvert 2.1m high by 1.9m wide by 21m long under the Melbourne to Bendigo railway, with drainage in-chutes from both north and south of the Main Channel and on both the upstream and downstream sides of the culvert. C-44 on Plan 605361(A)/10, AMG Co-ordinates 2-53-480 E, 59-18-450 N, Main Channel runnning distance of 65.423 km, Photograph 605361(B)/44 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 44.

Sluice Gate Flow Regulating Structure, brick structure with two pair of cast iron sluice gates which are rack and pinion operated. C-45 on Plan 605361(A)/10, AMG Co-ordinates 2-53-160 E, 59-19-900 N, Main Channel Running Distance of 67.778 km, Photograph 605361(B)/45 and Coliban Region Authority Storages and Main Channel Heritage Asset No. 45.

Sandstone Section of the Coliban Main Channel from a concrete flow-measuring flume to a concrete access bridge, a length of 87m. C-46 on Plan 605361(A)/10, AMG Co-ordinates 2-53-165 E, 59-19-980 N, Main Channel Running Distance from 67.817 to 67.904 km, Photograph 605361(B)/46 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 46.

Barkers Creek Reservoir Embankment, an earth fill dam with puddle clay core. C-47 on Plan 605361(A)/7, AMG Co-ordinates 2-57-630 E, 59-04-940 N, Photograph 605361(B)/47 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 47.

Barkers Creek Reservoir Outlet Tower, a cast iron structure held together by bolts. C-48 on Plan 605361(A)/7, AMG Co-ordinates 2-57-460 E, 59-05-000 N, Photograph 605361(B)/48 and Coliban Region Water Authority Storages and Main Channel Heritage Asset No. 48.

2. All of that land which represents the footprint of the above structures and works shown marked on Plan Nos. 605361(A)/1 - 605361(A)/10 inclusive, endorsed by the Chairperson, Historic Buildings Council and held by the Director, Historic Buildings Council.

This place/object may be included in the Victorian Heritage Register pursuant to the Heritage Act 2017. Check the Victorian Heritage Database, selecting 'Heritage Victoria' as the place source.

For further details about Heritage Overlay places, contact the relevant local council or go to Planning Schemes Online http://planningschemes.dpcd.vic.gov.au/