

- 1) All dimensions in mm/s unless otherwise specified.
- 2) BLOCKS:

Block type: MacWall Vertica 4 degree blocks
- 3) INSTALLATION:

Please refer to standard Manufacturer's installation guidelines.
- 4) GEOGRID REINFORCEMENT:

Paragrid 50 geogrid. Grids to be installed at maximum 3 block vertical centres with the bottom geogrid layer to be placed on top of the base Vertica block. Grid lengths to be as shown in sections. Intermediate wall heights to be constructed with grid lengths from the higher section.
- 5) BACKFILL:

Geogrid Sections:

The backfill for the walls shall comprise a selected compacted granular fill material to comply with SFHW Class 6/3. This material is assumed to have the following characteristics: $P_{H1} = 35$ degrees, $\gamma = 19$ kN/m³ and $c' = 0$ kPa. The Contractor is responsible for the selection of this material to ensure compliance with the geotechnical characteristics as shown on the relevant drawings and in the design documents' calculations.
- 6) DRAINAGE:

Geogrid Sections:

Standard Vertica MacWall drainage detail is to be formed behind the facing blocks, as shown on the sections. This is to comprise a 300mm width of free draining aggregate (CLASS 6H) behind the blocks (with block voids filled with same material). A 150mmØ PVC perforated drain pipe should be placed along the full length of the wall at the base of the drainage column. This should be roddable and connected to appropriate site drainage outlet with consent to discharge. Intermediate discharge/rodding points at maximum 40m spacing required to ensure the full length of rear of the wall drainage can be positively drained and maintained. Site drainage is outside the scope of this design.

The installation area must be well drained to provide a stable area of works for the wall installer. The excavated slopes should be checked for any flows or seepage that require drainage measures. Any flows, seepage or standing water must be directed to a suitable outfall as soon as they are encountered. Permanent and maintained site drainage should be installed to ensure the wall remains in a fully drained condition for the design life of the structures. Site drainage is outside the scope of this design. Temporary drainage measures should be installed to direct surface water away from the line of walls and also to prevent "ponding" at the toe/foundation which could cause this to deteriorate and soften over time.

7) FOUNDATION FOR WALL:
To achieve a suitable foundation for the wall, excavation must take place down to the levels indicated on the drawing and allow for the placement of a minimum 300mm deep C20/25 concrete foundation. It must be ensured that competent bearing stratum with a safe bearing resistance of at least 110kPa is present at formation. This must be confirmed by the Principal Contractor via suitable in-situ testing prior to construction.

The Principal Contractor must appoint a geotechnical specialist to inspect and test the ground at proposed formation level to ensure the required safe bearing resistance of 110kPa is achieved. Hand shear vane tests would be suitable for cohesive material or plate load tests carried out to BS1377-9 incremental load test. C4 1.6/4.2 would be suitable for either cohesive or granular material. A minimum 600mm diameter plate should be loaded to at least 300kPa in 50kPa increments.

Construction must not commence until the Contractor has written confirmation from a local geotechnical specialist that the proposed formation level is competent and achieves the required safe bearing resistance.

8) SITE / IN-SITU SOILS:
Foundation (assumed to be original MUDSTONE (angular GRAVEL or stiff CLAY); this material is assumed to have the following minimum properties: $\phi_{H1} = 32^\circ$, $\gamma = 22$ kN/m³ & $c' = 0$ kPa

Retained (assumed to be stiff sandy CLAY or MUDSTONE or Class 1/2C upfill); this material is assumed to have the following minimum properties: $\phi_{H1} = 30^\circ$, $\gamma = 20$ kN/m³ & $c' = 0$ kPa

The Principal Contractor is responsible for ensuring the in-situ soils comply with the geotechnical characteristics as shown on the relevant drawings and in the design calculations.

No testing has been undertaken as part of the Lithos Consulting for Fenay Bridge, Report No: 026/4526/AG, (April 25). We recommend additional intrusive investigation of the soils present at and below formation level of the proposed wall is undertaken prior to construction. Representative soil samples must be recovered for geotechnical testing. This should include particle size distribution testing, shear box testing (granular soils) and/or plasticity testing (cohesive soils).

9) TYPICAL FRONT FACE STEP:
Face angle = 4°

10) TEMPORARY EXCAVATION
Temporary excavations in granular material can fail rapidly and without warning. The Principal Contractor should consider excavation and construction in short lengths and/or temporary propping to ensure a safe working environment is provided. Temporary stability and design of any temporary works are outside the scope of this design and must be ensured by the Principal Contractor/ Designer.

The Principal Designer / Principal Contractor must also ensure that the temporary excavation works do not destabilise any existing roads, services or structures.

11) HEAVY CONSTRUCTION TRAFFIC OPERATING CLOSE TO THE WALL
It should be ensured that the face batter is not compromised by the use of heavy compaction plant machinery too close to the front face of the MacWalls. If construction plant is to traffic the crest area of the walls, a suitable haul road design must be undertaken and be set back an adequate distance from the rear of the walls (designed by others). If construction plant operates on the unprotected retained material, bulging of the wall may occur.

12) PEDESTRIAN BARRIER
We have been advised that a maximum 1.8m high fence (designed and detailed by others) is to be installed behind the MacWall. Fence posts are to be placed in minimum 1.2m long, 0.3mØ sleeves installed within the MacWall. The sleeves are to be fully infilled with concrete. Design and details are to be confirmed by the Client's Consulting Engineer. If the proposed fence is higher than 1.8m then the post foundation details will need to be revised.

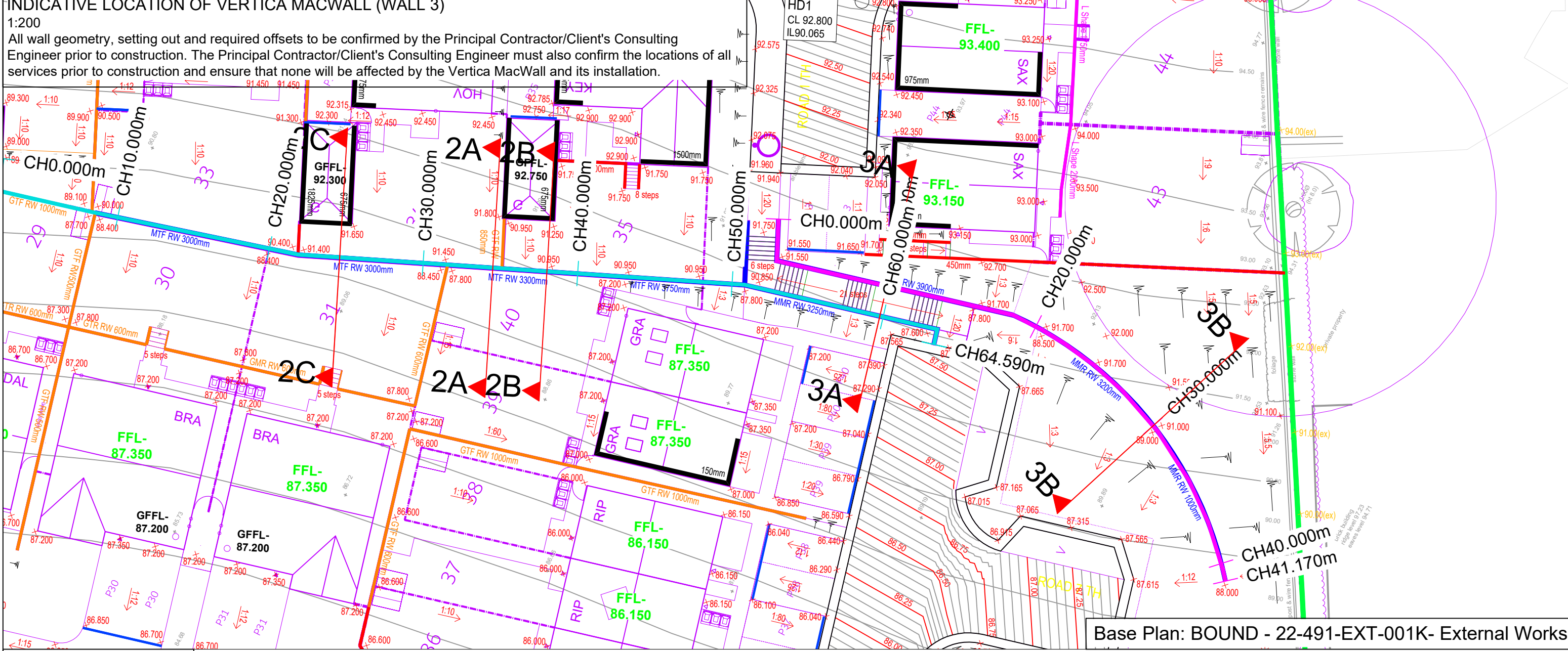
The geogrids may be cut locally in the secondary reinforcement direction to accommodate the fence foundations.

13) TECHNICAL APPROVAL
It is assumed that Technical Approval of the wall by the local road authority is NOT required. Any TAS applications (AIPs etc.) must be completed by others and approval gained prior to construction. Please advise us if Technical Approval is required, as this design would need to be revised.

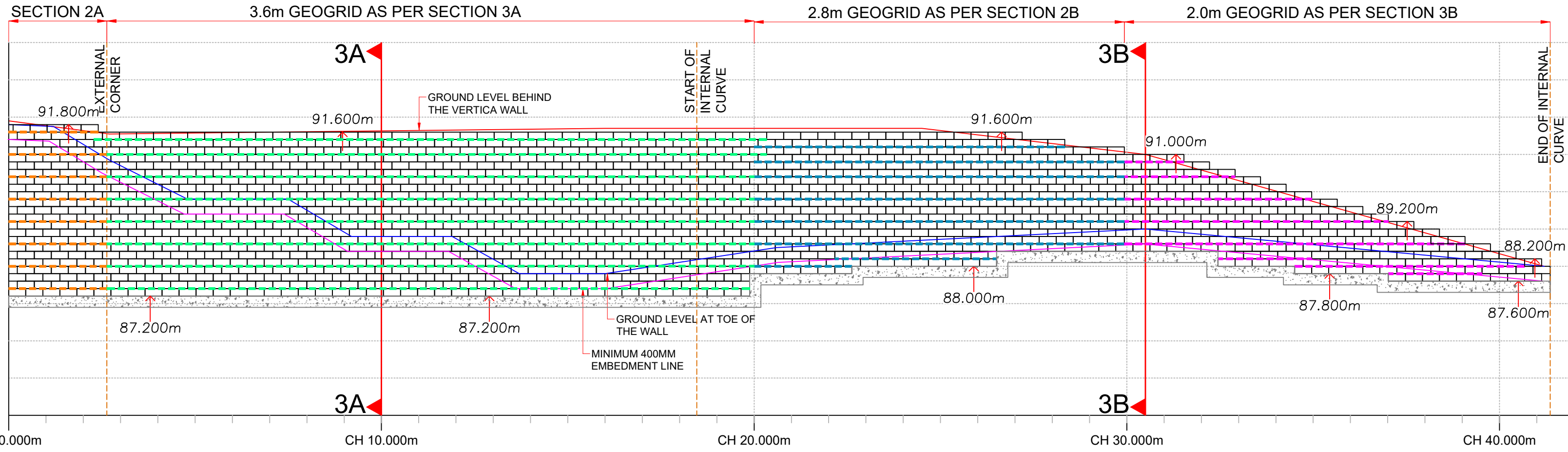
14) SETTING OUT
Setting out to be provided by scheme designer and is entirely outside the scope of Geoman/ Maccaferri's work. Wall line shown on plan is as per drawings provided. Fenceline is offset from toe of wall as shown on sections - any required correction to toe line to accommodate to be confirmed prior to construction.

15) BUILDING FOUNDATION
The proposed buildings located in front of the MacWall must have foundations which are structurally independent of the MacWall. We recommend that the foundations for both the wall and buildings are taken to the same level to avoid any load transfer between the two. The building foundation designer must review and approve the proposed foundation levels prior to construction.

16) NOTES ON CALCULATIONS/DRAWINGS:
These plans and the accompanying design documentation should be thoroughly checked by the Principal Designer. Any apparent errors, omissions or variations should be reported immediately to Geoman Ltd. Construction of these walls should not commence unless and until the Client/ Principal Designer has considered the Geoman Design Submission Document (QPO6 Ref: 24-6029-F2 to ensure that there are no errors, omissions or conflict with the scheme design.



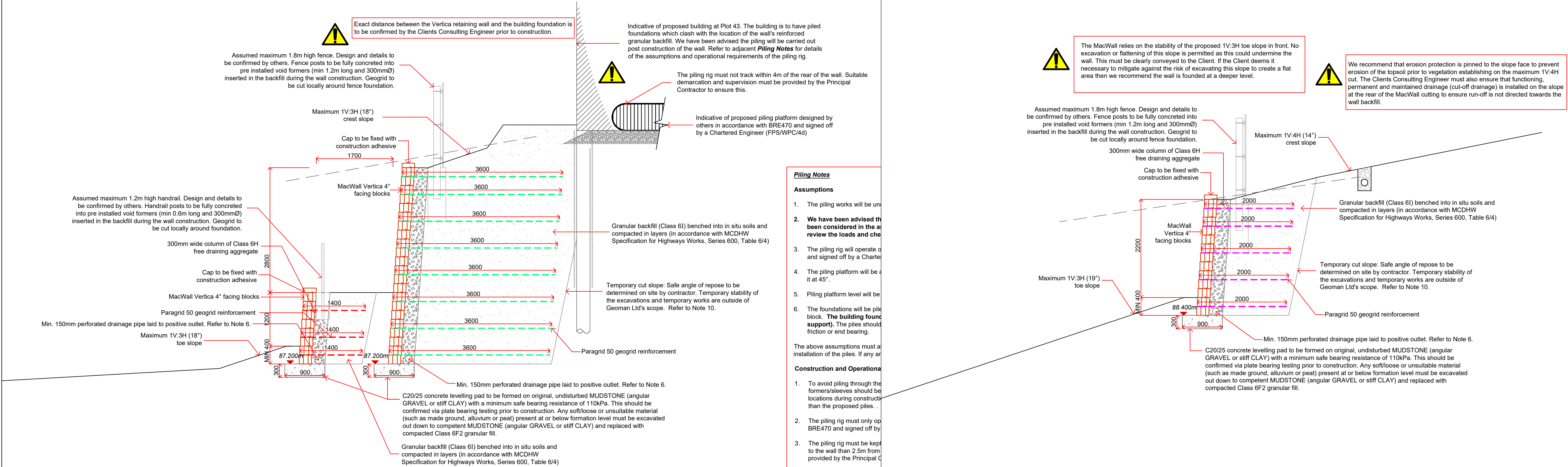
ELEVATION - WALL 3
1:100 (1/1)



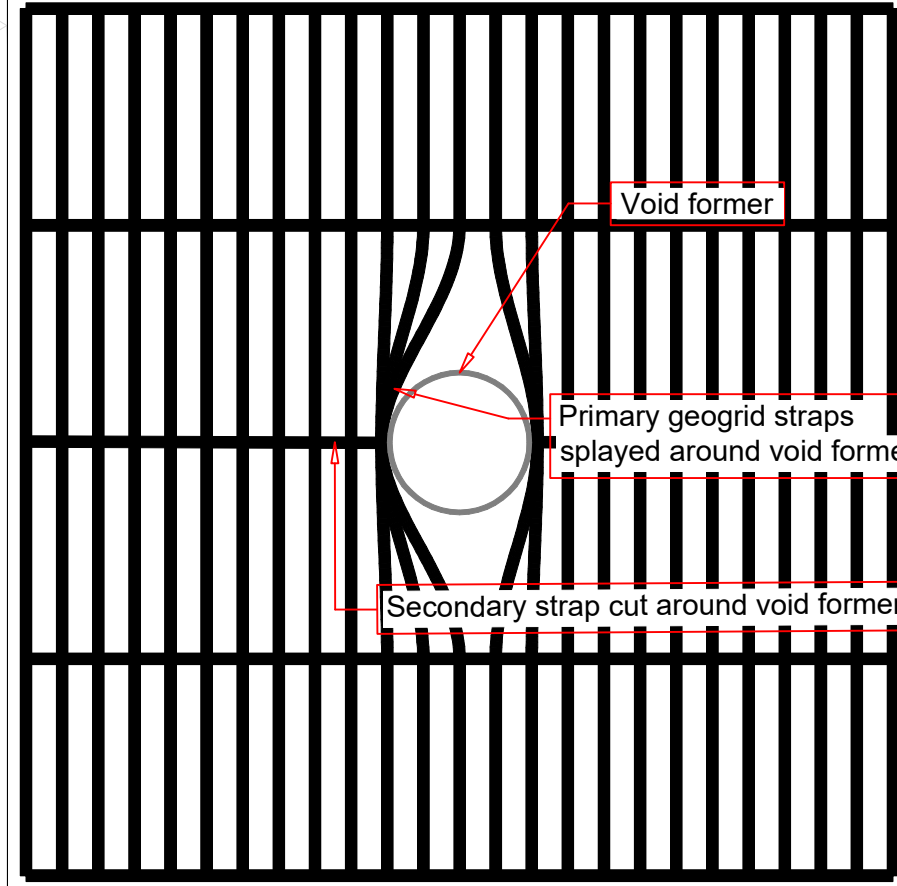
KEY	
4.0m long Paragrid 50/15	-----
3.6m long Paragrid 50/15	-----
2.8m long Paragrid 50/15	-----
2.0m long Paragrid 50/15	-----
1.8m long Paragrid 50/15	-----
1.4m long Paragrid 50/15	-----
1.3m width of No Fines Concrete	-----
For intermediate wall heights use geogrid lengths from the higher design section	

SECTION 3A
1:50

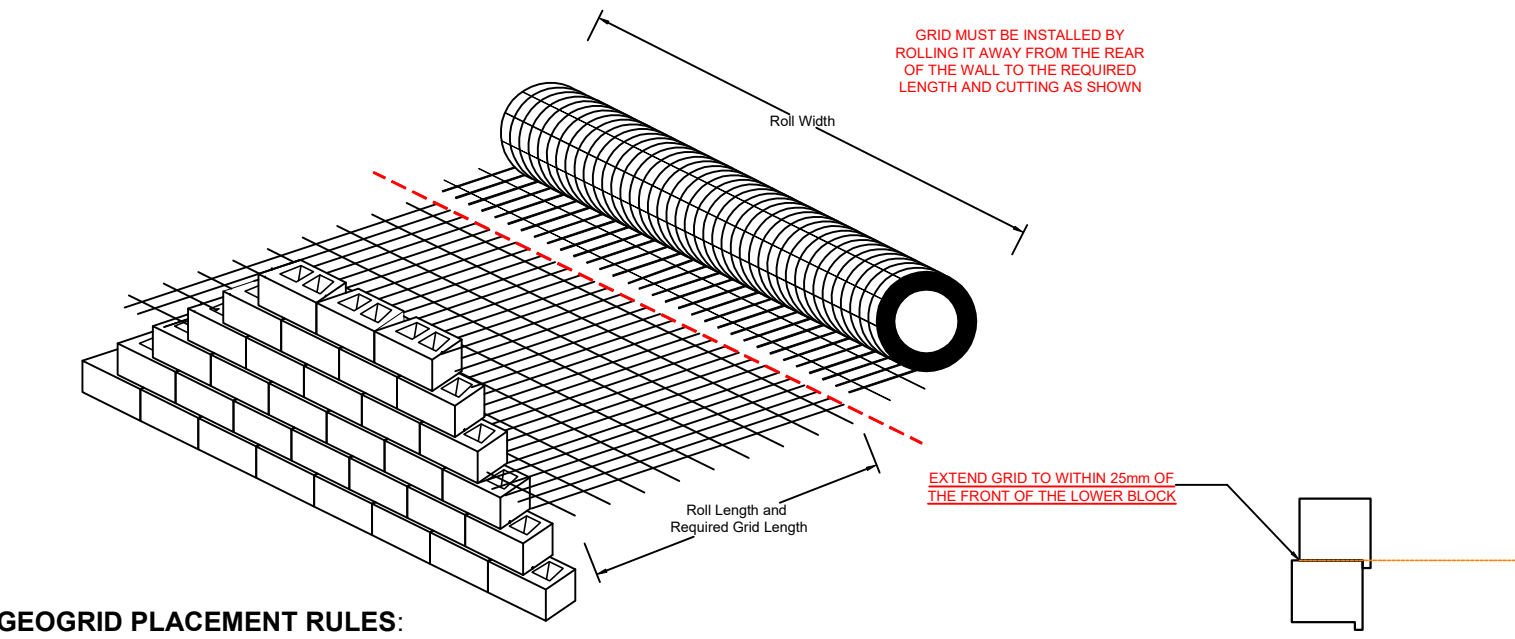
SECTION 3B
1:50



FENCE POST SLEEVE DETAIL



GEOGRID CONSTRUCTION DETAIL



GEOGRID PLACEMENT RULES:

- 1st layer no higher than top of the 1st block course
- Subsequent layers at no greater than 600mm vertical c/c (3 Verticaa block courses)
- Top layer to be min 200 mm (1 block) or max 400mm (2 blocks) below finished ground level.
- Where a geogrid layer steps up/down one course, there should be a minimum overlap of 457mm (one block length)
- Grid lengths from the higher sections should be used for intermediate wall heights.
- The geogrid is always placed with the roll direction (direction of strength) perpendicular to the wall face, i.e. cut in the required lengths.**
- When filling over the geogrid, a minimum of 100mm of fill must be placed over the geogrid before driving plant over it.

Drawing Title:

VERTICA MACWALL 3 - PLOTS 35 TO 43

Scale @ A1:

AS SHOWN

Drawing Number:

SK24-6029-F2-03

Designed:

DC

Date:

27/06/25

Drawn:

DC

Date:

27/06/25

Project Title:

FENAY BRIDGE

Client:

NEWETT HOMES

Drawing Status:

CONCEPT/PRELIMINARY ONLY

FOR APPROVAL

FOR CONSTRUCTION

Revised:

DC

Date:

27/06/25

Checked:

GM

Date:

27/06/25

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