



NOTE:  
PLEASE REFER TO THE MOLONGLO 3 MAJOR ELECTRICAL INFRASTRUCTURE RELOCATION  
DRAWINGS, ISSUED BY CALIBRE FOR DETAILED PLANNING INFORMATION:  
19-000496 100 19-000496 202 19-000496 205 19-000496 208  
19-000496 200 19-000496 203 19-000496 206 19-000496 209  
19-000496 201 19-000496 204 19-000496 207 19-000496 210



| ELECTRICAL SERVICES |                                                                |
|---------------------|----------------------------------------------------------------|
| LINE                | DESCRIPTION                                                    |
|                     | EXISTING 132 kV OVERHEAD INFRASTRUCTURE TO BE DEMOLISHED       |
|                     | CANBERRA - WODENLINE (INCLUDES ONE BANK OF CABLES IN CONDUITS) |
|                     | CIVIC - WODEN LINE (INCLUDES BANK OF CONDUITS ONLY)            |

MOUNT PAINTER NATURE RESERVE

INDICATIVE ALIGNMENT  
OF THE PROPOSED 132kV  
RELOCATION ROUTE

INDICATIVE POSITION  
OF THE PROPOSED SUBSTATION

COULTER DRIVE

COPPINS CROSSING ROAD

MOLONGLO RIVER

SCRIVENER DAM

THE NATIONAL ARBORETUM

TURRERANONG PARKWAY

EXISTING 132 kV OVERHEAD INFRASTRUCTURE  
TO BE DEMOLISHED

EXISTING 132 kV OVERHEAD INFRASTRUCTURE  
TO BE DEMOLISHED

SHEET 8 OF 25

| REV | DATE       | BY | DESCRIPTION                  | CHK | APPD |
|-----|------------|----|------------------------------|-----|------|
| 0   | 09/03/2021 |    | ADDITIONAL REQUESTED LAYOUTS |     |      |

| REFERENCE COORDINATION DRAWINGS |             |                 |     |  |
|---------------------------------|-------------|-----------------|-----|--|
| DESCRIPTION                     | DRAWING NO. | REV             | CHK |  |
| N/A                             | N/A         |                 |     |  |
| SURVEY DATUM                    |             |                 |     |  |
| HORIZONTAL DATUM:               |             | VERTICAL DATUM: |     |  |

SCALE:

1:10000

A1 ORIGINAL  
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SIGNED: APPROVED

DATE: 09/03/2021

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CLIENT:



ACT  
Government

PROJECT:

MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY

TITLE:

PROPOSED ELECTRICAL MAIN REALIGNMENT - PLAN VIEW

DRAWING STATUS:

FOR INFORMATION ONLY

DESIGNED:

CHECKED:

APPROVED:

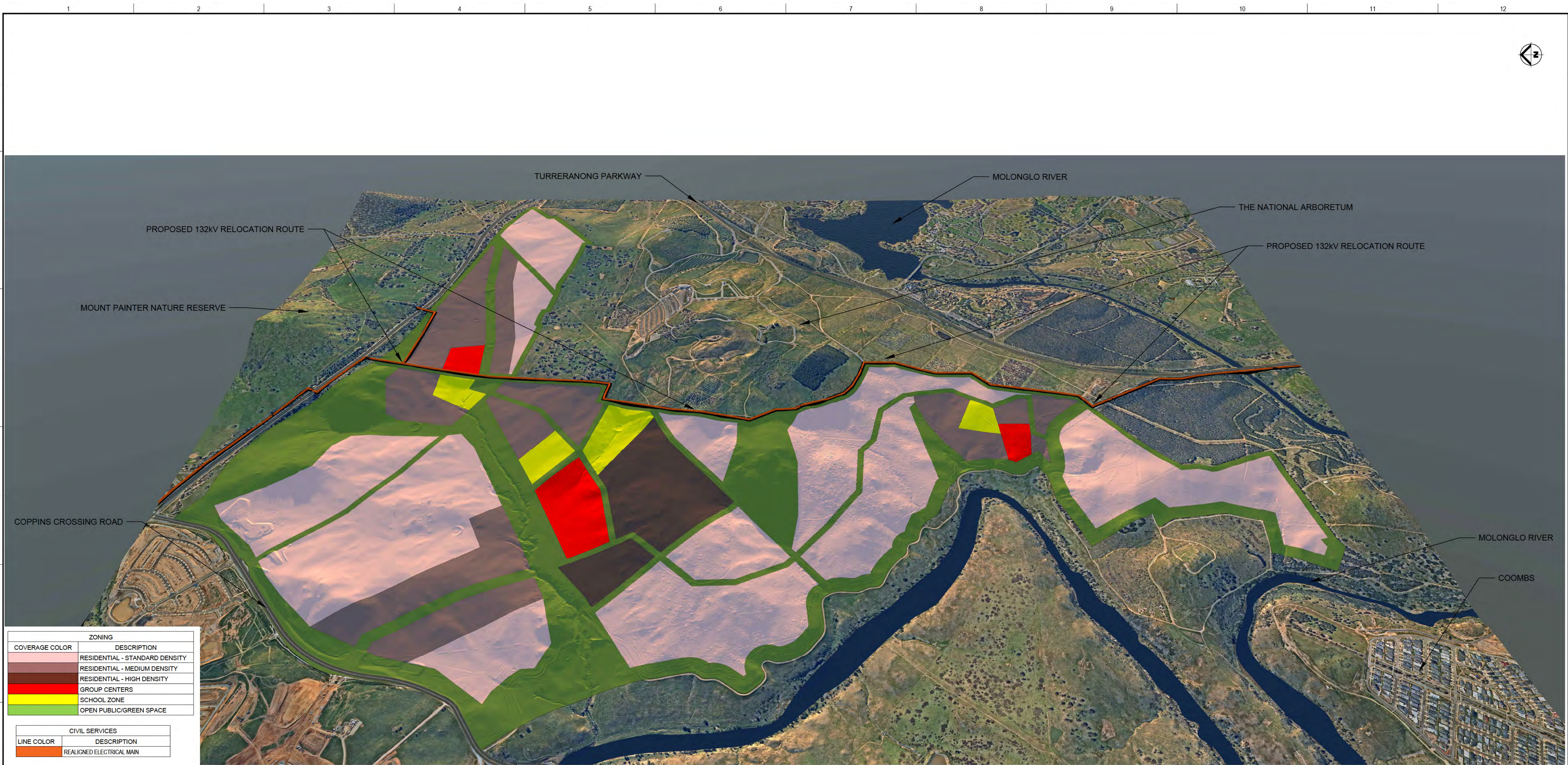
PROJECT No: PS120325

DRAWN:

DATE: 09/03/2021

DRAWING No: PS119657\_CIV\_ELC\_002

REV: 00



| ZONING         |                                |
|----------------|--------------------------------|
| COVERAGE COLOR | DESCRIPTION                    |
|                | RESIDENTIAL - STANDARD DENSITY |
|                | RESIDENTIAL - MEDIUM DENSITY   |
|                | RESIDENTIAL - HIGH DENSITY     |
|                | GROUP CENTERS                  |
|                | SCHOOL ZONE                    |
|                | OPEN PUBLIC/GREEN SPACE        |

| CIVIL SERVICES |                           |
|----------------|---------------------------|
| LINE COLOR     | DESCRIPTION               |
|                | REALIGNED ELECTRICAL MAIN |

| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fgdl.org.au/">https://elevation.fgdl.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |

|     |      |            |  |                            |      |  |  |
|-----|------|------------|--|----------------------------|------|--|--|
| 0   |      | 27/01/2021 |  | FINAL SUBMISSION TO CLIENT |      |  |  |
| REV | DATE | BY         |  | CHK                        | APPD |  |  |
| 1   |      |            |  |                            |      |  |  |
| 2   |      |            |  |                            |      |  |  |

| REFERENCE COORDINATION DRAWINGS |             |     |     |
|---------------------------------|-------------|-----|-----|
| DESCRIPTION                     | DRAWING NO. | REV | CHK |
| N/A                             | N/A         |     |     |

| SURVEY DATUM      |                 |
|-------------------|-----------------|
| HORIZONTAL DATUM: | VERTICAL DATUM: |

|                           |            |
|---------------------------|------------|
| A1 ORIGINAL               |            |
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| SIGNED:                   |            |
| DATE:                     | 27/01/2021 |
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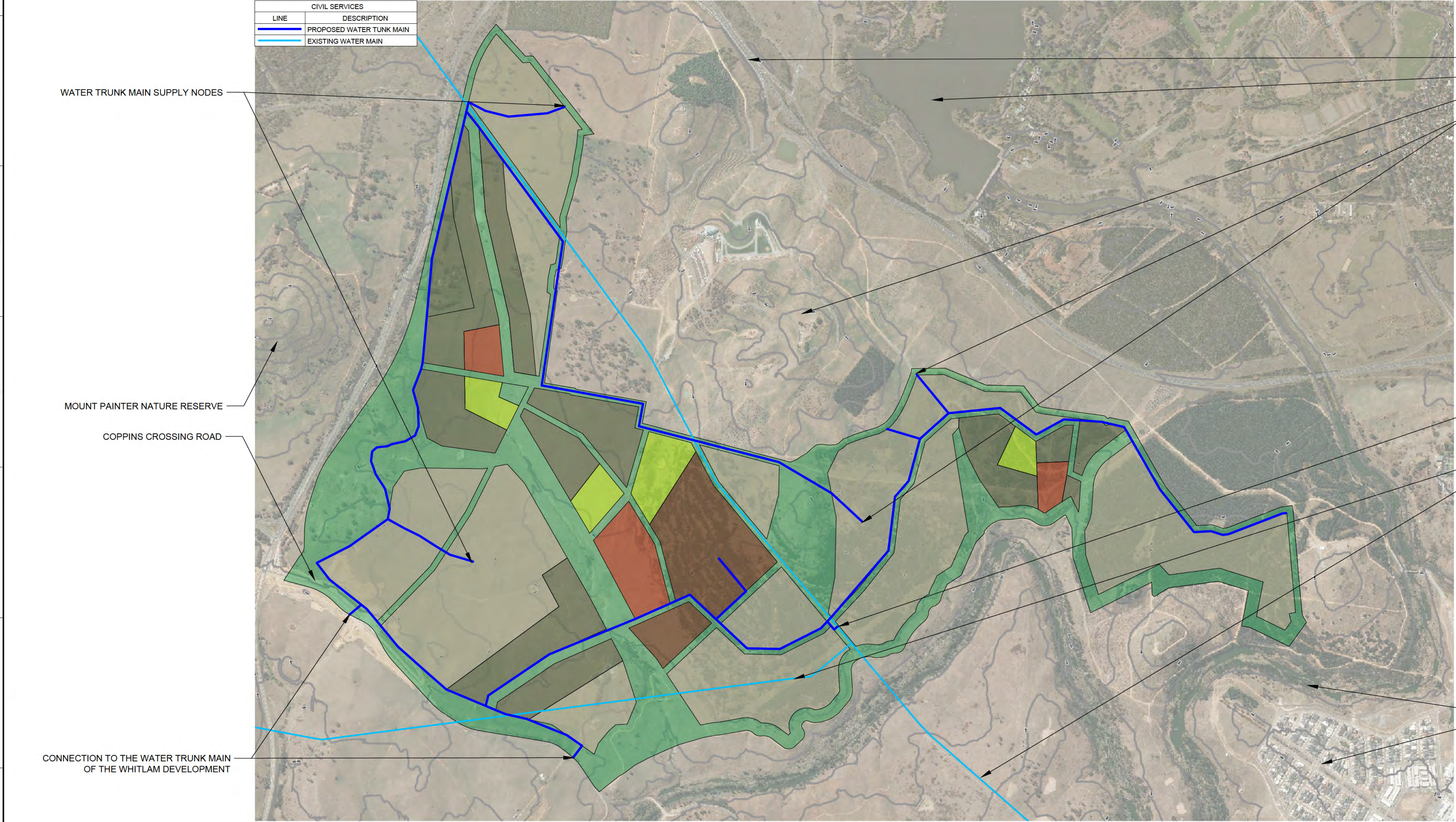
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|                                                            |  |
|------------------------------------------------------------|--|
| CLIENT:                                                    |  |
| PROJECT:                                                   |  |
| MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY          |  |
| TITLE:                                                     |  |
| PROPOSED ELECTRICAL MAIN REALIGNMENT<br>- PERSPECTIVE VIEW |  |

|                      |          |            |
|----------------------|----------|------------|
| DRAWING STATUS:      |          |            |
| FOR INFORMATION ONLY |          |            |
| DESIGNED:            | CHECKED: | APPROVED:  |
| PROJECT No:          | DRAWN:   | DATE:      |
| PS120325             |          | 25/01/2021 |
| DRAWING No:          | REV:     |            |
| PS119657_CIV_ELC_001 | 00       |            |

NOTE:  
PLEASE REFER TO THE MOLONGLO 3 WATER SUPPLY STRATEGY CONCEPT DESIGN  
REPORT, ISSUED BY GHD FOR MORE DETAILED PLANNING INFORMATION.



TURRERANONG PARKWAY  
MOLONGLO RIVER  
THE NATIONAL ARBORETUM  
WATER TRUNK MAIN SUPPLY NODES

MOUNT PAINTER NATURE RESERVE  
COPPINS CROSSING ROAD

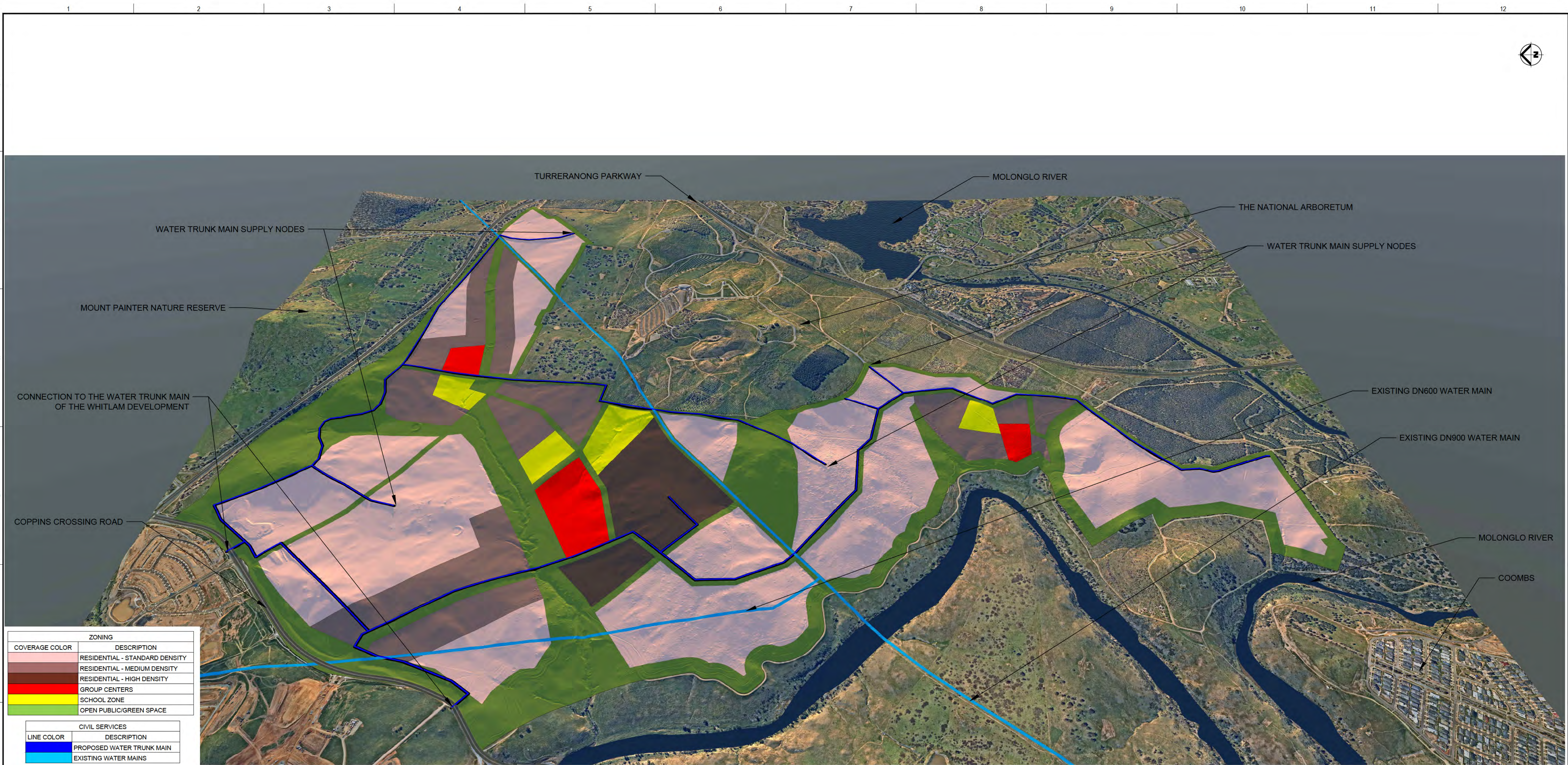
50% BACK-UP SUPPLY CONNECTION  
EXISTING DN600 WATER MAIN  
EXISTING DN900 WATER MAIN

MOLONGLO RIVER  
COOMBS

CONNECTION TO THE WATER TRUNK MAIN  
OF THE WHITLAM DEVELOPMENT

SHEET 10 OF 25

|                                                                                                                   |      |             |             |                              |      |            |  |
|-------------------------------------------------------------------------------------------------------------------|------|-------------|-------------|------------------------------|------|------------|--|
| 0                                                                                                                 |      | 09/03/2021  |             | ADDITIONAL REQUESTED LAYOUTS |      |            |  |
| REV                                                                                                               | DATE | BY          | DESCRIPTION | CHK                          | APPD |            |  |
| REFERENCE COORDINATION DRAWINGS                                                                                   |      |             |             |                              |      |            |  |
| DESCRIPTION                                                                                                       |      | DRAWING NO. |             | REV                          | CHK  |            |  |
| N/A                                                                                                               |      | N/A         |             |                              |      |            |  |
| SURVEY DATUM                                                                                                      |      |             |             |                              |      |            |  |
| HORIZONTAL DATUM:                                                                                                 |      |             |             | VERTICAL DATUM:              |      |            |  |
| SCALES                                                                                                            |      |             |             |                              |      |            |  |
| 1:10000                                                                                                           |      |             |             |                              |      |            |  |
| A1 ORIGINAL                                                                                                       |      |             |             |                              |      |            |  |
| DO NOT SCALE THIS DRAWING                                                                                         |      |             |             |                              |      |            |  |
| APPROVED                                                                                                          |      |             |             |                              |      |            |  |
| SIGNED:                                                                                                           |      |             |             |                              |      |            |  |
| DATE:                                                                                                             |      |             |             | 09/03/2021                   |      |            |  |
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|                              |      |             |             |                              |      |            |  |
| PROJECT:                                                                                                          |      |             |             |                              |      |            |  |
| MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY                                                                 |      |             |             |                              |      |            |  |
| TITLE:                                                                                                            |      |             |             |                              |      |            |  |
| PROPOSED WATER TRUNK MAIN ALIGNMENT - PLAN VIEW                                                                   |      |             |             |                              |      |            |  |
| DRAWING STATUS:                                                                                                   |      |             |             |                              |      |            |  |
| FOR INFORMATION ONLY                                                                                              |      |             |             |                              |      |            |  |
| DESIGNED:                                                                                                         |      | CHECKED:    |             | APPROVED:                    |      |            |  |
| PROJECT No:                                                                                                       |      | DRAWN:      |             | DATE:                        |      | 09/03/2021 |  |
| PS120325                                                                                                          |      |             |             |                              |      |            |  |
| DRAWING No:                                                                                                       |      |             |             |                              |      | REV:       |  |
| PS119657_CIV_W_002                                                                                                |      |             |             |                              |      | 00         |  |



| DRAWING CHECK PRINT         |              |    |      |
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| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fgdl.org.au/">https://elevation.fgdl.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |

0

27/01/2021

FINAL SUBMISSION TO CLIENT

REV

DATE

BY

DESCRIPTION

CHK

APPD

| REFERENCE COORDINATION DRAWINGS |             |                 |     |
|---------------------------------|-------------|-----------------|-----|
| DESCRIPTION                     | DRAWING NO. | REV             | CHK |
| N/A                             | N/A         |                 |     |
| SURVEY DATUM                    |             |                 |     |
| HORIZONTAL DATUM:               |             | VERTICAL DATUM: |     |

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ACT Government

PROJECT:

MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY

TITLE:

PROPOSED WATER TRUNK MAIN ALIGNMENT  
- PERSPECTIVE VIEW

DRAWING STATUS:

FOR INFORMATION ONLY

DESIGNED:

CHECKED:

APPROVED:

PROJECT No:

PS120325

DRAWN:

DATE:

25/01/2021

DRAWING No:

PS119657\_CIV\_W\_001

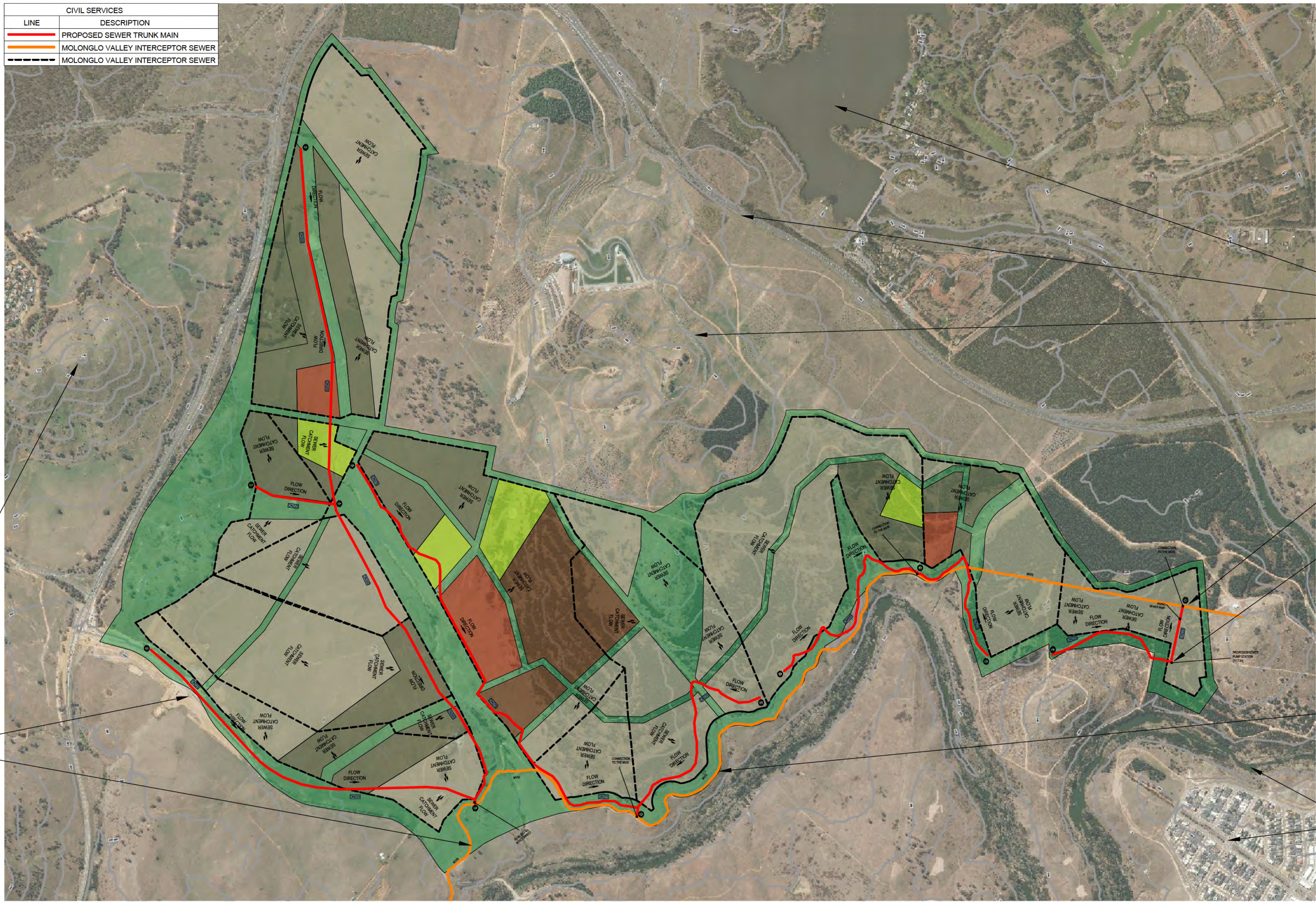
REV:

00

NOTE:  
PLEASE REFER TO THE MOLONGLO 3 SEWER MASTER PLAN REPORT, ISSUED BY GHD FOR  
ADDITIONAL INFORMATION.



| CIVIL SERVICES                         |                                   |
|----------------------------------------|-----------------------------------|
| LINE                                   | DESCRIPTION                       |
| <span style="color: red;">—</span>     | PROPOSED SEWER TRUNK MAIN         |
| <span style="color: orange;">—</span>  | MOLONGLO VALLEY INTERCEPTOR SEWER |
| <span style="color: black;">---</span> | MOLONGLO VALLEY INTERCEPTOR SEWER |



MOLONGLO RIVER

TURRERANONG PARKWAY

THE NATIONAL ARBORETUM

A CONNECTION TO THE MVIS AT THIS LOCATION NEEDS TO BE INVESTIGATED FURTHER DUE TO THE DEPTH OF THE MVIS.

THE VIABILITY FOR A PUMP STATION AT THIS LOCATION NEEDS TO BE INVESTIGATED FURTHER.

MOLONGLO VALLEY INTERCEPTOR SEWER (MVIS)

MOLONGLO RIVER COOMBS

MOUNT PAINTER NATURE RESERVE

COPPINS CROSSING ROAD

MOLONGLO VALLEY INTERCEPTOR SEWER (MVIS)

SHEET 12 OF 25

|     |            |    |                              |     |      |  |
|-----|------------|----|------------------------------|-----|------|--|
| 0   | 09/03/2021 |    | ADDITIONAL REQUESTED LAYOUTS |     |      |  |
| REV | DATE       | BY | DESCRIPTION                  | CHK | APPD |  |
| 1   |            |    |                              |     |      |  |
| 2   |            |    |                              |     |      |  |
| 3   |            |    |                              |     |      |  |
| 4   |            |    |                              |     |      |  |
| 5   |            |    |                              |     |      |  |
| 6   |            |    |                              |     |      |  |
| 7   |            |    |                              |     |      |  |
| 8   |            |    |                              |     |      |  |
| 9   |            |    |                              |     |      |  |
| 10  |            |    |                              |     |      |  |
| 11  |            |    |                              |     |      |  |
| 12  |            |    |                              |     |      |  |
| H   |            |    |                              |     |      |  |

| REFERENCE COORDINATION DRAWINGS |             |                 |     |
|---------------------------------|-------------|-----------------|-----|
| DESCRIPTION                     | DRAWING NO. | REV             | CHK |
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| SURVEY DATUM                    |             |                 |     |
| HORIZONTAL DATUM:               |             | VERTICAL DATUM: |     |
|                                 |             |                 |     |

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| SCALES  |  |
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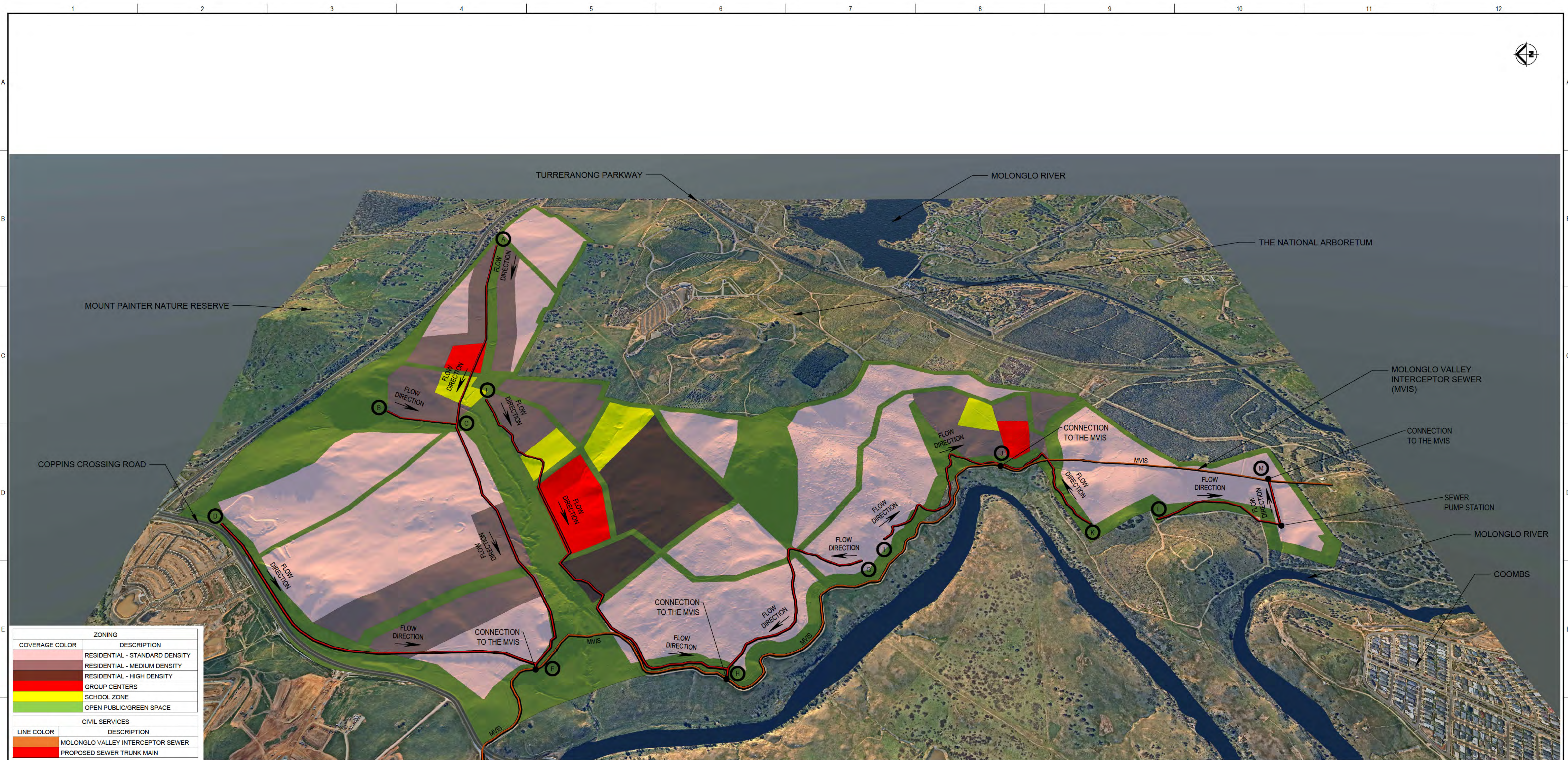
| A1 ORIGINAL               |            |
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|                                                                                       |  |
|---------------------------------------------------------------------------------------|--|
| CLIENT:                                                                               |  |
|  |  |

|                                                   |  |
|---------------------------------------------------|--|
| PROJECT:                                          |  |
| MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY |  |
| TITLE:                                            |  |
| PROPOSED SEWER TRUNK MAIN ALIGNMENT - PLAN VIEW   |  |

|                      |          |            |
|----------------------|----------|------------|
| DRAWING STATUS:      |          |            |
| FOR INFORMATION ONLY |          |            |
| DESIGNED:            | CHECKED: | APPROVED:  |
| PROJECT No:          | DRAWN:   | DATE:      |
| PS120325             |          | 09/03/2021 |
| DRAWING No:          |          | REV:       |
| PS119657_CIV_S_005   |          | 00         |



| ZONING         |                                   |
|----------------|-----------------------------------|
| COVERAGE COLOR | DESCRIPTION                       |
|                | RESIDENTIAL - STANDARD DENSITY    |
|                | RESIDENTIAL - MEDIUM DENSITY      |
|                | RESIDENTIAL - HIGH DENSITY        |
|                | GROUP CENTERS                     |
|                | SCHOOL ZONE                       |
|                | OPEN PUBLIC/GREEN SPACE           |
| CIVIL SERVICES |                                   |
| LINE COLOR     | DESCRIPTION                       |
|                | MOLONGLO VALLEY INTERCEPTOR SEWER |
|                | PROPOSED SEWER TRUNK MAIN         |

| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fgdl.org.au/">https://elevation.fgdl.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |

|     |      |            |             |                            |      |  |
|-----|------|------------|-------------|----------------------------|------|--|
| 0   |      | 27/01/2021 |             | FINAL SUBMISSION TO CLIENT |      |  |
| REV | DATE | BY         | DESCRIPTION | CHK                        | APPD |  |
| 1   |      |            |             |                            |      |  |
| 2   |      |            |             |                            |      |  |

| REFERENCE COORDINATION DRAWINGS |             |                 |     |
|---------------------------------|-------------|-----------------|-----|
| DESCRIPTION                     | DRAWING NO. | REV             | CHK |
| N/A                             | N/A         |                 |     |
| SURVEY DATUM                    |             |                 |     |
| HORIZONTAL DATUM:               |             | VERTICAL DATUM: |     |

|                           |            |
|---------------------------|------------|
| A1 ORIGINAL               |            |
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|                                                           |  |
|-----------------------------------------------------------|--|
| CLIENT:                                                   |  |
| PROJECT:                                                  |  |
| MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY         |  |
| TITLE:                                                    |  |
| PROPOSED SEWER TRUNK MAIN ALIGNMENT<br>- PERSPECTIVE VIEW |  |

|                      |          |            |
|----------------------|----------|------------|
| DRAWING STATUS:      |          |            |
| FOR INFORMATION ONLY |          |            |
| DESIGNED:            | CHECKED: | APPROVED:  |
| PROJECT No:          | DRAWN:   | DATE:      |
| PS120325             |          | 25/01/2021 |
| DRAWING No:          |          | REV:       |
| PS119657_CIV_S_001   |          | 00         |

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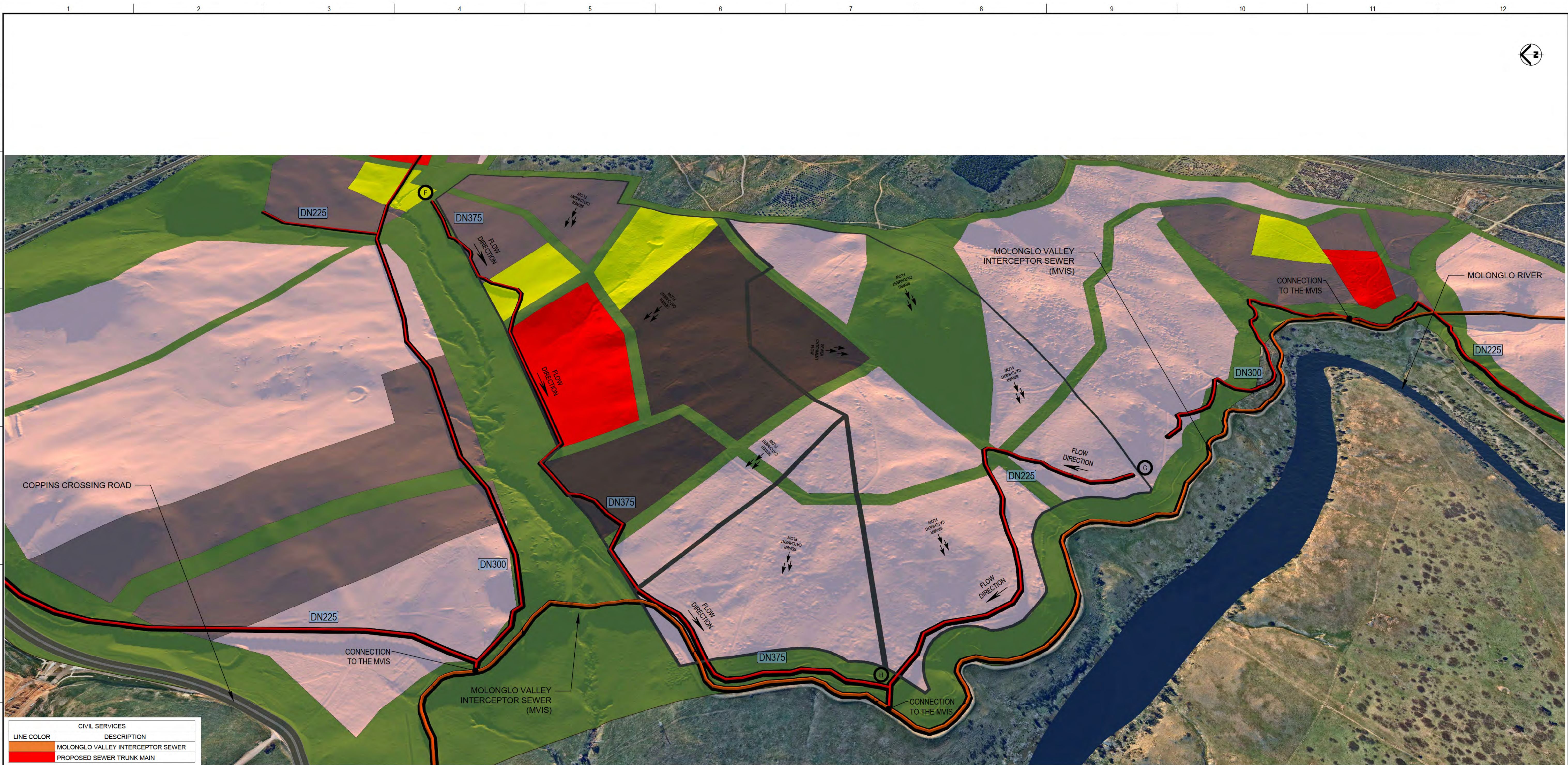
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| CIVIL SERVICES |                                   |
|----------------|-----------------------------------|
| LINE COLOR     | DESCRIPTION                       |
| [Red]          | MOLONGLO VALLEY INTERCEPTOR SEWER |
| [Orange]       | PROPOSED SEWER TRUNK MAIN         |

| ZONING         |                                |
|----------------|--------------------------------|
| COVERAGE COLOR | DESCRIPTION                    |
| [Light Green]  | RESIDENTIAL - STANDARD DENSITY |
| [Medium Green] | RESIDENTIAL - MEDIUM DENSITY   |
| [Dark Green]   | RESIDENTIAL - HIGH DENSITY     |
| [Yellow]       | GROUP CENTERS                  |
| [Light Blue]   | SCHOOL ZONE                    |
| [Dark Blue]    | OPEN PUBLIC/GREEN SPACE        |

| PIPE SECTION | GROSS DEVELOPEMENT AREA | NETT AREA (ha) | TOTAL EP - LOWER LIMIT | TOTAL EP - UPPER LIMIT | ADWF - LOWER LIMIT (l/s) | ADWF - UPPER LIMIT (l/s) | PDWF - LOWER LIMIT (l/s) | PDWF - UPPER LIMIT (l/s) | GROUNDWATER INFILTRATION (l/s) | RDI (l/s) | TOTAL DESAIGN FLOW - LOWER LIMIT (l/s) | TOTAL DESIGN FLOW - UPPER LIMIT (l/s) | RECOMMENDED PIPE SIZE | MINIMUM PIPE GRADE | PIPE CAPACITY (l/s) |
|--------------|-------------------------|----------------|------------------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------------|-----------|----------------------------------------|---------------------------------------|-----------------------|--------------------|---------------------|
| F - H        | 79.96                   | 69.97          | 7,031.69               | 9,495.03               | 14.77                    | 19.94                    | 59.83                    | 80.86                    | 1.20                           | 38.96     | 99.59                                  | 120.62                                | DN375                 | 1 in 175           | 133.75              |
| G - H        | 34.34                   | 25.76          | 1,228.50               | 1,533.00               | 2.58                     | 3.22                     | 11.59                    | 14.47                    | 0.52                           | 12.03     | 24.14                                  | 27.02                                 | DN225                 | 1 in 200           | 32.21               |

DRAWING CHECK PRINT

|                             |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES                                                                   |                                                                             |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME                                                                    | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS                                                                  | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA                                                                 | <a href="https://elevation.fedf.org.au/">https://elevation.fedf.org.au/</a> |
| OTHER SPATIAL INFORMATION   ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT |                                                                             |

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27/01/2021

FINAL SUBMISSION TO CLIENT

REV

DATE

BY

DESCRIPTION

CHK

APPD

| REFERENCE COORDINATION DRAWINGS |             |     |     |
|---------------------------------|-------------|-----|-----|
| DESCRIPTION                     | DRAWING NO. | REV | CHK |
| N/A                             | N/A         |     |     |

| SURVEY DATUM      |                 |
|-------------------|-----------------|
| HORIZONTAL DATUM: | VERTICAL DATUM: |

A1 ORIGINAL

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SIGNED:

DATE: 27/01/2021

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ACT Government

PROJECT:

MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY

TITLE:

PROPOSED SEWER TRUNK MAIN - BRANCH 2

DRAWING STATUS:

FOR INFORMATION ONLY

DESIGNED:

CHECKED:

APPROVED:

PROJECT No:

PS120325

DRAWN:

DATE:

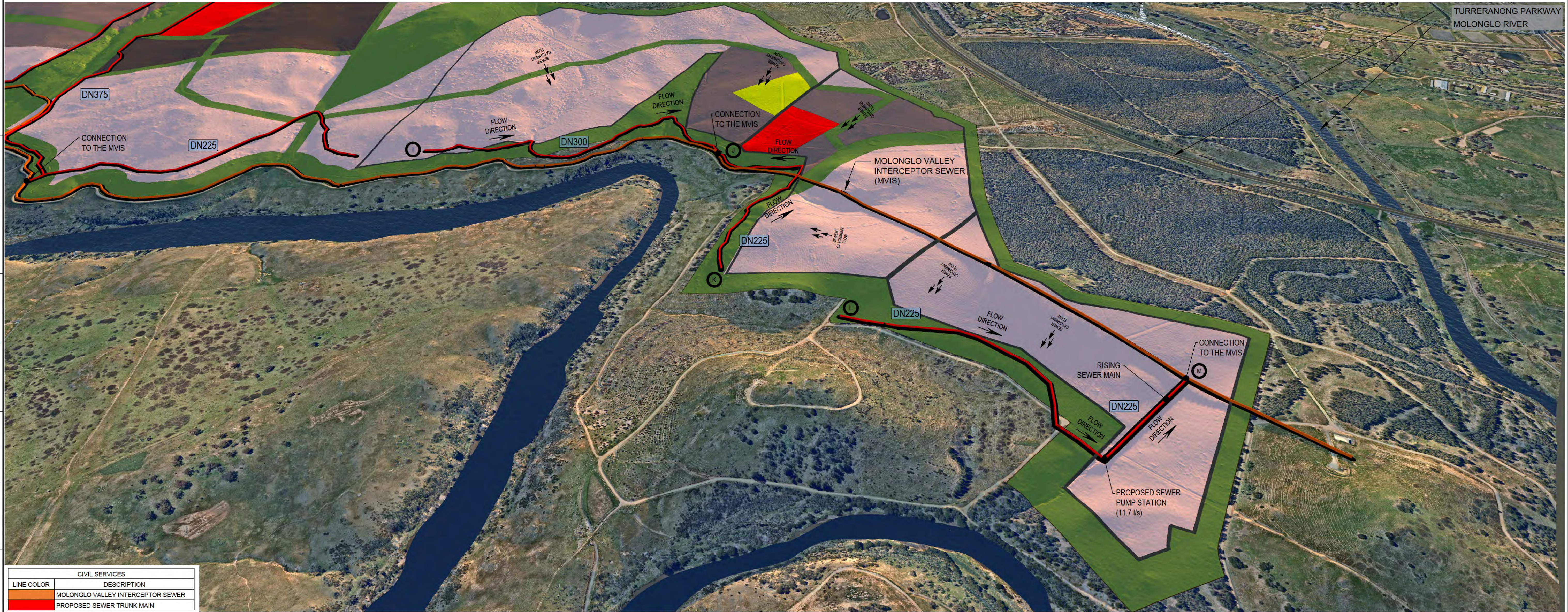
25/01/2021

DRAWING No:

PS119657\_CIV\_S\_003

REV:

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| CIVIL SERVICES |                                   |
|----------------|-----------------------------------|
| LINE COLOR     | DESCRIPTION                       |
|                | MOLONGLO VALLEY INTERCEPTOR SEWER |
|                | PROPOSED SEWER TRUNK MAIN         |
| ZONING         |                                   |
| COVERAGE COLOR | DESCRIPTION                       |
|                | RESIDENTIAL - STANDARD DENSITY    |
|                | RESIDENTIAL - MEDIUM DENSITY      |
|                | RESIDENTIAL - HIGH DENSITY        |
|                | GROUP CENTERS                     |
|                | SCHOOL ZONE                       |
|                | OPEN PUBLIC/GREEN SPACE           |

| PIPE SECTION | GROSS DEVELOPEMENT AREA | NETT AREA (ha) | TOTAL EP - LOWER LIMIT | TOTAL EP - UPPER LIMIT | ADWF - LOWER LIMIT (l/s) | ADWF - UPPER LIMIT (l/s) | PDWF - LOWER LIMIT (l/s) | PDWF - UPPER LIMIT (l/s) | GROUNDWATER INFILTRATION (l/s) | RDI (l/s) | TOTAL DESAIGN FLOW - LOWER LIMIT (l/s) | TOTAL DESIGN FLOW - UPPER LIMIT (l/s) | RECOMMENDED PIPE SIZE | MINIMUM PIPE GRADE | PIPE CAPACITY (l/s) |
|--------------|-------------------------|----------------|------------------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------------|-----------|----------------------------------------|---------------------------------------|-----------------------|--------------------|---------------------|
| I - J        | 60.90                   | 45.68          | 2,698.50               | 3,594.50               | 5.67                     | 7.55                     | 20.88                    | 28.05                    | 0.91                           | 21.05     | 42.84                                  | 50.01                                 | DN300                 | 1 in 200           | 69.21               |
| K - J        | 28.59                   | 21.44          | 1,463.00               | 1,967.00               | 3.07                     | 4.13                     | 15.17                    | 20.72                    | 0.43                           | 11.46     | 27.06                                  | 32.61                                 | DN225                 | 1 in 175           | 34.45               |
| L - M        | 17.59                   | 13.19          | 626.50                 | 780.50                 | 1.32                     | 1.64                     | 4.73                     | 5.89                     | 0.26                           | 5.54      | 10.54                                  | 11.70                                 | DN225                 | 1 in 200           | 32.21               |

| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fgdf.org.au/">https://elevation.fgdf.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |

0

27/01/2021

FINAL SUBMISSION TO CLIENT

REV

DATE

BY

DESCRIPTION

CHK

APPD

REFERENCE COORDINATION DRAWINGS

| DESCRIPTION | DRAWING NO. | REV | CHK |
|-------------|-------------|-----|-----|
| N/A         | N/A         |     |     |

SURVEY DATUM

| HORIZONTAL DATUM | VERTICAL DATUM |
|------------------|----------------|
|                  |                |

NOT TO SCALE

A1 ORIGINAL

DO NOT SCALE THIS DRAWING

APPROVED

SIGNED:

DATE: 27/01/2021

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QLD 4005, Australia  
Tel: +61 2 9272 5100 Fax: +61 2 9272 5101  
wsp.com

CLIENT:

ACT Government

PROJECT:

MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY

TITLE:

PROPOSED SEWER TRUNK MAIN - BRANCH 3 AND 4

DRAWING STATUS:

FOR INFORMATION ONLY

DESIGNED:

CHECKED:

APPROVED:

PROJECT No:

DRAWN:

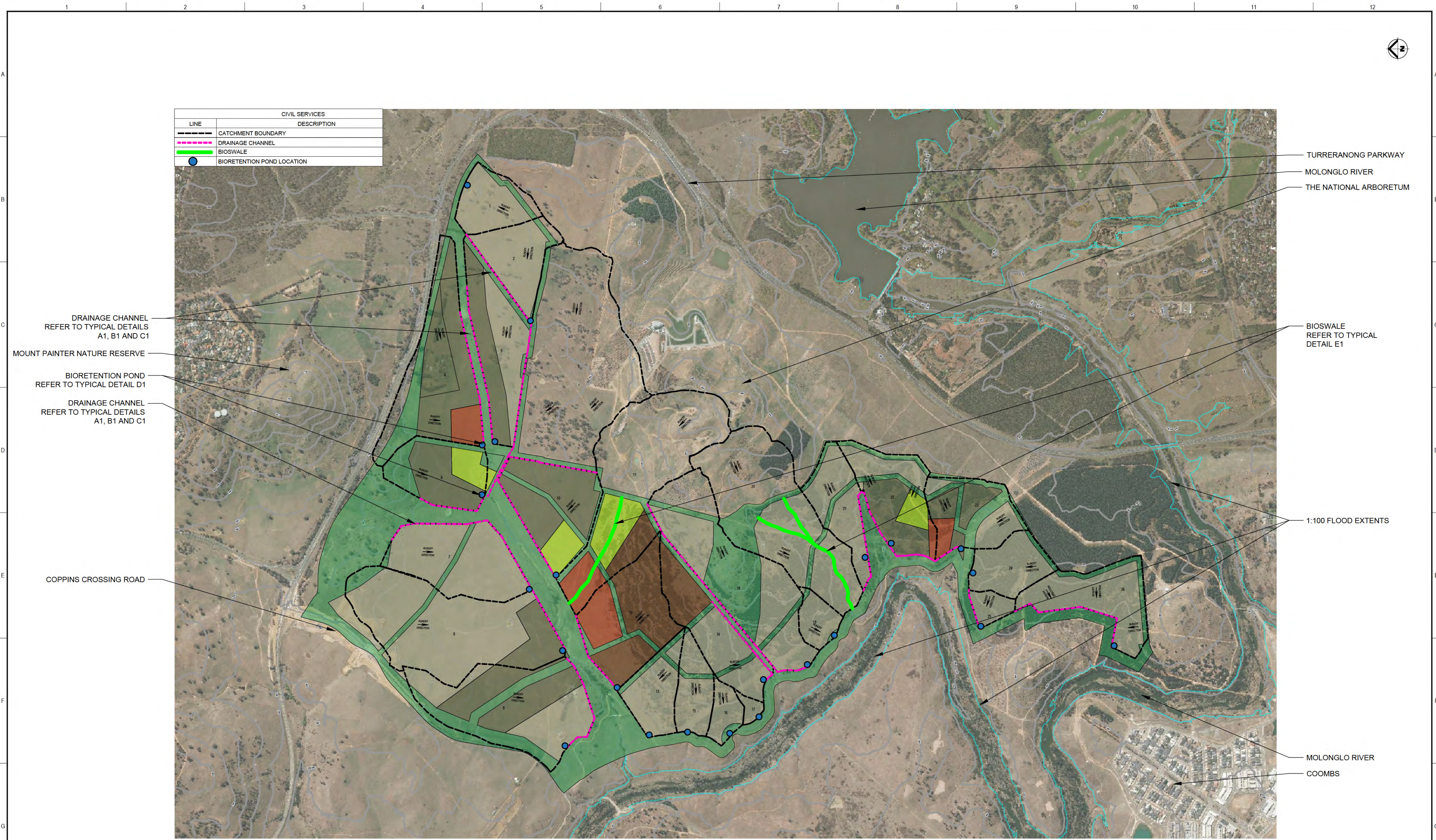
DATE:

DRAWING No:

PS119657\_CIV\_S\_004

REV:

00



| CIVIL SERVICES |                            |
|----------------|----------------------------|
| LINE           | DESCRIPTION                |
|                | CATCHMENT BOUNDARY         |
|                | DRAINAGE CHANNEL           |
|                | BIOSWALE                   |
|                | BIORETENTION POND LOCATION |

DRAINAGE CHANNEL  
REFER TO TYPICAL DETAILS  
A1, B1 AND C1

MOUNT PAINTER NATURE RESERVE

BIORETENTION POND  
REFER TO TYPICAL DETAIL D1

DRAINAGE CHANNEL  
REFER TO TYPICAL DETAILS  
A1, B1 AND C1

COPPINS CROSSING ROAD

TURRERANONG PARKWAY

MOLONGLO RIVER

THE NATIONAL ARBORETUM

BIOSWALE  
REFER TO TYPICAL  
DETAIL E1

1:100 FLOOD EXTENTS

MOLONGLO RIVER

COOMBS

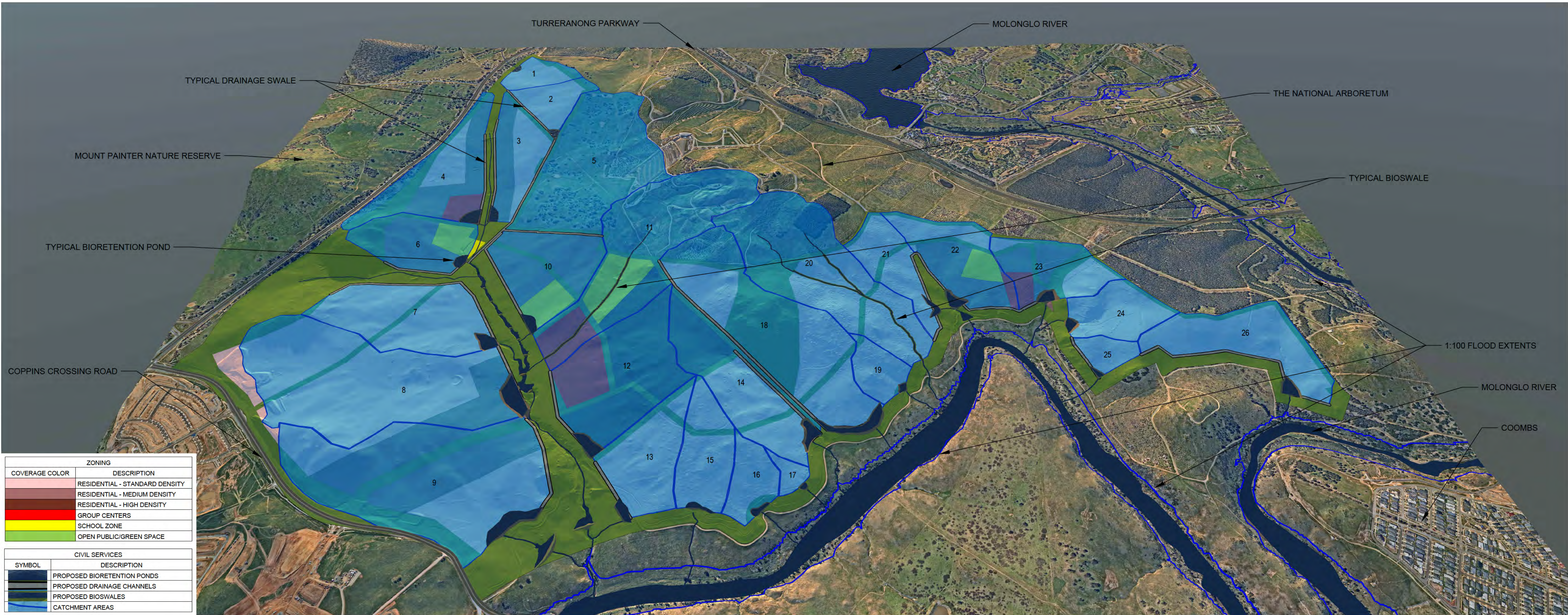
SHEET 17 OF 25

|     |            |             |                              |             |             |                                 |  |                                                                                                                                                                                                           |  |                  |         |                          |  |                                                                                                                                             |                                           |         |                                                               |                                         |
|-----|------------|-------------|------------------------------|-------------|-------------|---------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------|---------|--------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------|---------------------------------------------------------------|-----------------------------------------|
| 0   | 09/03/2021 | <div></div> | ADDITIONAL REQUESTED LAYOUTS | <div></div> | <div></div> | REFERENCE COORDINATION DRAWINGS |  |                                                                                                                                                                                                           |  | SCALES           | 1:10000 | A1 ORIGINAL              |  | <div></div> <div>Level 12, 900 Ann Street, Brisbane<br/>QLD 4005, Australia<br/>Tel: +61 2 9272 5100 Fax: +61 2 9272 5101<br/>wsp.com</div> | <div></div> <div>ACT<br/>Government</div> | CLIENT: | PROJECT:<br>MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY | DRAWING STATUS:<br>FOR INFORMATION ONLY |
|     |            |             |                              |             |             | DO NOT SCALE THIS DRAWING       |  | DRAWING STATUS:<br>DESIGNED: <div></div><br>CHECKED: <div></div><br>APPROVED: <div></div><br>PROJECT No: PS120325<br>DRAWN: <div></div><br>DATE: 09/03/2021<br>DRAWING No: PS119657_CIV_SS_006<br>REV: 00 |  |                  |         |                          |  |                                                                                                                                             |                                           |         |                                                               |                                         |
|     |            |             |                              |             |             | APPROVED                        |  |                                                                                                                                                                                                           |  |                  |         |                          |  |                                                                                                                                             |                                           |         |                                                               |                                         |
|     |            |             |                              |             |             | SIGNED:                         |  |                                                                                                                                                                                                           |  |                  |         |                          |  |                                                                                                                                             |                                           |         |                                                               |                                         |
| REV | DATE       | BY          | DESCRIPTION                  | CHK         | APPD        | SURVEY DATUM                    |  |                                                                                                                                                                                                           |  | DATE: 09/03/2021 |         | © WSP Australia Pty Ltd. |  |                                                                                                                                             |                                           |         |                                                               |                                         |
|     |            |             |                              |             |             | HORIZONTAL DATUM:               |  |                                                                                                                                                                                                           |  | VERTICAL DATUM:  |         |                          |  |                                                                                                                                             |                                           |         |                                                               |                                         |

DRAWING CHECK PRINT

|                             |              |    |  |      |  |
|-----------------------------|--------------|----|--|------|--|
| Print Date:                 | 12 / 03 / 21 | BY |  | DATE |  |
| Drafter                     |              |    |  |      |  |
| Project Drafter Check       |              |    |  |      |  |
| Eng. or Des. or Arch. Check |              |    |  |      |  |
| Engineering/Design Check    |              |    |  |      |  |
| Verification/Approval       |              |    |  |      |  |
| Next Action                 |              |    |  |      |  |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fsdf.org.au/">https://elevation.fsdf.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |



| ZONING         |                                |
|----------------|--------------------------------|
| COVERAGE COLOR | DESCRIPTION                    |
|                | RESIDENTIAL - STANDARD DENSITY |
|                | RESIDENTIAL - MEDIUM DENSITY   |
|                | RESIDENTIAL - HIGH DENSITY     |
|                | GROUP CENTERS                  |
|                | SCHOOL ZONE                    |
|                | OPEN PUBLIC/GREEN SPACE        |

| CIVIL SERVICES |                             |
|----------------|-----------------------------|
| SYMBOL         | DESCRIPTION                 |
|                | PROPOSED BIORETENTION PONDS |
|                | PROPOSED DRAINAGE CHANNELS  |
|                | PROPOSED BIOSWALES          |
|                | CATCHMENT AREAS             |

| CATCHMENT ID | CATCHMENT AREA (ha) | ESTIMATED RETENTION SIZE (ha) | ESTIMATED RETENTION VOLUME (m³) - LOWER LIMIT | ESTIMATED RETENTION VOLUME (m³) - UPPER LIMIT | ADDITIONAL INFORMATION      |
|--------------|---------------------|-------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------|
| 1            | 12.14               | 0.24                          | 1,820.25                                      | 3,640.50                                      |                             |
| 2            | 14.42               | 0.29                          | 2,163.44                                      | 4,326.87                                      |                             |
| 3            | 23.77               | 0.48                          | 3,565.08                                      | 7,130.16                                      |                             |
| 4            | 35.46               | 0.71                          | 5,318.31                                      | 10,636.62                                     |                             |
| 5            | 63.46               | N/A                           | N/A                                           | N/A                                           | PROPOSED DIVERSION SWALE    |
| 6            | 18.15               | 0.36                          | 2,721.78                                      | 5,443.56                                      |                             |
| 7            | 26.19               | 0.52                          | 3,928.14                                      | 7,856.28                                      |                             |
| 8            | 55.16               | 1.10                          | 8,274.44                                      | 16,548.87                                     |                             |
| 9            | 39.82               | 0.80                          | 5,972.52                                      | 11,945.04                                     |                             |
| 10           | 23.62               | 0.47                          | 3,542.27                                      | 7,084.53                                      |                             |
| 11           | 50.31               | N/A                           | N/A                                           | N/A                                           | PROPOSED BIO SWALE/ WETLAND |
| 12           | 26.80               | 0.54                          | 4,019.25                                      | 8,038.50                                      |                             |
| 13           | 12.13               | 0.24                          | 1,818.90                                      | 3,637.80                                      |                             |

| CATCHMENT ID | CATCHMENT AREA (ha) | ESTIMATED RETENTION SIZE (ha) | ESTIMATED RETENTION VOLUME (m³) - LOWER LIMIT | ESTIMATED RETENTION VOLUME (m³) - UPPER LIMIT | ADDITIONAL INFORMATION     |
|--------------|---------------------|-------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------|
| 14           | 22.43               | 0.45                          | 3,364.70                                      | 6,729.39                                      |                            |
| 15           | 9.66                | 0.19                          | 1,449.65                                      | 2,899.29                                      |                            |
| 16           | 5.03                | 0.10                          | 754.10                                        | 1,508.19                                      |                            |
| 17           | 1.52                | 0.03                          | 228.02                                        | 456.03                                        |                            |
| 18           | 41.09               | 0.82                          | 6,163.25                                      | 12,326.49                                     |                            |
| 19           | 5.61                | 0.11                          | 842.06                                        | 1,684.11                                      |                            |
| 20           | 46.46               | N/A                           | N/A                                           | N/A                                           | PLANNED BIO SWALE/ WETLAND |
| 21           | 14.28               | 0.29                          | 2,142.74                                      | 4,285.47                                      |                            |
| 22           | 20.92               | 0.42                          | 3,138.62                                      | 6,277.23                                      |                            |
| 23           | 18.24               | 0.36                          | 2,735.75                                      | 5,471.49                                      |                            |
| 24           | 11.99               | 0.24                          | 1,798.95                                      | 3,597.90                                      |                            |
| 25           | 3.62                | 0.07                          | 543.23                                        | 1,086.45                                      |                            |
| 26           | 19.93               | 0.40                          | 2,988.95                                      | 5,977.89                                      |                            |

SHEET 18 OF 25

|     |            |    |                            |     |      |
|-----|------------|----|----------------------------|-----|------|
| 0   | 27/01/2021 |    | FINAL SUBMISSION TO CLIENT |     |      |
| REV | DATE       | BY | DESCRIPTION                | CHK | APPD |

| REFERENCE COORDINATION DRAWINGS |             |     |     |
|---------------------------------|-------------|-----|-----|
| DESCRIPTION                     | DRAWING NO. | REV | CHK |
| N/A                             | N/A         |     |     |

| SURVEY DATUM      |                 |
|-------------------|-----------------|
| HORIZONTAL DATUM: | VERTICAL DATUM: |

|                           |            |
|---------------------------|------------|
| A1 ORIGINAL               |            |
| DO NOT SCALE THIS DRAWING |            |
| APPROVED                  |            |
| SIGNED:                   |            |
| DATE:                     | 27/01/2021 |
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|-------------------------------------------------------------------------------------------------------------------|--|
| wsp                                                                                                               |  |
| Level 12, 900 Ann Street, Brisbane<br>QLD 4005, Australia<br>Tel: +61 2 9272 5100 Fax: +61 2 9272 5101<br>wsp.com |  |

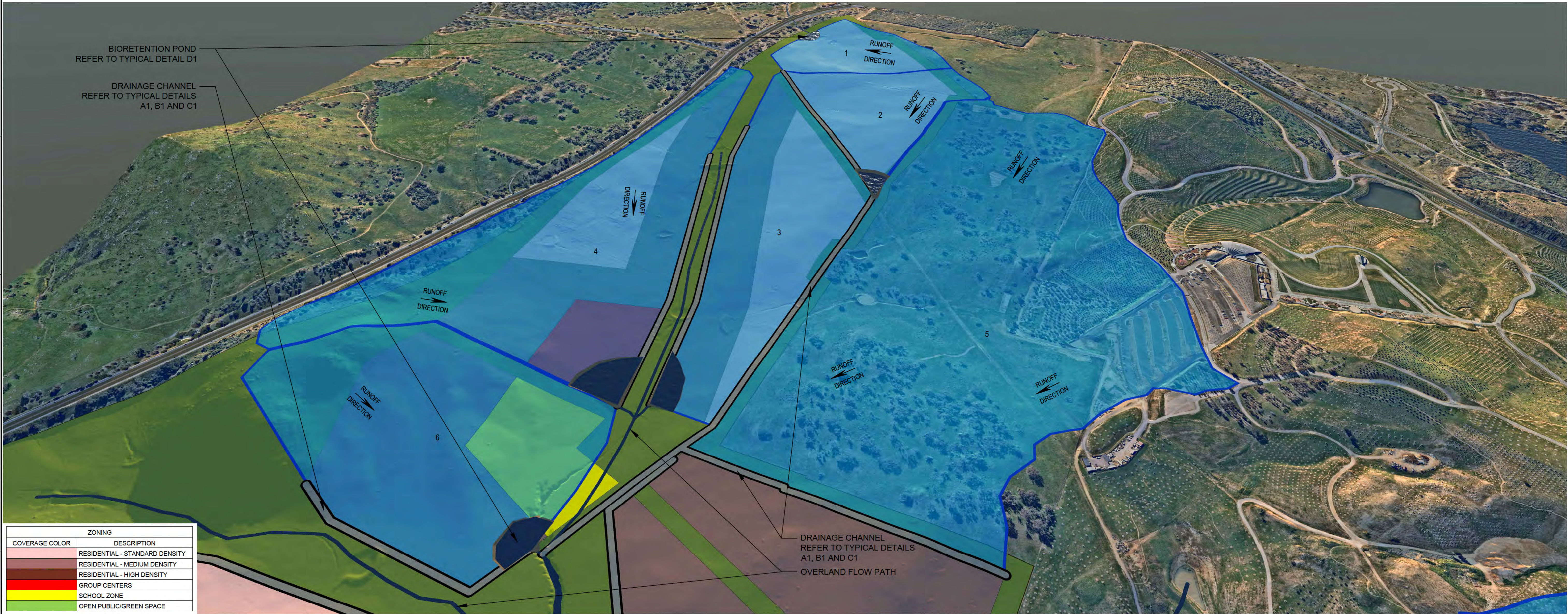
|                |  |
|----------------|--|
| CLIENT:        |  |
| ACT Government |  |

|          |                                                   |
|----------|---------------------------------------------------|
| PROJECT: | MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY |
| TITLE:   | STORMWATER MANAGEMENT AND WSUD - PERSPECTIVE VIEW |

|                      |          |            |
|----------------------|----------|------------|
| DRAWING STATUS       |          |            |
| FOR INFORMATION ONLY |          |            |
| DESIGNED:            | CHECKED: | APPROVED:  |
| PROJECT No:          | DRAWN:   | DATE:      |
| PS120325             |          | 25/01/2021 |
| DRAWING No:          | REV:     |            |
| PS119657_CIV_SS_001  | 00       |            |

NOTES

- IT SHOULD BE NOTED THAT THE ARRANGEMENT, ORIENTATION AND FINAL POSITION OF THE POND IS DEPENDANT ON THE FINAL DEVELOPMENT LAYOUT AND STAGING
- A MULTI CELL APPROACH IS RECOMMENDED FOR ALL BIORETENTION PONDS



| ZONING         |                                |
|----------------|--------------------------------|
| COVERAGE COLOR | DESCRIPTION                    |
|                | RESIDENTIAL - STANDARD DENSITY |
|                | RESIDENTIAL - MEDIUM DENSITY   |
|                | RESIDENTIAL - HIGH DENSITY     |
|                | GROUP CENTERS                  |
|                | SCHOOL ZONE                    |
|                | OPEN PUBLIC/GREEN SPACE        |

| CIVIL SERVICES |                             |
|----------------|-----------------------------|
| SYMBOL         | DESCRIPTION                 |
|                | PROPOSED BIORETENTION PONDS |
|                | PROPOSED DRAINAGE CHANNELS  |
|                | PROPOSED BIOSWALES          |
|                | CATCHMENT AREAS             |

| CATCHMENT ID | CATCHMENT AREA (ha) | ESTIMATED RETENTION SIZE (ha) | ESTIMATED RETENTION VOLUME (m³) - LOWER LIMIT | ESTIMATED RETENTION VOLUME (m³) - UPPER LIMIT | ADDITIONAL INFORMATION   |
|--------------|---------------------|-------------------------------|-----------------------------------------------|-----------------------------------------------|--------------------------|
| 1            | 12.14               | 0.24                          | 1,820.25                                      | 3,640.50                                      |                          |
| 2            | 14.42               | 0.29                          | 2,163.44                                      | 4,326.87                                      |                          |
| 3            | 23.77               | 0.48                          | 3,565.08                                      | 7,130.16                                      |                          |
| 4            | 35.46               | 0.71                          | 5,318.31                                      | 10,636.62                                     |                          |
| 5            | 63.46               | N/A                           | N/A                                           | N/A                                           | PROPOSED DIVERSION SWALE |
| 6            | 18.15               | 0.36                          | 2,721.78                                      | 5,443.56                                      |                          |

| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fedf.org.au/">https://elevation.fedf.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |

0

27/01/2021

FINAL SUBMISSION TO CLIENT

REV

DATE

BY

DESCRIPTION

CHK

APPD

REFERENCE COORDINATION DRAWINGS

| DESCRIPTION | DRAWING NO. | REV | CHK |
|-------------|-------------|-----|-----|
| N/A         | N/A         |     |     |

SURVEY DATUM

| HORIZONTAL DATUM | VERTICAL DATUM |
|------------------|----------------|
|                  |                |

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A1 ORIGINAL

DO NOT SCALE THIS DRAWING

APPROVED

SIGNED:

DATE: 27/01/2021

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QLD 4005, Australia  
Tel: +61 2 9272 5100 Fax: +61 2 9272 5101  
wsp.com

CLIENT:

PROJECT:

MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY

TITLE:

STORMWATER MANAGEMENT AND WSUD - CATCHMENTS 1-6

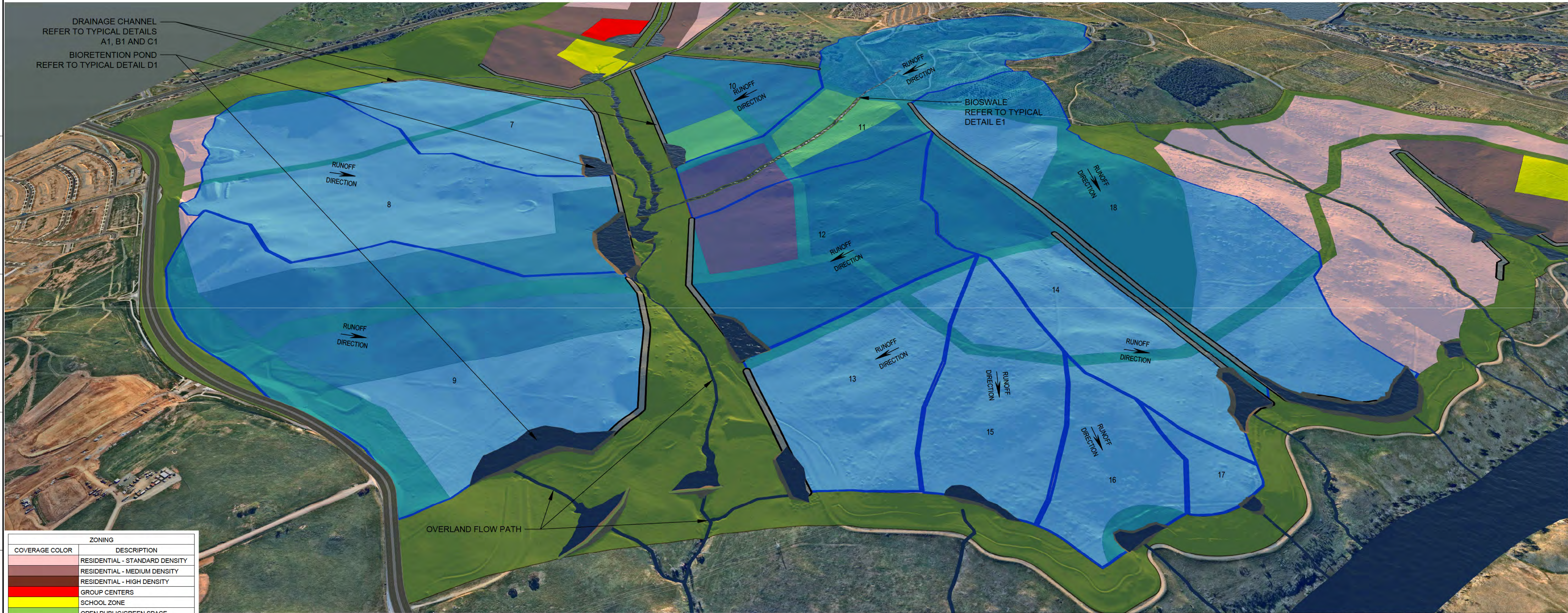
DRAWING STATUS:

FOR INFORMATION ONLY

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|-------------|---------------------|------------|
| DESIGNED:   | CHECKED:            | APPROVED:  |
| PROJECT No: | DRAWN:              | DATE:      |
| PS120325    |                     | 25/01/2021 |
| DRAWING No: | PS119657_CIV_SS_002 |            |
| REV:        | 00                  |            |

NOTES

- IT SHOULD BE NOTED THAT THE ARRANGEMENT, ORIENTATION AND FINAL POSITION OF THE POND IS DEPENDANT ON THE FINAL DEVELOPMENT LAYOUT AND STAGING
- A MULTI CELL APPROACH IS RECOMMENDED FOR ALL BIORETENTION PONDS



| ZONING         |                                |
|----------------|--------------------------------|
| COVERAGE COLOR | DESCRIPTION                    |
|                | RESIDENTIAL - STANDARD DENSITY |
|                | RESIDENTIAL - MEDIUM DENSITY   |
|                | RESIDENTIAL - HIGH DENSITY     |
|                | GROUP CENTERS                  |
|                | SCHOOL ZONE                    |
|                | OPEN PUBLIC/GREEN SPACE        |

| CIVIL SERVICES |                             |
|----------------|-----------------------------|
| SYMBOL         | DESCRIPTION                 |
|                | PROPOSED BIORETENTION PONDS |
|                | PROPOSED DRAINAGE CHANNELS  |
|                | PROPOSED BIOSWALES          |
|                | CATCHMENT AREAS             |

| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES                                                                   |                                                                             |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME                                                                    | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS                                                                  | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA                                                                 | <a href="https://elevation.fedf.org.au/">https://elevation.fedf.org.au/</a> |
| OTHER SPATIAL INFORMATION   ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT |                                                                             |

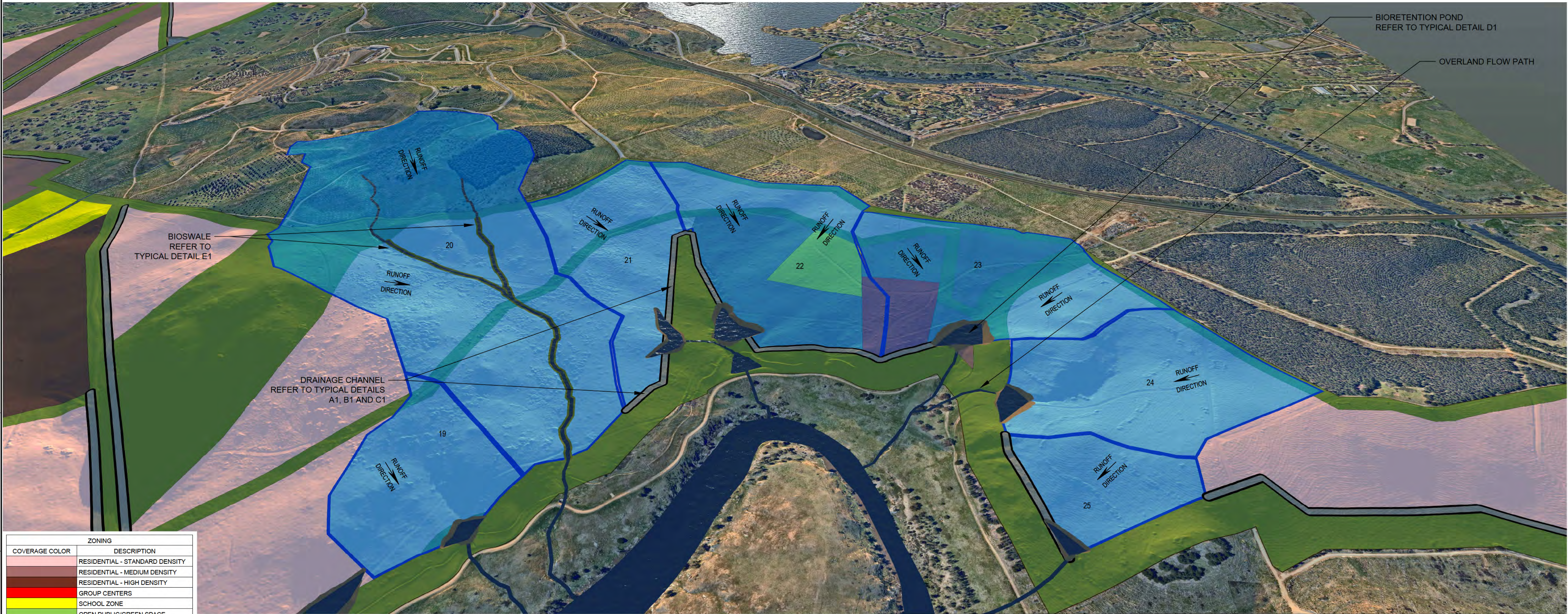
| CATCHMENT ID | CATCHMENT AREA (ha) | ESTIMATED RETENTION SIZE (ha) | ESTIMATED RETENTION VOLUME (m³) - LOWER LIMIT |           | ESTIMATED RETENTION VOLUME (m³) - UPPER LIMIT | ADDITIONAL INFORMATION      |
|--------------|---------------------|-------------------------------|-----------------------------------------------|-----------|-----------------------------------------------|-----------------------------|
| 7            | 26.19               | 0.52                          | 3,928.14                                      | 7,856.28  |                                               |                             |
| 8            | 55.16               | 1.10                          | 8,274.44                                      | 16,548.87 |                                               |                             |
| 9            | 39.82               | 0.80                          | 5,972.52                                      | 11,945.04 |                                               |                             |
| 10           | 23.62               | 0.47                          | 3,542.27                                      | 7,084.53  |                                               |                             |
| 11           | 50.31               | N/A                           | N/A                                           | N/A       |                                               | PROPOSED BIO SWALE/ WETLAND |
| 12           | 26.80               | 0.54                          | 4,019.25                                      | 8,038.50  |                                               |                             |
| 13           | 12.13               | 0.24                          | 1,818.90                                      | 3,637.80  |                                               |                             |
| 14           | 22.43               | 0.45                          | 3,364.70                                      | 6,729.39  |                                               |                             |
| 15           | 9.66                | 0.19                          | 1,449.65                                      | 2,899.29  |                                               |                             |
| 16           | 5.03                | 0.10                          | 754.10                                        | 1,508.19  |                                               |                             |
| 17           | 1.52                | 0.03                          | 228.02                                        | 456.03    |                                               |                             |
| 18           | 41.09               | 0.82                          | 6,163.25                                      | 12,326.49 |                                               |                             |

SHEET 20 OF 25

|                                 |             |     |     |              |  |                           |  |                                                   |  |                      |  |                 |  |
|---------------------------------|-------------|-----|-----|--------------|--|---------------------------|--|---------------------------------------------------|--|----------------------|--|-----------------|--|
| REFERENCE COORDINATION DRAWINGS |             |     |     | Scales       |  | A1 ORIGINAL               |  | CLIENT:                                           |  | PROJECT:             |  | DRAWING STATUS: |  |
| DESCRIPTION                     | DRAWING NO. | REV | CHK | NOT TO SCALE |  | DO NOT SCALE THIS DRAWING |  | MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY |  | FOR INFORMATION ONLY |  | DESIGNED: [ ]   |  |
| N/A                             | N/A         |     |     |              |  | APPROVED                  |  | ACT Government                                    |  | CHECKED: [ ]         |  | APPROVED: [ ]   |  |
| SURVEY DATUM                    |             |     |     |              |  | DATE: 27/01/2021          |  | STORMWATER MANAGEMENT AND WSUD - CATCHMENTS 7-18  |  | PROJECT No: PS120325 |  | DRAWN: [ ]      |  |
| HORIZONTAL DATUM:               |             |     |     |              |  | © WSP Australia Pty Ltd.  |  |                                                   |  | DATE: 25/01/2021     |  | REV: [ ]        |  |
| VERTICAL DATUM:                 |             |     |     |              |  |                           |  |                                                   |  | PS119657_CIV_SS_003  |  | 00              |  |

NOTES

- IT SHOULD BE NOTED THAT THE ARRANGEMENT, ORIENTATION AND FINAL POSITION OF THE POND IS DEPENDANT ON THE FINAL DEVELOPMENT LAYOUT AND STAGING
- A MULTI CELL APPROACH IS RECOMMENDED FOR ALL BIORETENTION PONDS



| ZONING         |                                |
|----------------|--------------------------------|
| COVERAGE COLOR | DESCRIPTION                    |
|                | RESIDENTIAL - STANDARD DENSITY |
|                | RESIDENTIAL - MEDIUM DENSITY   |
|                | RESIDENTIAL - HIGH DENSITY     |
|                | GROUP CENTERS                  |
|                | SCHOOL ZONE                    |
|                | OPEN PUBLIC/GREEN SPACE        |

| CIVIL SERVICES |                             |
|----------------|-----------------------------|
| SYMBOL         | DESCRIPTION                 |
|                | PROPOSED BIORETENTION PONDS |
|                | PROPOSED DRAINAGE CHANNELS  |
|                | PROPOSED BIOSWALES          |
|                | CATCHMENT AREAS             |

| CATCHMENT ID | CATCHMENT AREA (ha) | ESTIMATED RETENTION SIZE (ha) | ESTIMATED RETENTION VOLUME (m³) - LOWER LIMIT | ESTIMATED RETENTION VOLUME (m³) - UPPER LIMIT | ADDITIONAL INFORMATION     |
|--------------|---------------------|-------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------|
| 19           | 5.61                | 0.11                          | 842.06                                        | 1,684.11                                      |                            |
| 20           | 48.46               | N/A                           | N/A                                           | N/A                                           | PLANNED BIO SWALE/ WETLAND |
| 21           | 14.28               | 0.29                          | 2,142.74                                      | 4,285.47                                      |                            |
| 22           | 20.92               | 0.42                          | 3,138.62                                      | 6,277.23                                      |                            |
| 23           | 18.24               | 0.36                          | 2,735.75                                      | 5,471.49                                      |                            |
| 24           | 11.99               | 0.24                          | 1,798.95                                      | 3,597.90                                      |                            |
| 25           | 3.62                | 0.07                          | 543.23                                        | 1,086.45                                      |                            |

| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fgdl.org.au/">https://elevation.fgdl.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |

| REV | DATE       | BY | DESCRIPTION                | CHK | APPD |
|-----|------------|----|----------------------------|-----|------|
| 0   | 27/01/2021 |    | FINAL SUBMISSION TO CLIENT |     |      |

| REFERENCE COORDINATION DRAWINGS |             |                 |     |
|---------------------------------|-------------|-----------------|-----|
| DESCRIPTION                     | DRAWING NO. | REV             | CHK |
| N/A                             | N/A         |                 |     |
| SURVEY DATUM                    |             |                 |     |
| HORIZONTAL DATUM:               |             | VERTICAL DATUM: |     |

| Scales       |  |
|--------------|--|
| NOT TO SCALE |  |

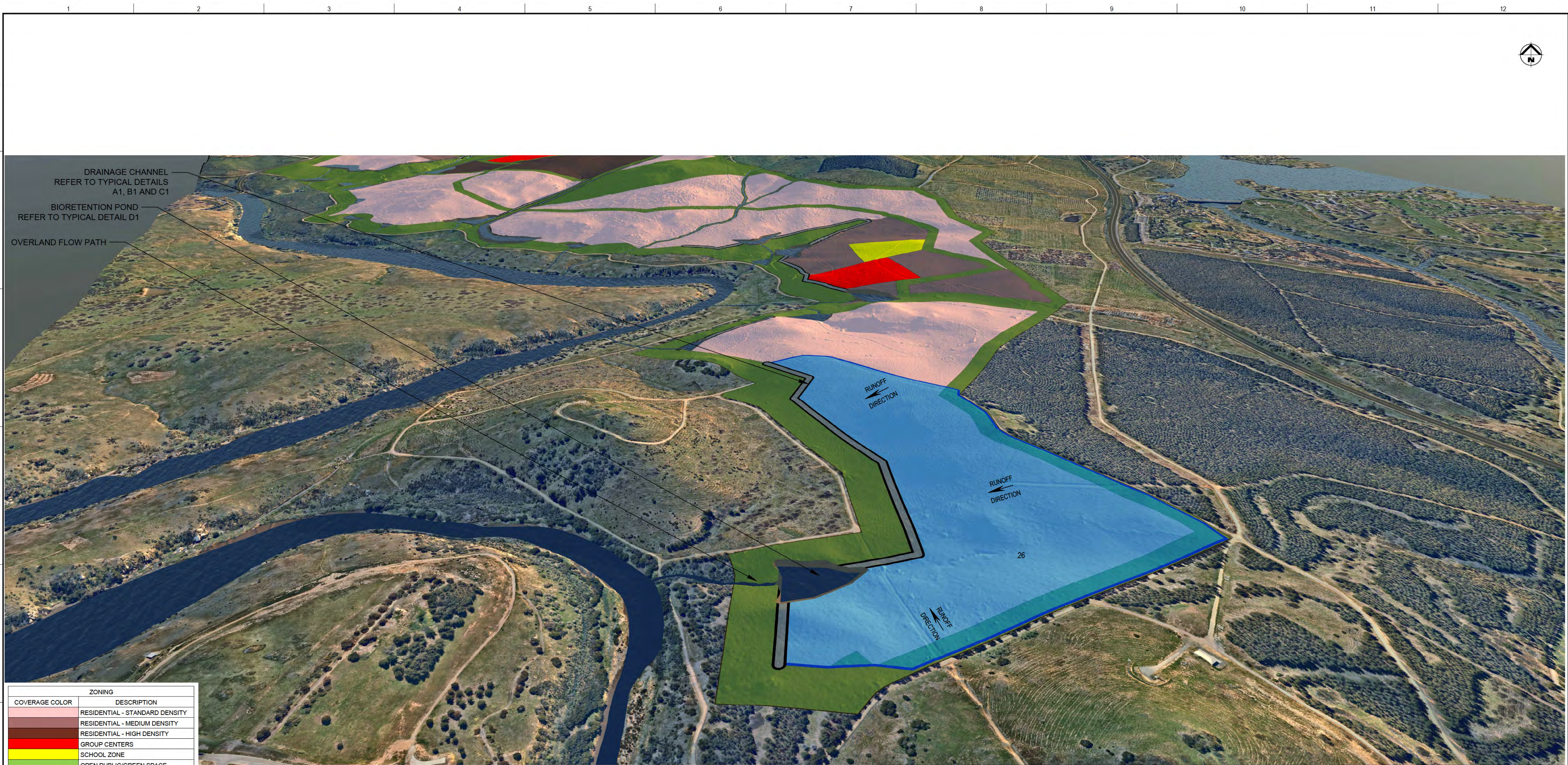
| A1 ORIGINAL               |            |
|---------------------------|------------|
| DO NOT SCALE THIS DRAWING |            |
| SIGNED:                   | APPROVED   |
| DATE:                     | 27/01/2021 |
| © WSP Australia Pty Ltd.  |            |

Level 12, 900 Ann Street, Brisbane  
QLD 4005, Australia  
Tel: +61 2 9272 5100 Fax: +61 2 9272 5101  
wsp.com

CLIENT:

|          |                                                   |
|----------|---------------------------------------------------|
| PROJECT: | MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY |
| TITLE:   | STORMWATER MANAGEMENT AND WSUD - CATCHMENTS 19-25 |

| DRAWING STATUS       |          |            |
|----------------------|----------|------------|
| FOR INFORMATION ONLY |          |            |
| DESIGNED:            | CHECKED: | APPROVED:  |
| PROJECT No:          | DRAWN:   | DATE:      |
| PS120325             |          | 25/01/2021 |
| DRAWING No:          | REV:     |            |
| PS119657_CIV_SS_004  | 00       |            |



| ZONING         |                                |
|----------------|--------------------------------|
| COVERAGE COLOR | DESCRIPTION                    |
|                | RESIDENTIAL - STANDARD DENSITY |
|                | RESIDENTIAL - MEDIUM DENSITY   |
|                | RESIDENTIAL - HIGH DENSITY     |
|                | GROUP CENTERS                  |
|                | SCHOOL ZONE                    |
|                | OPEN PUBLIC/GREEN SPACE        |
| CIVIL SERVICES |                                |
| SYMBOL         | DESCRIPTION                    |
|                | PROPOSED BIORETENTION PONDS    |
|                | PROPOSED DRAINAGE CHANNELS     |
|                | PROPOSED BIOSWALES             |
|                | CATCHMENT AREAS                |

| CATCHMENT ID | CATCHMENT AREA (ha) | ESTIMATED RETENTION SIZE (ha) | ESTIMATED RETENTION VOLUME (m³) - LOWER LIMIT | ESTIMATED RETENTION VOLUME (m³) - UPPER LIMIT | ADDITIONAL INFORMATION |
|--------------|---------------------|-------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------|
| 26           | 19.93               | 0.40                          | 2,988.95                                      | 5,977.89                                      |                        |

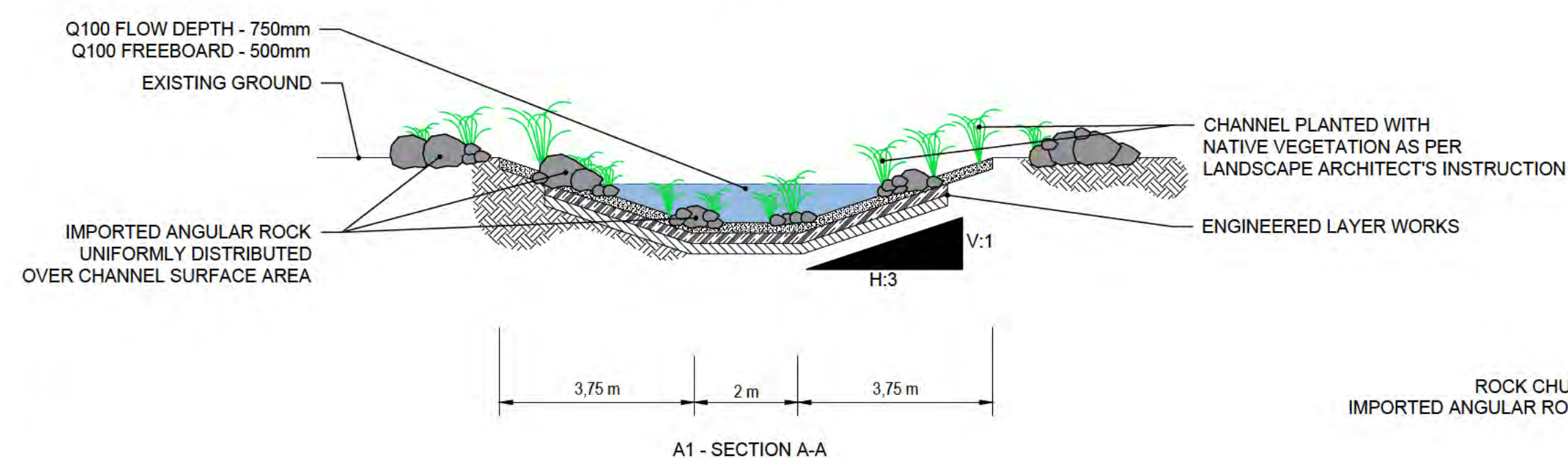
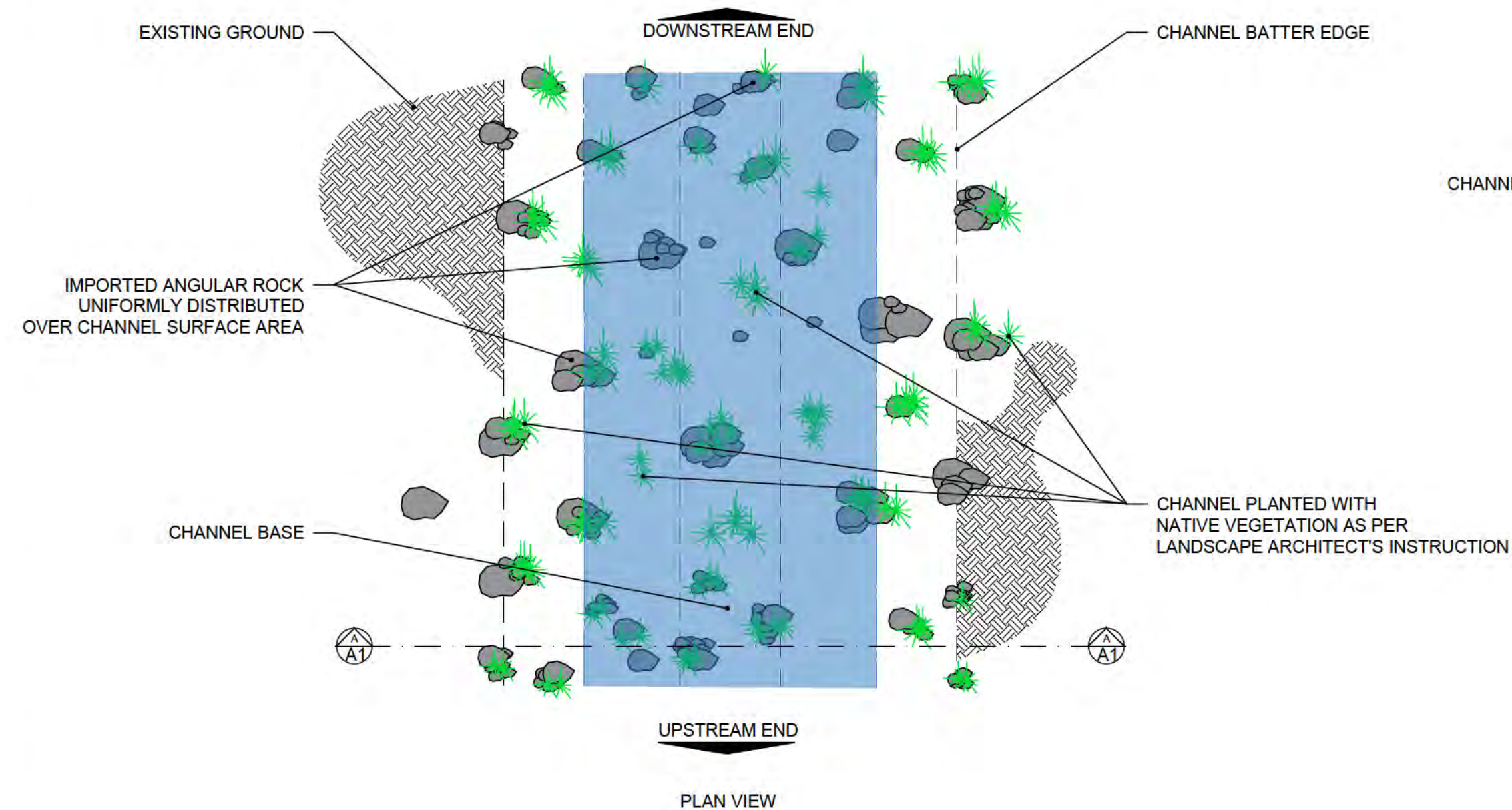
| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 |              |    |      |

| DATA SOURCES              |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| SOURCE NAME               | SOURCE DESCRIPTION                                                          |
| AERIAL PHOTOS             | <a href="https://www.nearmap.com">https://www.nearmap.com</a>               |
| ELEVATION DATA            | <a href="https://elevation.fgdf.org.au/">https://elevation.fgdf.org.au/</a> |
| OTHER SPATIAL INFORMATION | ALL DESIGN LAYOUTS CAN BE SUPPLIED IN *.shp FORMAT                          |

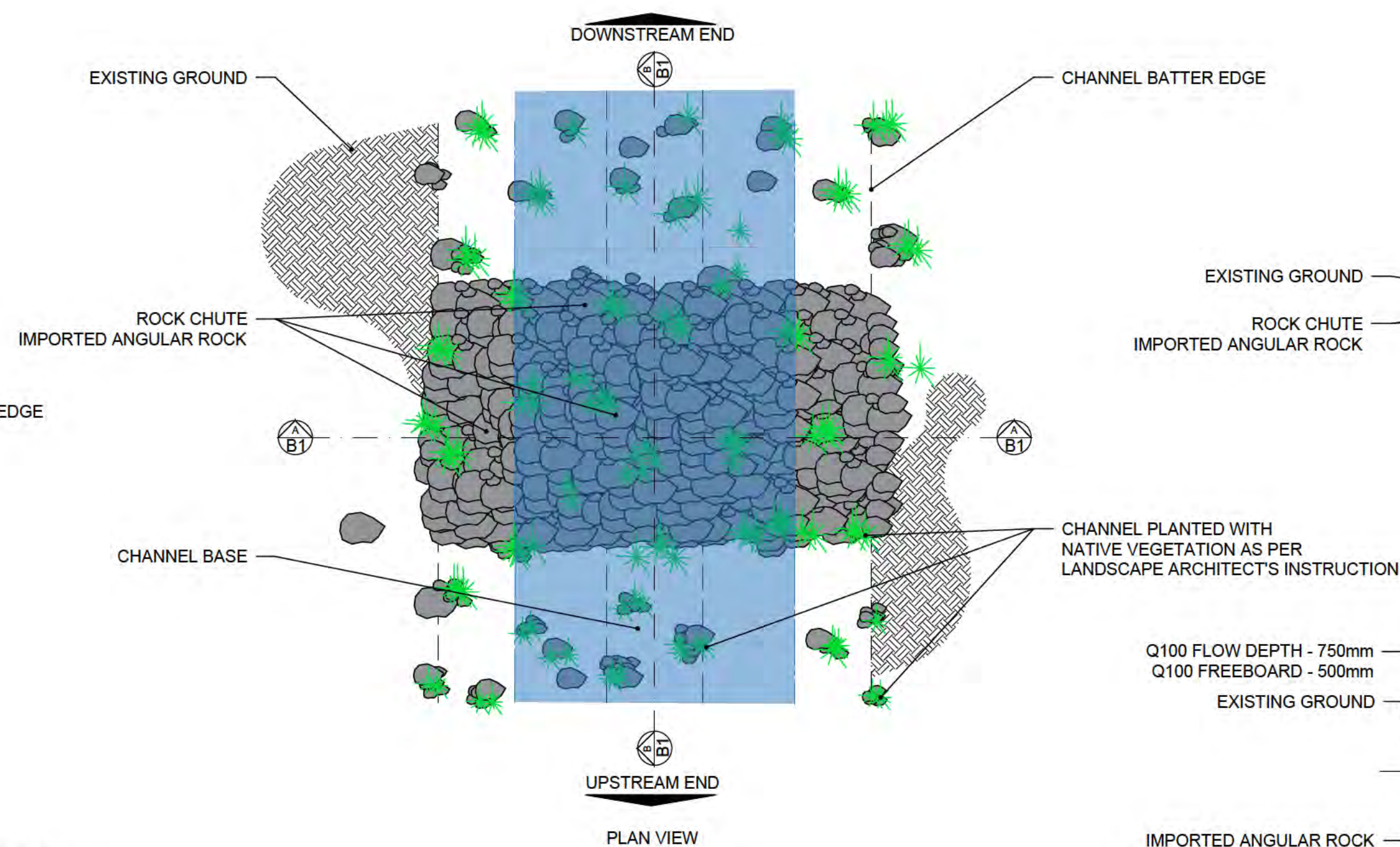
| REFERENCE COORDINATION DRAWINGS |             |     |                            | SCALES       |      | A1 ORIGINAL               |  | CLIENT:                                           |  | PROJECT:             |  | DRAWING STATUS:  |  |
|---------------------------------|-------------|-----|----------------------------|--------------|------|---------------------------|--|---------------------------------------------------|--|----------------------|--|------------------|--|
| DESCRIPTION                     | DRAWING NO. | REV | CHK                        | NOT TO SCALE |      | DO NOT SCALE THIS DRAWING |  | MOLONGLO VALLEY PLANNING AND INFRASTRUCTURE STUDY |  | FOR INFORMATION ONLY |  | DESIGNED: [ ]    |  |
| N/A                             | N/A         |     |                            |              |      | APPROVED                  |  |                                                   |  | CHECKED: [ ]         |  | APPROVED: [ ]    |  |
| SURVEY DATUM                    |             |     |                            |              |      | DATE:                     |  |                                                   |  | PROJECT No:          |  | DRAWN: [ ]       |  |
| HORIZONTAL DATUM:               |             |     |                            |              |      | 27/01/2021                |  |                                                   |  | PS120325             |  | DATE: 25/01/2021 |  |
| VERTICAL DATUM:                 |             |     |                            |              |      |                           |  |                                                   |  | DRAWING No:          |  | REV:             |  |
|                                 |             |     |                            |              |      |                           |  |                                                   |  | PS119657_CIV_SS_005  |  | 00               |  |
| 0                               | 27/01/2021  |     |                            |              |      |                           |  |                                                   |  |                      |  |                  |  |
| REV                             | DATE        | BY  | DESCRIPTION                | CHK          | APPD |                           |  |                                                   |  |                      |  |                  |  |
|                                 |             |     | FINAL SUBMISSION TO CLIENT |              |      |                           |  |                                                   |  |                      |  |                  |  |



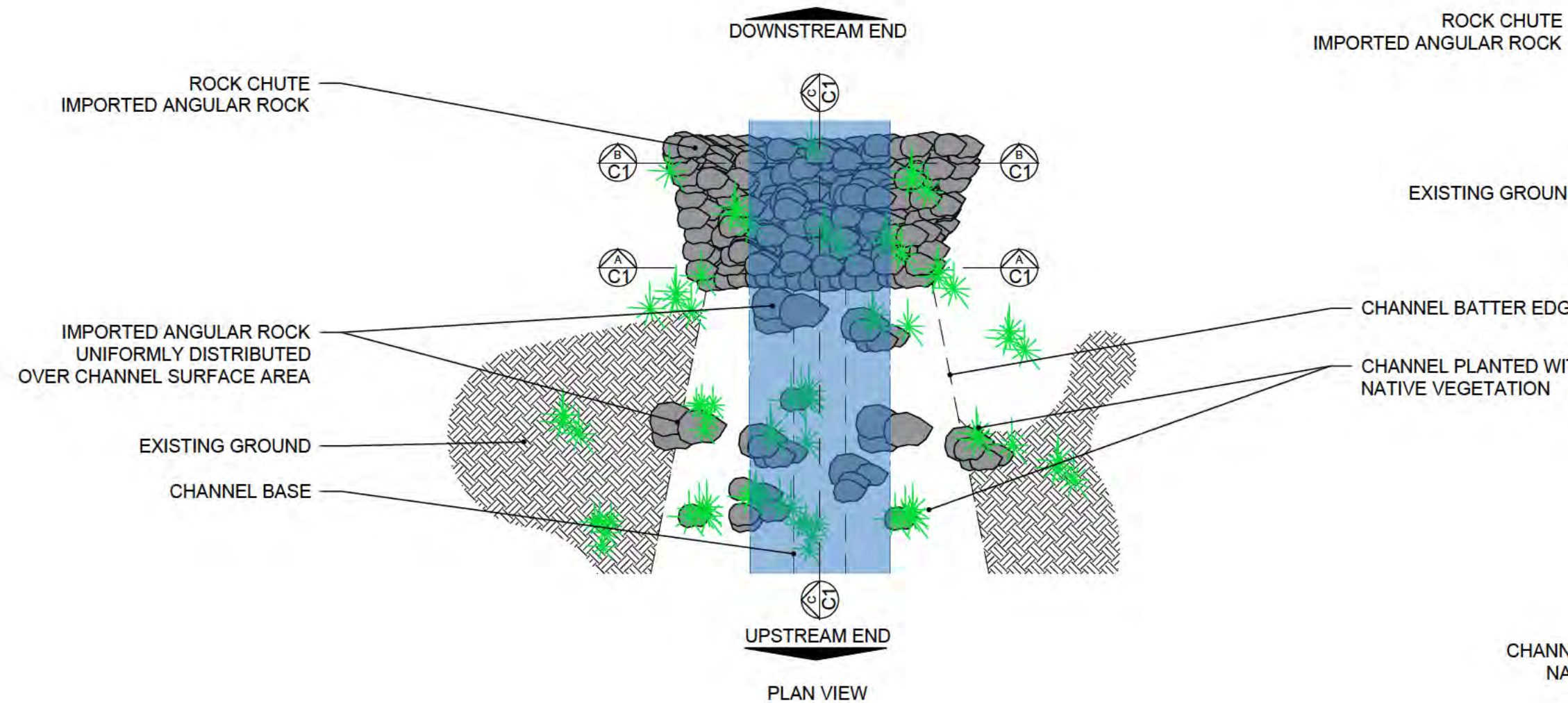
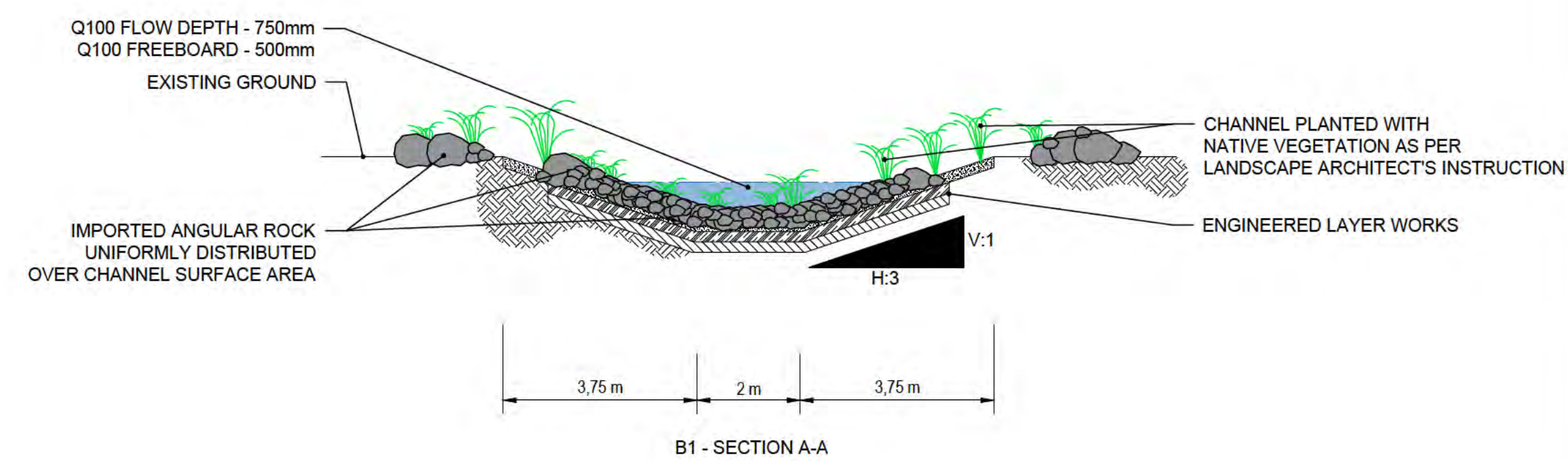
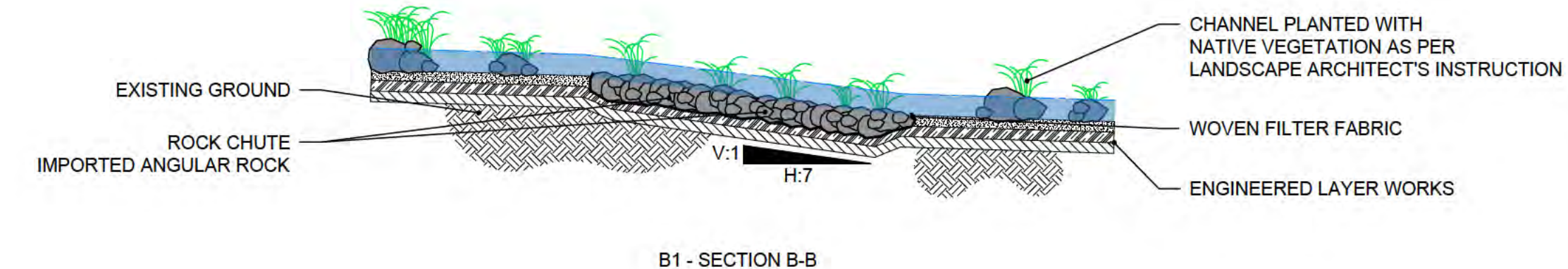
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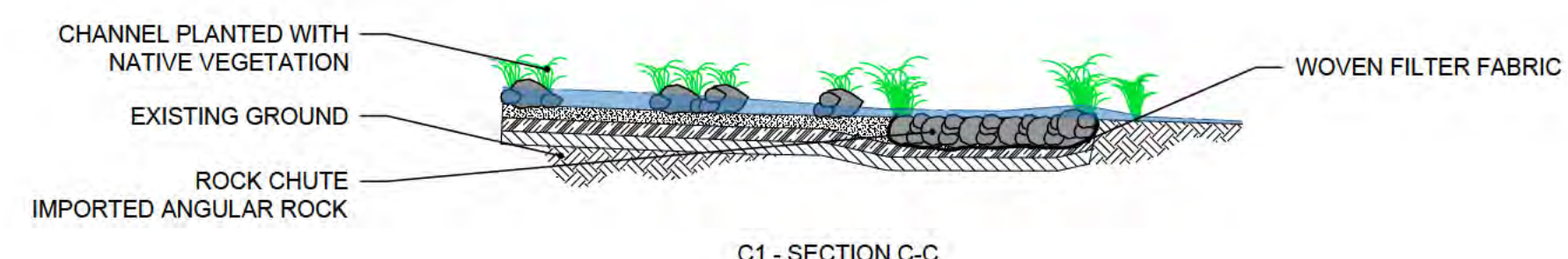
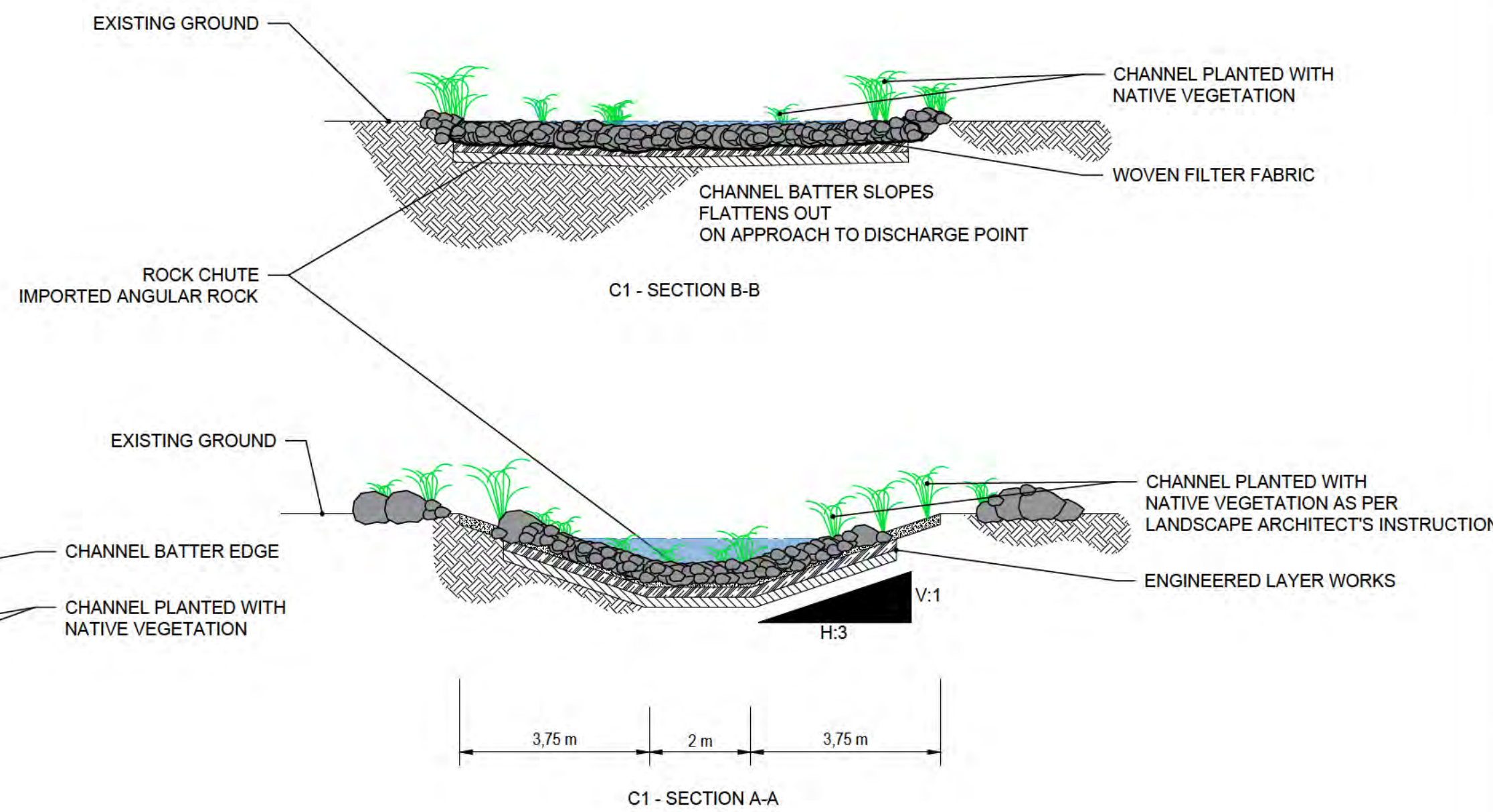
PLEASE NOTE:  
THE CHANNEL SIZE IS INDICATIVE ONLY, BASED ON TYPICAL  
RUNOFF FLOWS FROM THE LARGER CATCHMENTS WITHIN THE  
STUDY AREA. A CONTROLLED FLOW VELOCITY OF 1.5 m/s WAS  
ASSUMED.



SCALE: 1:100



SCALE: 1:100



| DRAWING CHECK PRINT         |              |    |      |
|-----------------------------|--------------|----|------|
| Print Date:                 | 12 / 03 / 21 | BY | DATE |
| Drafter                     |              |    |      |
| Project Drafter Check       |              |    |      |
| Eng. or Des. or Arch. Check |              |    |      |
| Engineering/Design Check    |              |    |      |
| Verification/Approval       |              |    |      |
| Next Action                 | _____        |    |      |

[illegible]