CIVIL DRAWINGS
CENTACARE - DEVELOPMENT
1 HAYFIELD PLACE
BRIDGEWATER

C001	COVER	G	13/05/2025
C101	SITE PLAN	D	29/08/2024
C102	SITE SECTION PLAN	A	13/12/2024
C103	OVERALL STORMWATER PLAN	A	13/12/2024
C104	ROAD AND STORMWATER PLAN - SHEET 1	F	27/03/2025
C105	ROAD AND STORMWATER PLAN - SHEET 2	F	27/03/2025
C106	ROAD AND STORMWATER PLAN - SHEET 3	E	13/12/2024
C107	ROAD AND STORMWATER PLAN - SHEET 4	F	27/03/2025
C108	ROAD AND STORMWATER PLAN - SHEET 5	E	13/12/2024
C109	ROAD AND STORMWATER PLAN - SHEET 6	F	27/03/2025
C110	ROAD AND STORMWATER PLAN - SHEET 7	F	27/03/2025
C111	ROAD AND STORMWATER PLAN - SHEET 8	F	27/03/2025
C112	ROAD AND STORMWATER PLAN - SHEET 9	E	13/12/2024
C113	ROAD AND STORMWATER PLAN - SHEET 10	F	27/03/2025
C114	ROAD AND STORMWATER PLAN - SHEET 11	A	13/12/2024
C115	OVERALL SEWER PLAN	A	13/12/2024
C116	SEWER AND WATER PLAN - SHEET 1	E	13/12/2024
C117	SEWER AND WATER PLAN - SHEET 3	E	13/12/2024
C118	SEWER AND WATER PLAN - SHEET 4	E	13/12/2024
C119	SEWER AND WATER PLAN - SHEET 5	E	13/12/2024
C120	SEWER AND WATER PLAN - SHEET 6	E	13/12/2024
C121	SEWER AND WATER PLAN - SHEET 7	E	13/12/2024
C122	SEWER AND WATER PLAN - SHEET 8	E	13/12/2024
C123	SEWER AND WATER PLAN - SHEET 9	E	13/12/2024
C124	SEWER AND WATER PLAN - SHEET 10	A	13/12/2024
C125	SEWER AND WATER PLAN - SHEET 11	A	13/12/2024
C126	TURNPATH PLAN - SHEET 1	D	29/08/2024
C127	TURNPATH PLAN - SHEET 2	D	29/08/2024
C128	TURNPATH PLAN - SHEET 3	A	27/03/2025
C201	LONG SECTIONS - SHEET 1	E	13/12/2024
C202	LONG SECTIONS - SHEET 2	E	13/12/2024
C203	CROSS SECTIONS - SHEET 1	E	13/12/2024
C204	CROSS SECTIONS - SHEET 2	E	13/12/2024
C205	SITE SECTIONS - SHEET 1	A	13/12/2024
C206	SITE SECTIONS - SHEET 2	A	13/12/2024
C301	STORMWATER LONG SECTIONS- SHEET 1	F	13/05/2025
C302	STORMWATER LONG SECTIONS- SHEET 2	F	13/05/2025
C308	SEWER LONG SECTIONS - SHEET 1	E	13/12/2024
C309	SEWER LONG SECTIONS - SHEET 2	F	13/05/2025
C310	SEWER LONG SECTIONS - SHEET 3	F	13/05/2025
C401	CONSTRUCTION DETAILS - SHEET 1	D	29/08/2024
C402	CONSTRUCTION DETAILS - SHEET 2	D	29/08/2024

REV	ISSUE	DATE	APPROVAL	
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03 6234 8666
mail@aldanmark.com.au
www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: COVER

SCALE:

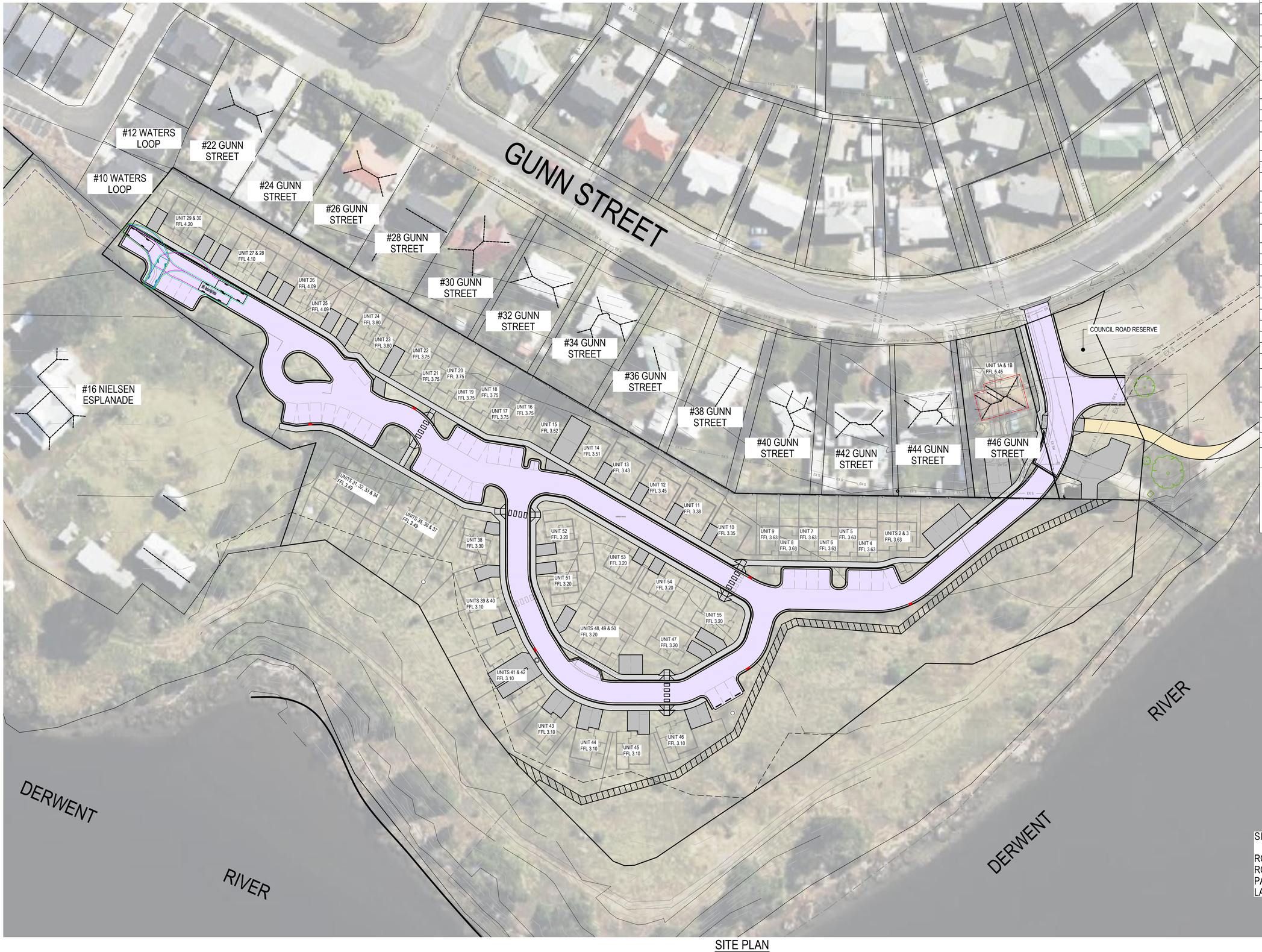
TOTAL SHEETS: 42

SIZE: A1

PROJECT No: 23 E 99-113

SHEET: C001

REV: G



SITE = 20190m²

ROOF = 3900m²
ROAD = 6100m²
PARKING,PAVING & DRIVEWAYS = 3000m²
LANDSCAPING = 7190m²

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
EX S	EXISTING SEWER
	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

NOTES

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SITE PLAN

SCALE 1:500 (A1)

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			DESIGN:	GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED:	NM
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PROJECT: CENTACARE - DEVELOPMENT

0 5 10 15 20 25 30 35 40 45 50m

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SITE PLAN

SCALE: 1:500

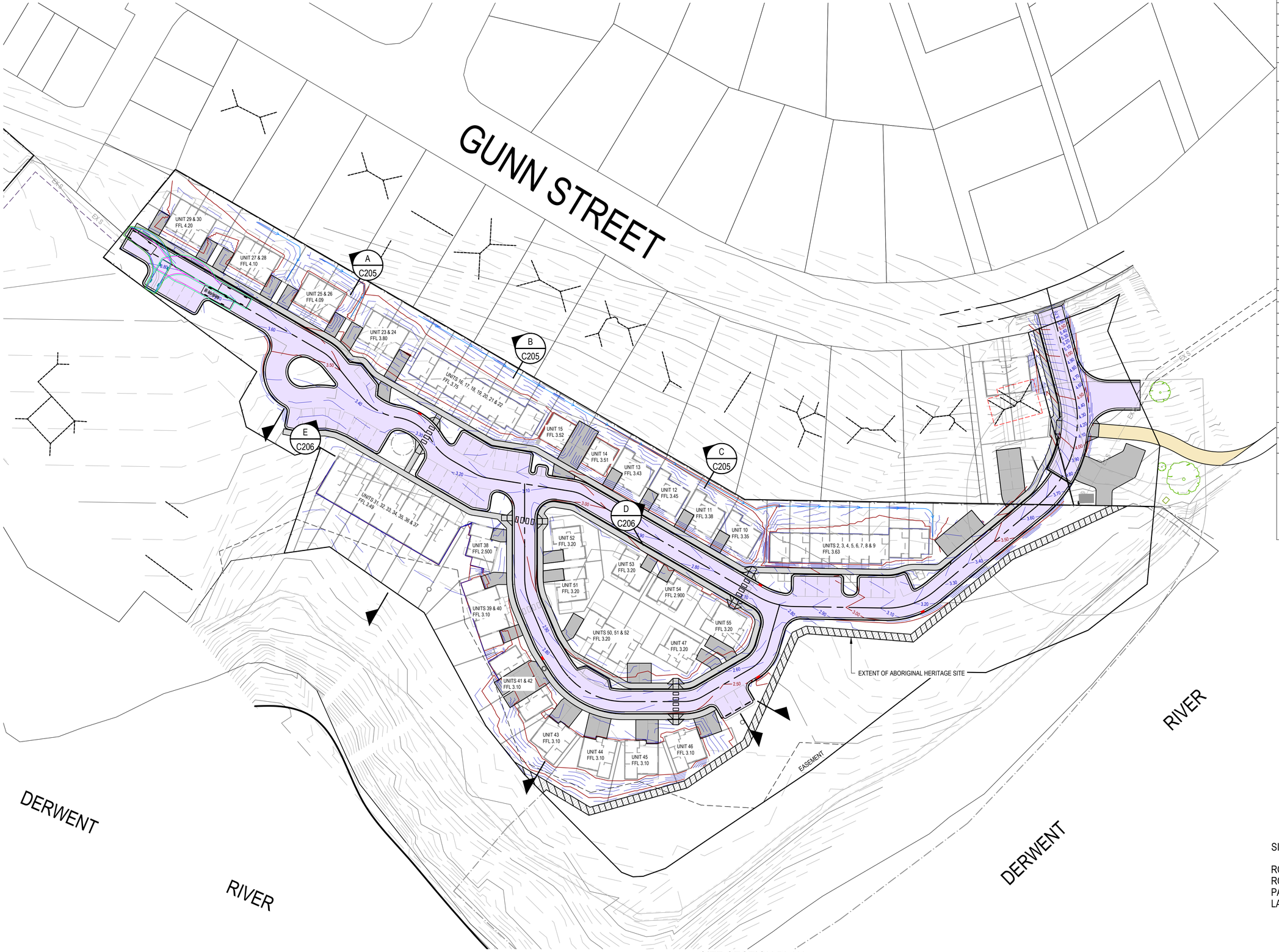
TOTAL SHEETS: 42

SIZE: A1

PROJECT No: 23 E 99-113

SHEET: C101

REV: D



SITE SECTION PLAN

SCALE 1:500 (A1)

SITE = 20190m²

ROOF = 3900m²
ROAD = 6100m²
PARKING,PAVING & DRIVEWAYS = 3000m²
LANDSCAPING = 7190m²

STORMWATER LEGEND

—— SWD ——	PVC STORMWATER DN300 SN8 U.N.O.
—— SSD ——	SLOTTED PVC AG DRAIN
——→——→——	TABLE DRAIN
—— EX SWD ——	EXISTING STORMWATER
◎ SWD	STORMWATER MANHOLE
⊟	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
⊟	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
🟥	OCEAN PROTECT OCEANGUARD
◉	INSPECTION OPENING
▨	GRATED PIT

SEWER LEGEND

—— S ——	uPVC SEWER DN150 SN8 U.N.O.
—— EX S ——	EXISTING SEWER
◎ SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
◎ S	MAINTENANCE SHAFT
◉	SEWER FIXTURE
◉ IO	INSPECTION OPENING

SITE & EXISTING SERVICES LEGEND

—— 26.0 —— – – – –	DESIGN SURFACE CONTOUR (MAJ/MIN)
—— 26.0 —— – – – –	EXISTING SURFACE CONTOUR (MAJ/MIN)
————	BOUNDARY
—— ——	EASEMENT
—— // ——	EXISTING FENCE
—— OH ——	EXISTING OVERHEAD POWER
—— E ——	EXISTING UNDERGROUND POWER
— — OP — — OP —	EXISTING TELSTRA
—— FOC ——	EXISTING NBN
— — G — — G —	EXISTING GAS
▨	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

▭	ASPHALT
▭	CONCRETE DRIVEWAY
▭	CONCRETE FOOTPATH
▭	GRAVEL

NOTES

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PROJECT: CENTACARE - DEVELOPMENT

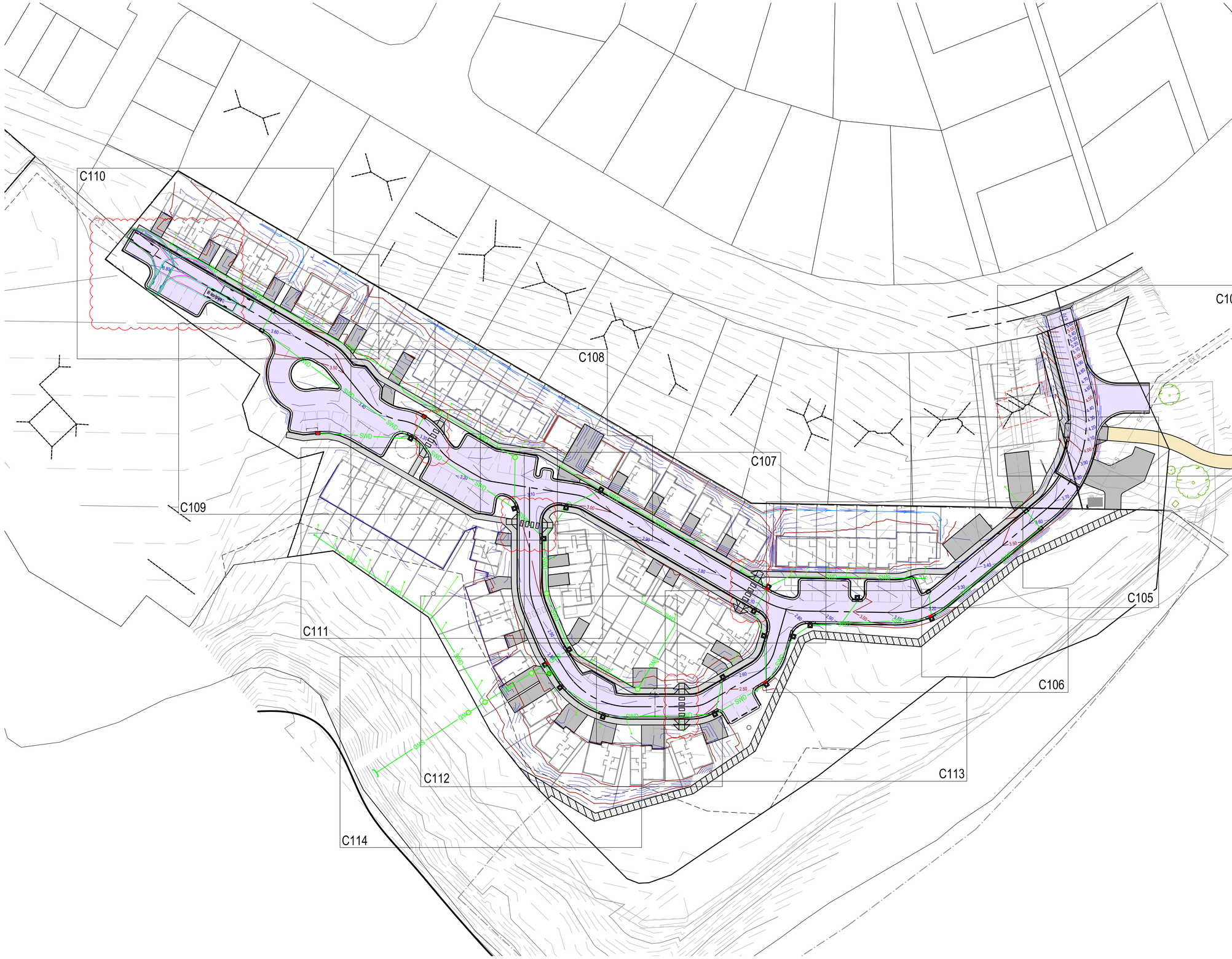
0 5 10 15 20 25 30 35 40 45 50m

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SITE SECTION PLAN

SCALE: 1:500	TOTAL SHEETS: 42	SIZE: A1
PROJECT No: 23 E 99-113	SHEET: C102	REV: A


C110
C108
C104
C107
C109
C105
C111
C106
C112
C113
C114
SWD
SSD
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3.40
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-3.20
-3.30
-3.40
-3.50
-3.60
-3.70
-3.80
-3.90
-4.00

NEW DOUBLE CROSSOVER AS PER LGAT TSD-R09-v3

EXISTING SIDE ENTRY PIT

EXISTING ROAD BARRIERS

EXISTING COUNCIL MAINTENANCE CHAMBER

EXISTING COUNCIL STORMWATER MAIN - UNKNOWN SIZE

LEVELS OVER EXISTING WATER MAIN TO REMAIN UNCHANGED

DS=5.50
NS=5.28
Δ=+0.22

DS=5.50
NS=5.35
Δ=+0.15

DS=5.00
NS=4.79
Δ=+0.21

DS=5.00
NS=4.93
Δ=+0.07

DS=4.85
NS=4.69
Δ=+0.16

DS=4.37
NS=4.20
Δ=+0.17

DS=4.00
NS=4.00
Δ=0.00

DS=4.00
NS=3.74
Δ=+0.26

COUNCIL RESERVE
TITLE: 176642/6

6.90m

NEW ASPHALT PAVEMENT AS PER DETAIL PROVIDED

KERB TYPE "KC" AS PER LGAT TSD-G04.v3

HAYFIELD PLACE - CL1

UNITS 1A & 1B

PAD LEVEL
5.450

NEW FOOTPATH PAVEMENT AS PER DETAIL PROVIDED

EXISTING HOUSE TO BE DEMOLISHED

1.50m

NEW PRAM CROSSING AS PER LGAT STANDARDS TSD-R18-v3

TURNING AISLE TO BE MODELED IN STAGE 1
BA. LEVELS OVER EXISTING INFRASTRUCTURE
TO REMAIN UNCHANGED

EXISTING PEDESTRIAN PATH

RE-DIRECT PEDESTRIAN FOOTPATH
WITH GRAVEL PAVEMENT

REFER TO C105 FOR CONTINUATION

ROAD AND STORMWATER PLAN - SHEET 1

SCALE 1:100 (A1)

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

NOTES

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 1

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C104 | REV: F

INSTALL ACCESS RAMP AS PER LGAT TSD-R18-v3

NEW GRAVEL PAVEMENT AS PER DETAIL PROVIDED

DS=4.00
NS=4.00
Δ=0.00

DS=4.00
NS=3.74
Δ=+0.26

DELINEATION ZONE BETWEEN COUNCIL & PRIVATELY OWNED LAND (KCM)

ALLOW FOR NEW STORMWATER RISER AND LID TO MATCH NEW LEVELS

DS=3.61
NS=3.57
Δ=+0.04

6.40m

REFER TO C106 FOR CONTINUATION

DS=3.51
NS=3.38
Δ=+0.13

SW1/15

FH

DS=3.60
NS=3.26
Δ=+0.34

SW1/14

NEW CONCRETE PAVEMENT TURNING AREA FOR TASWATER SEWER PUMP STATION AS PER DETAIL PROVIDED

DS=3.37
NS=3.22
Δ=+0.15

UNIT 2

PAD LEVEL
3.630

KC WING FOR ACCESS TO PARKING

HAYFIELD PLACE - CL1

DS=3.28
NS=3.13
Δ=+0.16

SW4/5

ROD EYE TO SURFACE

SW11/

DS=3.26
NS=3.04
Δ=+0.22

REFER TO C106 FOR CONTINUATION

ROAD AND STORMWATER PLAN - SHEET 2

SCALE 1:100 (A1)

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 2

SCALE: 1:100

TOTAL SHEETS: 42

SIZE: A1

PROJECT No: 23 E 99-113

SHEET: C105

REV: F

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP OP	EXISTING TELSTRA
FOC	EXISTING NBN
G G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

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REFER TO C113 & C107 FOR CONTINUATION

REFER TO C113 FOR CONTINUATION

ROAD AND STORMWATER PLAN - SHEET 3

SCALE 1:100 (A1)

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			DRAWN: GR
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PROJECT: CENTACARE - DEVELOPMENT

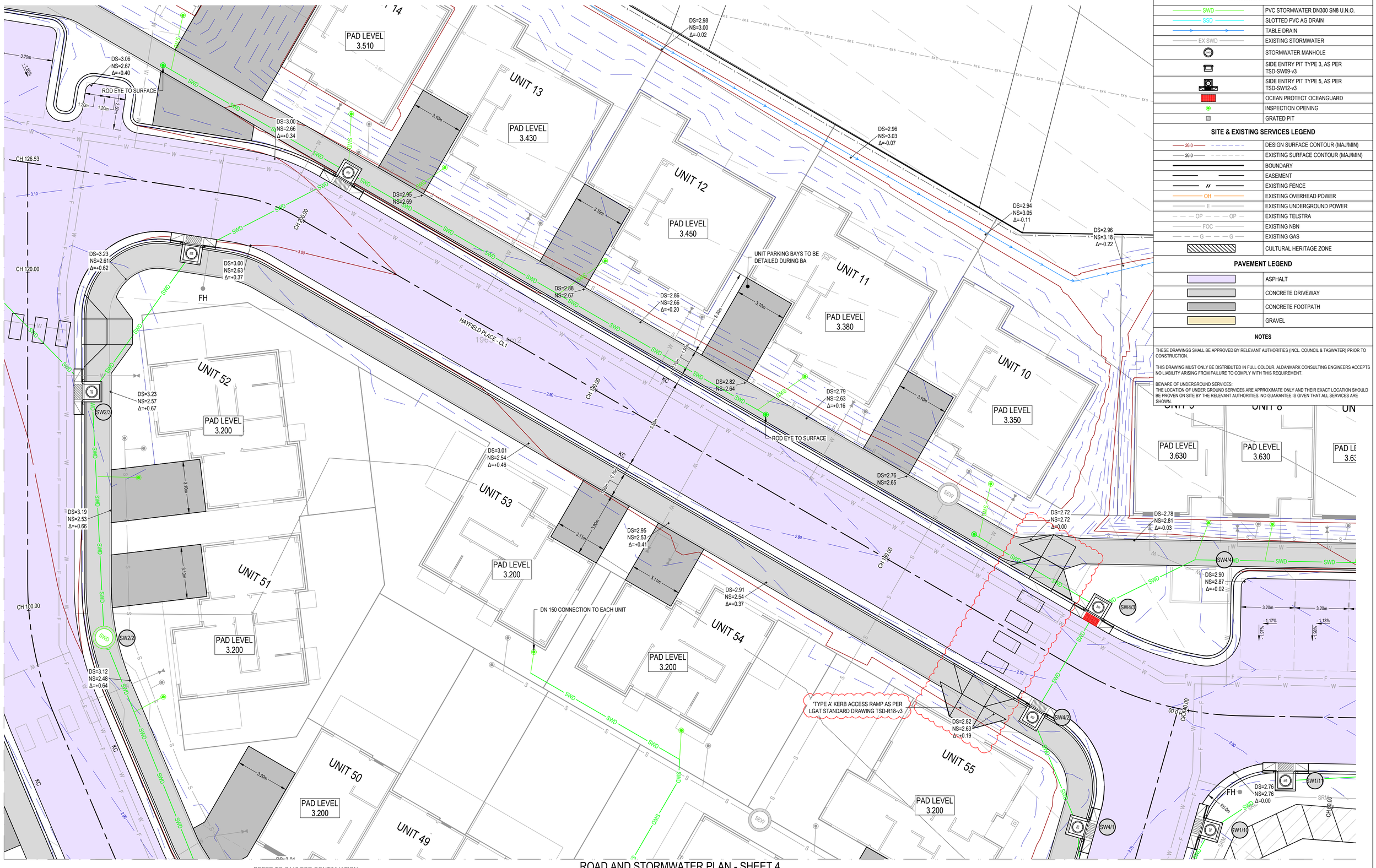
ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 3

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C106 | REV: E



STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
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FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

NOTES

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ROAD AND STORMWATER PLAN - SHEET 4

SCALE 1:100 (A1)

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REV	ISSUE	DATE	APPROVAL
F	DEVELOPMENT APPROVAL	27/03/2025	CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG
			DRAWN: GR

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Lower Ground
199 Macquarie Street
Hobart TAS 7000
03 6234 8666
mail@aldanmark.com.au
www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 4

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C107 | REV: F

ROAD AND STORMWATER PLAN - SHEET 5

SCALE 1:100 (A1)

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

NOTES

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 5

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C108 | REV: E

DIAL BEFORE YOU DIG www.1100.com.au

REFER TO C110 FOR CONTINUATION

ROAD AND STORMWATER PLAN - SHEET 6

SCALE 1:100 (A1)

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 6

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C109 | REV: F

ROAD AND STORMWATER PLAN - SHEET 7

SCALE 1:100 (A1)

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 7

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C110 | REV: F

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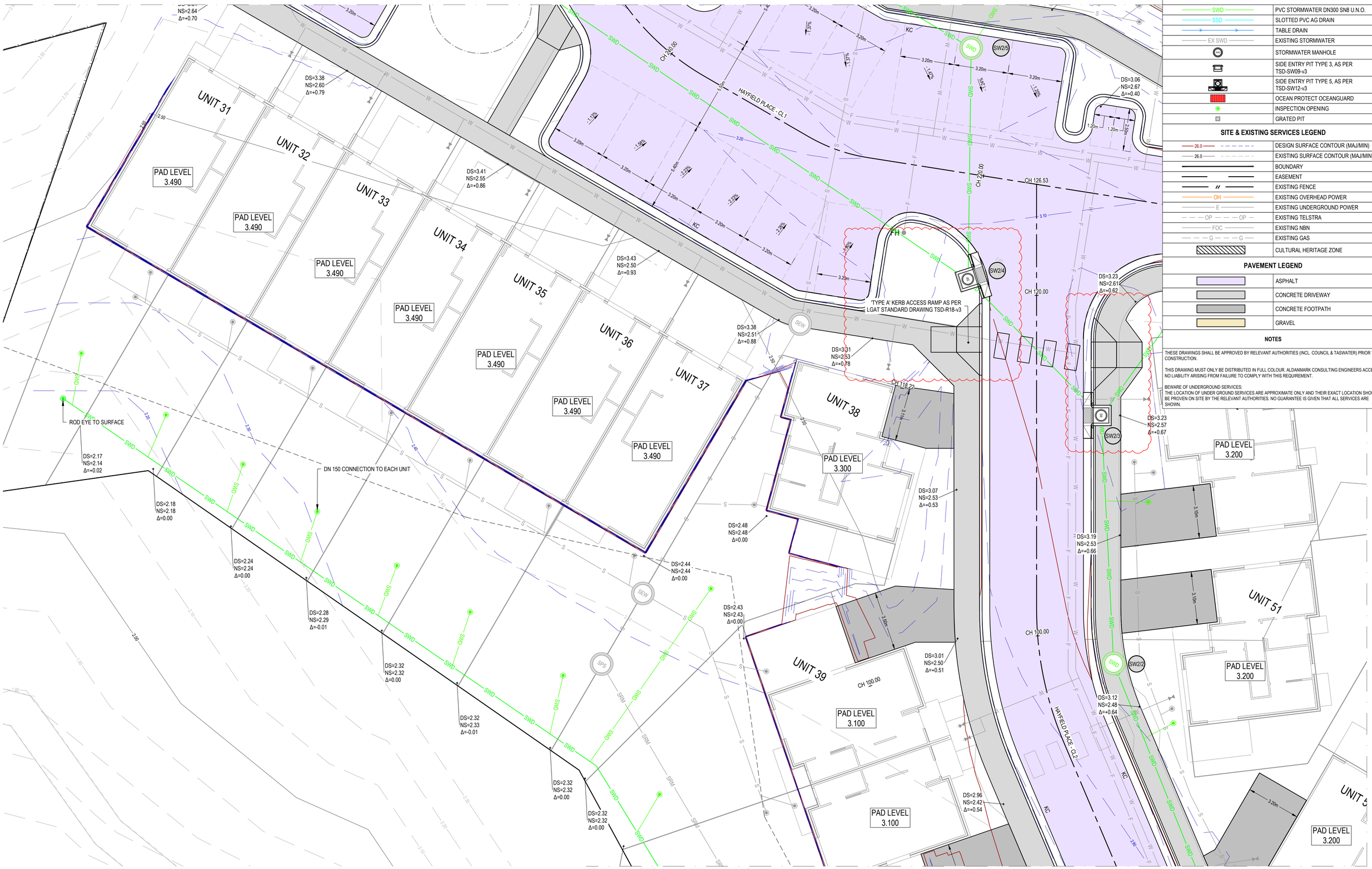
REFER TO SHEET C109 FOR CONTINUATION



ROAD AND STORMWATER PLAN - SHEET 8

SCALE 1:100 (A1)

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP OP	EXISTING TELSTRA
FOC	EXISTING NBN
G G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 8

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C111 | REV: F

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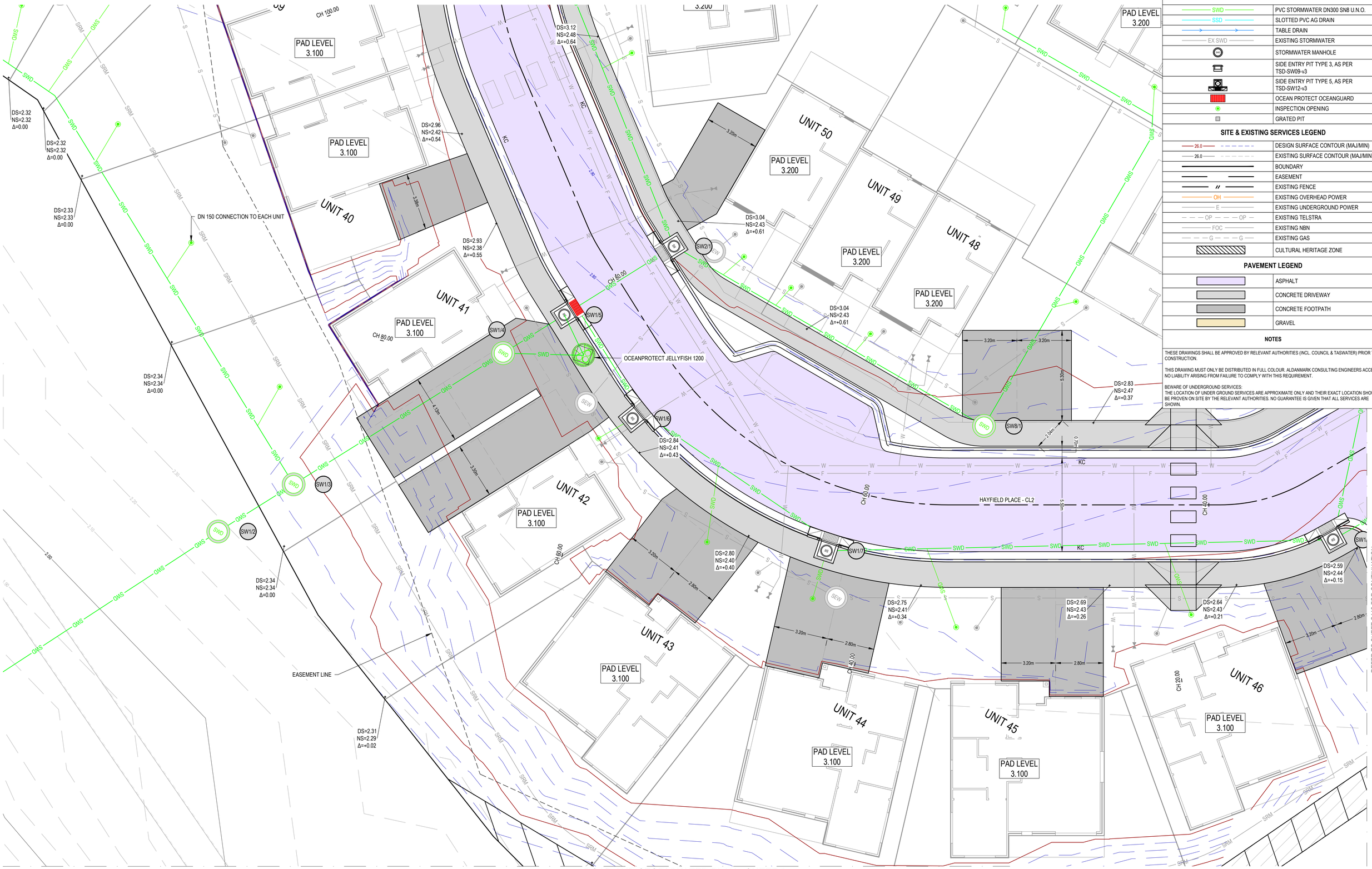

ROAD AND STORMWATER PLAN - SHEET 9

SCALE 1:100 (A1)

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 9

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C112 | REV: E

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REFER TO C106 FOR CONTINUATION

REFER SHEET C112 FOR CONTINUATION

UNIT 54

PAD LEVEL 3.200

DN 150 CONNECTION TO EACH UNIT

UNIT 55

PAD LEVEL 3.200

UNIT 47

PAD LEVEL 3.200

'TYPE A' KERB ACCESS RAMP AS PER LGAT STANDARD DRAWING TSD-R18-v3

HAYFIELD PLACE - CL2

CH 40.00

CH 0.00

CH 20.00

UNIT 46

PAD LEVEL 3.100

WHEEL STOPS AS PER AS2890.1

CH 120.00

KC

FH

DS=2.82
NS=2.63
Δ=+0.19

DS=2.83
NS=2.50
Δ=+0.32

DS=2.74
NS=2.48
Δ=+0.27

DS=2.83
NS=2.47
Δ=+0.37

DS=2.64
NS=2.43
Δ=+0.21

DS=2.59
NS=2.44
Δ=+0.15

DS=2.45
NS=2.43
Δ=+0.01

DS=2.46
NS=2.46
Δ=0.00

DS=2.41
NS=2.41
Δ=+0.01

DS=2.76
NS=2.76
Δ=0.00

DS=3.00
NS=2.99
Δ=+0.01

DS=3.00
NS=2.94
Δ=+0.06

SW4/2 SW4/1 SW10/1 SW1/9 SW1/8 SW1/10 SW1/11 SW1/12

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
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	INSPECTION OPENING
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SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP OP	EXISTING TELSTRA
FOC	EXISTING NBN
G G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
	CONCRETE FOOTPATH
	GRAVEL

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ROAD AND STORMWATER PLAN - SHEET 10

SCALE 1:100 (A1)

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 10

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C113 | REV: F

REFER SHEET C112 FOR CONTINUATION

UNIT 41
PAD LEVEL 3.100
UNIT 42
PAD LEVEL 3.100
UNIT 43
PAD LEVEL 3.100
UNIT 44
PAD LEVEL 3.100

HAYFIELD PLACE - CL2

SW1/1
SW1/2
SW1/3
SW1/4
SW1/5
SW1/6

DN 150 CONNECTION TO EACH UNIT

DS=2.34
NS=2.34
Δ=0.00

DS=2.34
NS=2.34
Δ=0.00

DS=2.31
NS=2.29
Δ=+0.02

DS=2.84
NS=2.41
Δ=+0.43

DS=2.80
NS=2.40
Δ=+0.40

DS=2.31
NS=2.36
Δ=-0.05

DS=2.35
NS=2.37
Δ=-0.02

4.10m
3.50m
3.20m
2.80m

TYPICAL STORMWATER OUTLET HEADWALL AS PER TSD-SW17-V3
WITH SCOUR PROTECTION TO THE SATISFACTION OF COUNCIL.
OUTFALL TO DERWENT RIVER ABOVE HIGH WATER MARK.

REFER TO C113 FOR CONTINUATION

STORMWATER LEGEND

SWD	PVC STORMWATER DN300 SN8 U.N.O.
SSD	SLOTTED PVC AG DRAIN
	TABLE DRAIN
EX SWD	EXISTING STORMWATER
	STORMWATER MANHOLE
	SIDE ENTRY PIT TYPE 3, AS PER TSD-SW09-v3
	SIDE ENTRY PIT TYPE 5, AS PER TSD-SW12-v3
	OCEAN PROTECT OCEANGUARD
	INSPECTION OPENING
	GRATED PIT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
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FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

PAVEMENT LEGEND

	ASPHALT
	CONCRETE DRIVEWAY
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ROAD AND STORMWATER PLAN - SHEET 11

SCALE 1:100 (A1)

DIAL BEFORE YOU DIG www.1100.com.au

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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

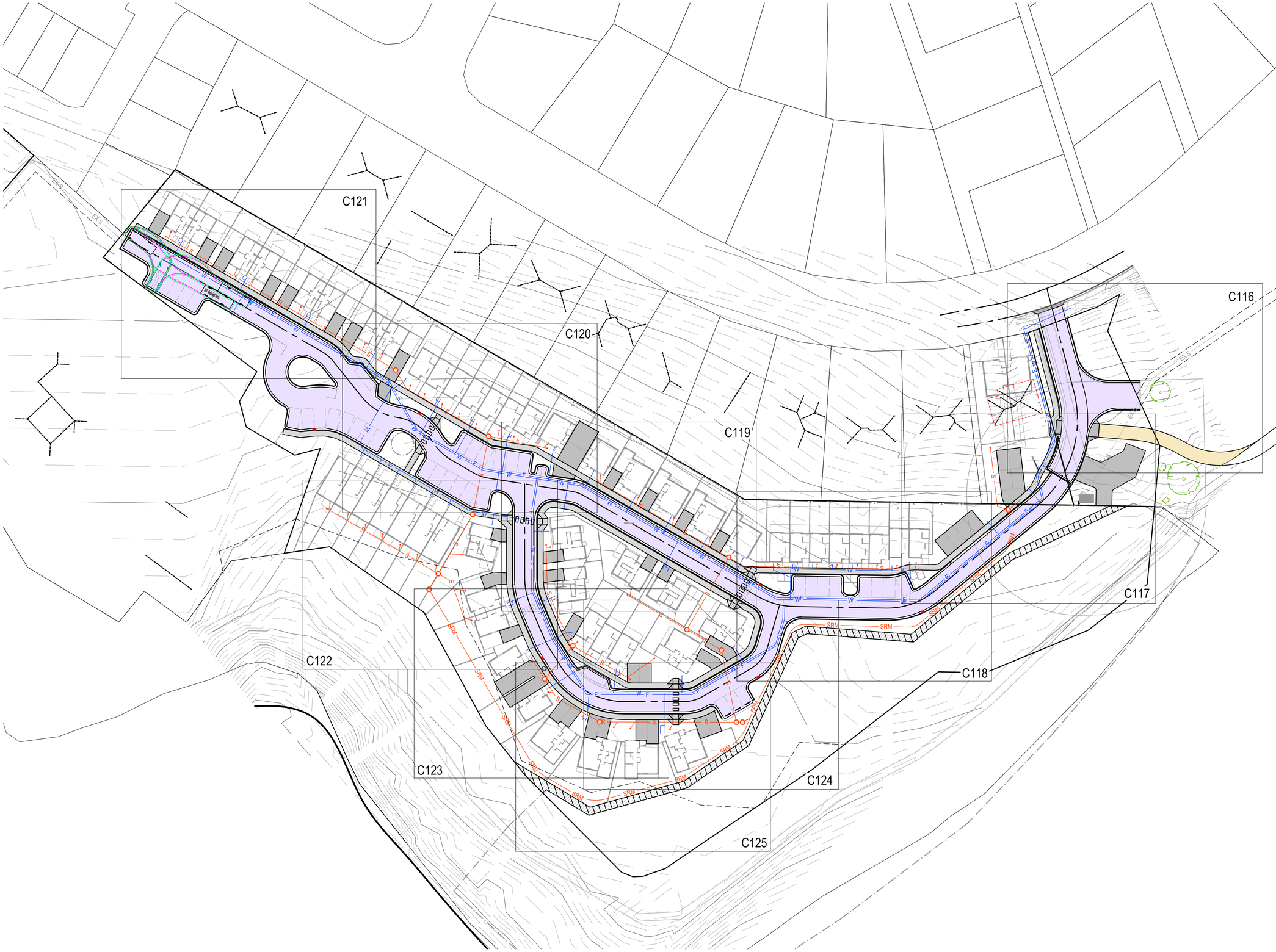
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: ROAD AND STORMWATER PLAN - SHEET 11

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C114 | REV: A



SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

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26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
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WATER & SEWER NOTES

ALL WORKS ARE TO BE IN ACCORDANCE WITH THE WATER SUPPLY CODE OF AUSTRALIA WSA 03 - 2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND SEWERAGE CODE OF AUSTRALIA MELBOURNE RETAIL WATER AGENCIES CODE WSA 02 - 2014-3.1 MRWA VERSION 2 AND TASWATER'S SUPPLEMENTS TO THESE CODES

WATER METER ASSEMBLY TO BE HOUSED IN VANDAL PROOF CAGE AS PER TWS-W-0003. DEVELOPER TO LIAISE WITH TASWATER FOR SUPPLY OF ABLOY LOCK AND PIN AT DEVELOPERS COST

SEWER INSPECTION OPENINGS TO BE EVERY 30m AND IN ACCORDANCE WITH AS3500

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REV	ISSUE	DATE	APPROVAL	
			DRAWN:	GR
			CHECKED:	NM
A	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
			CHECKED:	NM
			VERIFIED:	MG

ALDANMARK CONSULTING ENGINEERS
Lower Ground
199 Macquarie Street
Hobart TAS 7000
03 6234 8666
mail@aldanmark.com.au
www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 5 10 15 20 25 30 35 40 45 50m

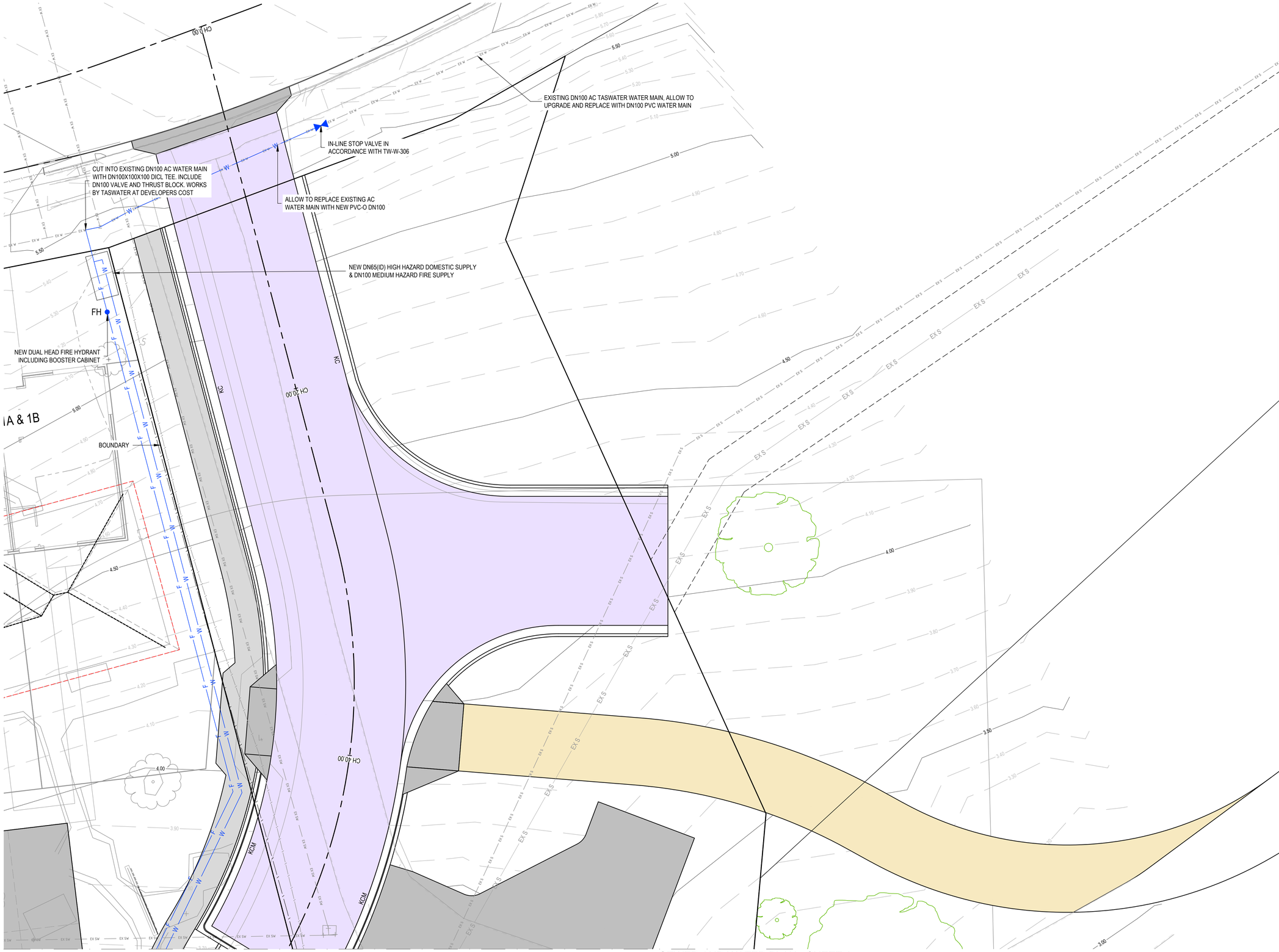
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: OVERALL SEWER PLAN

SCALE: 1:500 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C115 | REV: A



REFER TO C117 FOR CONTINUATION

SEWER AND WATER PLAN - SHEET 1

SCALE 1:100 (A1)

SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

NOTES

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WATER & SEWER NOTES

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SEWER INSPECTION OPENINGS TO BE EVERY 30m AND IN ACCORDANCE WITH AS3500

DIAL BEFORE YOU DIG www.1100.com.au

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

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www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

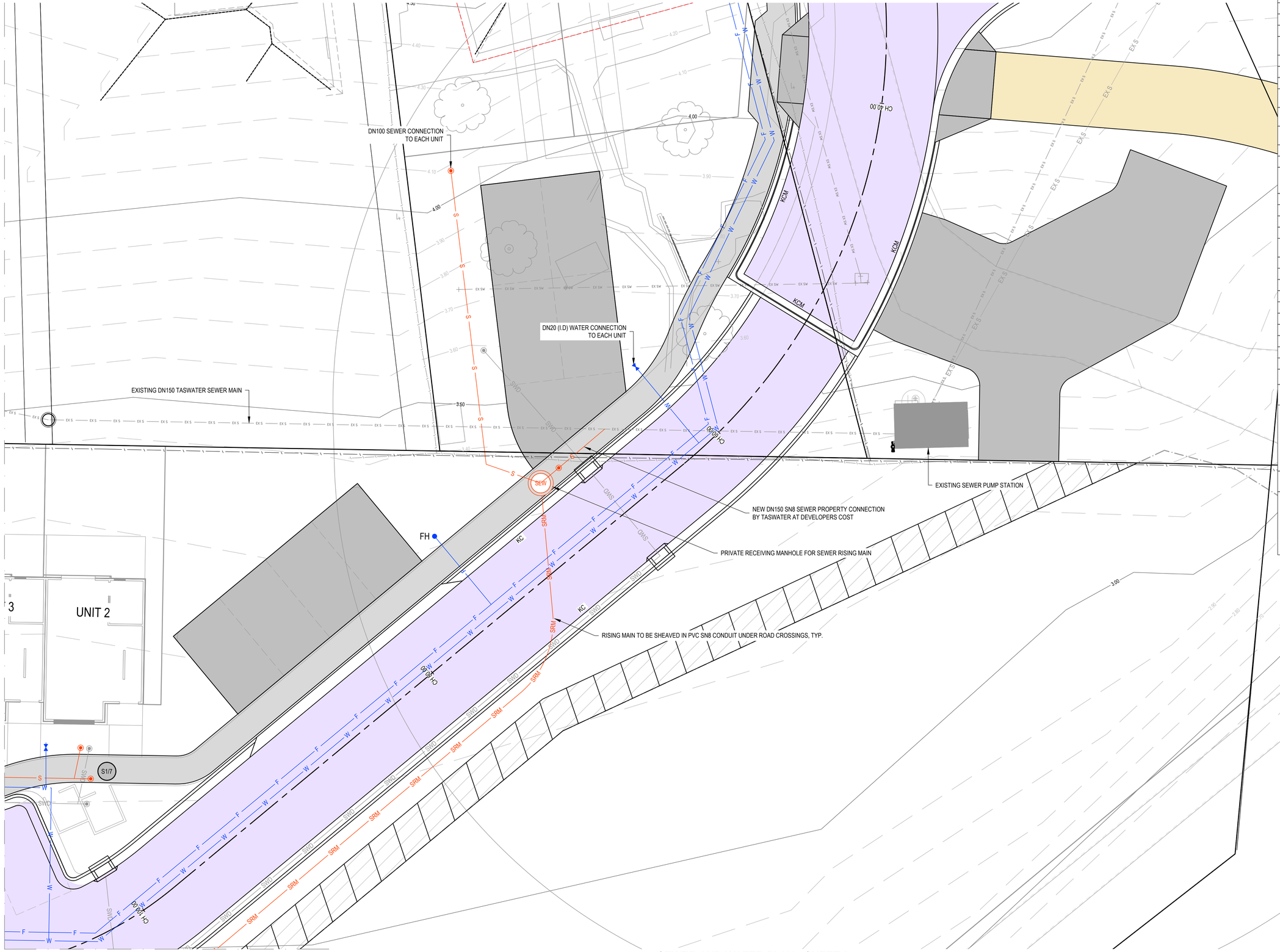
ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 1

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C116 | REV: E



SEWER AND WATER PLAN - SHEET 3

SCALE 1:100 (A1)

SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
25OD W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

NOTES

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			DRAWN:	GR
			CHECKED:	NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED:	NM
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PROJECT: CENTACARE - DEVELOPMENT

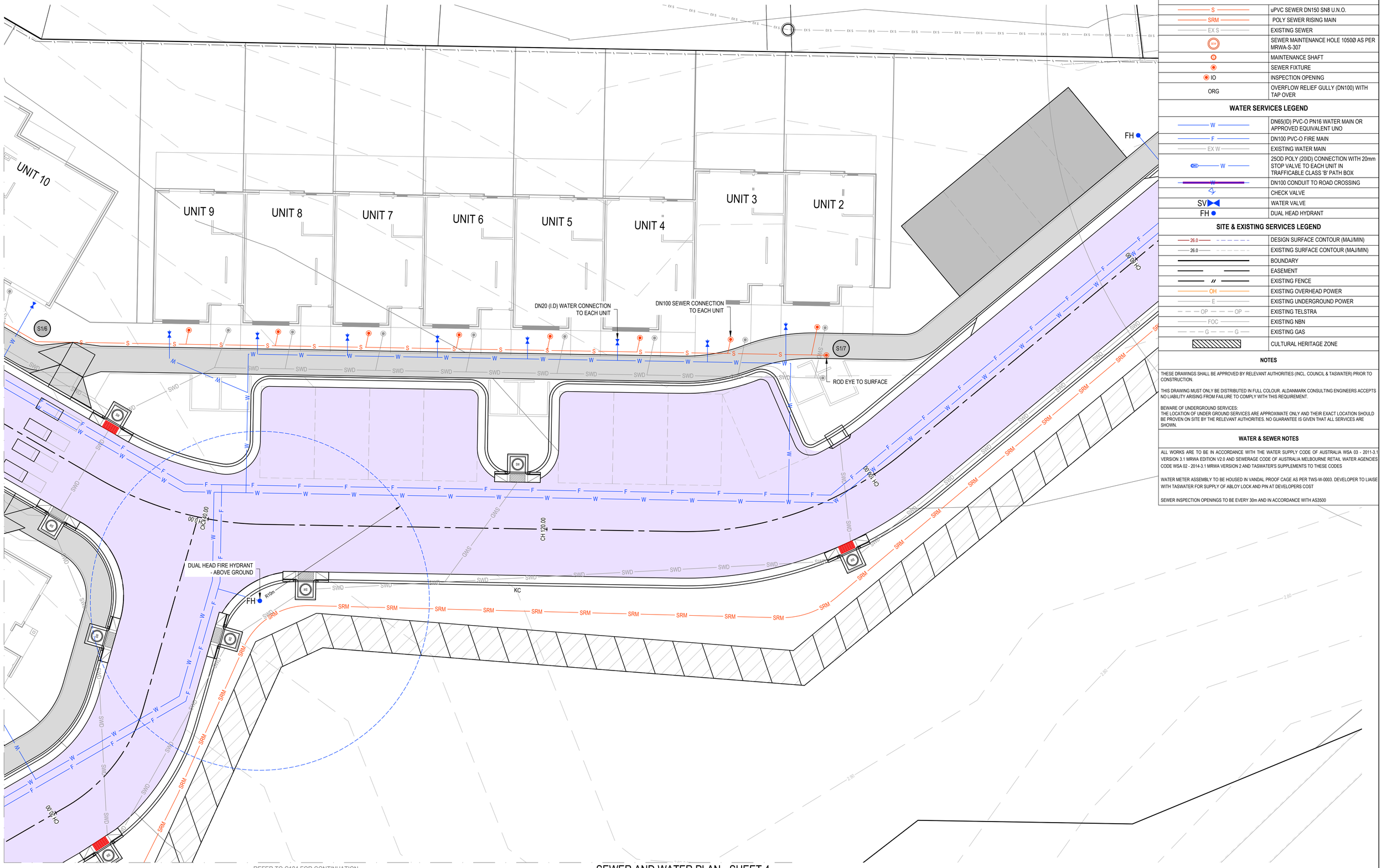
ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 3

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C117 | REV: E



SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

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SEWER AND WATER PLAN - SHEET 4

SCALE 1:100 (A1)

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REV	ISSUE	DATE	APPROVAL	
			DRAWN:	GR
			CHECKED:	NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED:	NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED:	MG

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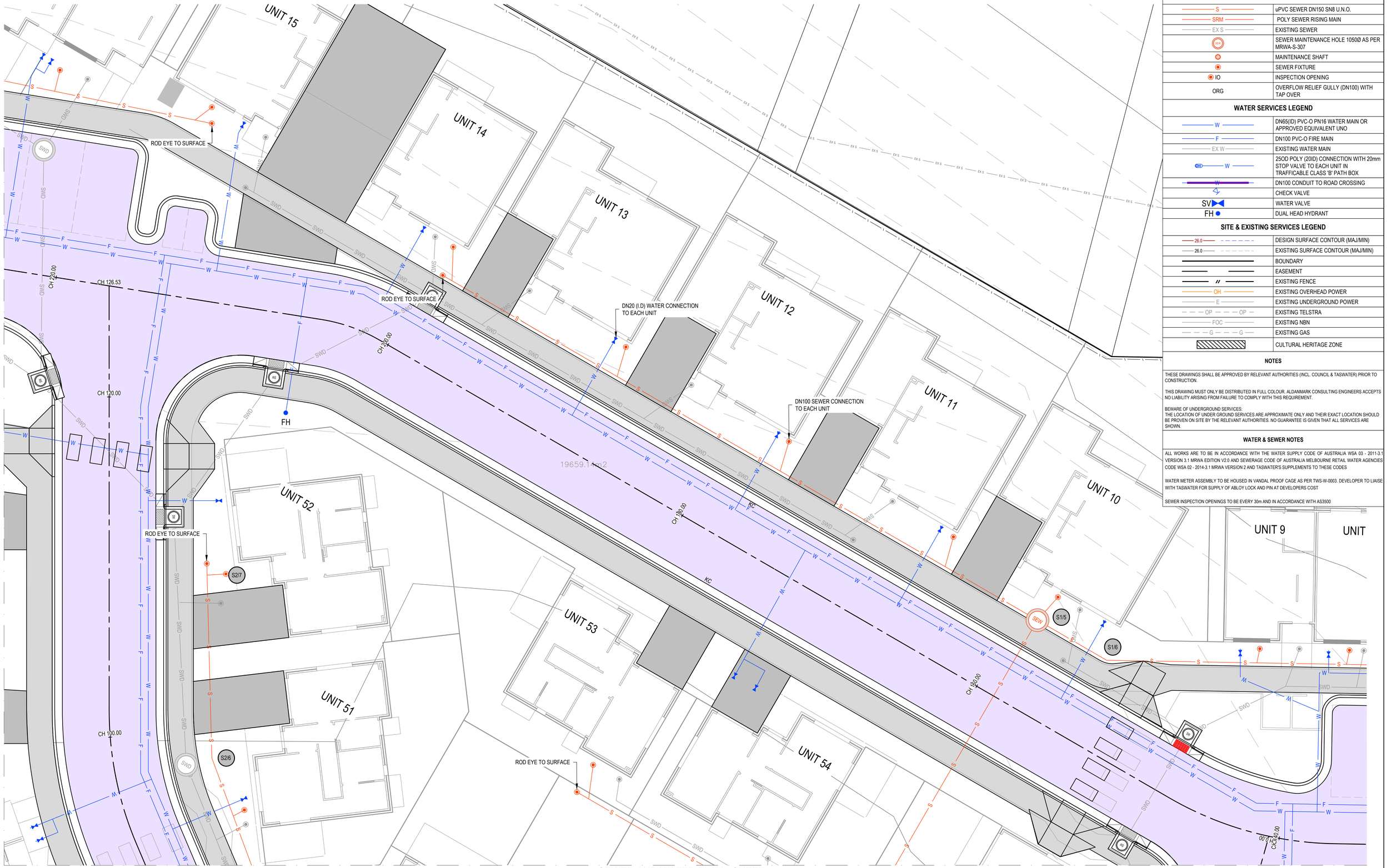
0 1 2 3 4 5 6 7 8 9 10m

PROJECT:	CENTACARE - DEVELOPMENT	ADDRESS:	1 HAYFIELD PLACE BRIDGEWATER
CLIENT:	CENTACARE EVOLVE HOUSING	SHEET:	SEWER AND WATER PLAN - SHEET 4
SCALE:	1:100	TOTAL SHEETS:	42
PROJECT No:	23 E 99-113	SHEET:	C118
SIZE:	A1	REV:	E



SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
25OD W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

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SEWER INSPECTION OPENINGS TO BE EVERY 30m AND IN ACCORDANCE WITH AS3500

SEWER AND WATER PLAN - SHEET 5

SCALE 1:100 (A1)

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REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 5

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C119 | REV: E

SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
25OD W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

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SEWER INSPECTION OPENINGS TO BE EVERY 30m AND IN ACCORDANCE WITH AS3500

SEWER AND WATER PLAN - SHEET 6

SCALE 1:100 (A1)

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REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
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www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 6

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C120 | REV: E

SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
25OD W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
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G	EXISTING GAS
	CULTURAL HERITAGE ZONE

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SEWER AND WATER PLAN - SHEET 7

SCALE 1:100 (A1)

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REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

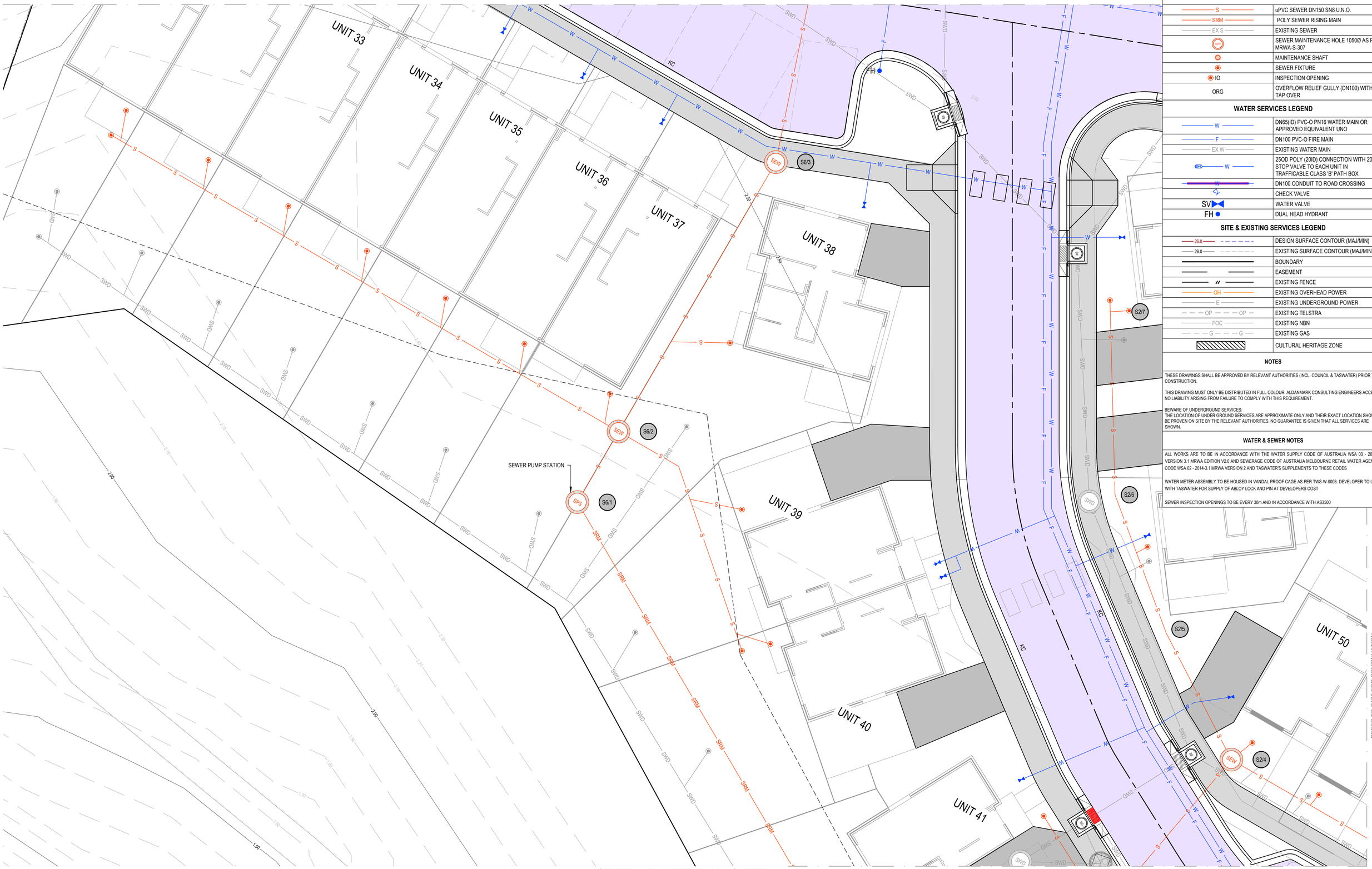
CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 7

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C121 | REV: E

REFER TO SHEET C120 FOR CONTINUATION



REFER TO C123 FOR CONTINUATION

SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
25OD W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

NOTES

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WATER & SEWER NOTES

ALL WORKS ARE TO BE IN ACCORDANCE WITH THE WATER SUPPLY CODE OF AUSTRALIA WSA 03 - 2011-3.1 VERSION 3.1 MRWA EDITION V2.0 AND SEWERAGE CODE OF AUSTRALIA MELBOURNE RETAIL WATER AGENCIES CODE WSA 02 - 2014-3.1 MRWA VERSION 2 AND TASWATER'S SUPPLEMENTS TO THESE CODES

WATER METER ASSEMBLY TO BE HOUSED IN VANDAL PROOF CAGE AS PER TWS-W-0003. DEVELOPER TO LIAISE WITH TASWATER FOR SUPPLY OF ABLOY LOCK AND PIN AT DEVELOPERS COST

SEWER INSPECTION OPENINGS TO BE EVERY 30m AND IN ACCORDANCE WITH AS3500

SEWER AND WATER PLAN - SHEET 8

SCALE 1:100 (A1)

REFER TO SHEET C123 FOR CONTINUATION

DIAL BEFORE YOU DIG www.1100.com.au

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

ALDANMARK CONSULTING ENGINEERS
Lower Ground
199 Macquarie Street
Hobart TAS 7000
03 6234 8666
mail@aldanmark.com.au
www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

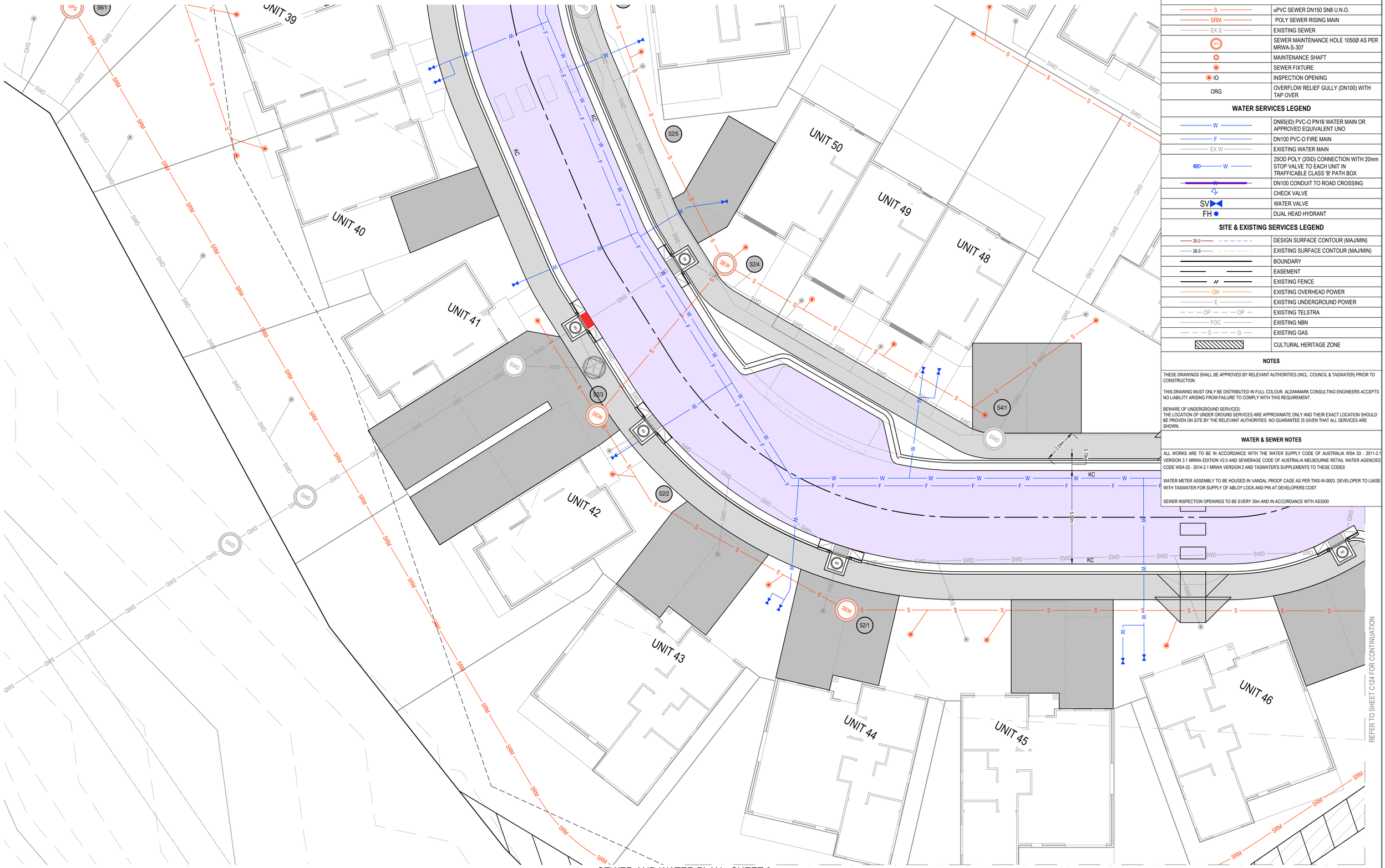
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 8

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C122 | REV: E



SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
25OD W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
//	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

NOTES

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SEWER INSPECTION OPENINGS TO BE EVERY 30m AND IN ACCORDANCE WITH AS3500

SEWER AND WATER PLAN - SHEET 9

SCALE 1:100 (A1)

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REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

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199 Macquarie Street
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03 6234 8666
mail@aldanmark.com.au
www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

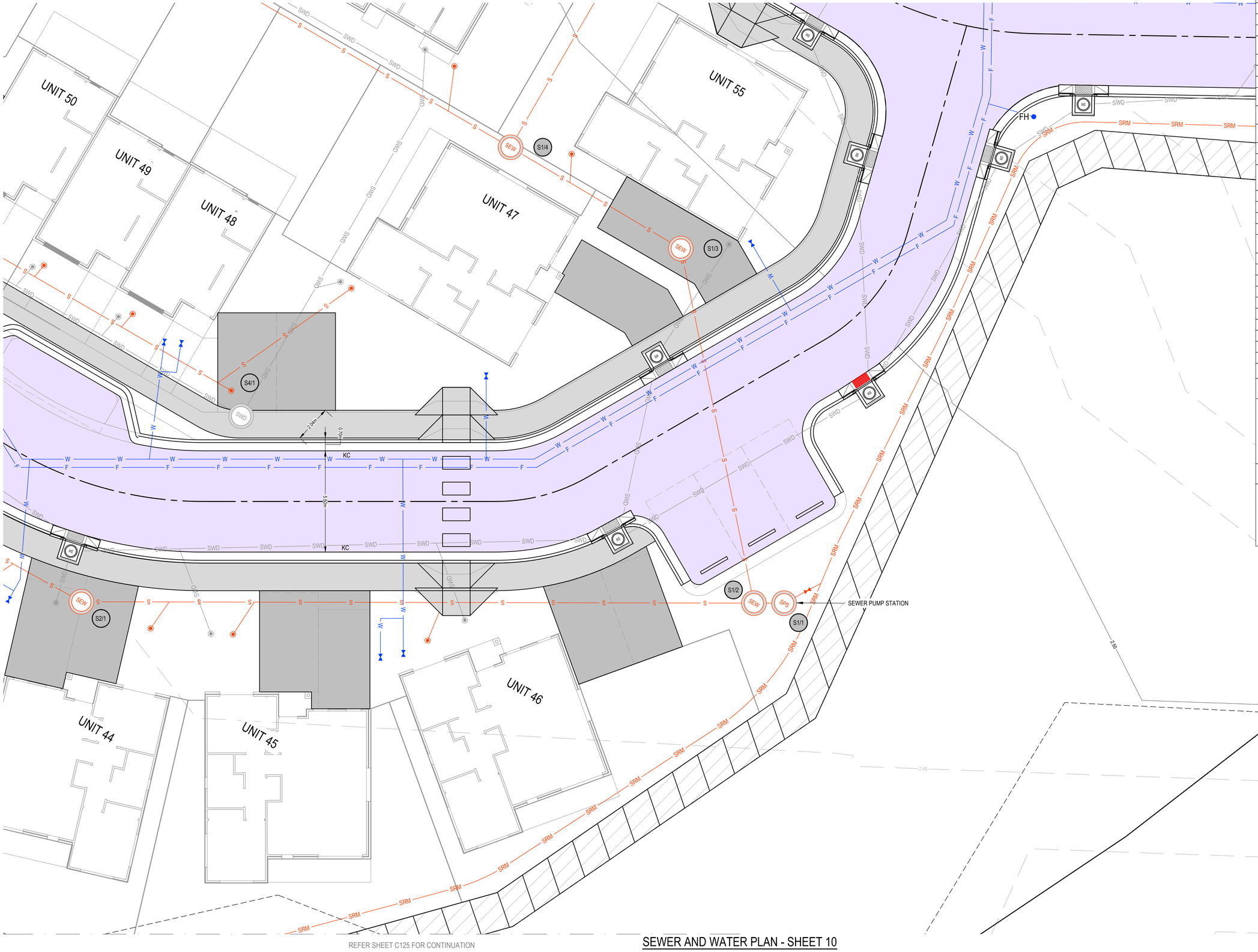
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 9

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C123 | REV: E



SEWER AND WATER PLAN - SHEET 10

SCALE 1:100 (A1)

SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
20ID W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

SITE & EXISTING SERVICES LEGEND

26.0	DESIGN SURFACE CONTOUR (MAJ/MIN)
26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
	BOUNDARY
	EASEMENT
	EXISTING FENCE
OH	EXISTING OVERHEAD POWER
E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

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REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
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A	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

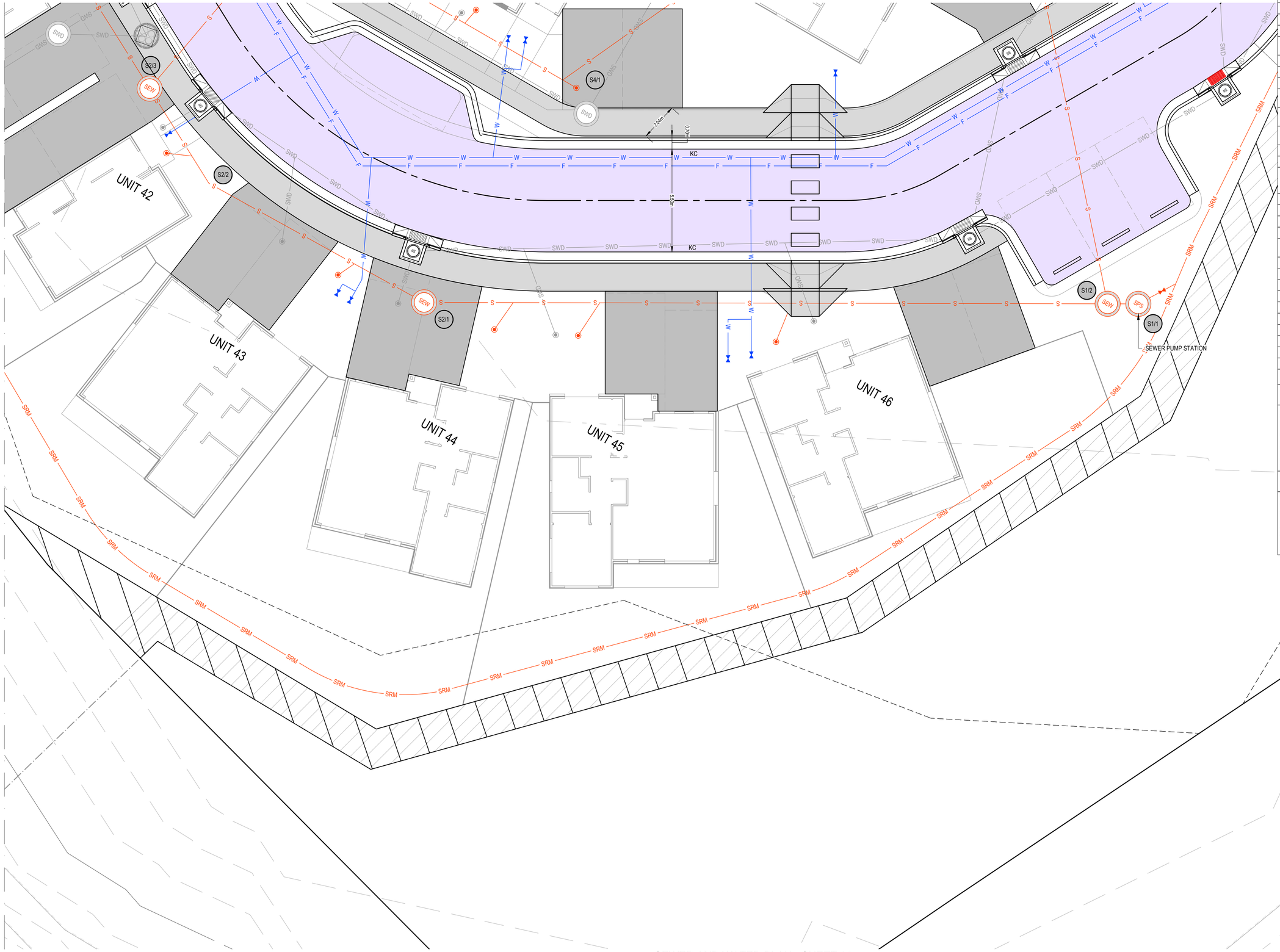
CLIENT: CENTACARE EVOLVE HOUSING

0 1 2 3 4 5 6 7 8 9 10m

SHEET: SEWER AND WATER PLAN - SHEET 10

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C124 | REV: A



SEWER LEGEND

S	uPVC SEWER DN150 SN8 U.N.O.
SRM	POLY SEWER RISING MAIN
EX S	EXISTING SEWER
SEW	SEWER MAINTENANCE HOLE 1050Ø AS PER MRWA-S-307
	MAINTENANCE SHAFT
	SEWER FIXTURE
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100) WITH TAP OVER

WATER SERVICES LEGEND

W	DN65(ID) PVC-O PN16 WATER MAIN OR APPROVED EQUIVALENT UNO
F	DN100 PVC-O FIRE MAIN
EX W	EXISTING WATER MAIN
20ID W	25OD POLY (20ID) CONNECTION WITH 20mm STOP VALVE TO EACH UNIT IN TRAFFICABLE CLASS 'B' PATH BOX
W	DN100 CONDUIT TO ROAD CROSSING
	CHECK VALVE
SV	WATER VALVE
FH	DUAL HEAD HYDRANT

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26.0	EXISTING SURFACE CONTOUR (MAJ/MIN)
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	EASEMENT
	EXISTING FENCE
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E	EXISTING UNDERGROUND POWER
OP	EXISTING TELSTRA
FOC	EXISTING NBN
G	EXISTING GAS
	CULTURAL HERITAGE ZONE

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SEWER AND WATER PLAN - SHEET 11

SCALE 1:100 (A1)

DIAL BEFORE YOU DIG www.1100.com.au

REV	ISSUE	DATE	APPROVAL	
			DRAWN:	GR
			CHECKED:	NM
A	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
			CHECKED:	NM
			VERIFIED:	MG

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www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

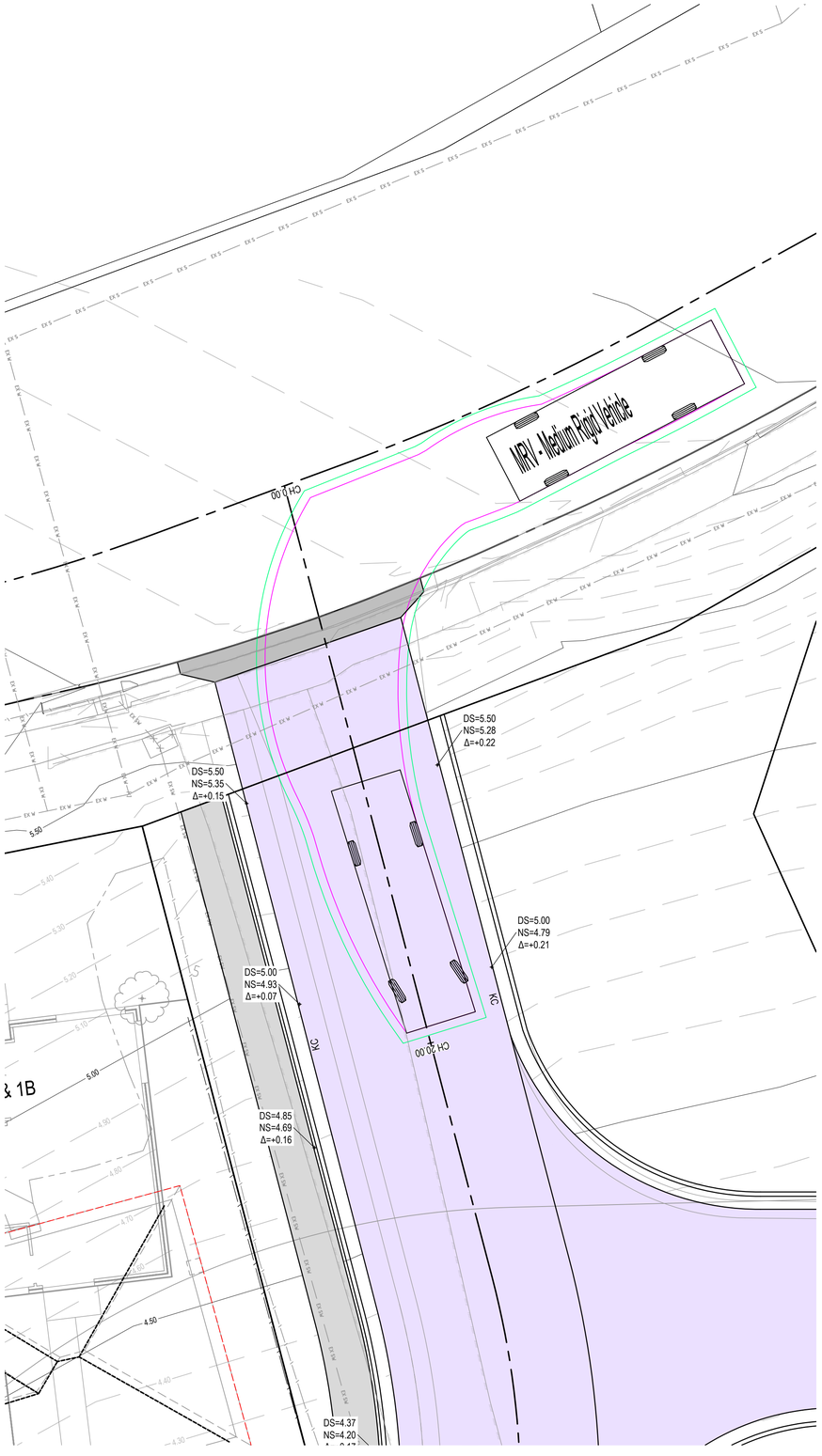
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

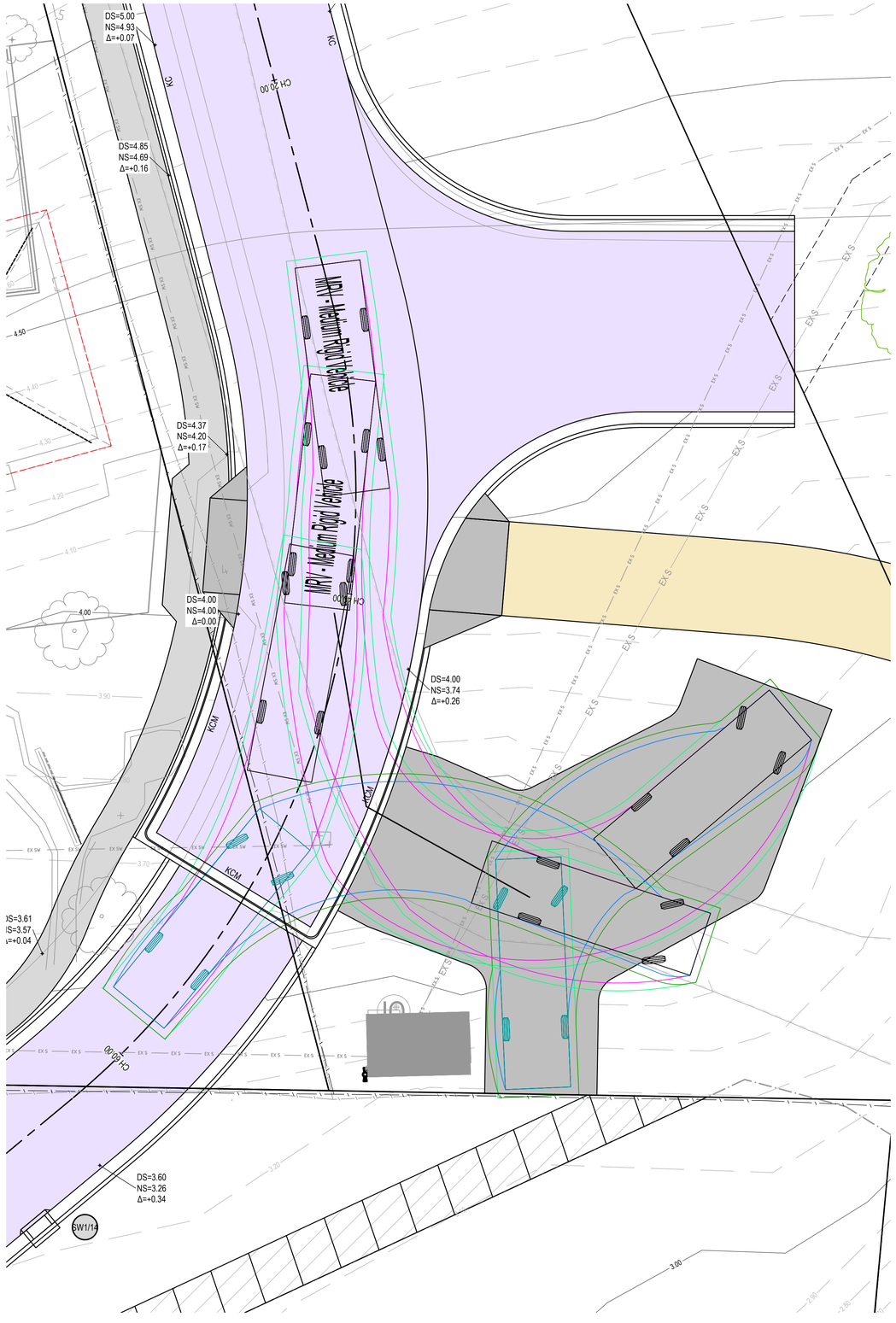
CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER AND WATER PLAN - SHEET 11

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C125 | REV: A





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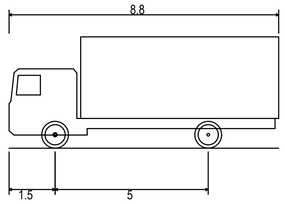
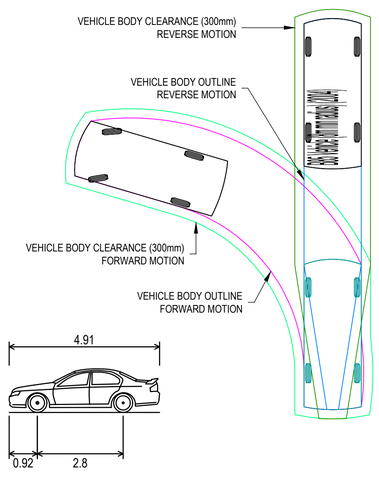


MRV - Medium Rigid Vehicle	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m



B85 Vehicle (8m min radius) (2004)	
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	8.000m

VEHICLE TURNPATH - LEGEND

SCALE 1:100 (A1)
FROM AUTOCAD CIVIL 3D VEHICLE TRACKING SOFTWARE

TURNPATH PLAN - SHEET 1

SCALE 1:100 (A1)

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
			DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

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www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

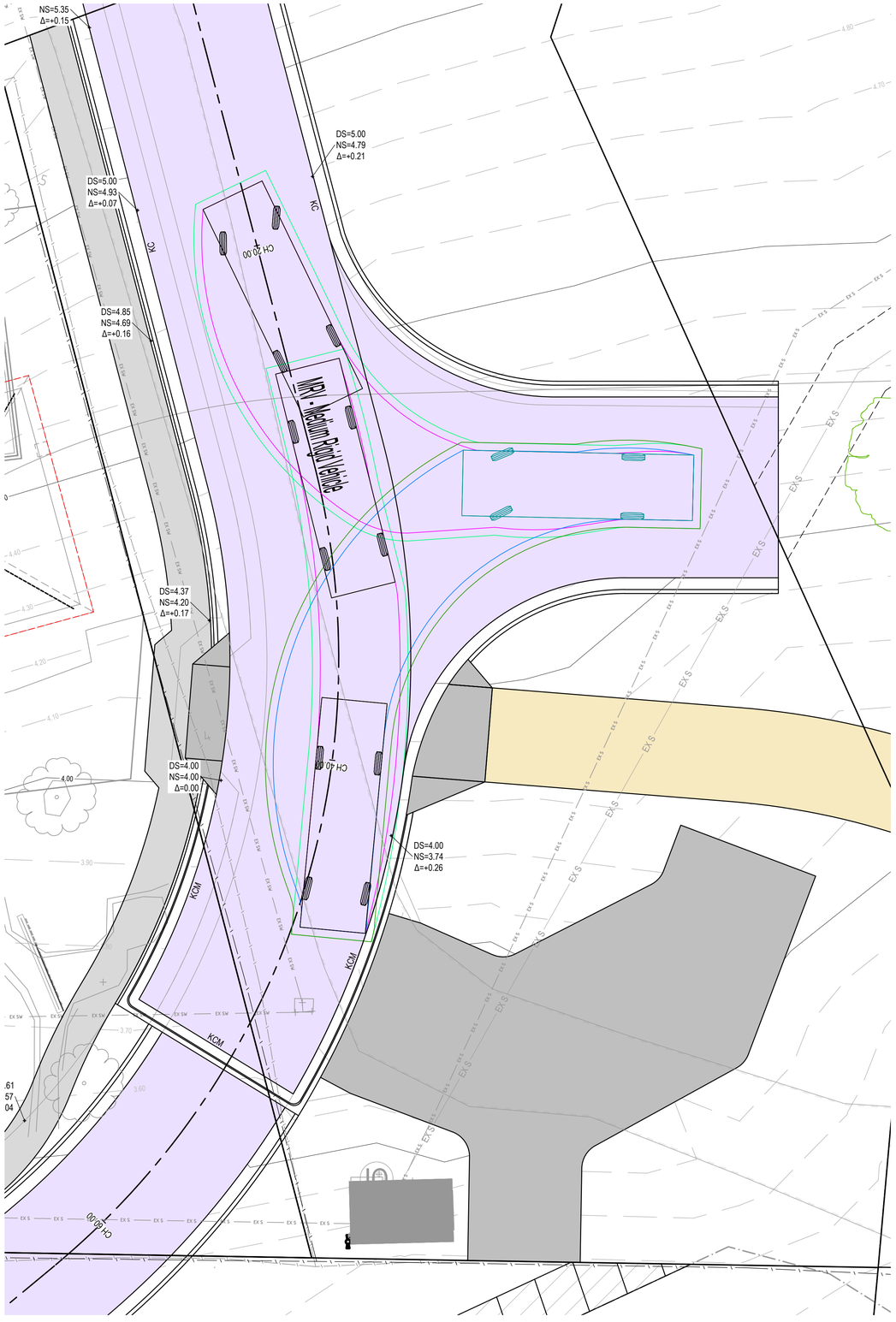
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: TURNPATH PLAN - SHEET 1

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C126 | REV: D



TURNPATH PLAN - SHEET 2

SCALE 1:100 (A1)

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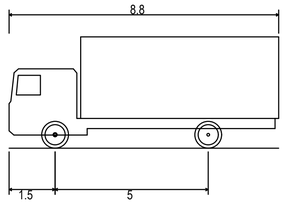
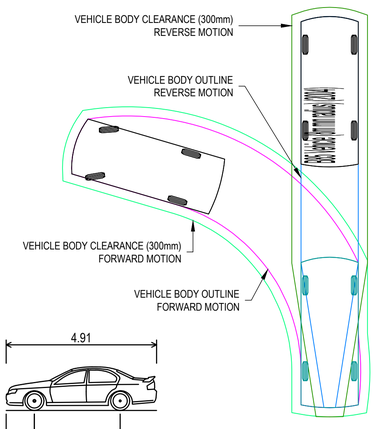


MRV - Medium Rigid Vehicle	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m



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Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	8.000m

VEHICLE TURNPATH - LEGEND

SCALE 1:100 (A1)
FROM AUTOCAD CIVIL 3D VEHICLE TRACKING SOFTWARE

REV	ISSUE	DATE		
			DRAWN:	GR
			CHECKED:	NM
			DESIGN:	GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED:	NM
			VERIFIED:	MG

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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: TURNPATH PLAN - SHEET 2

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C127 | REV: D

NOTES

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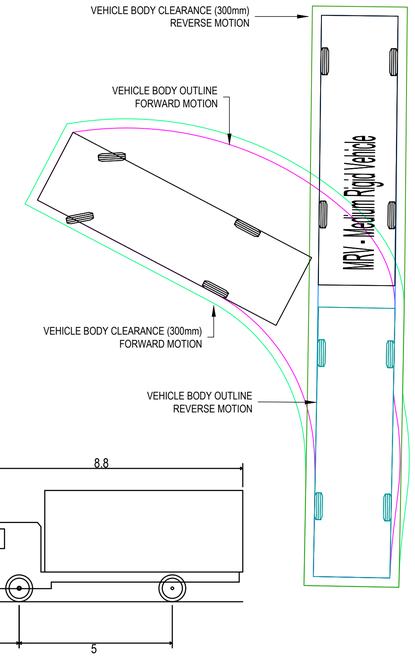
TURNPATH PLAN - SHEET 3

SCALE 1:100 (A1)



MRV - Medium Rigid Vehicle	
Overall Length	8.800m
Overall Width	2.500m
Overall Body Height	3.633m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.000m

VEHICLE TURNPATH - LEGEND

SCALE 1:100 (A1)

FROM AUTOCAD CIVIL 3D VEHICLE TRACKING SOFTWARE

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
A	DEVELOPMENT APPROVAL	27/03/2025	CHECKED: NM
			DESIGN: GR
			CHECKED: NM
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ALDANMARK CONSULTING ENGINEERS

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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: TURNPATH PLAN - SHEET 3

SCALE: 1:100 | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C128 | REV: A

NOTES

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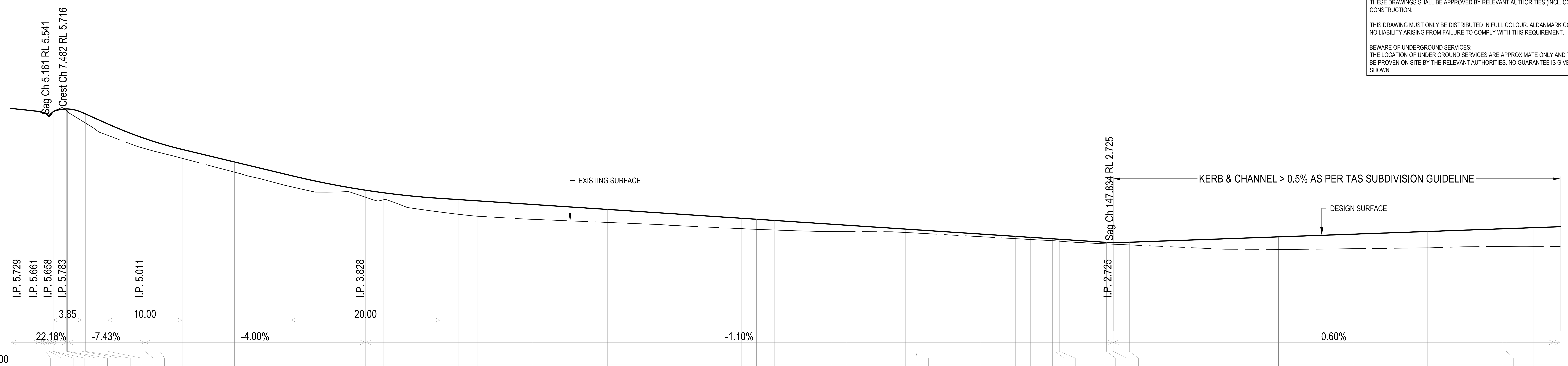
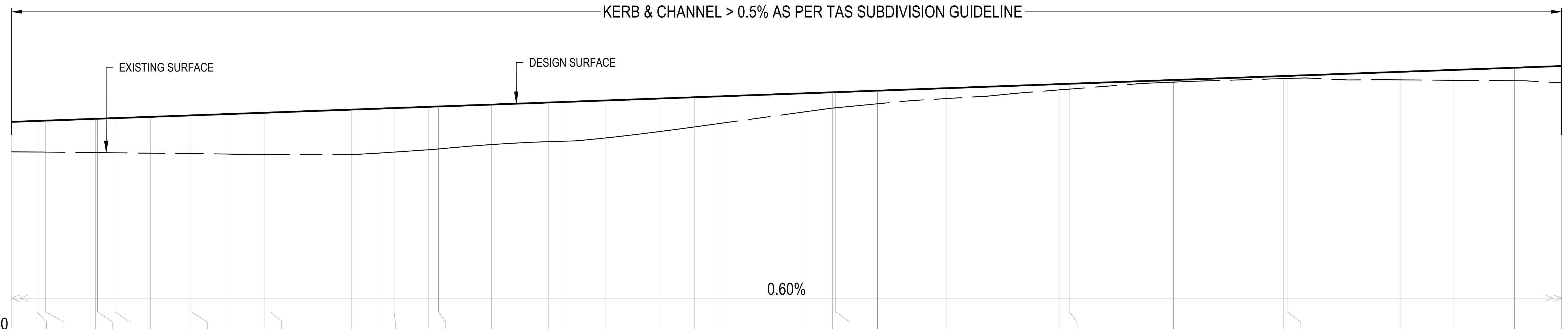


CUT (-) FILL (+)	DESIGN CENTRE LINE	EXISTING SURFACE	CHAINAGE
+0.00	5.729	5.73	0.00
+0.01	5.661	5.65	3.79
+0.00	5.620	5.62	4.71
-0.01	5.541	5.55	5.16
+0.00	5.658	5.66	5.69
+0.00	5.658	5.66	5.69
+0.04	5.716	5.68	7.48
+0.06	5.716	5.66	7.61
+0.19	5.640	5.45	9.54
+0.21	5.605	5.40	10.00
+0.25	5.383	5.13	13.00
+0.22	5.054	4.83	18.00
+0.21	4.947	4.74	20.00
+0.20	4.811	4.61	23.00
+0.22	4.594	4.37	28.43
+0.23	4.531	4.30	30.00
+0.25	4.228	3.98	37.58
+0.25	4.135	3.89	40.00
+0.16	3.901	3.74	47.58
+0.15	3.843	3.69	50.00
+0.31	3.718	3.41	57.58
+0.33	3.691	3.36	60.00
+0.34	3.663	3.32	62.56
+0.33	3.581	3.25	70.00
+0.29	3.471	3.18	80.00
+0.26	3.361	3.10	90.00
+0.23	3.273	3.04	98.01
+0.22	3.251	3.03	100.00
+0.22	3.225	3.01	102.40
+0.16	3.141	2.98	110.00
+0.15	3.118	2.97	112.10
+0.07	3.031	2.96	120.00
+0.08	3.016	2.94	121.39
+0.07	3.007	2.94	122.19
+0.06	2.921	2.86	130.00
+0.05	2.869	2.82	134.74
+0.05	2.847	2.80	136.75
+0.04	2.815	2.77	139.70
+0.04	2.811	2.77	140.00
+0.04	2.805	2.76	140.61
+0.04	2.739	2.70	146.63
+0.04	2.735	2.70	146.92
+0.04	2.725	2.69	147.83
+0.06	2.738	2.68	150.00
+0.20	2.798	2.60	160.00
+0.28	2.858	2.58	170.00
+0.33	2.918	2.59	180.00
+0.37	2.978	2.61	190.00
+0.40	3.038	2.64	200.00
+0.39	3.042	2.65	200.54
+0.41	3.064	2.65	204.23
+0.44	3.085	2.64	207.77

From 0.000m To 207.775m Scales: H 1:300 V 1:50

HAYFIELD PLACE - CL1



CUT (-) FILL (+)	DESIGN CENTRE LINE	EXISTING SURFACE	CHAINAGE
+0.44	3.085	2.64	207.77
+0.46	3.098	2.64	210.00
+0.46	3.103	2.64	210.74
+0.50	3.129	2.63	215.14
+0.50	3.130	2.63	215.34
+0.51	3.139	2.63	216.85
+0.53	3.158	2.63	220.00
+0.56	3.179	2.62	223.47
+0.56	3.180	2.62	223.57
+0.59	3.200	2.61	226.91
+0.61	3.218	2.61	230.00
+0.62	3.222	2.60	230.59
+0.66	3.264	2.60	237.70
+0.65	3.278	2.63	240.00
+0.65	3.287	2.64	241.43
+0.62	3.305	2.68	244.44
+0.62	3.310	2.69	245.33
+0.59	3.338	2.75	250.00
+0.58	3.368	2.79	254.99
+0.58	3.378	2.80	256.64
+0.55	3.398	2.85	260.00
+0.48	3.428	2.95	265.00
+0.44	3.445	3.01	267.84
+0.40	3.458	3.06	270.00
+0.28	3.501	3.22	277.13
+0.23	3.518	3.29	280.00
+0.23	3.520	3.29	280.27
+0.19	3.542	3.35	283.96
+0.15	3.578	3.43	290.00
+0.09	3.638	3.55	300.00
+0.08	3.643	3.56	300.83
+0.03	3.698	3.67	310.00
+0.04	3.756	3.72	319.66
+0.04	3.758	3.72	320.00
+0.12	3.818	3.70	330.00
+0.16	3.846	3.69	334.66
+0.19	3.878	3.69	340.00
+0.24	3.903	3.66	344.14

From 207.775m To 344.142m Scales: H 1:300 V 1:50

HAYFIELD PLACE - CL1

REV	ISSUE	DATE	APPROVAL	
			DRAWN:	GR
			CHECKED:	NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED:	NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED:	MG

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PROJECT: CENTACARE - DEVELOPMENT

0 10 20 30m
0 0.5 1.0 1.5 2.0 2.5 3m
H1:500
V1:50

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: LONG SECTIONS - SHEET 1

SCALE: AS INDICATED
TOTAL SHEETS: 42
SIZE: A1
PROJECT No: 23 E 99-113
SHEET: C201
REV: E

NOTES

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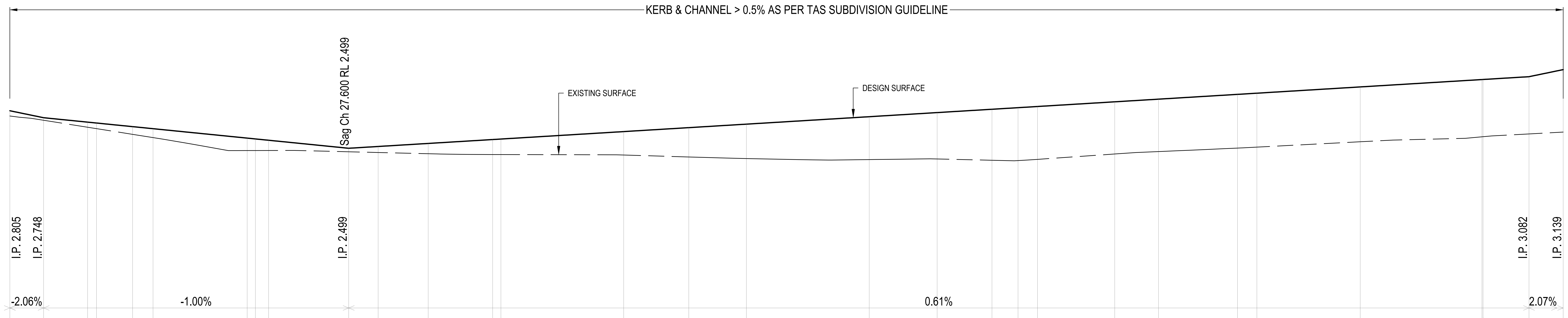

R.L. 1.00

CUT (-) FILL (+)	+0.04	+0.02	+0.04	+0.04	+0.07	+0.07	+0.10	+0.10	+0.08	+0.03	+0.05	+0.09	+0.12	+0.12	+0.20	+0.24
DESIGN CENTRE LINE	2.805	2.748	2.712	2.705	2.675	2.659	2.582	2.575	2.565	2.499	2.514	2.539	2.570	2.574	2.635	2.667
EXISTING SURFACE	2.76	2.73	2.67	2.66	2.61	2.59	2.48	2.48	2.48	2.47	2.46	2.45	2.45	2.45	2.44	2.43
CHAINAGE	0.00	2.75	6.33	7.05	10.00	11.66	19.33	20.00	21.08	27.60	30.00	34.08	39.33	40.00	50.00	55.30

CUT (-) FILL (+)	+0.28	+0.35	+0.38	+0.42	+0.43	+0.43	+0.43	+0.43	+0.44	+0.44	+0.45	+0.47	+0.47	+0.46	+0.51
DESIGN CENTRE LINE	2.696	2.756	2.790	2.817	2.830	2.839	2.877	2.899	2.938	2.947	2.998	3.059	3.059	3.082	3.139
EXISTING SURFACE	2.42	2.41	2.41	2.40	2.40	2.41	2.45	2.47	2.50	2.51	2.55	2.59	2.59	2.62	2.63
CHAINAGE	60.00	70.00	75.54	80.00	82.12	83.71	90.00	93.56	100.00	101.58	110.00	119.91	120.00	123.74	126.53

From 0.000m To 126.529m Scales: H 1:200 V 1:20

HAYFIELD PLACE - CL2

			DRAWN:	GR
			CHECKED:	NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
			CHECKED:	NM
			VERIFIED:	MG
REV	ISSUE	DATE	APPROVAL	

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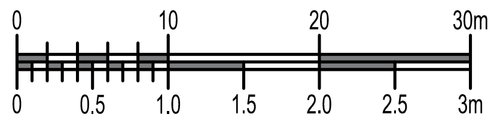
PROJECT: CENTACARE - DEVELOPMENT



H1:500
V1:50

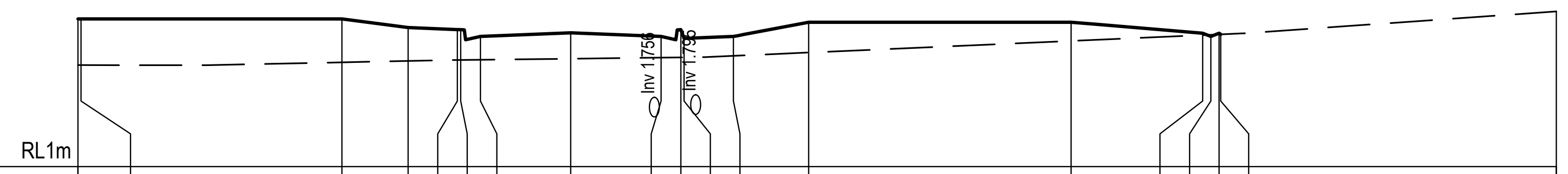
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: LONG SECTIONS - SHEET 2

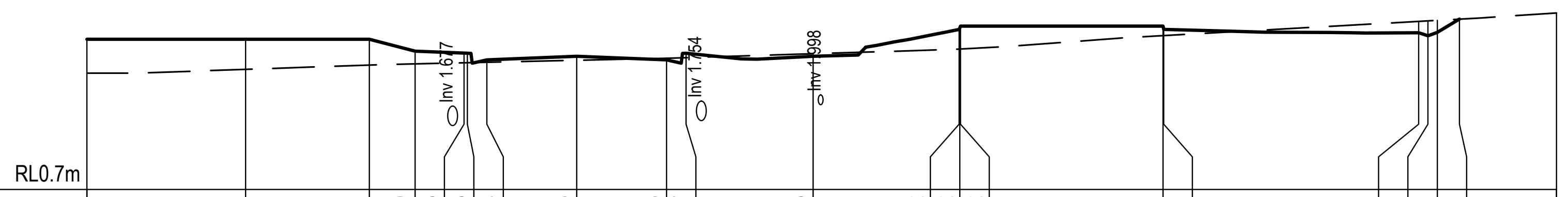
SCALE: AS INDICATED
TOTAL SHEETS: 42
SIZE: A1

PROJECT No: 23 E 99-113
SHEET: C202
REV: E



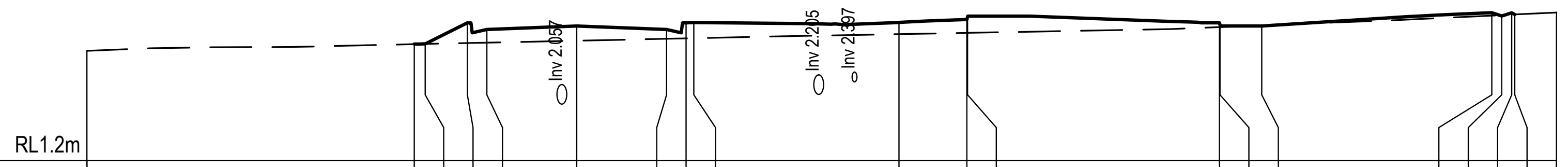
CUT (-) / FILL				0.51	0.46	0.46	0.36	0.39	0.32	0.42	0.42	0.43							
DESIGN	3.250	3.250	3.250	3.119	3.089	3.087	2.983	3.038	2.983	3.087	2.954	2.984	3.200	3.200	3.033	2.983	3.033	3.016	
EXISTING	2.55	2.55	2.59	2.61	2.62	2.62	2.63	2.64	2.66	2.66	2.66	2.69	2.74	2.91	3.00	3.01	3.01	3.02	3.36
OFFSET	-15.00	-14.91	-6.96	-4.95	-3.45	-3.35	-2.75	0.00	2.75	3.35	3.45	4.95	7.24	15.23	19.24	19.49	19.74	19.79	30.00

Ch 200.00 m
HAYFIELD PLACE - CL1



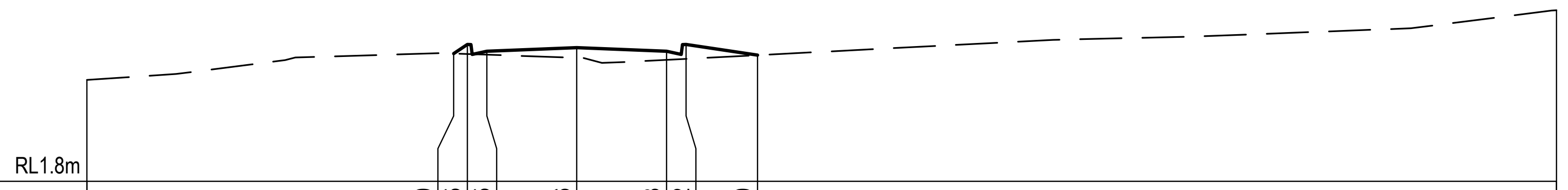
CUT (-) / FILL				0.20	0.15	0.15	0.04	0.06	-0.03	0.07	0.05	0.02	0.02	0.02							
DESIGN	3.000	3.000	3.000	2.819	2.789	2.787	2.683	2.738	2.683	2.787	2.739	3.150	3.174	3.200	3.200	3.151	3.100	3.052	3.105	3.308	
EXISTING	2.48	2.54	2.60	2.62	2.64	2.64	2.65	2.68	2.71	2.72	2.78	2.85	2.85	2.85	3.05	3.06	3.27	3.28	3.29	3.31	3.40
OFFSET	-15.00	-10.14	-6.35	-4.95	-3.45	-3.35	-2.75	0.00	2.75	3.35	7.24	11.71	11.73	11.75	17.95	17.97	25.78	26.07	26.35	27.03	30.00

Ch 150.00 m
HAYFIELD PLACE - CL1



CUT (-) / FILL			0.00	0.31	0.20	0.23	0.14	0.24												
DESIGN		2.976	2.977	3.300	3.196	3.251	3.196	3.300	3.304	3.305	3.350	3.389	3.300	3.271	3.250	3.454	3.403	3.452	3.426	
EXISTING	2.87	2.97	2.98	2.99	3.00	3.03	3.06	3.06	3.06	3.13	3.15	3.15	3.23	3.23	3.26	3.41	3.42	3.42	3.43	3.46
OFFSET	-15.00	-4.97	-4.64	-3.35	-2.75	0.00	2.75	3.35	3.59	9.87	11.95	11.97	19.68	19.70	20.98	28.02	28.32	28.63	28.72	30.00

Ch 100.00 m
HAYFIELD PLACE - CL1



CUT (-) / FILL		0.00	0.15	0.05	0.16	0.13	0.22	0.00	
DESIGN		3.752	3.891	3.788	3.843	3.788	3.891	3.727	
EXISTING	3.35	3.75	3.74	3.73	3.69	3.66	3.67	3.73	4.41
OFFSET	-15.00	-3.77	-3.35	-2.75	0.00	2.75	3.35	5.54	30.00

Ch 50.00 m
HAYFIELD PLACE - CL1

NOTES

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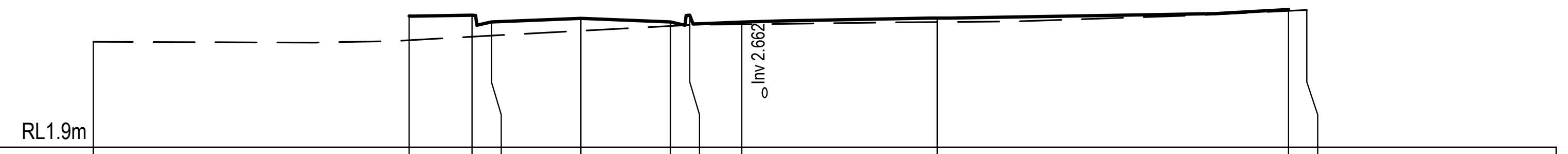
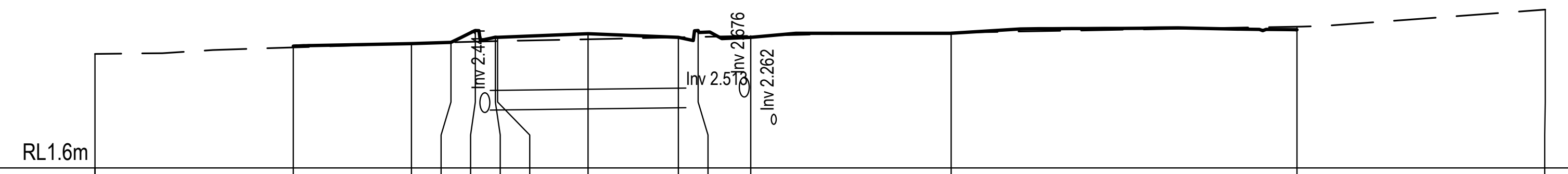


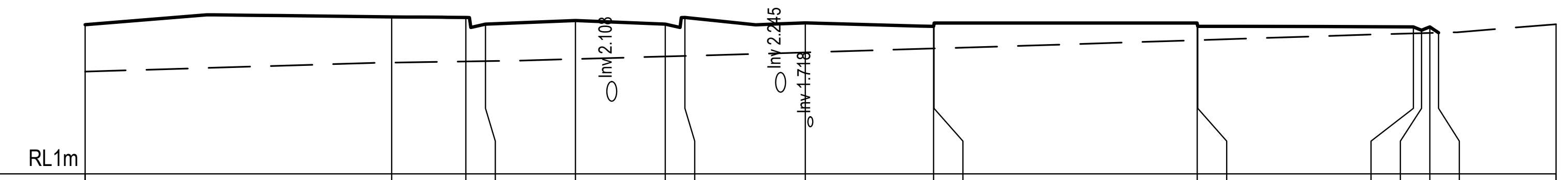
CUT (-) / FILL			0.33	0.21	0.19	0.06	0.15	0.17				
DESIGN		3.915	3.927	3.823	3.878	3.823	3.927	3.822	3.883	4.015		
EXISTING	3.52	3.54	3.60	3.61	3.69	3.76	3.78	3.79	3.82	3.99	4.01	
OFFSET	-15.00	-5.28	-3.35	-2.75	0.00	2.75	3.35	4.95	10.96	21.77	22.33	30.00

Ch 340.00 m
HAYFIELD PLACE - CL1



CUT (-) / FILL							0.06	0.08	0.00	0.10	0.11				
DESIGN		3.450	3.487	3.506	3.687	3.585	3.583	3.638	3.583	3.687	3.582	3.644	3.697		
EXISTING	3.33	3.43	3.49	3.51	3.52	3.52	3.53	3.55	3.58	3.59	3.61	3.65	3.75	4.00	
OFFSET	-15.00	-8.97	-5.37	-4.17	-3.43	-2.82	-2.75	0.00	2.75	3.35	4.95	11.05	21.57	29.12	30.00

Ch 300.00 m
HAYFIELD PLACE - CL1



CUT (-) / FILL		0.12	0.67	0.56	0.59	0.49	0.59	0.59	0.57	0.57	0.52	0.52	0.48	0.48	0.48	0.48	0.39
DESIGN	3.276	3.394	3.387	3.283	3.338	3.283	3.387	3.303	3.250	3.284	3.288	3.250	3.242	3.192	3.241	3.153	
EXISTING	2.56	2.70	2.71	2.72	2.75	2.79	2.80	2.85	2.91	2.91	3.04	3.04	3.14	3.15	3.15	3.15	3.28
OFFSET	-15.00	-5.62	-3.35	-2.75	0.00	2.75	3.35	7.03	10.96	10.97	19.02	19.04	25.63	25.88	26.14	26.40	30.00

Ch 250.00 m
HAYFIELD PLACE - CL1

			DRAWN:	GR
			CHECKED:	NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED:	NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED:	MG
REV	ISSUE	DATE	APPROVAL	

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mail@aldanmark.com.au
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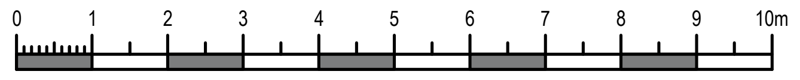
PROJECT: CENTACARE - DEVELOPMENT



ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: CROSS SECTIONS - SHEET 1

SCALE:	AS INDICATED	TOTAL SHEETS:	42	SIZE:	A1
PROJECT No:	23 E 99-113	SHEET:	C203	REV:	E

NOTES

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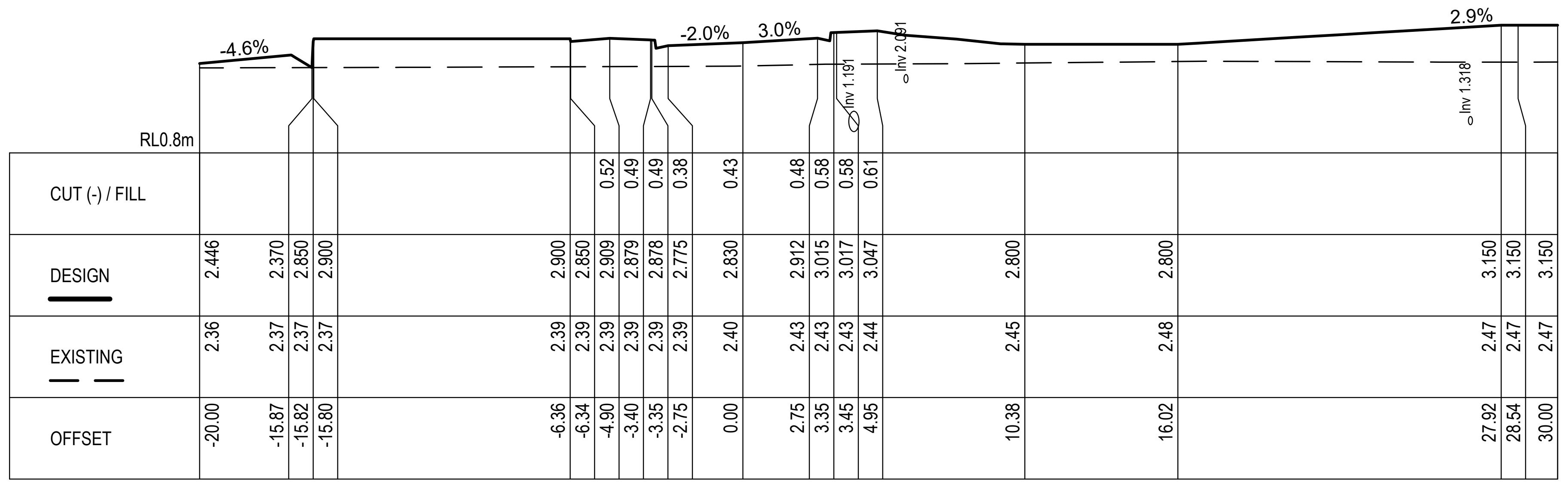
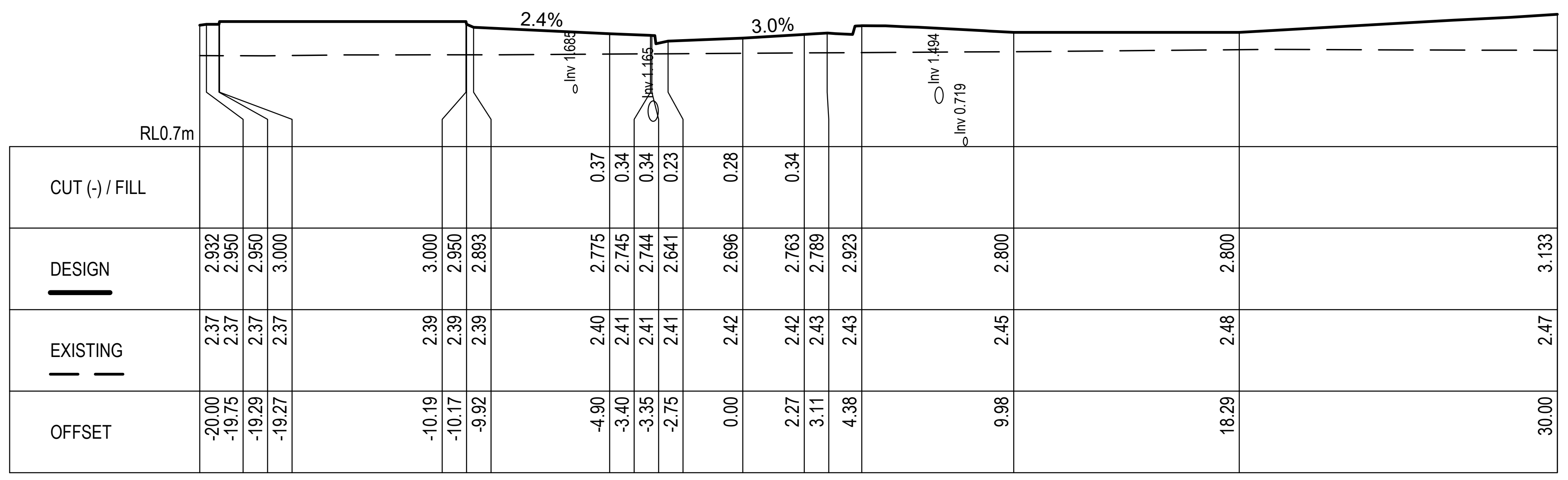
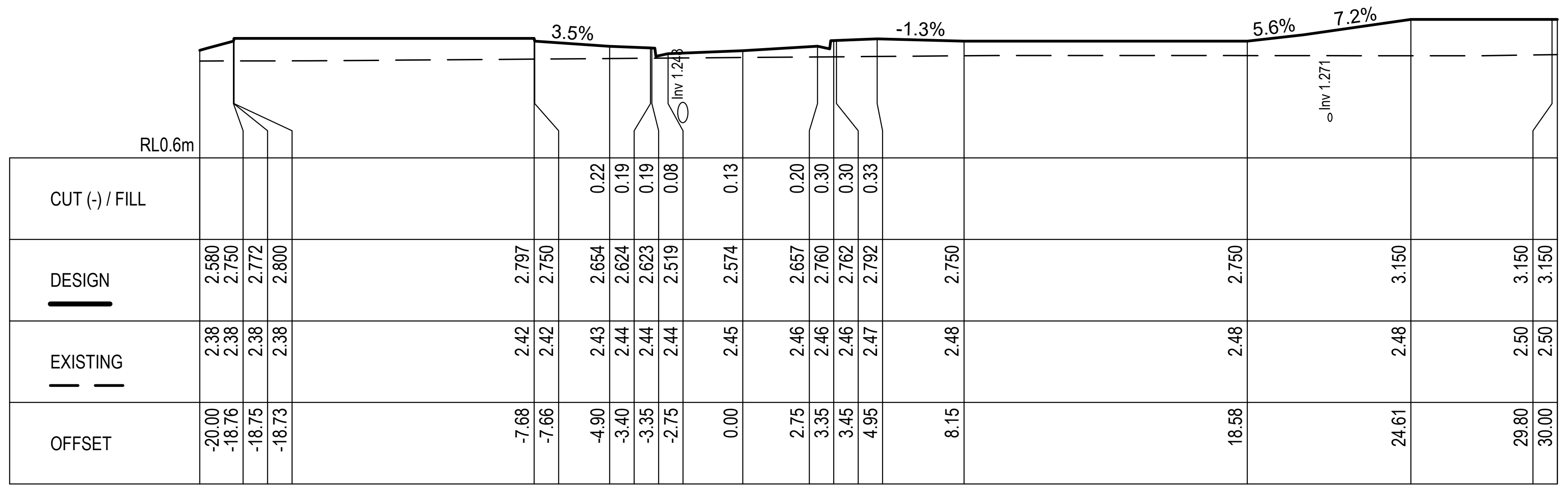


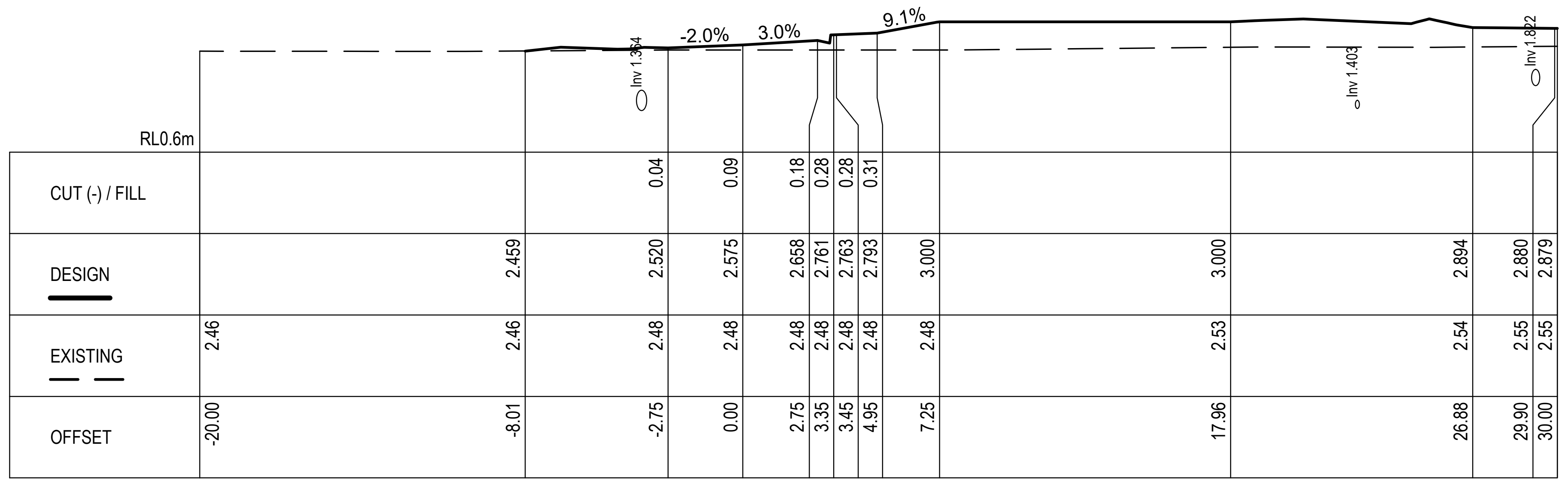
Ch 82.12 m
HAYFIELD PLACE - CL2



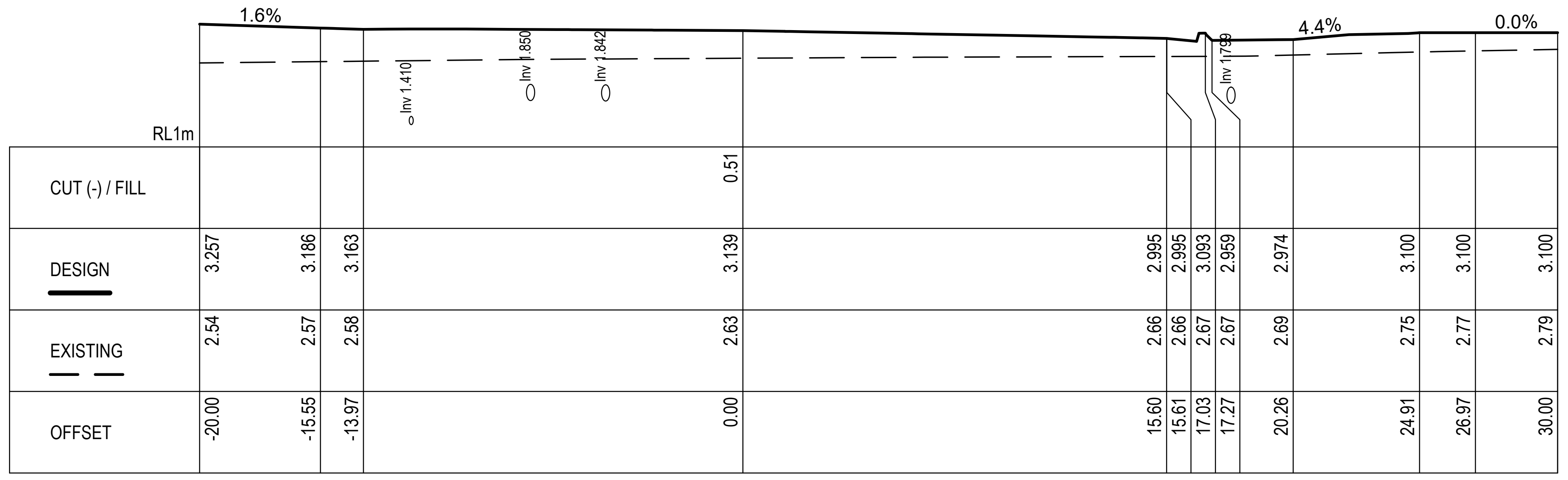
Ch 60.00 m
HAYFIELD PLACE - CL2



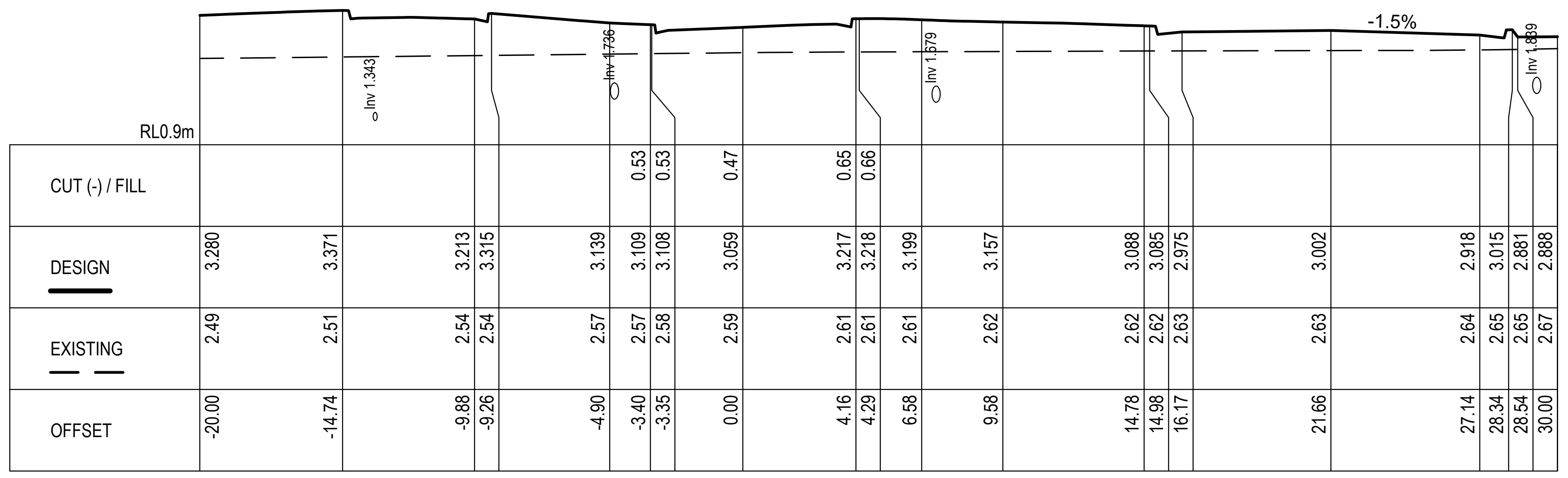
Ch 40.00 m
HAYFIELD PLACE - CL2



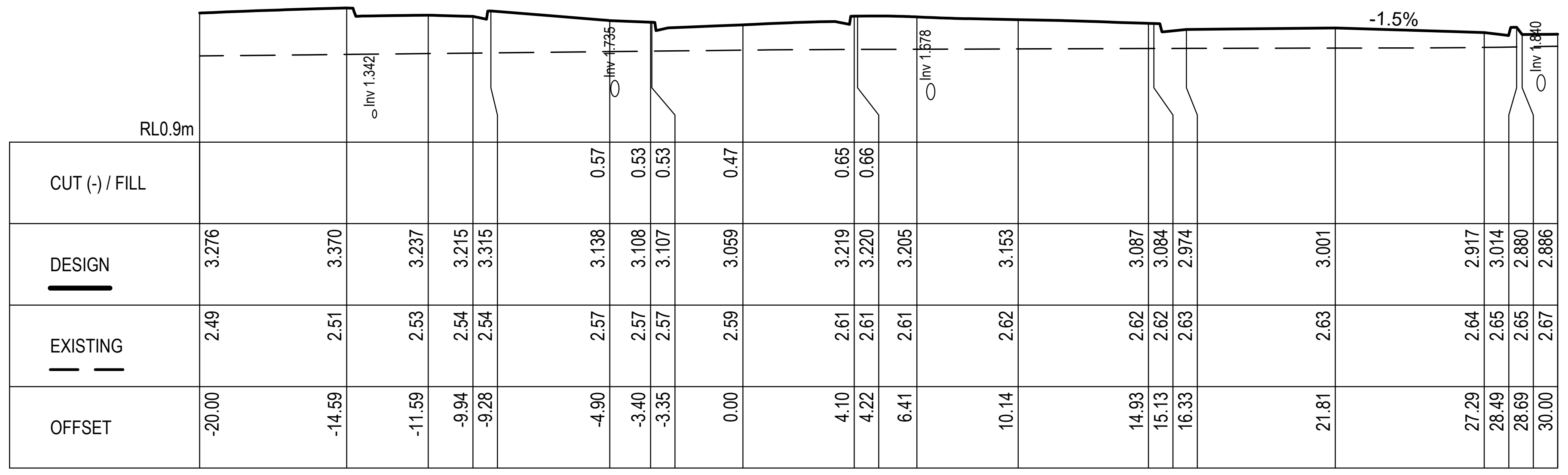
Ch 20.00 m
HAYFIELD PLACE - CL2



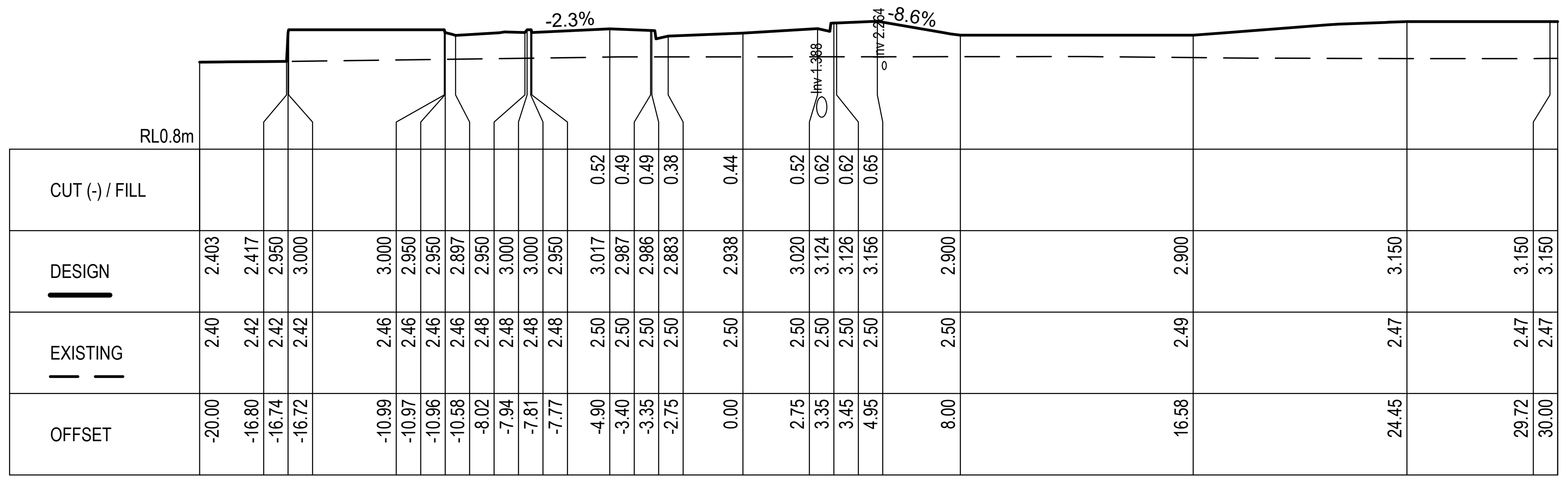
Ch 126.53 m
HAYFIELD PLACE - CL2



Ch 120.00 m
HAYFIELD PLACE - CL2



Ch 119.91 m
HAYFIELD PLACE - CL2



Ch 100.00 m
HAYFIELD PLACE - CL2

			DRAWN:	GR
			CHECKED:	NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED:	NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED:	MG
REV	ISSUE	DATE	APPROVAL	

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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: CROSS SECTIONS - SHEET 2

SCALE: AS INDICATED | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C204 | REV: E

NOTES

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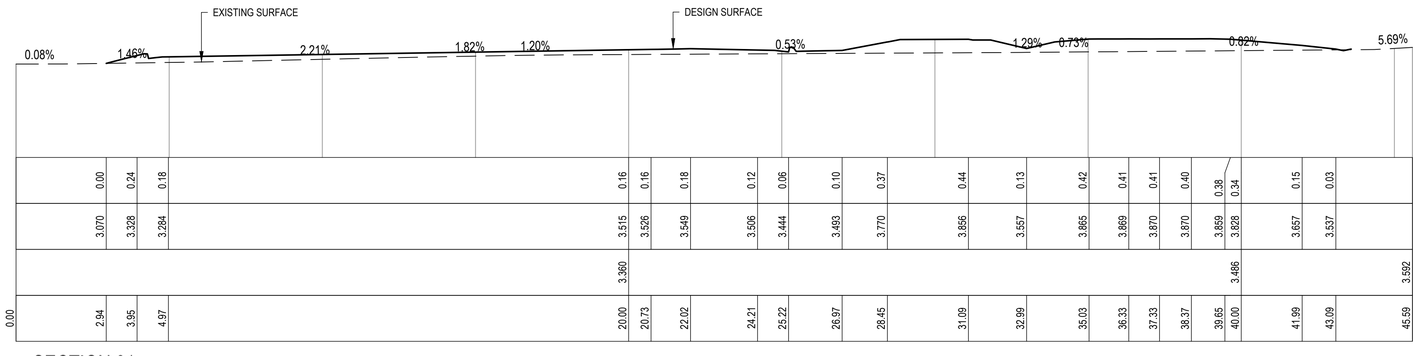
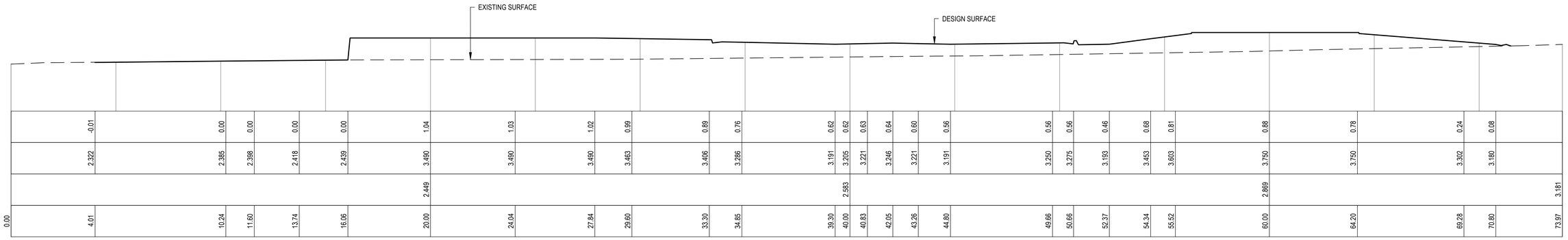
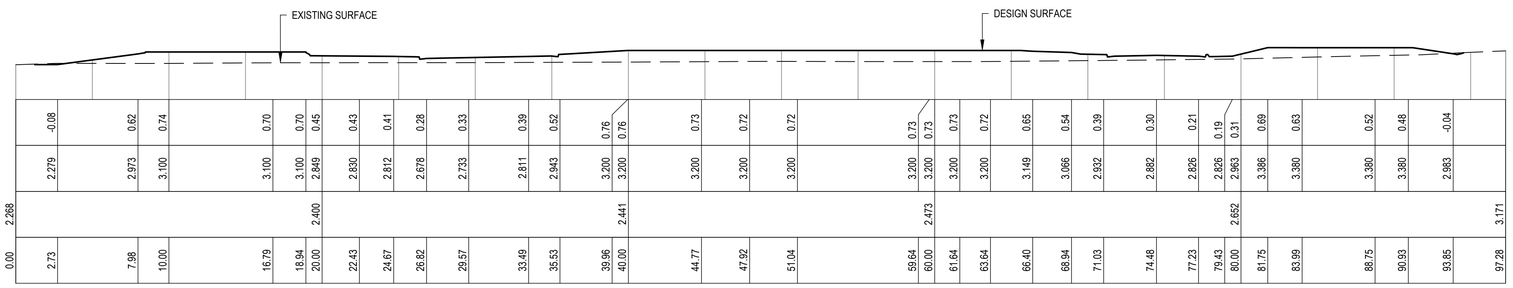


SECTION A
AS INDICATED
C102



SECTION B
AS INDICATED
C102



SECTION C
AS INDICATED
C102

SECTIONS 03

SCALE 1:100 (A1)

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
A	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
			CHECKED: NM
			VERIFIED: MG

ALDANMARK CONSULTING ENGINEERS
Lower Ground
199 Macquarie Street
Hobart TAS 7000
03 6234 8666
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www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 2 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SITE SECTIONS - SHEET 1

SCALE: AS INDICATED | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C205 | REV: A

NOTES

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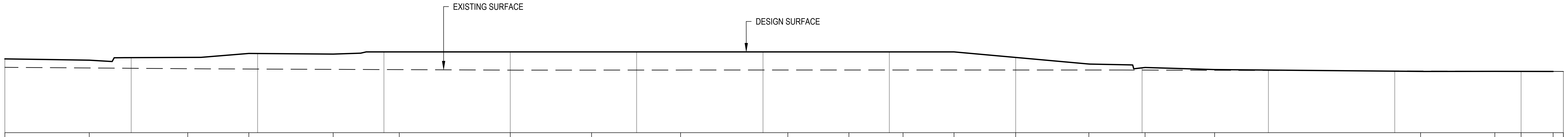
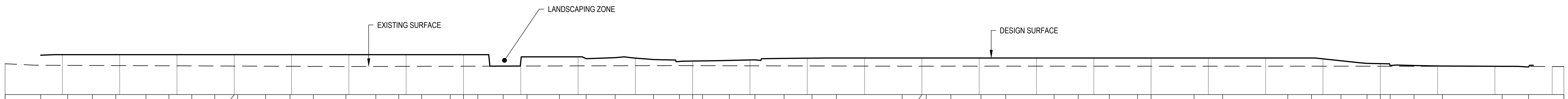


CUT / FILL(-)	0.31	0.45	0.62	0.60	0.70	0.72	0.72	0.72	0.72
DESIGN SURFACE	2.873	2.983	3.140	3.113	3.200	3.200	3.200	3.200	3.200
EXISTING SURFACE						2.479			
CHAINAGE	3.34	7.24	9.65	12.99	15.61	20.00	23.22	26.74	30.98

CUT / FILL(-)	0.72	0.72	0.72	0.50	0.24	0.10	0.03	-0.02	0.00	0.00	0.00	
DESIGN SURFACE	3.200	3.200	3.200	2.980	2.719	2.582	2.500	2.427	2.430	2.427	2.425	
EXISTING SURFACE				2.483						2.431		2.426
CHAINAGE	33.40	35.54	37.56	40.00	42.89	45.12	47.87	56.02	58.96	60.00	61.27	61.67

SECTION D
AS INDICATED C102



CUT / FILL(-)		0.88	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00	1.00	1.01	1.02	1.02	1.04	1.03
DESIGN SURFACE		3.446	3.490	3.490	3.490	3.490	3.490	3.490	3.490	3.490	3.490	3.490	3.490	3.490	3.490	3.490
EXISTING SURFACE										2.494						
CHAINAGE	0.00	3.11	5.46	7.62	9.67	12.30	14.30	16.30	18.30	20.00	20.30	22.73	24.86	26.91	29.74	32.35

CUT / FILL(-)	1.02	1.02	1.01	1.01	1.01	0.00	0.80	0.79	0.63	0.71	0.53	0.37	0.40	0.42	0.47	0.52
DESIGN SURFACE	3.490	3.490	3.490	3.490	3.490	2.491	3.300	3.300	3.140	3.230	3.062	2.899	2.933	2.946	2.987	3.038
EXISTING SURFACE				2.481									2.530			
CHAINAGE	34.35	36.35	38.84	40.00	41.25	43.46	45.54	48.38	50.70	53.23	56.59	58.84	60.00	60.86	63.20	65.43

CUT / FILL(-)	0.66	0.68	0.70	0.72	0.72	0.72	0.71	0.71	0.71	0.71	0.72	0.72	0.72	0.72	0.72	0.72
DESIGN SURFACE	3.166	3.187	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200	3.200
EXISTING SURFACE					2.484									2.482		
CHAINAGE	67.97	70.41	72.54	78.28	80.00	80.38	82.53	85.16	87.32	91.54	93.65	96.36	98.82	100.00	103.75	106.25

CUT / FILL(-)	0.72	0.72	0.47	0.25	0.23	0.06	0.07	0.03	0.01	-0.05	
DESIGN SURFACE	3.200	3.200	2.957	2.730	2.706	2.538	2.541	2.498	2.472	2.412	
EXISTING SURFACE					2.480						2.454
CHAINAGE	111.93	114.00	116.57	118.84	120.00	120.86	122.94	125.42	130.64	132.94	136.02

SECTION E
AS INDICATED C102

SECTIONS 03

SCALE 1:100 (A1)

REV	ISSUE	DATE	APPROVAL	
			DRAWN:	GR
			CHECKED:	NM
A	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN:	GR
			CHECKED:	NM
			VERIFIED:	MG

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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 3 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SITE SECTIONS - SHEET 2

SCALE: AS INDICATED
TOTAL SHEETS: 42
SIZE: A1
PROJECT No: 23 E 99-113
SHEET: C206
REV: A

NOTES

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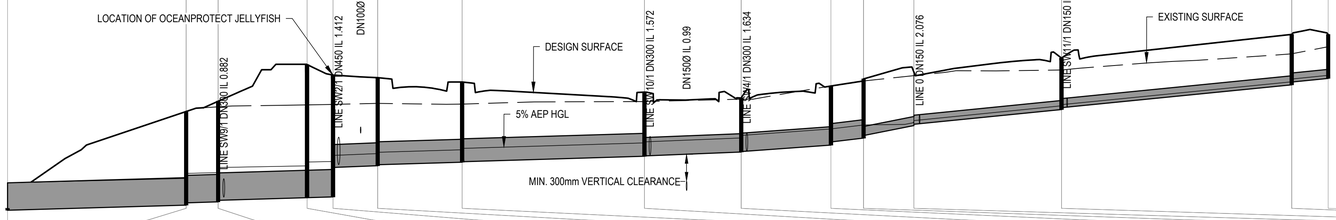

STRUCTURE DESCRIPTION	HEADWALL - DISCHARGE TO RIVER	GRATE PIT	SWMH 1050 WITH CLASS 'B' LID AS PER TSD-SW-02	SWMH 1050 WITH CLASS 'B' LID AS PER TSD-SW-02	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '3' (0.5%) AS PER TSD-SW-09-v3	SIDE ENTRY PIT TYPE '3' (0.5%) AS PER TSD-SW-09-v3
STRUCTURE NAME	SW1/1	SW1/2	SW1/3	SW1/4	SW1/5	SW1/6	SW1/7	SW1/8	SW1/9	SW1/10	SW1/11	SW1/12	SW1/13	SW1/14	SW1/15
DATUM RL 0.20															
PIPE SIZE / MATRIAL	DN450 StormPRO	DN450 StormPRO	DN450 StormPRO	DN450 StormPRO	DN375 StormPRO	DN375 StormPRO	DN375 StormPRO	DN300 StormPRO	DN300 StormPRO	DN300 StormPRO	DN150 StormPRO	DN150 StormPRO	DN150 StormPRO	DN150 StormPRO	
GRADE %	0.29%	0.31%	0.30%	0.30%	0.40%	0.30%	0.30%	0.40%	0.72%	1.20%	1.98%	1.00%	0.99%	1.01%	
PIPE VELOCITY	1.27 m/s	1.27 m/s	1.10 m/s	1.11 m/s	0.65 m/s	0.66 m/s	0.59 m/s	0.70 m/s	0.14 m/s	0.14 m/s	0.42 m/s	0.43 m/s	0.31 m/s	0.31 m/s	
PIPE HGL CAPACITY	219 L/s	226 L/s	223 L/s	223 L/s	162 L/s	139 L/s	139 L/s	90 L/s	125 L/s	165 L/s	33 L/s	23 L/s	23 L/s	23 L/s	
DESIGN FLOW	200 L/s	201 L/s	174 L/s	175 L/s	72 L/s	72 L/s	65 L/s	50 L/s	10 L/s	10 L/s	7 L/s	7 L/s	5 L/s	5 L/s	
DEPTH TO INVERT	0.03 1.53	1.49 1.64	1.62 2.17	1.99	1.51 1.44	1.42 1.31	1.30 1.05	1.04 0.88	0.87 0.96	0.91 0.97	0.92 0.87	0.85 0.84	0.81 0.82	0.78 0.72	
INVERT LEVEL	0.668 0.752	0.789 0.805	0.830 0.873	0.886	1.366 1.395	1.411 1.452	1.460 1.549	1.555 1.618	1.626 1.732	1.782 1.846	1.887 2.050	2.071 2.312	2.342 2.715	2.760 2.820	
FINISHED SURFACE	0.70 2.28	2.45	3.05	2.87	2.83	2.76	2.60	2.50	2.70	2.81	2.92	3.15	3.54	3.54	
EXISTING SURFACE	0.70 2.28	2.36	2.39	2.40	2.41	2.40	2.44	2.48	2.70	2.78	2.86	2.96	3.22	3.34	
CHAINAGE	0.00 29.15	34.37	48.89	53.13	60.42	74.20	103.96	119.76	134.41	139.73	147.95	172.05	209.63	215.58	
	29.15m	5.22m	14.52m	4.24m	7.29m	13.79m	29.76m	15.80m	14.65m	5.32m	8.22m	24.10m	37.58m	5.95m	

DRAINAGE LONGITUNDINAL SECTION FOR LINE SW1
SCALES: HORIZONTAL 1:500 VERTICAL 1:50

SW LONG SECTIONS 01
SCALE 1:100 (A1)

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
F	DEVELOPMENT APPROVAL	13/05/2025	CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

ALDANMARK CONSULTING ENGINEERS
Lower Ground
199 Macquarie Street
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03 6234 8666
mail@aldanmark.com.au
www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

0 10 20 30m
0 0.5 1.0 1.5 2.0 2.5 3m
H1:500 V1:50

SHEET: STORMWATER LONG SECTIONS- SHEET 1

SCALE: AS INDICATED | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C301 | REV: F

NOTES

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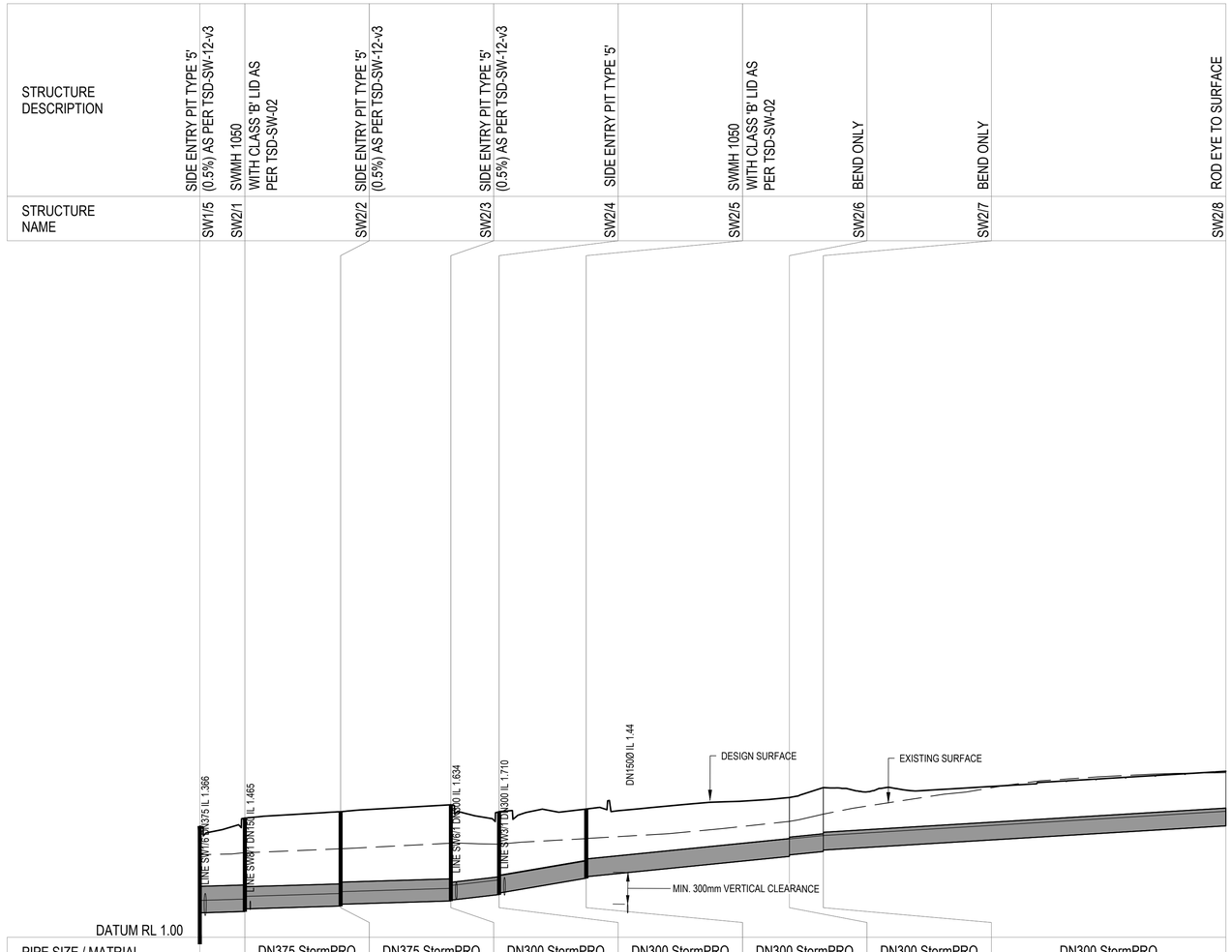

STRUCTURE DESCRIPTION	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SWMH 1050 WITH CLASS 'B' LID AS PER TSD-SW-02	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5' (0.5%) AS PER TSD-SW-12-v3	SIDE ENTRY PIT TYPE '5'	SWMH 1050 WITH CLASS 'B' LID AS PER TSD-SW-02	BEND ONLY	BEND ONLY	ROD EYE TO SURFACE
STRUCTURE NAME	SW1/5	SW2/1	SW2/2	SW2/3	SW2/4	SW2/5	SW2/6	SW2/7	SW2/8
PIPE SIZE / MATRIAL	DN450 StormPRO	DN375 StormPRO	DN375 StormPRO	DN300 StormPRO	DN300 StormPRO	DN300 StormPRO	DN300 StormPRO	DN300 StormPRO	
GRADE %	0.30%	0.30%	0.30%	1.16%	1.71%	1.00%	1.00%	0.60%	
PIPE VELOCITY	0.63 m/s	0.77 m/s	0.78 m/s	0.86 m/s	0.53 m/s	0.00 m/s	0.00 m/s	0.00 m/s	
PIPE HGL CAPACITY	223 L/s	138 L/s	139 L/s	161 L/s	199 L/s	149 L/s	149 L/s	113 L/s	
DESIGN FLOW	100 L/s	84 L/s	85 L/s	61 L/s	38 L/s	0 L/s	0 L/s	0 L/s	
DEPTH TO INVERT	1.46 1.58	1.53 1.59	1.56 1.62	1.61 1.40	1.37 1.17	1.14 0.99	0.97 1.08	1.05 0.92	
INVERT LEVEL	1.412 1.435	1.479 1.527	1.557 1.613	1.627 1.721	1.746 1.997	2.022 2.365	2.390 2.447	2.472 2.880	
FINISHED SURFACE	2.87 3.01	3.12	3.24	3.12	3.16	3.36	3.53	3.80	
EXISTING SURFACE	2.40 2.43	2.49	2.59	2.57	2.67	2.96	3.08	3.78	
CHAINAGE	0.00 7.60	23.75	42.35	50.48	65.18	99.46	105.17	173.07	
	7.60m	16.15m	18.59m	8.13m	14.70m	34.28m	5.71m	67.90m	

DRAINAGE LONGITUNDINAL SECTION FOR LINE SW2
SCALES: HORIZONTAL 1:500 VERTICAL 1:50

SW LONG SECTIONS 02

SCALE 1:100 (A1)

REV	ISSUE	DATE	APPROVAL
D	DEVELOPMENT APPROVAL	29/08/2024	NM
C	DEVELOPMENT APPLICATION	22/02/2024	NS
B	PRELIMINARY - NOT FOR CONSTRUCTION	15/02/2024	NM
A	PRELIMINARY - NOT FOR CONSTRUCTION	30/01/2024	MG
		DRAWN:	NS
		CHECKED:	NM
		DESIGN:	NS
		VERIFIED:	MG

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PROJECT: CENTACARE - DEVELOPMENT

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

0 10 20 30m H1:500
0 0.5 1.0 1.5 2.0 2.5 3m V1:50

SHEET: STORMWATER LONG SECTIONS- SHEET 2

SCALE: AS INDICATED | TOTAL SHEETS: 39 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C302 | REV: D

NOTES

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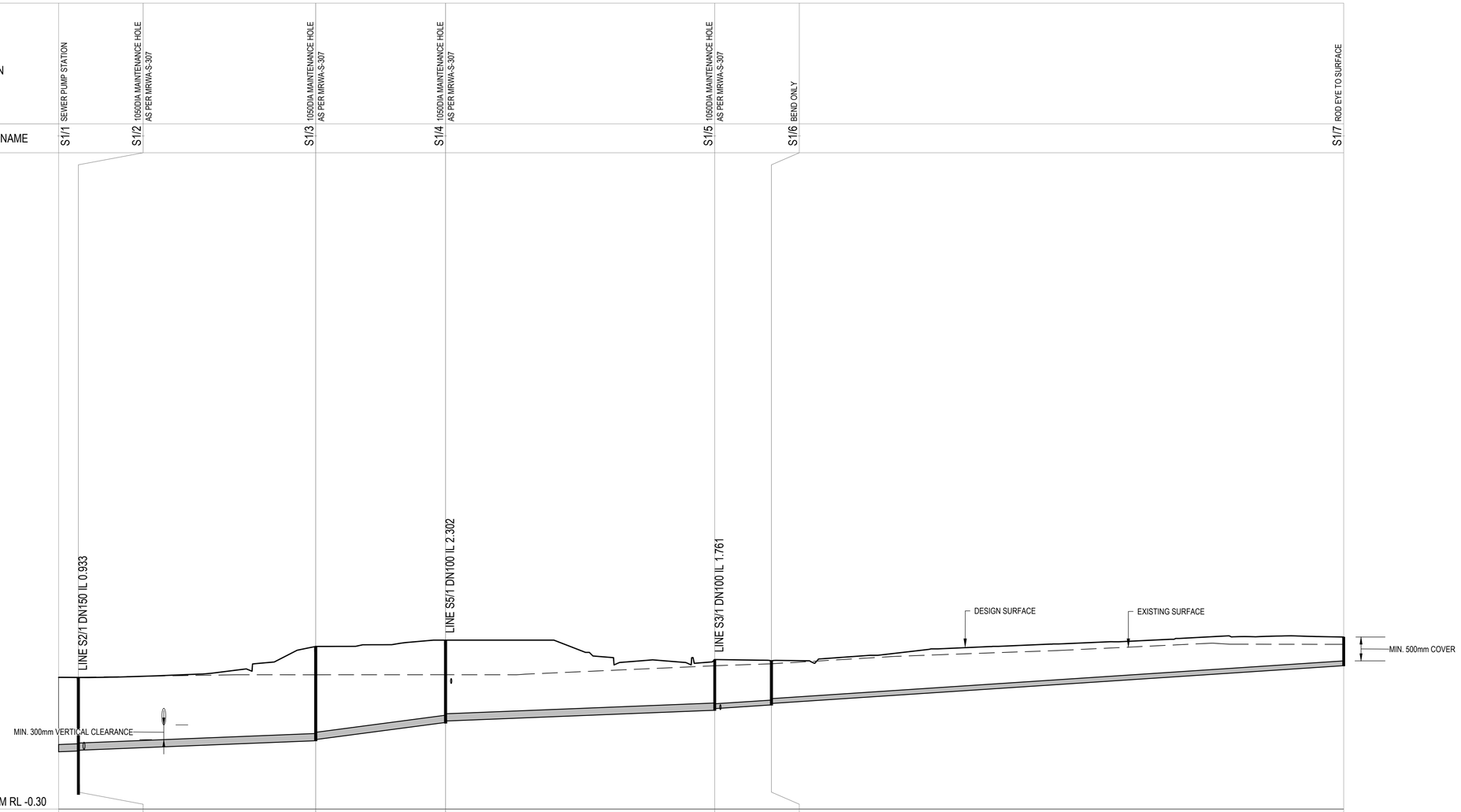

STRUCTURE DESCRIPTION	SEWER PUMP STATION	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	BEND ONLY	ROD EYE TO SURFACE
STRUCTURE NAME	S1/1	S1/2	S1/3	S1/4	S1/5	S1/6	S1/7
GRADE %	0.98%	1.00%	3.29%	1.00%	1.64%	1.65%	
PIPE SIZE / MATERIAL	DN150 U-PVC	DN150 U-PVC	DN150 U-PVC	DN150 U-PVC	DN100 U-PVC	DN100 U-PVC	
DEPTH TO INVERT	1.54 / 1.52	1.51 / 1.95	1.93 / 1.71	1.68 / 1.05	1.02 / 0.91	0.88 / 0.59	
INVERT LEVEL	0.887 / 0.903	0.918 / 1.115	1.140 / 1.494	1.524 / 1.747	1.781 / 1.858	1.888 / 2.671	
FINISHED SURFACE	2.43 / 2.43	3.07	3.20	2.80	2.77	3.26	
EXISTING SURFACE	2.43 / 2.43	2.48	2.48	2.67	2.71	3.11	
CHAINAGE	0.00 / 1.64	21.32	32.08	54.40	59.10	106.54	
	1.64m	19.67m	10.77m	22.32m	4.70m	47.44m	

SEWER LONGITUNDINAL SECTION FOR LINE S1
SCALES: HORIZONTAL 1:200 VERTICAL 1:50

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
E	DEVELOPMENT APPROVAL - REVISED FLOOR LEVELS	13/12/2024	DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

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PROJECT: CENTACARE - DEVELOPMENT

0 2 4 6 8 10m
0 0.5 1.0 1.5 2.0 2.5m
H1:200
V1:50

ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER LONG SECTIONS - SHEET 1

SCALE: AS INDICATED | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C308 | REV: E

NOTES

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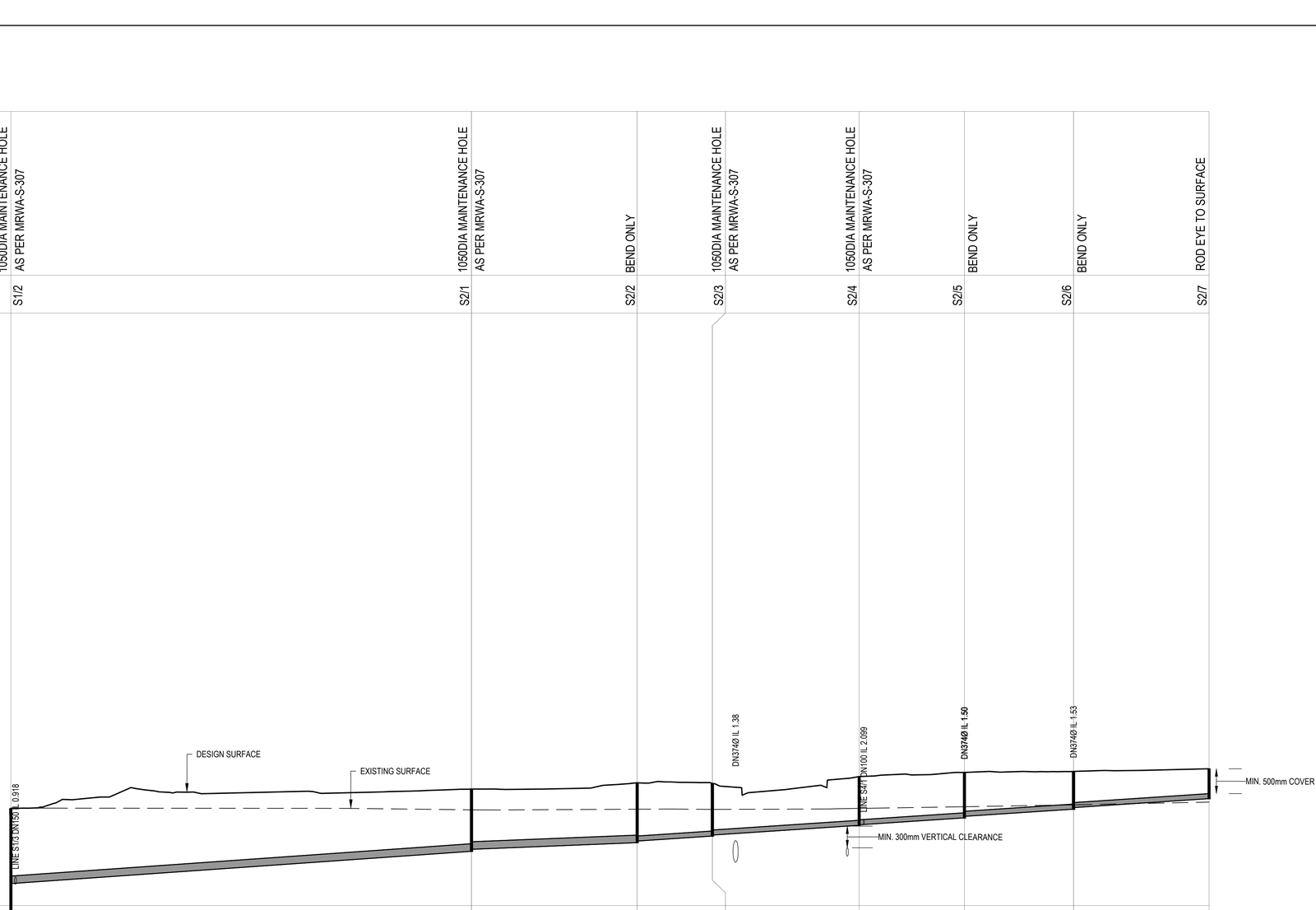

STRUCTURE DESCRIPTION	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307		1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	BEND ONLY	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	BEND ONLY	BEND ONLY	ROD EYE TO SURFACE
STRUCTURE NAME	S1/2		S2/1	S2/2	S2/3	S2/4	S2/5	S2/6	S2/7
PIPE SIZE / MATRIAL	DN150 U-PVC		DN150 U-PVC	DN100 U-PVC	DN100 U-PVC	DN100 U-PVC	DN100 U-PVC	DN100 U-PVC	DN100 U-PVC
GRADE %	1.75%		1.00%	1.66%	1.66%	1.65%	1.65%	1.65%	
DEPTH TO INVERT	1.49	1.23	1.20	1.19	1.16	1.05	1.03	0.97	0.96	0.90	0.87	0.75	0.72	0.59
INVERT LEVEL	0.933	1.574	1.613	1.745	1.777	1.876	1.896	2.089	2.099	2.237	2.267	2.410	2.440	2.618
FINISHED SURFACE	2.43	2.81		2.93		2.92		3.06		3.14		3.16		3.21
EXISTING SURFACE	2.43	2.40		2.41		2.40		2.43		2.46		2.50		2.55
CHAINAGE	0.00	36.56		49.72		55.69		67.34		75.70		84.36		95.12
	36.56m			13.15m		5.97m		11.65m		8.36m		8.66m		10.76m

DRAINAGE LONGITUNDINAL SECTION FOR LINE S2
SCALES: HORIZONTAL 1:200 VERTICAL 1:50

REV	ISSUE	DATE	APPROVAL
			DRAWN: NS
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	DESIGN: NS
B	PRELIMINARY - NOT FOR CONSTRUCTION	15/02/2024	CHECKED: NM
A	PRELIMINARY - NOT FOR CONSTRUCTION	30/01/2024	VERIFIED: MG

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PROJECT: CENTACARE - DEVELOPMENT

0 2 4 6 8 10m (H1:200)
0 0.5 1.0 1.5 2.0 2.5m (V1:50)

ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

SHEET: SEWER LONG SECTIONS - SHEET 2

SCALE: AS INDICATED | TOTAL SHEETS: 39 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C309 | REV: D

NOTES

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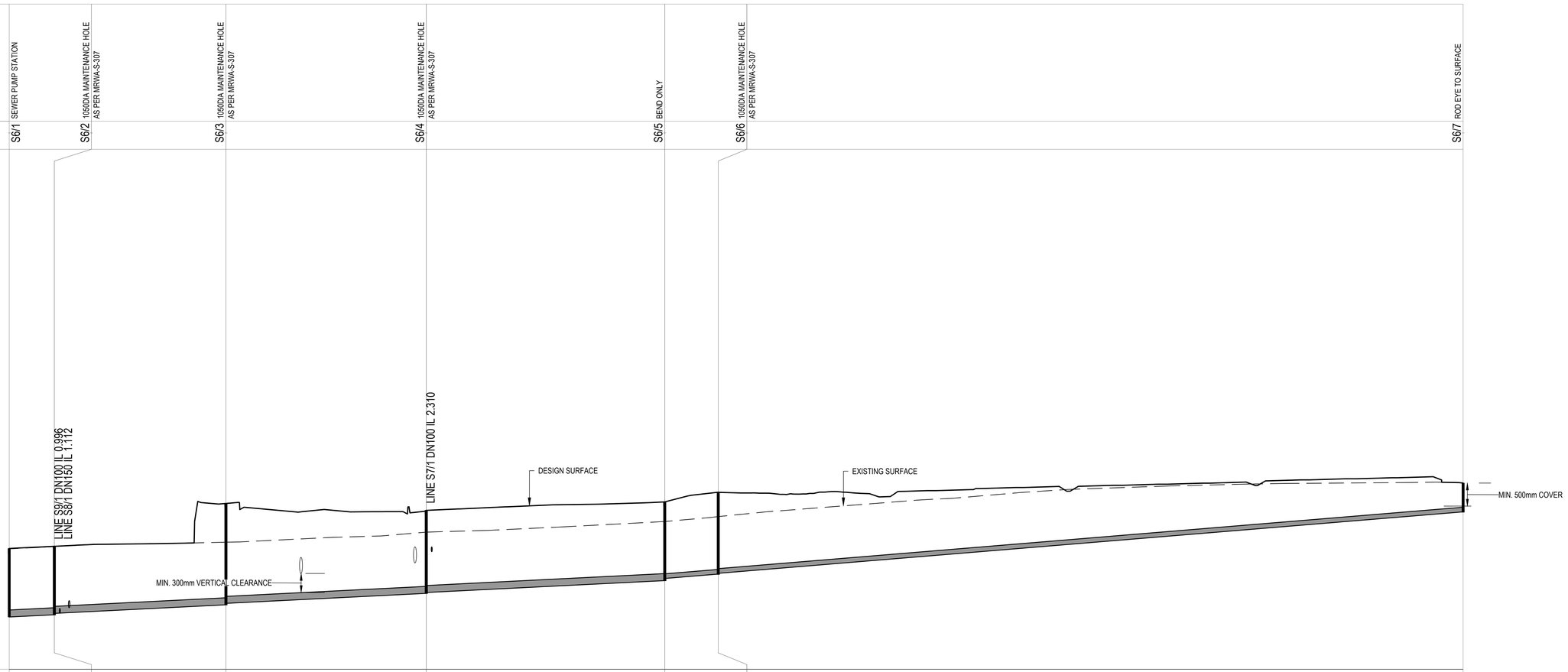

DATUM RL -0.20

STRUCTURE DESCRIPTION	SEWER PUMP STATION	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	BEND ONLY	1050DIA MAINTENANCE HOLE AS PER MRWA-S-307	ROD EYE TO SURFACE
STRUCTURE NAME	S6/1	S6/2	S6/3	S6/4	S6/5	S6/6	S6/7
GRADE %	1.00%	1.00%	1.00%	1.00%	1.65%	1.65%	
PIPE SIZE / MATERIAL	DN150 U-PVC	DN150 U-PVC	DN150 U-PVC	DN150 U-PVC	DN100 U-PVC	DN100 U-PVC	
DEPTH TO INVERT	1.46	1.46 / 1.43	2.16 / 2.13	1.77 / 1.75	1.68 / 1.63	1.75 / 1.73	0.62
INVERT LEVEL	0.915	0.963 / 0.993	1.176 / 1.206	1.420 / 1.438	1.692 / 1.738	1.832 / 1.848	3.160
FINISHED SURFACE	2.38	2.42	3.34	3.19	3.37	3.58	3.78
EXISTING SURFACE	2.37	2.42	2.51	2.73	2.95	3.06	3.78
CHAINAGE	0.00	4.81	23.13	44.52	69.98	75.69	155.22
		4.81m	18.32m	21.39m	25.46m	5.71m	79.53m

SEWER LONGITUNDINAL SECTION FOR LINE S6
SCALES: HORIZONTAL 1:250 VERTICAL 1:50

REV	ISSUE	DATE	APPROVAL
			DRAWN: NS
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	DESIGN: NS
B	PRELIMINARY - NOT FOR CONSTRUCTION	15/02/2024	CHECKED: NM
A	PRELIMINARY - NOT FOR CONSTRUCTION	30/01/2024	VERIFIED: MG

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199 Macquarie Street
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www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 5 10 15m
0 0.5 1.0 1.5 2.0 2.5 3m
H1:250
V1:50

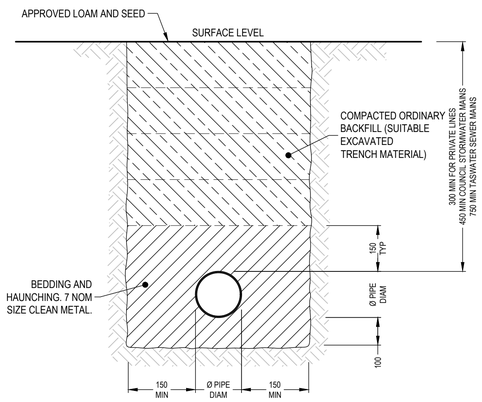
ADDRESS: 1 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

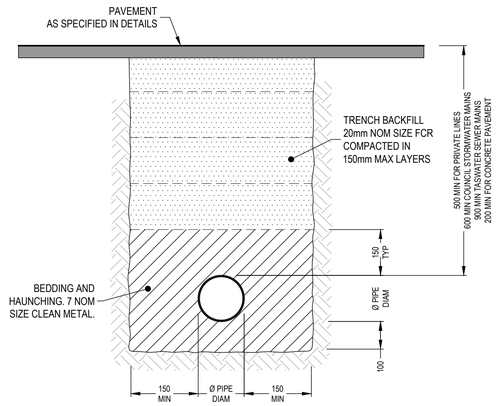
SHEET: SEWER LONG SECTIONS - SHEET 3

SCALE: AS INDICATED | TOTAL SHEETS: 39 | SIZE: A1

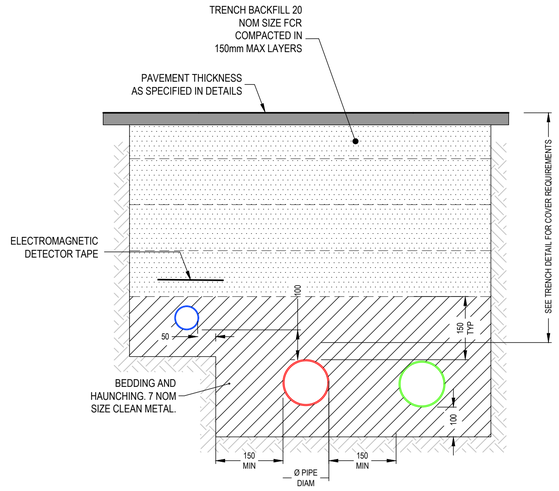
PROJECT No: 23 E 99-113 | SHEET: C310 | REV: D



TYPICAL CROSS SECTION - NON TRAFFICABLE
SCALE 1:10 (A1)



TYPICAL CROSS SECTION - TRAFFICABLE
SCALE 1:10 (A1)



SHARED SERVICE TRENCH DETAIL - TRAFFICABLE
SCALE 1:10 (A1)

NOTES

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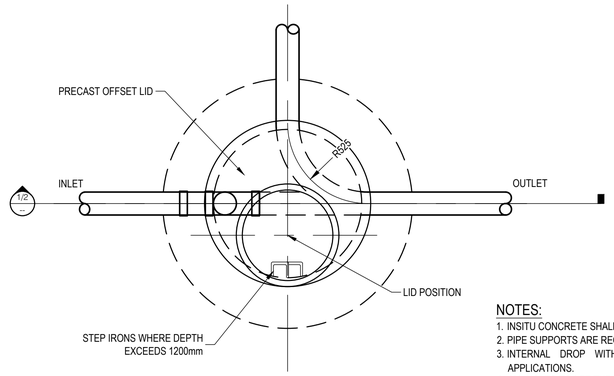
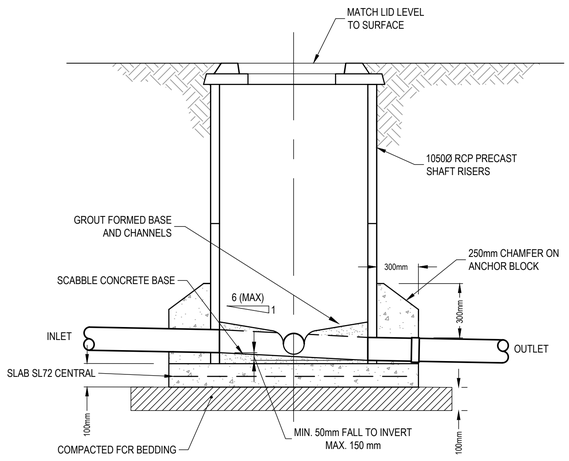
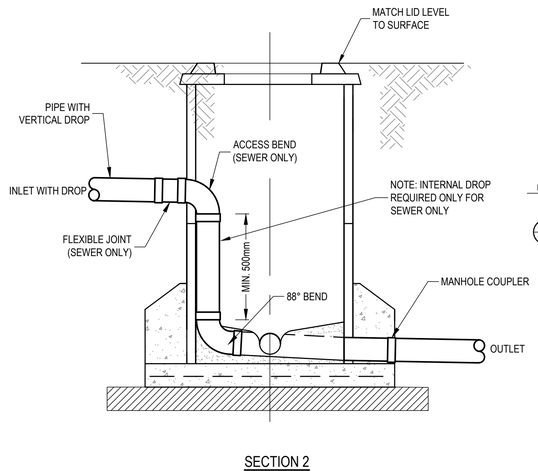


PLAN

NOTES:
1. INSITU CONCRETE SHALL BE MIN. GRADE N20.
2. PIPE SUPPORTS ARE REQUIRED IF DROP IS GREATER THAN 2.0m
3. INTERNAL DROP WITH FLEXIBLE JOINT ONLY REQUIRED FOR SEWERAGE APPLICATIONS.
4. ALL HOLES TO LET THROUGH PIPES IN PRECAST SHAFTS SHALL BE GROUT PACKED OR MASTIC SEALED.
5. ALL JOINTS TO BE EPOXIED OR EQ.
6. STEP IRONS SHALL BE AN APPROVED TYPE BY THE REGULATING AUTHORITY.

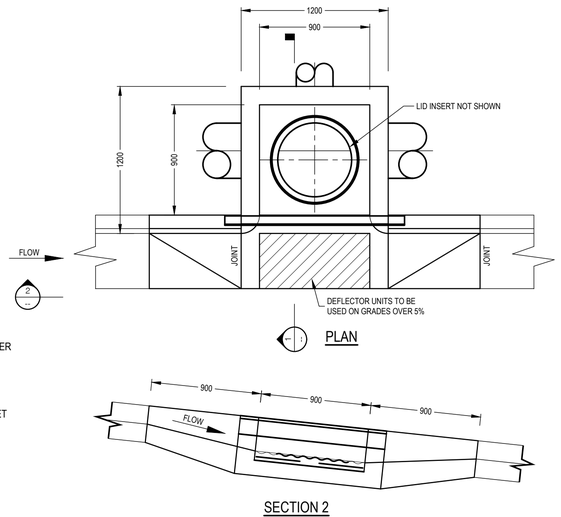


SECTION 1

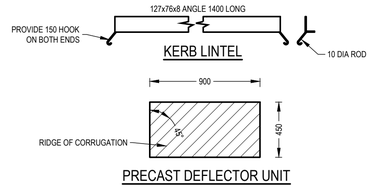


SECTION 2

TYPICAL SEWER & STORMWATER MANHOLE DETAIL
SCALE 1:20 (A1)



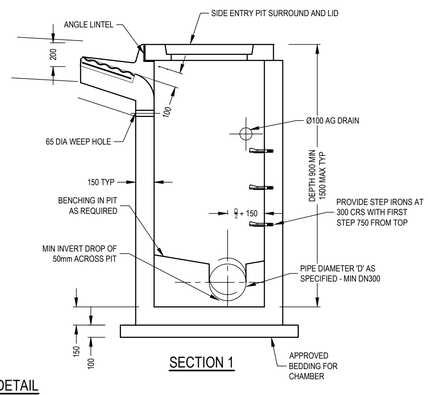
SECTION 2



KERB LINTEL

PRECAST DEFLECTOR UNIT

NOTES:
1. ALL DIMENSIONS IN MILLIMETRES (mm)
2. PIT TO BE CONSTRUCTED FROM GRADE N25 CONCRETE.
3. MAX PIPE DIAMETER D 600.
4. STEP RUNGS SHALL BE HUMES PS1-PF MANHOLE STEP OR OTHER APPROVED.
5. ANGLES OF MILD STEEL.
6. BLANK STEP IRON HOLES ARE TO BE BLANKED OFF WITH PLASTIC PLUGS OR NON-SHRINK GROUT.



SECTION 1

SIDE ENTRY PIT DETAIL
SCALE 1:20 (A1)

CONSTRUCTION DETAILS - SHEET 1

AS INDICATED

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
			DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

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mail@aldanmark.com.au
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PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

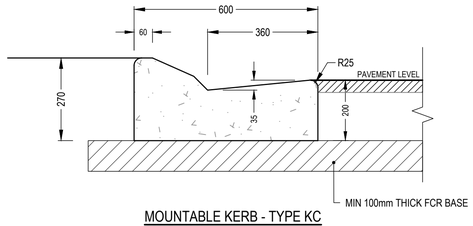
ADDRESS: 1 HAYFIELD PLACE BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

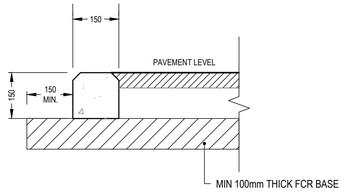
SHEET: CONSTRUCTION DETAILS - SHEET 1

SCALE: AS INDICATED | TOTAL SHEETS: 42 | SIZE: A1

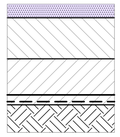
PROJECT No: 23 E 99-113 | SHEET: C401 | REV: D



MOUNTABLE KERB - TYPE KC
SCALE 1:10 (A1)



FLUSH KERB - TYPE FK
SCALE 1:10 (A1)



30mm MIN. ASPHALT (DG10)

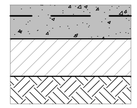
150mm BASE COURSE A
COMPACTED TO 98% MMDD

250mm SUBBASE 1
COMPACTED TO 95% MMDD
"TENSAR TX160" (IF REQUIRED)
"BIDIM A34" (IF REQUIRED)

APPROVED SUBGRADE. MIN CBR = 3%

DESIGN ESA = 3×10^5

ASPHALT PAVEMENT DETAIL



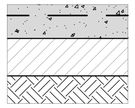
125mm MIN. CONCRETE (N32)
SL82 REINFORCING TOP (30mm COVER)
40mm SAWCUTS AT MAX. 4.0m CRS

100mm BASE A, 20mm FCR

APPROVED SUBGRADE

NOTE: CONCRETE PAVEMENT NOT DESIGNED FOR SPECIAL SURFACE FINISHES SUCH AS EXPOSED AGGREGATE.

CONCRETE PAVEMENT DETAIL

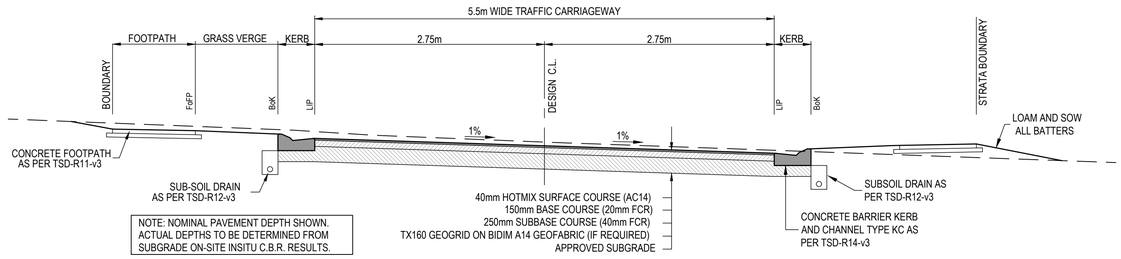


100mm MIN. CONCRETE (N25)
SL72 REINFORCING TOP (30mm COVER)
TOOLED POINTS AT 2 x WIDTH. EXPANSION
JOINTS WITH FOAM AT 18.0m CRS

MIN 100mm COMPACTED 20mm FCR

APPROVED SUBGRADE

CONCRETE FOOTPATH DETAIL



NOTE: NOMINAL PAVEMENT DEPTH SHOWN. ACTUAL DEPTHS TO BE DETERMINED FROM SUBGRADE ON-SITE INSITU C.B.R. RESULTS.

TYPICAL SECTION
SCALE 1:20 (A1)

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CONSTRUCTION DETAILS - SHEET 2

AS INDICATED

REV	ISSUE	DATE	APPROVAL
			DRAWN: GR
			CHECKED: NM
			DESIGN: GR
D	DEVELOPMENT APPROVAL	29/08/2024	CHECKED: NM
C	DEVELOPMENT APPLICATION	22/02/2024	VERIFIED: MG

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www.aldanmark.com.au

PROJECT: CENTACARE - DEVELOPMENT

0 1 2 3 4 5 6 7 8 9 10m

ADDRESS: 2 HAYFIELD PLACE
BRIDGEWATER

CLIENT: CENTACARE EVOLVE HOUSING

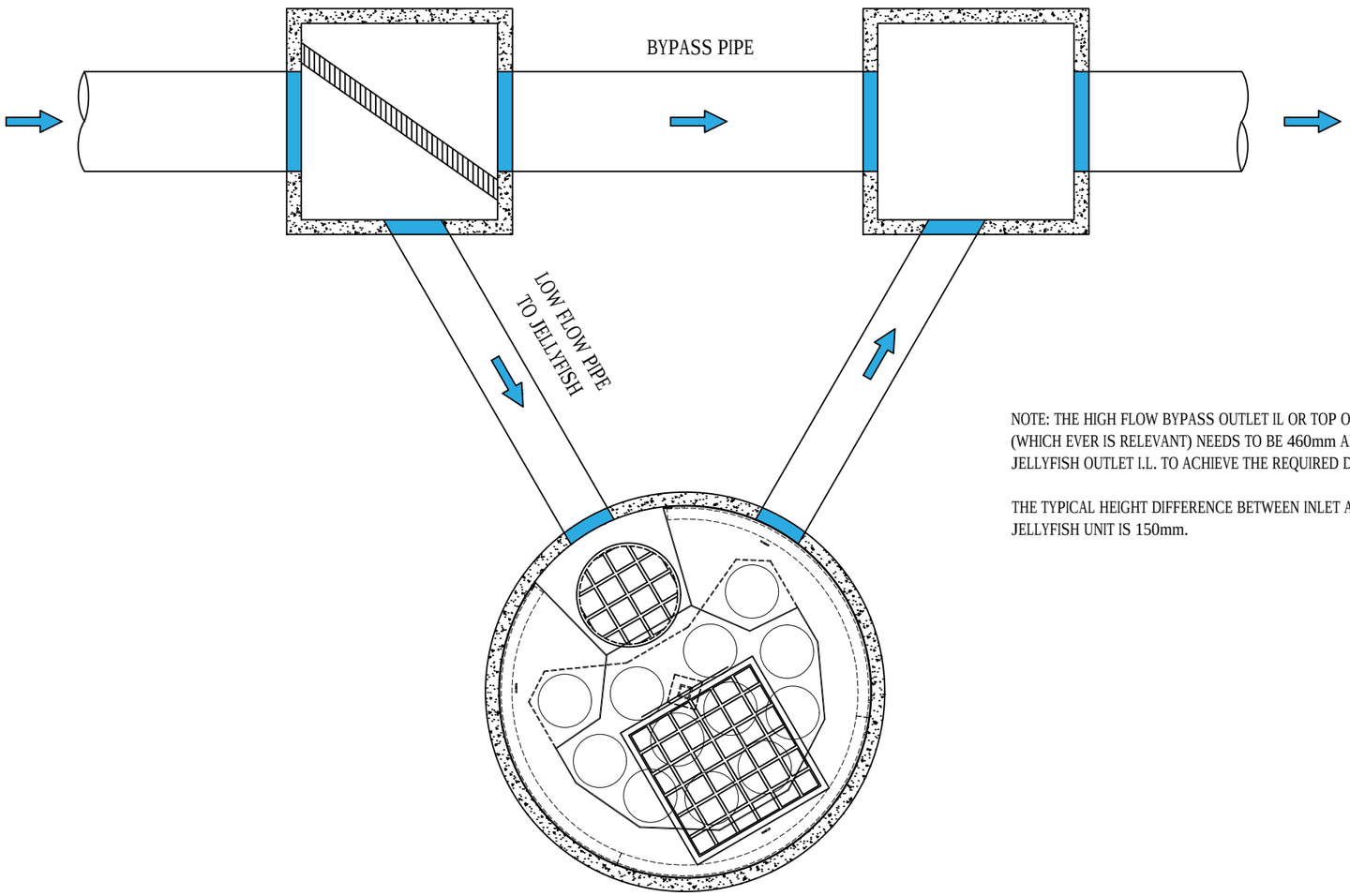
SHEET: CONSTRUCTION DETAILS - SHEET 2

SCALE: AS INDICATED | TOTAL SHEETS: 42 | SIZE: A1

PROJECT No: 23 E 99-113 | SHEET: C402 | REV: D

UPSTREAM DIVERSION PIT WITH WEIR
(alternatively, lift outlet bypass pipe accordingly)

JUNCTION STRUCTURE



NOTE: THE HIGH FLOW BYPASS OUTLET IL OR TOP OF WEIR WALL (WHICH EVER IS RELEVANT) NEEDS TO BE 460mm ABOVE THE JELLYFISH OUTLET I.L. TO ACHIEVE THE REQUIRED DRIVING HEAD.

THE TYPICAL HEIGHT DIFFERENCE BETWEEN INLET AND OUTLET OF THE JELLYFISH UNIT IS 150mm.

PLAN OF TYPICAL OFFLINE LAYOUT

REFER TO PRODUCT DRAWING .....
FOR SYSTEM DETAILS

OCEAN PROTECT
PHONE: 1300 354 722
www.oceanprotect.com.au

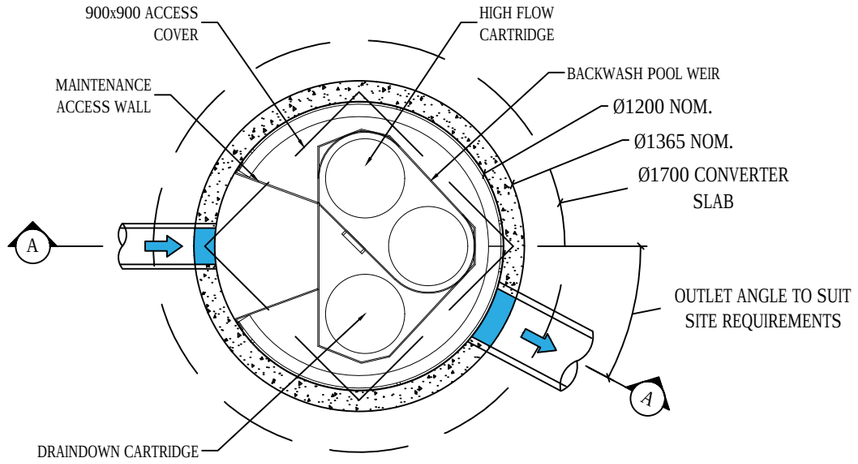
OCEAN PROTECT

TYPICAL OFFLINE LAYOUT
HIGH FLOW BYPASS
WITH PRECAST JELLYFISH

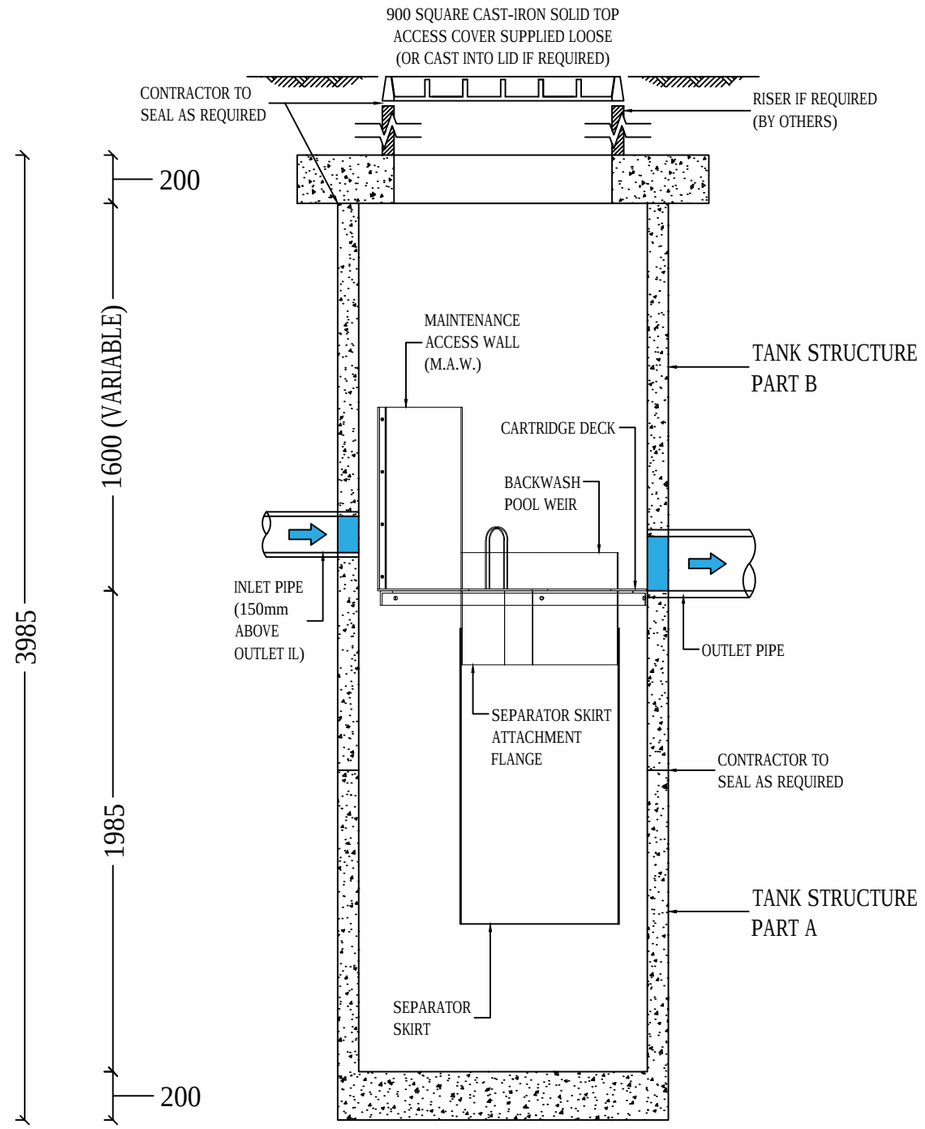
DRAWING 1 A

DATE: 07.05.19 | NOT TO SCALE | DRN: J.S | CHK: W.J

NOT FOR CONSTRUCTION



JELLYFISH PLAN



JELLYFISH SECTION

LAST MODIFIED: 25-02-19

JELLYFISH DESIGN TABLE

JELLYFISH TREATMENT FLOW IS A FUNCTION OF THE NUMBER OF CARTRIDGES AND THE DEVICE TOTAL HEAD DIFFERENTIAL. IF THE PIPE FLOW EXCEEDS THE TREATMENT FLOW THEN AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

REQUIRED DEVICE TOTAL HEAD DIFFERENTIAL [mm]	460	230
CARTRIDGE FLOW RATE FOR HIGH-FLOW / DRAINDOWN [L/s]	5 / 2.5	2.5 / 1.25
CARTRIDGE LENGTH [mm]	1375	1375
OUTLET INVERT TO STRUCTURE INVERT [mm])	1985	1985

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	[ ]
WATER QUALITY FLOW RATE (L/S)	[ ]
# OF CARTRIDGES REQUIRED (HF - DD)	[-]
CARTRIDGE SIZE	1375

PIPE DATA:	I.L.	MATERIAL	DIAMETER
INLET PIPE	[ ]	[ ]	[ ]
OUTLET PIPE	[ ]	[ ]	[ ]

LID WEIGHT	APPROX. 1,500kg
PART A & B WEIGHT (SEPARATE)	APPROX. 2,500kg

NOTE: TANK SUPPLIED IN TWO PARTS; PARTS A & B TO BE JOINED ON SITE

GENERAL NOTES

1. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF THE PROJECT.
2. PRECAST STRUCTURE SUPPLIED WITH CORE HOLES TO SUIT OUTER DIAMETER OF NOMINATED PIPE SIZE / MATERIAL.
5. STRUCTURE AND ACCESS COVERS TO BE DESIGNED TO MEET AUSTROADS T44 LOAD RATING WITH 0.0m TO 2.0m FILL MAXIMUM (CLASS D) UNLESS OTHERWISE NOTED. THE OUTLET PIPE INVERT ELEVATION. CERTIFYING ENGINEER TO CONFIRM ACTUAL GROUNDWATER ELEVATION.PRECAST STRUCTURE SHALL BE IN ACCORDANCE WITH AS3600.
6. IF THE PEAK FLOW RATE, AS DETERMINED BY THE CERTIFYING ENGINEER, EXCEEDS THE TREATMENT FLOW RATE OF THE SYSTEM, AN UPSTREAM BYPASS STRUCTURE IS REQUIRE.
7. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
8. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
9. DRAWING NOT TO SCALE.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE SPECIFIC DESIGN CONSIDERATION AND SHALL BE SPECIFIED BY THE CERTIFYING ENGINEER.

B. CONTRACTOR TO PROVIDE ALL EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING DETAIL PROVIDED SEPARATELY).

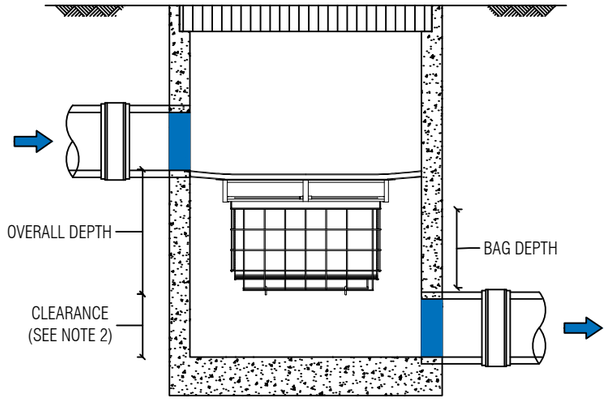
C. CONTRACTOR TO INSTALL AND LEVEL THE STRUCTURE, APPLY SEALANT TO ALL JOINTS AND TO PROVIDE, INSTALL AND GROUT INLET AND OUTLET PIPES.

D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

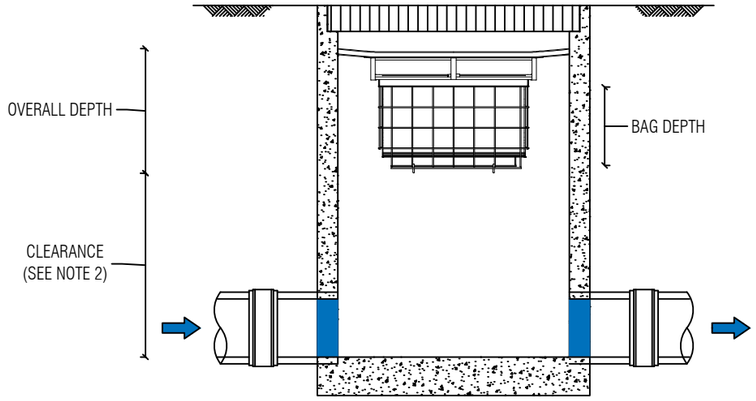
E. CARTRIDGE INSTALLATION, BY OCEANPROTECT, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT OCEAN PROTECT TO COORDINATE CARTRIDGE INSTALLATION WITH SITE COMPLETION.

OCEAN PROTECT
PHONE: 1300 354 722 www.oceanprotect.com.au

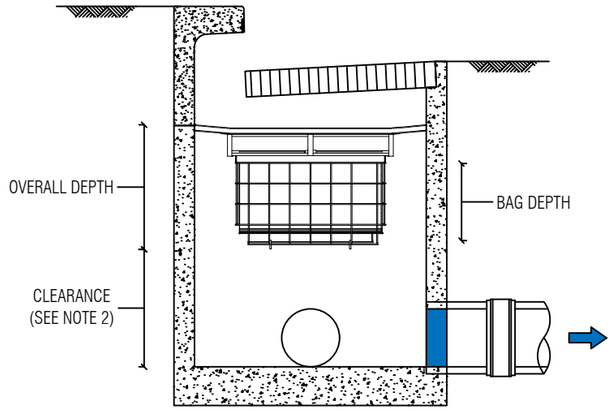
OCEAN PROTECT
JELLYFISH 1200
STANDARD PRODUCT DRAWING



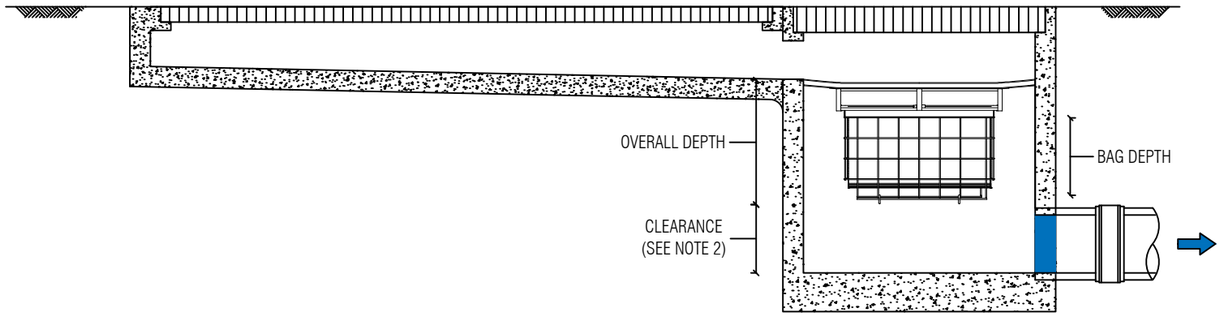
PIPE FLOW CONFIGURATION



SURFACE FLOW CONFIGURATION



SURFACE FLOW CONFIGURATION

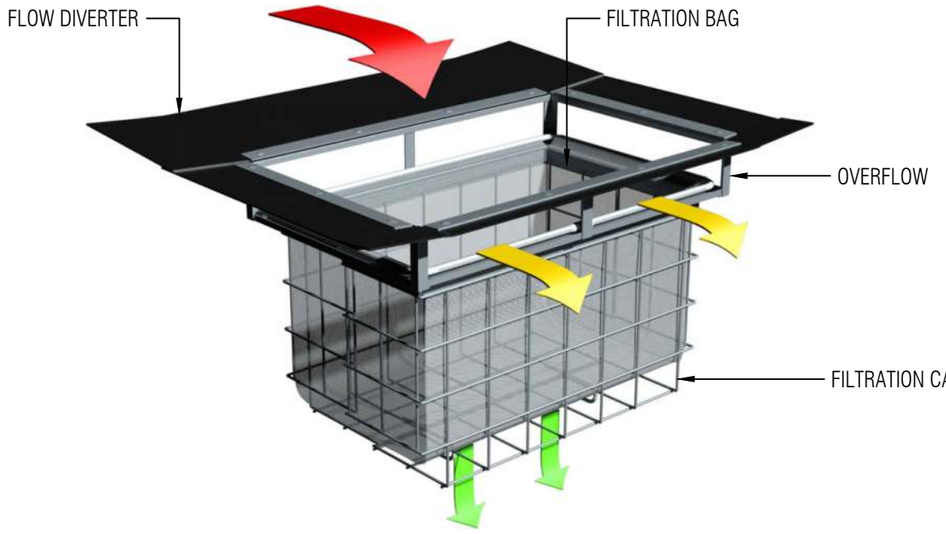


GRATED STRIP DRAIN CONFIGURATION

PLAN ID	MAXIMUM PIT PLAN DIMENSIONS
S	450mm x 450mm
M	600mm x 600mm
L	900mm x 900mm
XL	1200mm x 1200mm

DEPTH ID	BAG DEPTH	OVERALL DEPTH
1	170	270
2	300	450
3	600	700

		DEPTH ID		
		1	2	3
PLAN ID	S	■		
	M	■	■	
	L	■	■	■
	XL	■	■	■



GENERAL NOTES

1. THE MINIMUM CLEARANCE DEPENDS ON THE CONFIGURATION (SEE NOTE 2) AND THE LOCAL COUNCIL REQUIREMENTS.
2. CLEARANCE FOR ANY PIT WITHOUT AN INLET PIPE (ONLY USED FOR SURFACE FLOW) CAN BE AS LOW AS 50mm. FOR OTHER PITS, THE RECOMMENDED CLEARANCE SHOULD BE GREATER OR EQUAL TO THE PIPE OBVERT SO AS NOT TO INHIBIT HYDRAULIC CAPACITY.
3. OCEAN PROTECT PROVIDES TWO FILTRATION BAG TYPES:- 200 MICRON BAGS FOR HIGHER WATER QUALITY FILTERING AND A COARSE BAG FOR TARGETING GROSS POLLUTANTS.
4. DRAWINGS NOT TO SCALE.

PHONE: 1300 354 722 www.oceanprotect.com.au

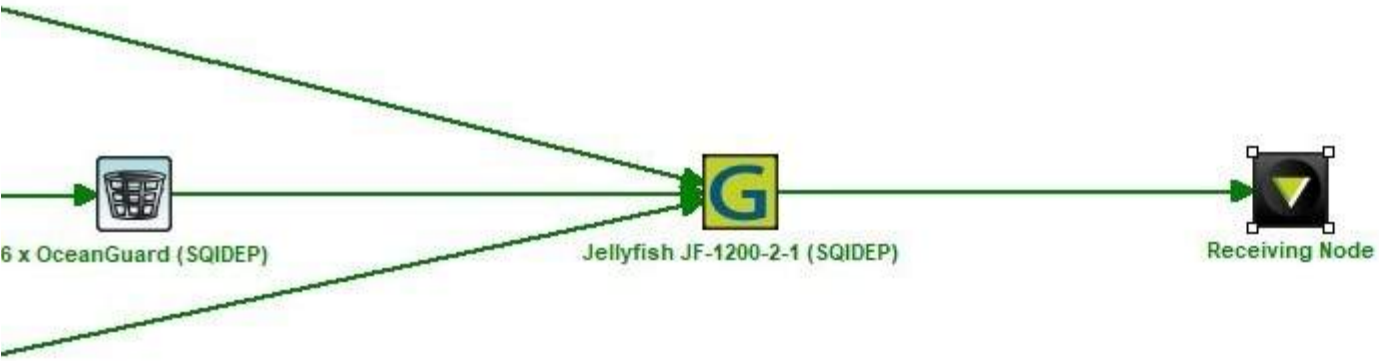
OCEAN PROTECT

OCEANGUARD

TYPCIAL ARRANGEMENTS

SPECIFICATION DRAWING

LAST MODIFIED: 15-10-19



Treatment Train Effectiveness - Receiving Node

	Sources
Flow (ML/yr)	4.55
Total Suspended Solids (kg/yr)	946
Total Phosphorus (kg/yr)	1.83
Total Nitrogen (kg/yr)	11
Gross Pollutants (kg/yr)	155

28/03/2025

ALDANMARK
CONSULTING ENGINEERS

Lower Ground – 199 Macquarie Street
Hobart TAS 7000
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ENGINEERS ADVICE

250326 EA 23E99-113

To:	Mat Clark	**MC Planners** mat@mcplanners.com.au	**INSPECTION** ☐
Cc:	Drew Den Hartog	**Prime Design** drew@primedesign.com.au	**INSTRUCTION** ☐
	Debra Rands	**Loretto Community Housing** Debra.rands@aohtas.org.au	**MEMO** ☐
			RFI RESPONSE ☒
			SHOP DRAWING APPROVAL ☐

PROJECT:	Centacare - Development: 1 Hayfield Place, Bridgewater
SUBJECT:	Response to Brighton Council RFI (DA 2024 / 00035)

RELEVANT DOCUMENTS:

- Engineering design documents by Aldanmark CIV 23E99 - 113
- Correspondence from Brighton Council dated 18th of February 2025.

Aldanmark Engineers have provided the following responses in regard to the Brighton Council's Planning RFI:

- Stormwater:
  - a): Aldanmark Engineers have designed the site stormwater infrastructure to safely accommodate a 5% AEP storm event. Long sections will be provided at detail design to include design flow, velocity and hydraulic grade lines.

    In addition, Aldanmark have collaborated with Ocean Protect to provide a suitable stormwater treatment design to meet water quality targets as outlined in DEP & LGAT Tasmanian Stormwater Policy Guidance and Standards for Development (Table 3).

    As per the email correspondence from L. Wighton from the Brighton Council dated 27/03/2024, stormwater detention is not required for the site and has not been considered in the stormwater design philosophy.

  - b): Scour protection will be provided to the satisfaction of Brighton Council.

- Parking and Suitable Transport:
  - a): The public section of Hayfield Place has been increased from 5.50m to a 6.90m wide carriage way – see drawing C104.
  - b): The threshold treatment to delineate between the public and private road has been amended and is now shown as mountable kerb (KCM) – see drawing C105.
  - c): Kerb ramps and pedestrian crossing have been added to Aldanmarks civil drawings as coordinated with Prime Design with the amended locations away from side entry pits.

- Waste Storage and Collection:
  - a): A turnpath using a medium rigid vehicle (MRV) has been provided on drawing C128 to show the turning circle for a rubbish truck. The kerb and footpath have been modified to allow for trafficable use.

- Flood Hazard Report:
  - a): A detailed stormwater management report has been completed by Flussig to document the pre-development & post-development flood impacts and provide potential flood mitigation measures. Aldanmarks 3D design mesh was provided to Flussig in collaboration to complete the inundation report.

- TasWater:
  - Aldanmark have re-attached the ET calculations for the TasWater sewer and water demands.

Regards,

Giancarlo Rigoli
Graduate Civil / Structural Engineer

STORMWATER REPORT

Centacare - Development
1 Hayfield Place
Bridgewater TAS 7030

250513 SR 23 E 99 - 113 REV B

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PROJECT INFORMATION

DOCUMENT TITLE	Stormwater Report - 23 E 99 - 113 Rev B
PROJECT LOCATION	1 Hayfield Place, Bridgewater TAS 7030
CLIENT ORGANISATION	Loretto Community Housing
CLIENT REFERENCE	Centacare - Development
CLIENT CONTACT/S	Debra Rands
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DOCUMENT CONTROL

REVISION	DATE	REVISION DETAILS	PREPARED	VERIFIED	APPROVED
A	28/03/2025	Development Approval	NM	GR	MG
B	13/05/2025	Development Approval	NM	GR	MG

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1. INTRODUCTION

Aldanmark have been engaged to provide a stormwater report for the proposed development at 1 Hayfield Place, Bridgewater.

The development must comply with the stormwater quality requirements as per Brighton City Council RFI:

- The stormwater system must incorporate water sensitive urban design principles for the treatment and disposal of stormwater (Planning scheme Code E7.7.1 A2).

Aldanmark have received previous correspondence from Brighton City Council that this site won't require onsite detention. This correspondence can be provided if required.

2. SITE OVERVIEW

The existing site is vacant with frontage to the Derwent River. The proposed 55 Unit Development is accessed from Gunn Street, via a new Council Road adjacent to 46 Gunn St.

The increase in impervious areas and the number of carparks provided will require stormwater treatment in line with the Derwent Estuary Program.

3. STORMWATER QUALITY MODEL

3.1 STORMWATER QUALITY MODEL

Aldanmark Engineers have collaborated with Ocean Protect and a Model for Urban Stormwater Improvement Conceptualisation (MUSIC) was used to model the site and the effectiveness of various treatment devices to achieve the stormwater quality targets outlined in the State Stormwater Strategy (2010) of:

- An 80% reduction in the average load of total suspended solids (TSS)
- An 45% reduction in the average annual load of total phosphorous (TP)
- An 45% reduction in the average annual load of total nitrogen (TN)

Proprietary devices by OceanProtect were utilised to meet the water quality targets. The propriety devices include:

- 6 x OceanGuards with 200µm mesh bags (OG-200).
- 1 x JellyFish JF1200-2-1 (1375mm Cartridges)(460mm Head)

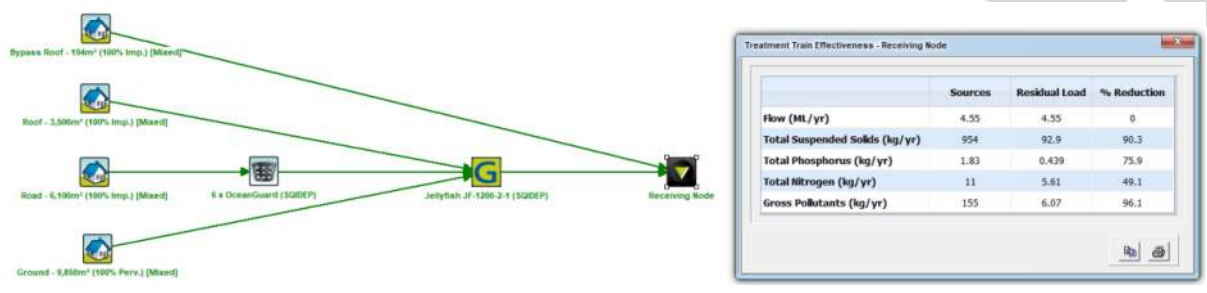

FIGURE 1: MODEL FOR URBAN STORMWATER IMPROVEMENT CONCEPTUALISATION OUTPUT

4. MAINTENANCE

The recommended maintenance schedule for the on-site detention and stormwater treatment devices specified in this report are outlined in Table <<14>>.

The manufacturer's maintenance requirements for the stormwater detention and treatment devices that are installed will form part of the project's Plumbing Maintenance Schedule.

TABLE <<14>>: MAINTENANCE FOR OCEAN PROTECT DEVICES

OCEANGUARDS	**FREQUENCY**
MINOR SERVICE Filter bat inspection and evaluation Removal of capture pollutants Disposal of material	1 – 6 times annually
MAJOR SERVICE Filter bag replacement Support frame rectification	As required
JELLYFISH	**FREQUENCY**
VISUAL INSPECTION Removal of larger gross pollutants Minimal rectification works as needed	Every 6 months
MINOR SERVICE Evaluation of cartridges Removal of accumulated sediment Wash down of JellyFish cartridge.	Every 12 Months
MAJOR SERVICE Replacement of JellyFish cartridge media	As required

5. CONCLUSION

This report has demonstrated that the proposed development at 1 Hayfield Place, Bridgewater complies with the stormwater quality conditions of Brighton Council's Stormwater requirements.

Note:

- No assessment has been undertaken of Council's stormwater infrastructure and its capacity.
- This report assumes the Council stormwater main has capacity for the pre-development peak discharge.
- It is the responsibility of Council to assess their infrastructure and determine the impact (if any) of altered inflows into their stormwater network.

Please contact me at nmorey@aldanmark.com.au if you require any additional information.

Yours faithfully,

Nathan Morey BEng (Hons)
Executive & Civil Engineer

MIDSON
traffic
pty ltd

Prime Design

1 Hayfield Place, Bridgewater
Traffic Impact Assessment

January 2025

CELEBRATING 15 YEARS
2008 - 2023

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Figure Index

1. Introduction

1.1 Background

Midson Traffic were engaged by Prime Design to prepare a traffic impact assessment for a proposed residential unit development at 1 Hayfield Place, Bridgewater.

1.2 Traffic Impact Assessment (TIA)

A traffic impact assessment (TIA) is a process of compiling and analysing information on the impacts that a specific development proposal is likely to have on the operation of roads and transport networks. A TIA should not only include general impacts relating to traffic management, but should also consider specific impacts on all road users, including on-road public transport, pedestrians, cyclists and heavy vehicles.

This TIA has been prepared in accordance with the Department of State Growth (DSG) publication, *Traffic Impact Assessment Guidelines*, August 2020. This TIA has also been prepared with reference to the Austroads publication, *Guide to Traffic Management,* Part 12: *Integrated Transport Assessments for Developments*, 2020.

Land use developments generate traffic movements as people move to, from and within a development. Without a clear understanding of the type of traffic movements (including cars, pedestrians, trucks, etc), the scale of their movements, timing, duration and location, there is a risk that this traffic movement may contribute to safety issues, unforeseen congestion or other problems where the development connects to the road system or elsewhere on the road network. A TIA attempts to forecast these movements and their impact on the surrounding transport network.

A TIA is not a promotional exercise undertaken on behalf of a developer; a TIA must provide an impartial and objective description of the impacts and traffic effects of a proposed development. A full and detailed assessment of how vehicle and person movements to and from a development site might affect existing road and pedestrian networks is required. An objective consideration of the traffic impact of a proposal is vital to enable planning decisions to be based upon the principles of sustainable development.

This TIA also addresses the relevant clauses of C2.0, *Parking and Sustainable Parking Code*, and C3.0, *Road and Railway Assets Code*, of the Tasmanian Planning Scheme – Brighton, 2021.

1.3 Statement of Qualification and Experience

This TIA has been prepared by an experienced and qualified traffic engineer in accordance with the requirements of Council's Planning Scheme and The Department of State Growth's, *Traffic Impact Assessment Guidelines*, August 2020, as well as Council's requirements.

The TIA was prepared by Keith Midson. Keith's experience and qualifications are briefly outlined as follows:

- 29 years professional experience in traffic engineering and transport planning.
- Master of Transport, Monash University, 2006
- Master of Traffic, Monash University, 2004

- Bachelor of Civil Engineering, University of Tasmania, 1995
- Engineers Australia: Fellow (FIEAust); Chartered Professional Engineer (CPEng); Engineering Executive (EngExec); National Engineers Register (NER)

1.4 Project Scope

The project scope of this TIA is outlined as follows:

- Review of the existing road environment in the vicinity of the site and the traffic conditions on the road network.
- Provision of information on the proposed development with regards to traffic movements and activity.
- Identification of the traffic generation potential of the proposal with respect to the surrounding road network in terms of road network capacity.
- Review of the parking requirements of the proposed development. Assessment of this parking supply with Planning Scheme requirements.
- Traffic implications of the proposal with respect to the external road network in terms of traffic efficiency and road safety.

1.5 Subject Site

The subject site is located at 1 Hayfield Place, Bridgewater. The site is currently a vacant lot.

The subject site and surrounding road network is shown in Figure 1.

Figure 1 Subject Site & Surrounding Road Network

Image Source: LIST Map, DPIPWE

1.6 Reference Resources

The following references were used in the preparation of this TIA:

- Tasmanian Planning Scheme – Brighton, 2021 (Planning Scheme)
- Austroads, *Guide to Traffic Management,* Part 12: *Integrated Transport Assessments for Developments*, 2020
- Austroads, Guide to Road Design, Part 4A: Unsignalised and Signalised Intersections, 2021
- Department of State Growth, *Traffic Impact Assessment Guidelines*, 2020
- Roads and Maritime Services NSW, *Guide to Traffic Generating Developments*, 2002 (RMS Guide)
- Transport NSW, *Guide to Traffic Impact Assessment*, 2024 (TIA Guide)

2. Existing Conditions

2.1 Transport Network

For the purposes of this report, the transport network consists of Hayfield Place and Gunn Street.

Hayfield Place is a short unsealed access that connects to a recreational foreshore area. It connects to Gunn Street at a T-junction.

Gunn Street is a minor collector road that connects between the Midland Highway and Green Point Road. It provides residential access to the catchment area of Green Point and Bridgewater. Gunn Street connects to Midland Highway at a roundabout. The general urban speed limit of 50-km/h is applicable to Gunn Street. It carries a traffic volume of approximately 2,000 vehicles per day.

Gunn Street at the Hayfield Street intersection is shown in Figure 2.

Figure 2 Gunn Street

2.2 Road Safety Performance

Crash data can provide valuable information on the road safety performance of a road network. Existing road safety deficiencies can be highlighted through the examination of crash data, which can assist in determining whether traffic generation from the proposed development may exacerbate any identified issues.

Crash data was obtained from the Department of State Growth for a 5+ year period between 1st January 2019 and 30th June 2024 for the full length of Hayfield Street, as well as Gunn Street between Eddington Street and Warruga Street. No crashes have been reported during this time.

3. Proposed Development

3.1 Development Proposal

The proposed development involves the construction of 56 residential units accessed via an extension of Hayfield Place. The development includes the following unit types:

- 36 x 2-bedroom units
- 20 x 3-bedroom units

A total of 104 on-site car parking spaces are included (consisting of 81 spaces dedicated to units, 12 shared spaces for residents and 11 visitor parking spaces).

The proposed development is shown in Figure 3.

Figure 3 Proposed Development Plans

4. Traffic Impacts

4.1 Trip Generation

Traffic generation rates were sourced from the TIA Guide. The TIA Guide states the following traffic generation rates for medium density residential developments:

- Daily vehicle trips — 6 trips per dwelling per day
- Weekday peak hour vehicle trips — 0.6 trips per dwelling per hour

Based on these trip generation rates, the new traffic generation from the proposed new units is 336 vehicles per day with a peak of 34 vehicles per hour.

4.2 Trip Assignment

All traffic will enter and leave the site from Gunn Street. It is likely that there will be a relatively even distribution of left-in/ right-in and left-out/ right-out movements at the junction of Hayfield Place and Gunn Street.

4.3 Access Impacts

The Acceptable Solution A1.2 of Clause C3.5.1 of the Planning Scheme states "*For a road, excluding a category 1 road or a limited access road, written consent for a new junction, vehicle crossing, or level crossing to serve the use and development has been issued by the road authority*".

In this case road authority written consent has not been provided.

The Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme states "*Vehicular traffic to and from the site, using an existing vehicle crossing or private level crossing, will not increase by more than the amounts in Table C3.1*".

In this case the development will generate more than 40 vehicles per day at the access and therefore the Acceptable Solution A1.4 of Clause C3.5.1 of the Planning Scheme is not met. The Performance Criteria P1 of Clause C3.5.1 of the Planning Scheme states:

> *"Vehicular traffic to and from the site must minimise any adverse effects on the safety of a junction, vehicle crossing or level crossing or safety or efficiency of the road or rail network, having regard to:*
>
> *(a) any increase in traffic caused by the use;*
>
> *(b) the nature of the traffic generated by the use;*
>
> *(c) the nature of the road;*
>
> *(d) the speed limit and traffic flow of the road;*

(e) any alternative access to a road;

(f) the need for the use;

(g) any traffic impact assessment; and

(h) any advice received from the rail or road authority".

The following is relevant with respect to the development proposal:

a. Increase in traffic. The site is currently a vacant lot with no existing traffic generation. The development will generate 336 vehicles per day. The peak generation will be 34 vehicles per hour. The traffic generation will not have any significant adverse impacts in terms of traffic efficiency or safety within the surrounding transport network, noting that the peak generation represents slightly more than 1 vehicle every two minutes on average.

b. Nature of traffic. The traffic generation will be residential in nature, which is consistent with traffic generation from the surrounding area.

c. Nature of road. Hayfield Place and Gunn Street are local residential roads that carry predominantly residential traffic.

d. Speed limit and traffic flow of road. The general urban speed limit of 50-km/h is applicable to Hayfield Place and Gunn Street. Hayfield Place carries an existing minimal traffic volume in the order of less than 100 vehicles per day. The speed limit and traffic flow of these road is compatible with the traffic generation associated with the proposed development.

e. Alternative access. No alternative access is considered necessary.

f. Need for use. The accesses are required to provide vehicular access to the residential units associated with the development.

g. Traffic impact assessment. This report details the findings of a traffic impact assessment.

h. Road authority advice. Council (as road authority) have states that a TIA is required to be submitted with the development application.

Based on the above assessment, the proposed development meets the requirements of Performance Criteria P1 of Clause C3.5.1 of the Planning Scheme.

4.4 Sight Distance

Australian Standards, AS2890.1, provide the sight distance requirements for residential driveways. Sight distance requirements are lower for residential driveways compared to road junctions.

In this case the development site extends from the existing alignment of Hayfield Place in a way that does not require sight distance in a 'give-way' priority situation. The junction of Hayfield Place with Gunn Street was therefore assessed.

The minimum sight distance for a driveway at a frontage road with a speed limit of 50-km/h is 45 metres. The available sight distance exceeds this minimum in both directions (refer to Figure 2) therefore satisfying the requirements of AS2890.1.

4.5 Pedestrian Impacts

The proposed development is likely to attract a relatively small amount of pedestrian movements in the surrounding network. It is noted that there are several pedestrian generating land uses in the nearby surrounding network, including nearby shops and recreational facilities.

Pedestrian infrastructure in the surrounding road network is generally acceptable with traversable nature strips provided on both sides of Gunn Street near the subject site. A recreational path is also available along the foreshore immediately to the east of the subject site.

The Acceptable Solution A1 of Clause C2.6.5 of the Planning Scheme states:

> *"Uses that require 10 or more car parking spaces must:*
>
> *(a) have a 1m wide footpath that is separated from the access ways or parking aisles, excluding where crossing access ways or parking aisles, by:*
>
> *(i) a horizontal distance of 2.5m between the edge of the footpath and the access way or parking aisle; or*
>
> *(ii) protective devices such as bollards, guard rails or planters between the footpath and the access way or parking aisle; and*
>
> *(b) be signed and line marked at points where pedestrians cross access ways or parking aisles".*

The following is relevant with respect to the development proposal:

a. Footpaths are provided throughout the internal roads of the development. Pedestrian paths are typically 1.0 to 1.5 metres wide with the footpath located behind parking spaces and in front of driveways. Sections of footpath are provided immediately adjacent to the internal circulation roadways. Protective devices are not provided.
b. Zebra crossings are provided at key pedestrian crossing locations throughout the development.

A typical pedestrian section of the proposed development is shown in Figure 4. Due to the sections of footpath located adjacent to the internal access roads, the development does not meet the requirements of Acceptable Solution A1 of Clause C2.6.5 of the Planning Scheme.

The Performance Criteria P1 of Clause C2.6.5 of the Planning Scheme states:

> *"Safe and convenient pedestrian access must be provided within parking areas, having regard to:*
>
> *(a) the characteristics of the site;*

(b) the nature of the use;

(c) the number of parking spaces;

(d) the frequency of vehicle movements;

(e) the needs of persons with a disability;

(f) the location and number of footpath crossings;

(g) vehicle and pedestrian traffic safety;

(h) the location of any access ways or parking aisles; and

(i) any protective devices proposed for pedestrian safety".

The following is relevant with respect to the proposed development:

a. Characteristics of the site. The proposed development is residential. The movement of cars and pedestrians only relates to activities associated with the residential development (ie. No vehicle movements that are external to the site). The design of the internal access ways will provide a low speed and low volume environment. The location of the footpath adjacent to the access ways is similar in design to a footpath constructed immediately adjacent to a roadway on a public road.

b. Nature of the use. The nature of the use is residential.

c. Number of parking spaces. The proposed development provides a total of 104 on-site car parking spaces. The internal footpaths within the subject site do not conflict with all on-site parking spaces.

d. Frequency of vehicle movements. The peak traffic generation of the proposed development will be 34 vehicles per hour, which equates to an average of slightly more than 1 vehicle movement every two minutes. It is further noted that the nature of the layout internal network will result in not all of this peak traffic being experienced on each access way.

e. Needs of persons with a disability. Not applicable.

f. Location and number of footpath crossings. Footpath crossings have been carefully considered, with the provision of pedestrian zebra crossings.

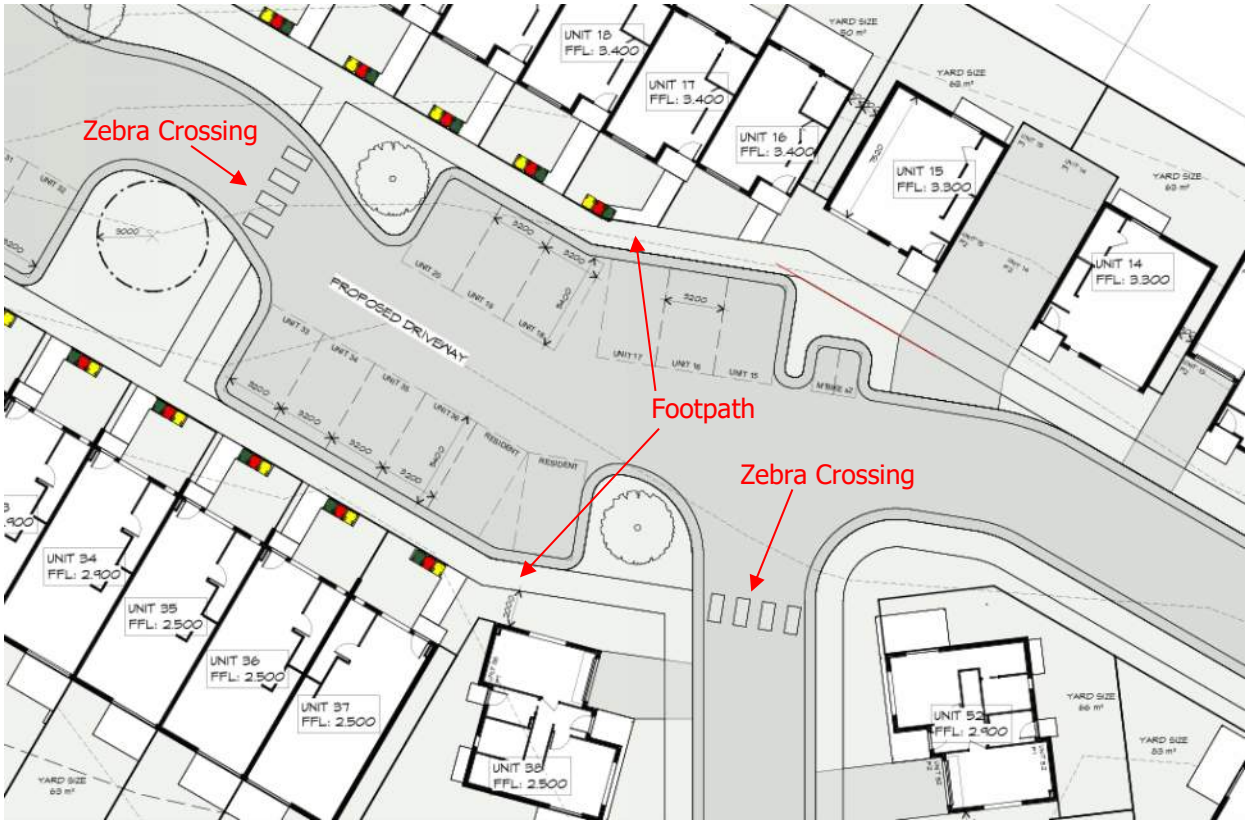
g. Vehicle and pedestrian safety. As noted in (d) above, the peak traffic generation of the proposed development will be 34 vehicles per hour, which equates to an average of slightly more than 1 vehicle movement every two minutes. The traffic volume is therefore considered to be very low, resulting in a low risk of vehicle/ pedestrian conflict within the site.

h. Location of access ways and parking aisles. The layout of the proposed development is relatively simple, consisting of a generally linear arrangement with a small loop access way connection. The layout is logical and easy to interpret for both pedestrians and motorists within the site.

i. Protective devices. No pedestrian protective devices are included in the design.

Based on the above assessment, the development meets the requirements of Performance Criteria P1 of Clause C2.6.5 of the Planning Scheme.

Figure 4 Typical Pedestrian Treatments within Site



4.6 Road Safety Impacts

The proposed development generates a relatively small amount of additional traffic on the surrounding road network (in the order of 34 vehicles per hour during peak times).

No significant adverse road safety impacts are therefore foreseen for the following reasons:

- The existing crash history of Hayfield Place and Gunn Street near the subject site network does not indicate that there are any road safety deficiencies that would be exacerbated by the proposed development (specifically noting that there have not been any crashes near the subject site in the past five years).
- The traffic generation of the proposed development is considered to be very low (in the order of 34 vehicles per hour during peak periods), and therefore will not alter the level of service of any

part of the transport network. No significant road safety impacts are likely to result without a corresponding deterioration in the network's level of service.

- The site access is located in a residential low speed environment. All traffic movements into and out of the site are clear and obvious for other road users.

5. Parking Assessment

5.1 Parking Provision

A total of 104 on-site car parking spaces are included. This consists of the following:

- 81 spaces dedicated to units
- 12 shared parking spaces for residents. These spaces a resident parking spaces for households who may have 2 cars but only 1 dedicated parking space.
- 11 visitor parking spaces.

5.2 Empirical Parking Demand

The RMS Guide was utilised for calculating the parking demands associated with the residential unit component of the proposed development. The RMS Guide is a nationally recognised reference for traffic generation and parking demands associated with developments. The use of the RMS Guide has been extensively utilised for Tasmanian developments for many years.

It is common sense that medium-density and high-density housing developments will generate a lower parking demand than an equivalent number of stand-alone dwellings. This is due to the reduced floor area associated with units when compared to standalone dwellings.

The RMS Guide provides recommendations for various types of residential dwelling types. The most applicable to the proposed development are medium-density and high-density residential developments.

The RMS Guide defines medium density as "*A medium density residential flat building is a building containing at least 2 but less than 20 dwellings. This includes villas, town houses, flats, semi-detached houses, terrace or row houses and other medium density developments*".

High-density is defined in the RMS Guide as "*A high density residential flat building refers to a building containing 20 or more dwellings. This does not include aged or disabled persons' housing. High density residential flat buildings are usually more than five levels, have basement level car parking and are located in close proximity to public transport services. The building may contain a component of commercial use*".

In this case the development comprises of 56 residential units that consist of a mix of standalone units and cojoined townhouses. In this regard it doesn't satisfy the definition of medium density housing (ie. Has more than 20 units) but also doesn't satisfy the definition of high-density housing (ie. Units are not contained within a multi-storey building structure).

The proposed development has characteristics that are more closely aligned with the definition of a medium density housing development and as such this has been adopted. The requirements for medium density housing are as follows:

Medium Density Residential Flat Buildings

- 1 space for each unit; plus — 56 spaces
- 1 space for each 5 x 2-bedroom unit; plus — 7.2 spaces
- 1 space for each 2 x 3-bedrom unit; plus — 10.0 spaces
- 1 space per five units for visitor parking — 11.2 spaces
- TOTAL – 85 parking spaces — (rounded up from 84.4 spaces)

The provision of 104 parking spaces therefore satisfies the demands associated with medium density housing.

5.3 Planning Scheme Requirements

The Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme states:

> *"The number of on-site car parking spaces must be no less than the number specified in Table C2.1, excluding if:*
>
> *(a) the site is subject to a parking plan for the area adopted by council, in which case parking provision (spaces or cash-in-lieu) must be in accordance with that plan;*
>
> *(b) the site is contained within a parking precinct plan and subject to Clause C2.7;*
>
> *(c) the site is subject to Clause C2.5.5; or*
>
> *(d) it relates to an intensification of an existing use or development or a change of use where:*
>
> *(i) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is greater than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case no additional on-site car parking is required; or*
>
> *(ii) the number of on-site car parking spaces for the existing use or development specified in Table C2.1 is less than the number of car parking spaces specified in Table C2.1 for the proposed use or development, in which case on-site car parking must be calculated as follows:*
>
> *N = A + (C- B)*
>
> *N = Number of on-site car parking spaces required*
>
> *A = Number of existing on site car parking spaces*
>
> *B = Number of on-site car parking spaces required for the existing use or development specified in Table C2.1*
>
> *C= Number of on-site car parking spaces required for the proposed use or development specified in Table C2.1".*

In this case, sub-points (a), (b), (c), and (d) are not applicable. The parking requirements of Table C2.1 are 2 spaces per unit (2 & 3 bedroom units) plus 1 space per 3 units visitor parking (the development is an internal lot). This is a requirement for 131 parking spaces.

The provision of 104 parking spaces therefore does not satisfy the requirements of Acceptable Solution A1 of Clause C2.5.1 of the Planning Scheme.

The Performance Criteria P1.2 of Clause C2.5.1 of the Planning Scheme states:

> *"The number of car parking spaces for dwellings must meet the reasonable needs of the use, having regard to:*
>
> *(a) the nature and intensity of the use and car parking required;*
>
> *(b) the size of the dwelling and the number of bedrooms; and*
>
> *(c) the pattern of parking in the surrounding area".*

The following is relevant with respect to the proposed development:

a. Nature and intensity of use. The development is a medium density residential development, as such the parking demands will be lower than a subdivision that contains individual lots associated with each dwelling. The empirical parking demand based on the RMS Guide indicates that a parking demand of 85 spaces is likely to be required. The provision of 104 spaces exceeds this amount by a comfortable margin.

b. Size of dwellings and number of bedrooms. The dwellings vary in size between 80m^2 to 150m^2 and the number of bedrooms varies between 2 and 3. The units are therefore relatively small and the corresponding car parking demands will therefore be low compared to standalone residential dwellings.

c. Pattern of parking in surrounding area. The subject site is located in a residential urban area. Site investigations indicate that on-street parking does not appear to be in high demand. On-street parking demands in the surrounding area are predominantly associated with residential land use, with no competing commercial, educational or other land uses located nearby. There is on-street parking available within a reasonable walking distance from the site in the surrounding network (Gunn Street, Eddington Street and Nielsen Esplanade) if required.

Based on the above assessment the parking provision satisfies the requirements of Performance Criteria P1.2 of Clause C2.5.1 of the Planning Scheme.

5.4 Car Parking Layout

The Acceptable Solution A1.1 of Clause C2.6.2 of the Planning Scheme states:

"Parking, access ways, manoeuvring and circulation spaces must either:

(a) comply with the following:

(i) have a gradient in accordance with Australian Standard AS 2890 - Parking facilities, Parts 1-6;

(ii) provide for vehicles to enter and exit the site in a forward direction where providing for more than 4 parking spaces;

(iii) have an access width not less than the requirements in Table C2.2;

(iv) have car parking space dimensions which satisfy the requirements in Table C2.3;

(v) have a combined access and manoeuvring width adjacent to parking spaces not less than the requirements in Table C2.3 where there are 3 or more car parking spaces;

(vi) have a vertical clearance of not less than 2.1m above the parking surface level; and

(vii) excluding a single dwelling, be delineated by line marking or other clear physical means; or

(b) comply with Australian Standard AS 2890- Parking facilities, Parts 1-6".

The car parking was assessed against Australian Standards, AS2890.1 (noting that AS2890 Parts 2 to 6 are not relevant to the development). The assessment is provided in the following sections.

5.4.1 Parking Space Dimensions

Australian Standards, AS2890.1, requires the following minimum dimensions for User Class 1A[1]:

- Space width 2.4 metres
- Space length 5.4 metres
- Aisle width 5.8 metres

All car parking spaces comply with AS2890.1 requirements.

5.4.2 Driveway Slope

Section 2.5.3(b) of AS2890.1 states the following regarding the maximum grade of straight ramps:

i. Longer than 20 m – 1 in 5 (20%) maximum.

[1] AS2890.1, User Class 1A:

ii. Up to 20 m long – 1 in 4 (25%) maximum. The allowable 20 m maximum length shall include any parts of the grade change transitions at each end that exceed 1 in 5 (20%).

All slopes of driveway long sections are less than 20%, thereby complying with the requirements of AS2890.1.

5.4.3 Parking Space Grade

Section 2.4.6 of AS2890.1 states that the maximum grades within a car park shall be:

- Measured parallel to the angle of parking 1 in 20 (5%)
- Measured in any other direction 1 in 16 (6.25%)

All parking spaces comply with these grade requirements.

5.4.4 Driveway Width

AS2890.1 defines the access as 'Category 2' access facility (Class 1A[2] parking with between 101 to 300 spaces fronting onto a local road). The AS2890.1 minimum driveway width requirement is 6.0 metres. The available width complies with this requirement.

Section 3.2.2 of AS2890.1 states "*where the circulation roadway leading from a Category 1 access driveway is 30 m or longer, or sight distance from one end to the other is restricted, and the frontage road is an arterial or subarterial road, both the access driveway and the circulation roadway for at least the first 6 m from the property boundary shall be a minimum of 5.5 m wide*".

In this case, the driveway is greater than 30 metres in length but the sight distance along the full length of the driveway is generally unrestricted. The minimum width within the first 6 metres from the property boundary is 6 metres. The requirements of Clause 3.2.2 of AS2890.1 are therefore met.

5.4.5 AS2890.1 Assessment Summary

The parking spaces, manoeuvring and driveway area comply with the requirements of AS2890.1 and therefore comply with Acceptable Solution A1.1(b) of Clause C2.6.2 of the Planning Scheme.

[2] AS2890.1 defines Class 1A as "residential, domestic and employee parking".

6. Conclusions

This traffic impact assessment (TIA) investigated the traffic and parking impacts of a proposed residential development with 56 units at 1 Hayfield Place, Bridgewater.

The key findings of the TIA are summarised as follows:

- The traffic generation of the development is likely to be 336 vehicles per day with a peak generation of 34 vehicles per hour at the site's access on Hayfield Place.
- The traffic generation at the accesses will not have any significant adverse impacts on traffic efficiency or road safety. The development meets the requirements of Performance Criteria P1 of Clause C3.5.1 of the Planning Scheme.
- The pedestrian infrastructure within the proposed development satisfies the requirements of Performance Criteria P1 of Clause C2.6.5 of the Planning Scheme.
- The on-site car parking provision of 104 spaces satisfies the likely demands associated with the medium-density residential development, and satisfies the requirements of Performance Criteria P1.2 of Clause C2.5.1 of the Planning Scheme.
- The car parking layout meets the requirements of Australian Standards, AS2890.1 in terms of dimensions, layout and grade. The parking layout therefore complies with the requirements of Acceptable Solution A1.1(b) of Clause C2.6.2 of the Planning Scheme.

Based on the findings of this report and subject to the recommendations above, the proposed development is supported on traffic grounds.

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