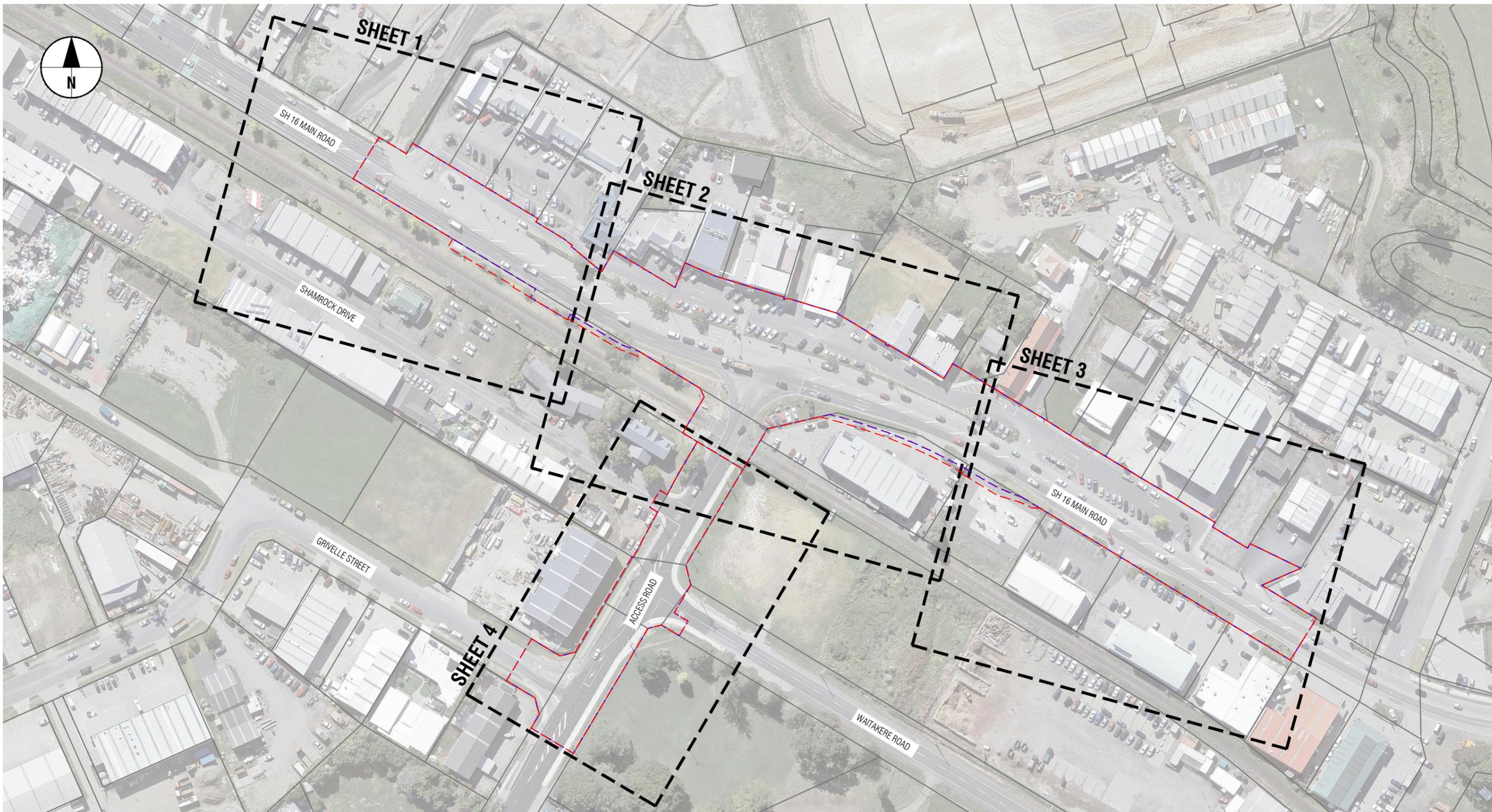


DETAILED DESIGN DRAWINGS

HUAPAI SHA TRANSPORTATION IMPROVEMENTS

SH16 / ACCESS ROAD WIDENING

P:\Projects\60569454-SHT-2000-RD-0001.dwg



ORIGINAL SIZE A1

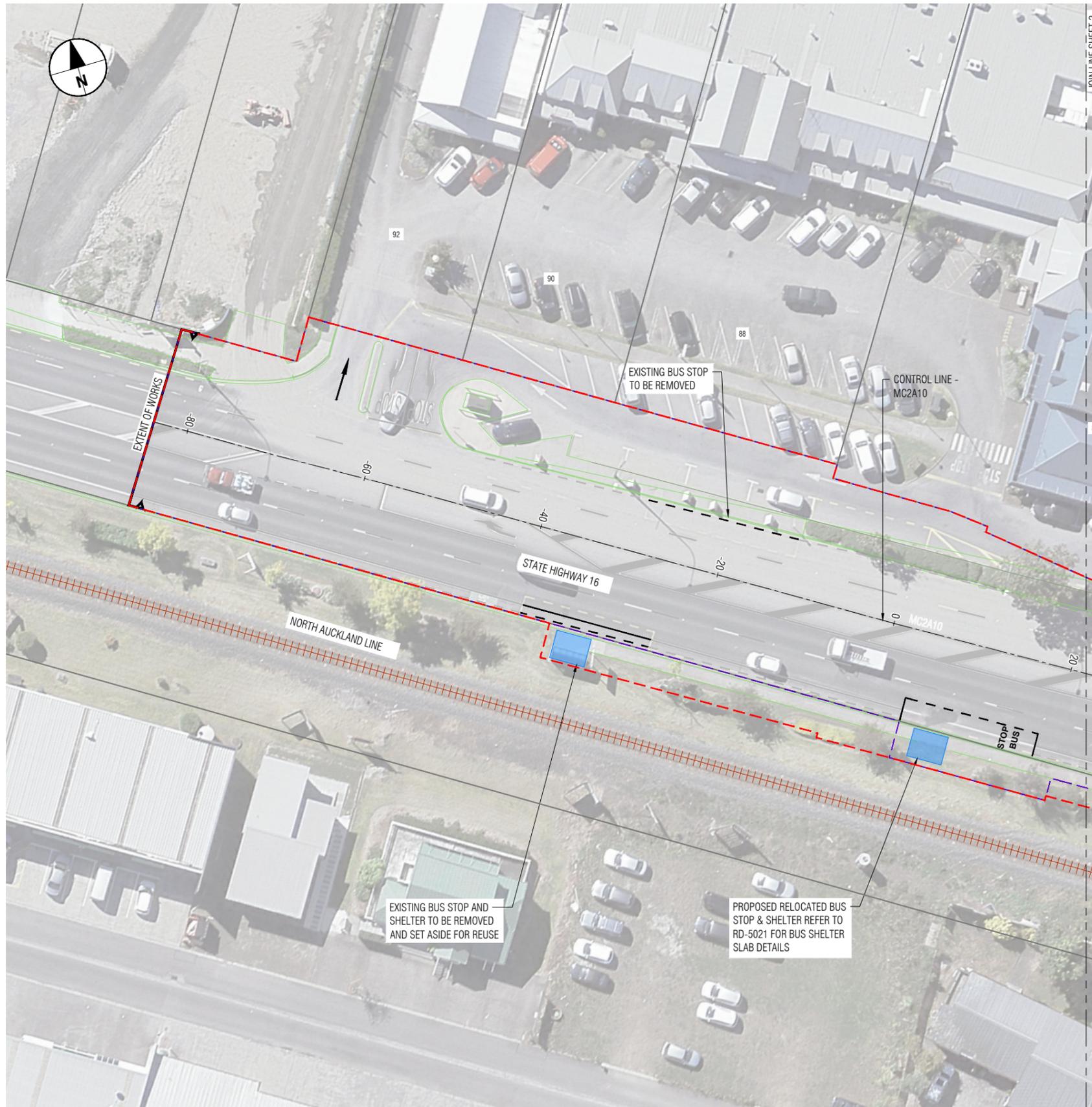
| REV | DESCRIPTION | APPRO | DATE |
|-----|--------------------|-------|------------|
| B | ISSUED FOR CONSENT | KN | 07.04.2021 |
| A | FOR CLIENT REVIEW | KN | 18.12.2020 |

| | SURVEYED | N/A | N/A |
|--|---------------|----------------|------------|
| | DRAWN | J. ZHOU | 18.12.2020 |
| | DRAWING CHECK | R. KRUTHIVENTY | 18.12.2020 |
| | DESIGN | B. VARGHESE | 18.12.2020 |
| | DESIGN CHECK | S. OUYANG | 18.12.2020 |
| | APPROVED | K. NGUYEN | 18.12.2020 |



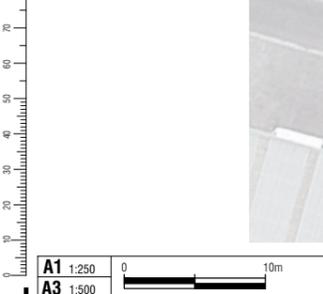
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|----------------|--|
| Project: | HUAPAI SHA TRANSPORTATION IMPROVEMENTS |
| Drawing Title: | SH16 / ACCESS ROAD WIDENING SHEET LAYOUT PLAN |

| | | | |
|-----------------|---------------------------|------------|--------|
| Drawing Status: | ISSUED FOR CONSENT | | |
| Drawing Date: | 07.04.2021 | | |
| A1 Scales: | N.T.S. | A3 Scales: | N.T.S. |
| Drawing No: | 60569454-SHT-2000-RD-0001 | | |
| Revision: | B | | |



- LEGEND:**
- NEW ROAD MARKING
 - EXISTING ROAD MARKING
 - EXISTING PROPERTY BOUNDARY
 - - - CONSTRUCTION BOUNDARY
 - - - DESIGNATION BOUNDARY
 - SURVEY INFORMATION
 - + — CONTROL LINE
 - [Pattern] NEW FOOTPATH
 - [Pattern] CYCLE RAMP
 - [Pattern] TACTILE PAVING
 - [Pattern] PRAM CROSSING
 - [Pattern] EXISTING RAILWAY LINE
 - [Pattern] NEW KIWI RAIL PEDESTRIAN MAZE (DESIGNED AND CONSTRUCTED BY OTHERS)
 - [Pattern] RAISED CONCRETE ISLAND
 - [Pattern] GREEN CYCLE SURFACING
 - [Pattern] REGRADED ACCESS
 - [Pattern] RAISED TABLE
 - [Pattern] BUS SHELTER
 - [Pattern] BERM PLANTING
 - [Pattern] RAINGARDEN PLANTING
 - [Pattern] CHORUS CHAMBER EXTENSION
 - [Pattern] FENCE (TYPE E)
 - [Pattern] RETAINING WALL
 - [Pattern] SPEED HUMP
 - [Pattern] SLOTTED KERB

- NOTES:**
1. FOR GENERAL NOTES AND SPECIFICATIONS REFER TO 60569454-SHT-2000-RD-0011.
 2. REFER TO THE STORMWATER DRAWING SERIES FOR ACO DRAIN TYPE.



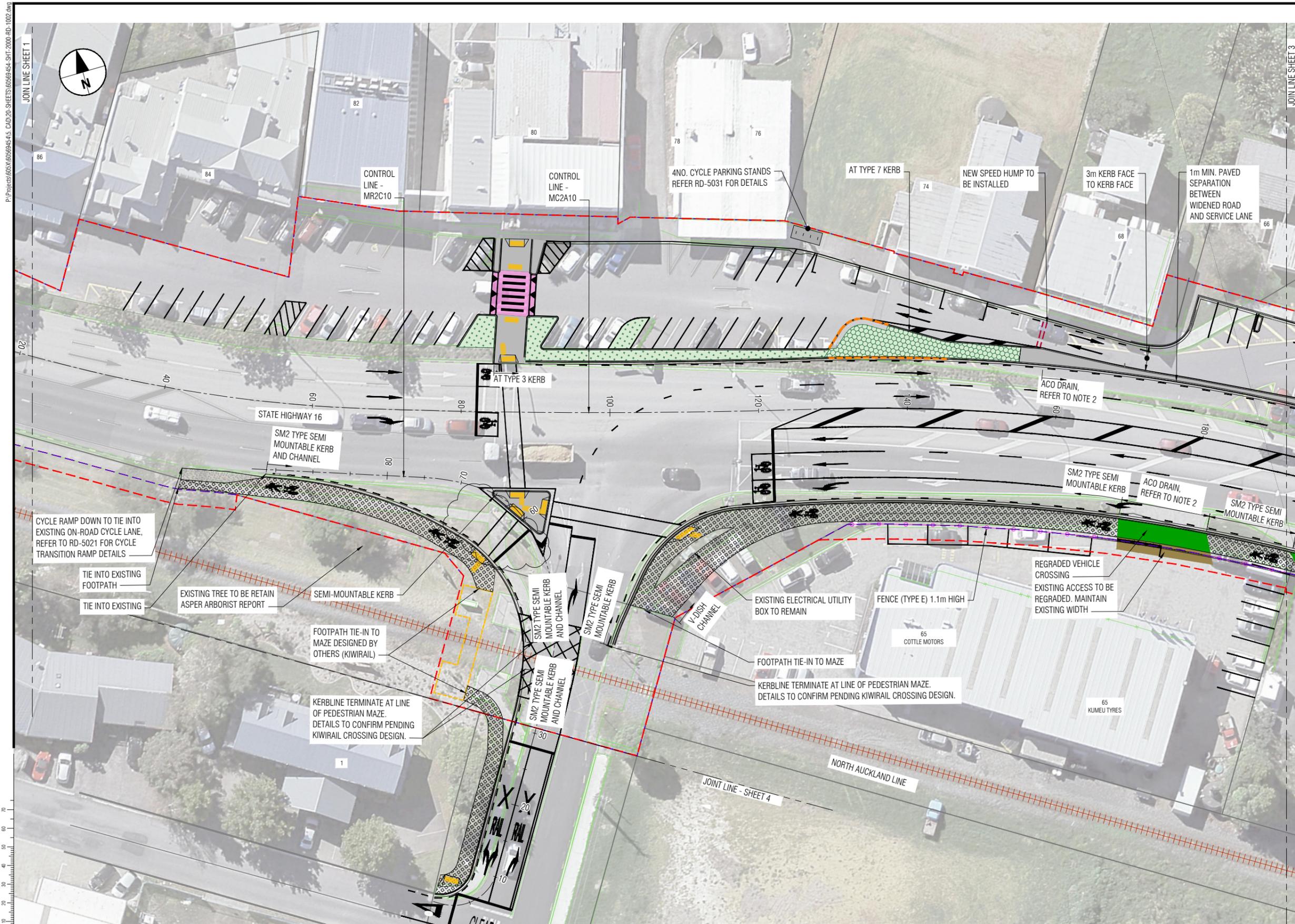
| REV | DESCRIPTION | APPD | DATE | APPROVED | DATE |
|-----|-----------------------|------|------------|----------------|------------|
| H | ISSUED FOR CONSENT | KN | 07.04.2021 | N/A | N/A |
| G | FOR CLIENT REVIEW | KN | 18.12.2020 | J. ZHOU | 18.12.2020 |
| F | REVISED FOR TENDER | RK | 20.05.2020 | R. KRUTHIVENTY | 18.12.2020 |
| E | REVISED FOR TENDER | RK | 05.02.2020 | A. RAJAN | 18.12.2020 |
| D | ISSUED FOR TENDER | SK | 08.03.2019 | S. OUYANG | 18.12.2020 |
| C | FOR RESOURCE CONSENT | SK | 15.02.2019 | K. NGUYEN | 18.12.2020 |
| B | RE-ISSUED FOR CONSENT | SK | 14.11.2018 | | |
| A | ISSUED FOR CONSENT | SK | 31.10.2018 | | |



Project: HUAPAI SHA TRANSPORTATION IMPROVEMENTS
 Drawing Title: SH16 / ACCESS ROAD WIDENING
 GENERAL ARRANGEMENT PLAN
 SHEET 1

| | | | |
|--|-------|-----------|--------------------|
| Drawing Status: ISSUED FOR CONSENT | | | |
| Drawing Date: 07.04.2021 | | | |
| A1 Scales | 1:250 | A3 Scales | 1:500 |
| Contract Number: 60569454-SHT-2000-RD-1001 | | | |
| Drawing No. 60569454-SHT-2000-RD-1001 | | | Revision: H |

P:\Projects\60569454-SHT-2000-RD-1002.dwg



- LEGEND:**
- NEW ROAD MARKING
 - EXISTING ROAD MARKING
 - EXISTING PROPERTY BOUNDARY
 - - - CONSTRUCTION BOUNDARY
 - - - DESIGNATION BOUNDARY
 - - - SURVEY INFORMATION
 - + — CONTROL LINE

- NEW FOOTPATH
- CYCLE RAMP
- TACTILE PAVING
- PRAM CROSSING
- EXISTING RAILWAY LINE
- NEW KIWIRAIL PEDESTRIAN MAZE (DESIGNED AND CONSTRUCTED BY OTHERS)
- RAISED CONCRETE ISLAND
- GREEN CYCLE SURFACING
- REGRADED ACCESS
- RAISED TABLE
- BUS SHELTER
- BERM PLANTING
- RAINGARDEN PLANTING
- CHORUS CHAMBER EXTENSION
- FENCE (TYPE E)
- RETAINING WALL
- SPEED HUMP
- SLOTTED KERB

- NOTES:**
1. FOR GENERAL NOTES AND SPECIFICATIONS REFER TO 60569454-SHT-2000-RD-0011.
 2. REFER TO THE STORMWATER DRAWING SERIES FOR ACO DRAIN TYPE.

A1 1:250
A3 1:500

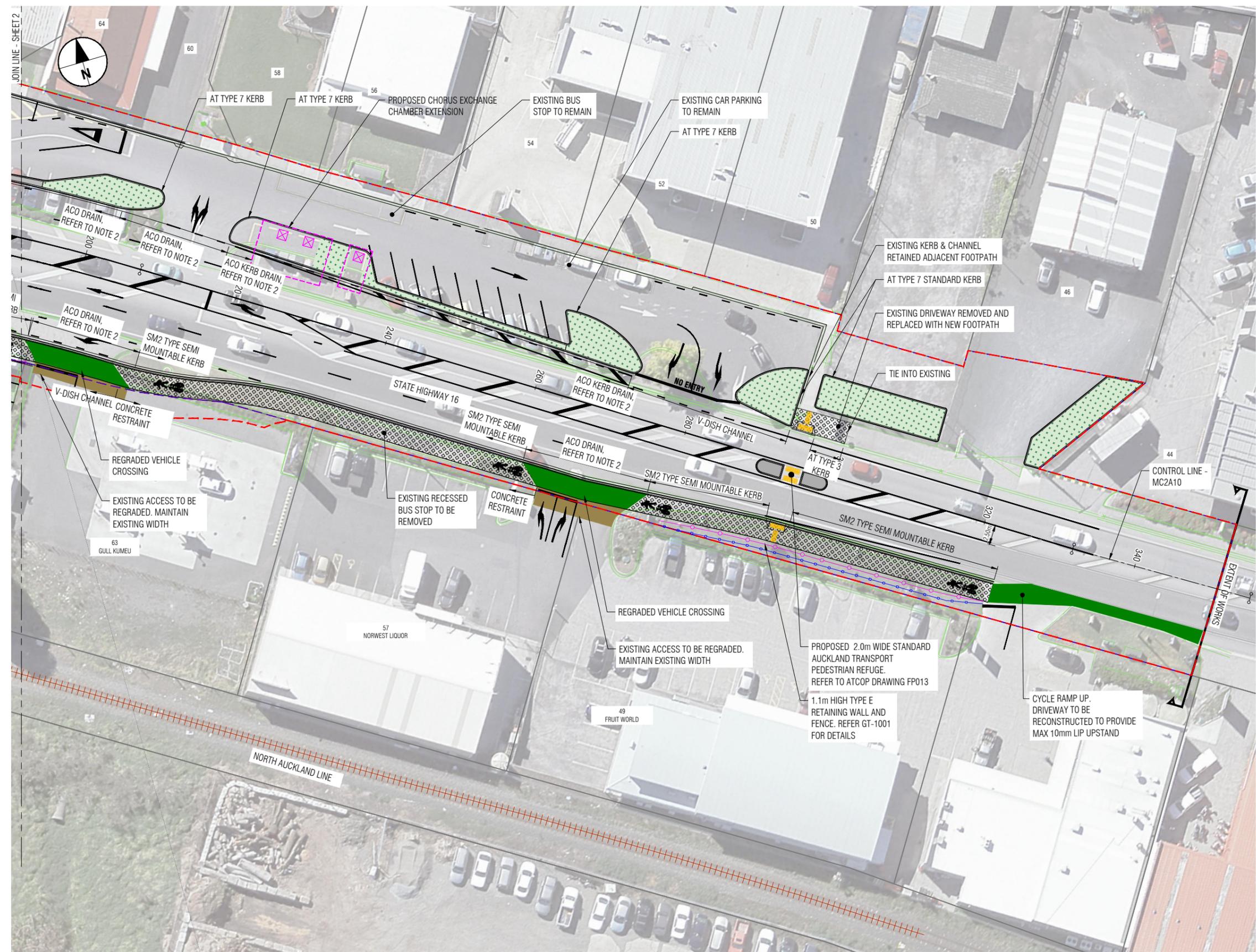
| REV | DESCRIPTION | APPD | DATE | APPROVED | DATE |
|-----|-----------------------|------|------------|----------------|------------|
| K | ISSUED FOR CONSENT | KN | 07.04.2021 | N/A | N/A |
| J | FOR CLIENT REVIEW | KN | 18.12.2020 | J. ZHOU | 18.12.2020 |
| I | REVISED FOR TENDER | RK | 20.05.2020 | R. KRUTHIVENTY | 18.12.2020 |
| H | REVISED FOR TENDER | RK | 05.02.2020 | A. RAJAN | 18.12.2020 |
| G | ISSUED FOR TENDER | SK | 08.03.2019 | A. RAJAN | 18.12.2020 |
| F | FOR RESOURCE CONSENT | SK | 15.02.2019 | S. OUYANG | 18.12.2020 |
| E | RE-ISSUED FOR CONSENT | SK | 14.11.2018 | S. OUYANG | 18.12.2020 |
| D | ISSUED FOR CONSENT | SK | 31.10.2018 | K. NGUYEN | 18.12.2020 |



Project: HUAPAI SHA TRANSPORTATION IMPROVEMENTS
 Drawing Title: SH16 / ACCESS ROAD WIDENING
 GENERAL ARRANGEMENT PLAN
 SHEET 2

| | | | |
|--|-------|-----------|--------------------|
| Drawing Status: ISSUED FOR CONSENT | | | |
| Drawing Date: 07.04.2021 | | | |
| A1 Scales | 1:250 | A3 Scales | 1:500 |
| Contract Number: 60569454-SHT-2000-RD-1002 | | | |
| Drawing No: | | | Revision: K |

P:\Projects\60569454-SHT-2000-RD-1003.dwg



- LEGEND:**
- NEW ROAD MARKING
 - EXISTING ROAD MARKING
 - EXISTING PROPERTY BOUNDARY
 - - - CONSTRUCTION BOUNDARY
 - - - DESIGNATION BOUNDARY
 - SURVEY INFORMATION
 - + — CONTROL LINE
 - [Pattern] NEW FOOTPATH
 - [Pattern] CYCLE RAMP
 - [Pattern] TACTILE PAVING
 - [Pattern] PRAM CROSSING
 - [Pattern] EXISTING RAILWAY LINE
 - [Pattern] NEW KIWI RAIL PEDESTRIAN MAZE (DESIGNED AND CONSTRUCTED BY OTHERS)
 - [Pattern] RAISED CONCRETE ISLAND
 - [Pattern] GREEN CYCLE SURFACING
 - [Pattern] REGRADED ACCESS
 - [Pattern] RAISED TABLE
 - [Pattern] BUS SHELTER
 - [Pattern] BERM PLANTING
 - [Pattern] RAINGARDEN PLANTING
 - [Pattern] CHORUS CHAMBER EXTENSION
 - [Pattern] FENCE (TYPE E)
 - [Pattern] RETAINING WALL
 - [Pattern] SPEED HUMPS
 - [Pattern] SLOTTED KERB

- NOTES:**
- FOR GENERAL NOTES AND SPECIFICATIONS REFER TO 60569454-SHT-2000-RD-0011.
 - REFER TO THE STORMWATER DRAWING SERIES FOR ACO DRAIN TYPE.

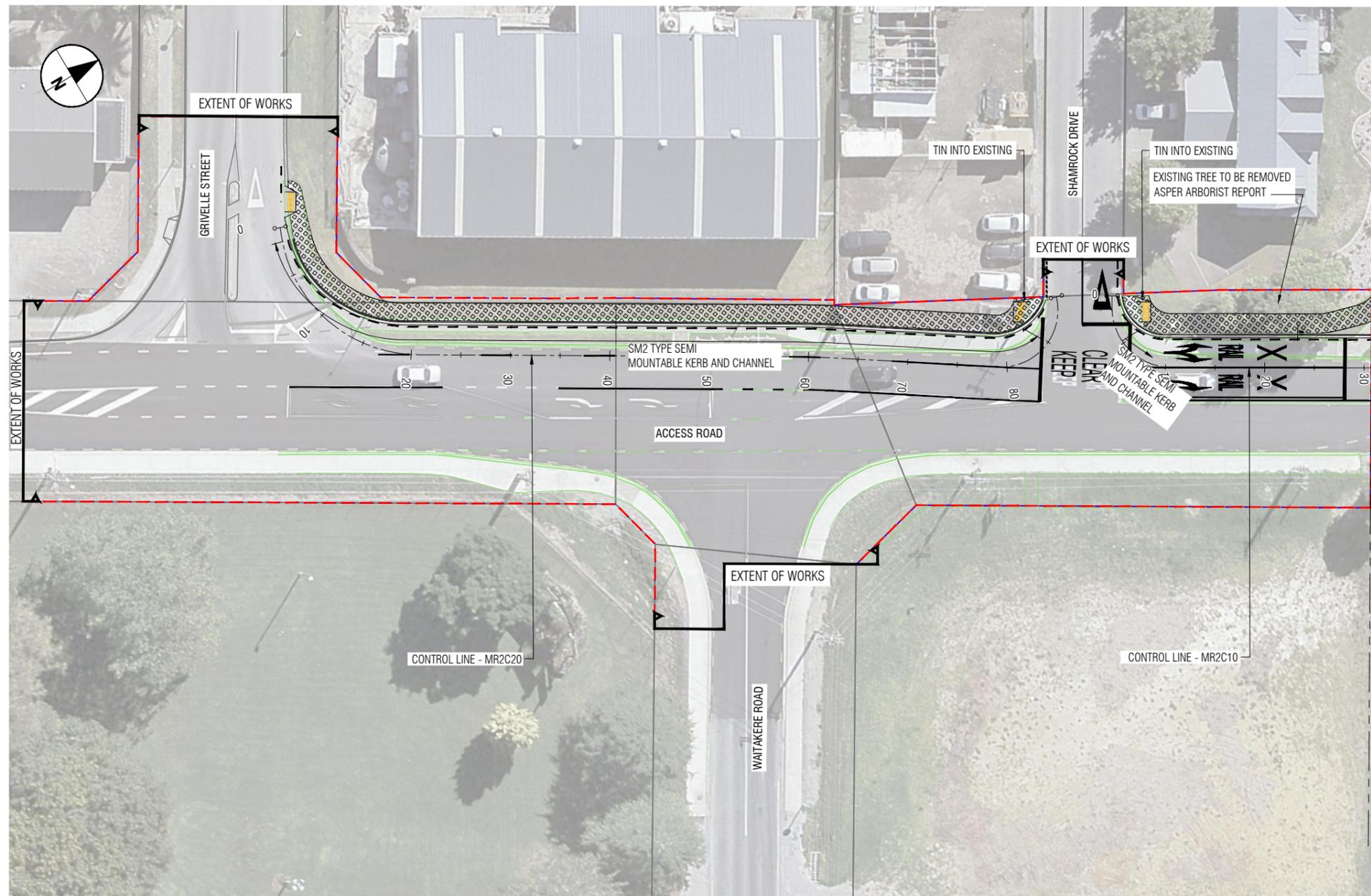
A1 1:250
A3 1:500

| REV | DESCRIPTION | APPD | DATE | APPROVED | DATE |
|-----|-----------------------|------|------------|----------------|------------|
| K | ISSUED FOR CONSENT | KN | 07.04.2021 | N/A | N/A |
| J | FOR CLIENT REVIEW | KN | 18.12.2020 | J. ZHOU | 18.12.2020 |
| I | REVISED FOR TENDER | RK | 20.05.2020 | R. KRUTHIVENTY | 18.12.2020 |
| H | REVISED FOR TENDER | RK | 05.02.2020 | A. RAJAN | 18.12.2020 |
| G | ISSUED FOR TENDER | SK | 08.03.2019 | S. OUYANG | 18.12.2020 |
| F | FOR RESOURCE CONSENT | SK | 15.02.2019 | S. OUYANG | 18.12.2020 |
| E | RE-ISSUED FOR CONSENT | SK | 14.11.2018 | K. NGUYEN | 18.12.2020 |
| D | ISSUED FOR CONSENT | SK | 31.10.2018 | K. NGUYEN | 18.12.2020 |



Project: HUAPAI SHA TRANSPORTATION IMPROVEMENTS
 Drawing Title: SH16 / ACCESS ROAD WIDENING
 GENERAL ARRANGEMENT PLAN
 SHEET 3

| | | | |
|--|-------|-----------|--------------------|
| Drawing Status: ISSUED FOR CONSENT | | | |
| Drawing Date: 07.04.2021 | | | |
| A1 Scales | 1:250 | A3 Scales | 1:500 |
| Contract Number: 60569454-SHT-2000-RD-1003 | | | |
| Drawing No. 60569454-SHT-2000-RD-1003 | | | Revision: K |

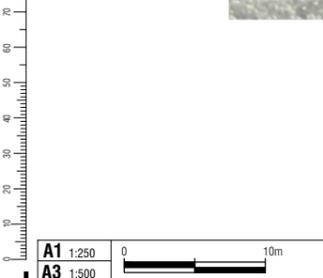


LEGEND:

- NEW ROAD MARKING
- EXISTING ROAD MARKING
- EXISTING PROPERTY BOUNDARY
- CONSTRUCTION BOUNDARY
- DESIGNATION BOUNDARY
- SURVEY INFORMATION
- CONTROL LINE
- NEW FOOTPATH
- CYCLE RAMP
- TACTILE PAVING
- PRAM CROSSING
- EXISTING RAILWAY LINE
- NEW KIWI RAIL PEDESTRIAN MAZE (DESIGNED AND CONSTRUCTED BY OTHERS)
- RAISED CONCRETE ISLAND
- GREEN CYCLE SURFACING
- REGRADED ACCESS
- RAISED TABLE
- BUS SHELTER
- BERM PLANTING
- RAINGARDEN PLANTING
- CHORUS CHAMBER EXTENSION
- FENCE (TYPE E)
- RETAINING WALL
- SPEED HUMP
- SLOTTED KERB

NOTES:

1. FOR GENERAL NOTES AND SPECIFICATIONS REFER TO 60569454-SHT-2000-RD-0011.
2. REFER TO THE STORMWATER DRAWING SERIES FOR ACO DRAIN TYPE.

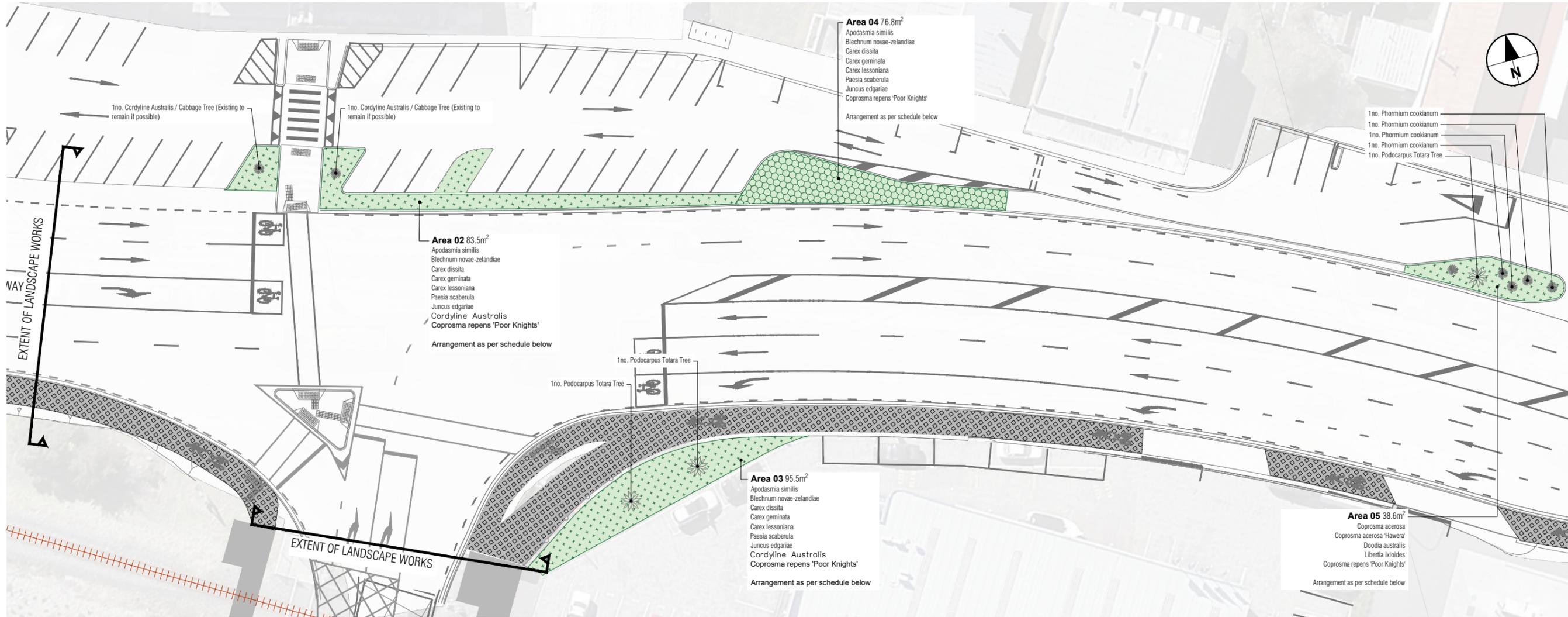


| REV | DESCRIPTION | APPD | DATE | SURVEYED | DRAWN | DRAWING CHECK | DESIGN | DESIGN CHECK | APPROVED |
|-----|----------------------|------|------------|----------|---------|----------------|----------|--------------|-----------|
| | | | | N/A | J. ZHOU | R. KRUTHIVENTY | A. RAJAN | S. OUYANG | K. NGUYEN |
| | | | | N/A | | | | | |
| C | ISSUED FOR CONSENT | KN | 07.04.2021 | | | | | | |
| B | FOR CLIENT REVIEW | KN | 18.12.2020 | | | | | | |
| A | FOR KIWI RAIL REVIEW | KN | 18.11.2020 | | | | | | |



Project: HUAPAI SHA TRANSPORTATION IMPROVEMENTS
 Drawing Title: SH16 / ACCESS ROAD WIDENING
 GENERAL ARRANGEMENT PLAN
 SHEET 4

| | | | |
|--|-------|-----------|--------------------|
| ISSUED FOR CONSENT | | | |
| Drawing Date: 07.04.2021 | | | |
| A1 Scales | 1:250 | A3 Scales | 1:500 |
| Contract Number: 60569454-SHT-2000-RD-1004 | | | |
| Drawing No. 60569454-SHT-2000-RD-1004 | | | Revision: C |



LANDSCAPE PLANTING PLAN
 Scale 1:200

- LEGEND:**
- BERM PLANTING
 - RAINGARDEN PLANTING
 - SPECIMEN SHRUB
 - SPECIMEN TREE
 - NEW FOOTPATH

NOTES:

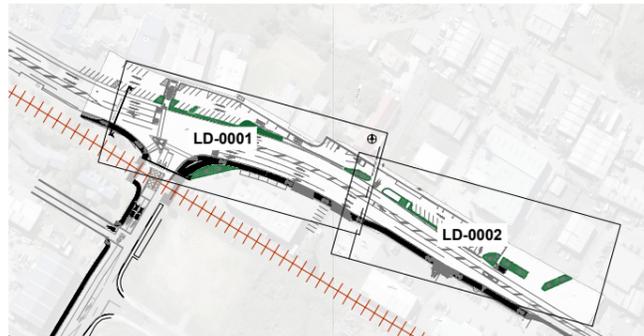
1. REFER TO DRAWING 60569454-SHT-2000-RD-0011 FOR GENERAL NOTES.
2. REFER TO DRAWING 60569454-SHT-2000-DR-4001 FOR RAIN GARDEN TYPICAL DETAIL.
3. REFER TO DRAWING SERIES 60569454-SHT-2000-RD-1001 TO 60569454-SHT-2000-RD-1004 FOR GENERAL ARRANGEMENT.
4. REFER TO DRAWINGS SERIES 60599454-SHT-2000-UT-1001 TO 60569454-SHT-2000-UT-1004 FOR INDICATIVE LOCATIONS OF EXISTING AND PROPOSED UTILITIES.
5. REFER TO DRAWING SERIES 60569454-SHT-2000-DR-1001 TO 60569454-SHT-2000-DR-1004 FOR STORMWATER INFORMATION.
6. FOR PLANTING SCHEDULE REFER TO 60569454-SHT-2000-LD-1001.
7. FOR PLANTING DETAIL REFER TO 60569454-SHT-2000-LD-1002.
8. TOTARA TREES TO BE PLANTED IN TREE CELLS.
9. FOR FURTHER PLANTING REQUIREMENTS REFER TO PROJECT SPECIFICATION (TBC).

Berm planting

| Botanical name | Common name | Height (mm) | Size (L) | Spacing (mm) | Total | Arrangement |
|---------------------------------------|----------------|-------------|----------|--------------|-------|---|
| <i>Coprosma acerosa</i> | Tarakupenga | 300 | 3L | 600 | 108 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |
| <i>Coprosma acerosa 'Hawera'</i> | Green coprosma | 300 | 3L | 500 | 156 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |
| <i>Coprosma repens 'Poor Knights'</i> | Taupata | 600 | 3L | 600 | 108 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |
| <i>Doodia australis</i> | Pukupuku | 300 | 3L | 600 | 108 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |
| <i>Libertia ixioides</i> | Mikoikoi | 600 | 3L | 400 | 203 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |

Rain Gardens

| Botanical name | Common name | Height (mm) | Size (L) | Spacing (mm) | Total | Arrangement |
|---------------------------------|-----------------------------|-------------|----------|--------------|-------|---|
| <i>Apodasmia similis</i> | Oioi | 1000 | 3L | 600 | 24 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |
| <i>Blechnum novae-zelandiae</i> | Kioikio | 1000 | 3L | 1500 | 4 | Plant in groups of 3(min)-7(max), plant at least 1500mm from edge of kerb |
| <i>Carex dissita</i> | Purei | 800 | 3L | 500 | 35 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |
| <i>Carex geminata</i> | Cutty grass | 500 | 3L | 1000 | 9 | Plant in groups of 3(min)-21(max), plant at least 500mm from edge of kerb |
| <i>Carex lessoniana</i> | Spreading swamp sedge | 1000 | 3L | 1500 | 4 | Plant in groups of 3(min)-7(max), plant at least 1500mm from edge of kerb |
| <i>Paesia scaberula</i> | Scented fern | 400 | 3L | 1500 | 4 | Plant in groups of 3(min)-7(max), plant at least 1500mm from edge of kerb |
| <i>Cordyline australis</i> | Cabbage tree | 10000 | 3L | n/a | 11 | Plant as shown |
| <i>Juncus edgariae</i> | Wiwī | 1500 | 3L | 1000 | 9 | Plant in groups of 3(min)-7(max), plant at least 1500mm from edge of kerb |
| <i>Phormium cookianum</i> | Wharariki, NZ Mountain Flax | 1500 | 3L | 1000 | 17 | Plant as shown |



LOCATION PLAN
 Scale 1:2000

PLANT SCHEDULE



ORIGINAL SIZE A1

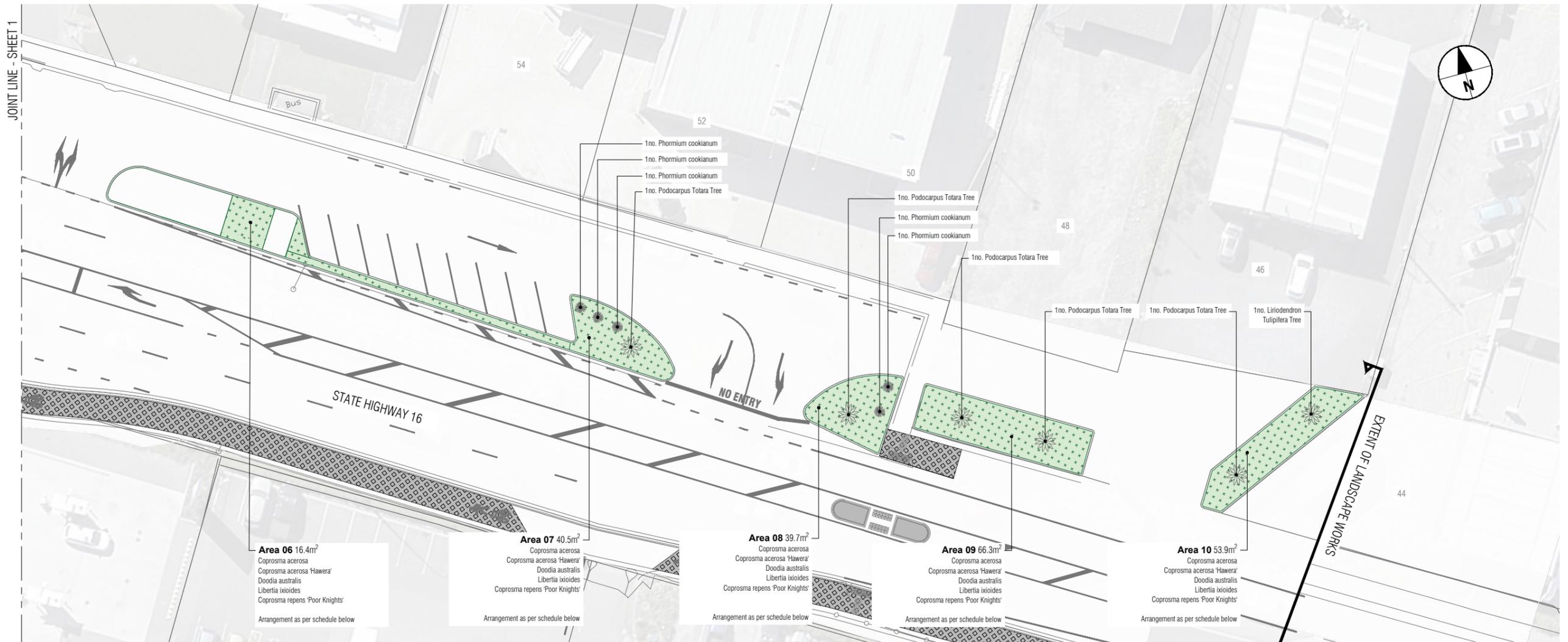
| REV | DESCRIPTION | APPD | DATE |
|-----|-------------------------|------|------------|
| G | ISSUED FOR CONSENT | KN | 07.04.2021 |
| F | FOR CLIENT REVIEW | KN | 18.12.2020 |
| E | REVISED FOR TENDER | SK | 20.05.2020 |
| D | ISSUED FOR TENDER | SK | 08.03.2019 |
| C | ISSUED FOR CONSENT | SK | 14.12.2018 |
| B | ISSUED FOR CONSENT | SK | 26.11.2018 |
| A | ISSUED FOR SAFETY AUDIT | SK | 20.08.2018 |

| SURVEYED | N/A | N/A |
|---------------|------------------|------------|
| DRAWN | J. ZHOU | 18.12.2020 |
| DRAWING CHECK | R. KENDAL | 18.12.2020 |
| DESIGN | WALKER LANDSCAPE | 18.12.2020 |
| DESIGN CHECK | R. KENDAL | 18.12.2020 |
| APPROVED | K. NGUYEN | 18.12.2020 |



Project: HUAPAI SHA TRANSPORTATION IMPROVEMENTS
 Drawing Title: SH16 / ACCESS ROAD WIDENING LANDSCAPE LAYOUT PLAN SHEET 1

| | |
|--|------------------|
| Drawing Status: ISSUED FOR CONSENT | |
| Drawing Date: 07.04.2021 | |
| A1 Scales: 1:200 | A3 Scales: 1:400 |
| Contract Number: 60569454-SHT-2000-LD-1001 | Revision: G |

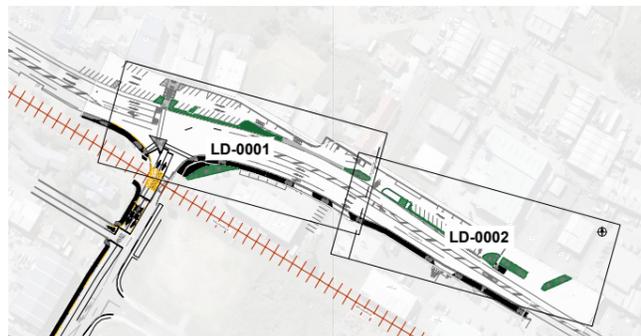


LANDSCAPE PLANTING PLAN
 Scale 1:200

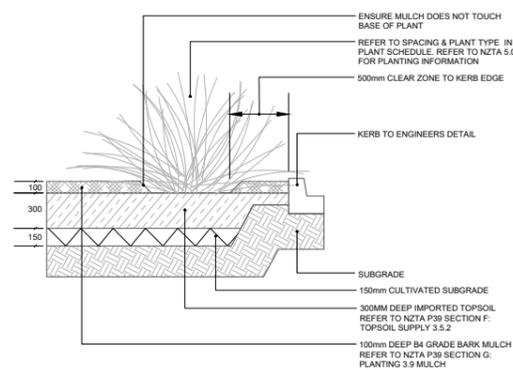
- LEGEND:**
- BERM PLANTING
 - RAINGARDEN PLANTING
 - SPECIMEN SHRUB
 - SPECIMEN TREE
 - NEW FOOTPATH

NOTES:

1. REFER TO DRAWING 60569454-SHT-2000-RD-0011 FOR GENERAL NOTES.
2. REFER TO DRAWING 60569454-SHT-2000-DR-4001 FOR RAIN GARDEN TYPICAL DETAIL.
3. REFER TO DRAWING SERIES 60569454-SHT-2000-RD-1001 TO 60569454-SHT-2000-RD-1004 FOR GENERAL ARRANGEMENT.
4. REFER TO DRAWINGS SERIES 60599454-SHT-2000-UT-1001 TO 60569454-SHT-2000-UT-1004 FOR INDICATIVE LOCATIONS OF EXISTING AND PROPOSED UTILITIES.
5. REFER TO DRAWING SERIES 60569454-SHT-2000-DR-1001 TO 60569454-SHT-2000-DR-1004 FOR STORMWATER INFORMATION.
6. FOR PLANTING SCHEDULE REFER TO 60569454-SHT-2000-LD-1001.
7. FOR PLANTING DETAIL REFER TO 60569454-SHT-2000-LD-1002.
8. TOTARA TREES TO BE PLANTED IN TREE CELLS.
9. FOR FURTHER PLANTING REQUIREMENTS REFER TO PROJECT SPECIFICATION (TBC).



LOCATION PLAN
 Scale 1:2000



TYPICAL BERM PLANTING ADJACENT KERB DETAIL
 Scale 1:30

A1 1:200
 A3 1:400

| | | | |
|-----|-------------------------|------|------------|
| REV | DESCRIPTION | APPD | DATE |
| A | ISSUED FOR SAFETY AUDIT | SK | 20.08.2018 |
| B | ISSUED FOR CONSENT | SK | 26.11.2018 |
| C | ISSUED FOR CONSENT | SK | 14.12.2018 |
| D | ISSUED FOR TENDER | SK | 08.03.2019 |
| E | REVISED FOR TENDER | SK | 20.05.2020 |
| F | FOR CLIENT REVIEW | KN | 18.12.2020 |
| G | ISSUED FOR CONSENT | KN | 07.04.2021 |

| | | |
|---------------|------------------|------------|
| SURVEYED | N/A | N/A |
| DRAWN | J. ZHOU | 18.12.2020 |
| DRAWING CHECK | R. KENDAL | 18.12.2020 |
| DESIGN | WALKER LANDSCAPE | 18.12.2020 |
| DESIGN CHECK | R. KENDAL | 18.12.2020 |
| APPROVED | K. NGUYEN | 18.12.2020 |



Project: HUAPAI SHA TRANSPORTATION IMPROVEMENTS
 Drawing Title: SH16 / ACCESS ROAD WIDENING LANDSCAPE LAYOUT PLAN SHEET 2

| | | | |
|---|-------|-----------|--------------------|
| Drawing Status: ISSUED FOR CONSENT | | | |
| Drawing Date: 07.04.2021 | | | |
| A1 Scales | 1:200 | A3 Scales | 1:400 |
| Contract Number: - | | | |
| Drawing No: 60569454-SHT-2000-LD-1002 | | | Revision: G |