

12785-02C - NEW HIGH SCHOOL IN BUNGENDORE
MAJARA ST, BUNGENDORE, NSW 2621
CIVIL & STORMWATER

DRAWING No.	DESCRIPTION
BHS-CE-2001	DRAWING REGISTER AND LOCALITY PLAN
BHS-CE-2002	CONSTRUCTION NOTES
BHS-CE-2005	SEDIMENT & EROSION CONTROL PLAN
BHS-CE-2006	SEDIMENT & EROSION CONTROL DETAILS
BHS-CE-2009	BULK EARTHWORKS GENERAL ARRANGEMENT PLAN
BHS-CE-2010	BULK EARTHWORKS DETAIL PLAN - SHEET 1
BHS-CE-2011	BULK EARTHWORKS DETAIL PLAN - SHEET 2
BHS-CE-2012	BULK EARTHWORKS LONGITUDINAL SECTIONS
BHS-CE-2015	AG PLOT - BULK EARTHWORKS PLAN
BHS-CE-2016	AG PLOT - BULK EARTHWORKS LONGITUDINAL SECTIONS
BHS-CE-2030	GENERAL ARRANGEMENTS PLAN
BHS-CE-2031	STORMWATER DRAINAGE PLAN - SHEET 1
BHS-CE-2032	STORMWATER DRAINAGE PLAN - SHEET 2
BHS-CE-2034	STORMWATER DRAINAGE PLAN - SHEET 3
BHS-CE-2035	STORMWATER DRAINAGE PLAN - SHEET 4
BHS-CE-2051	STORMWATER DRAINAGE DETAILS SHEET 1 OF 2
BHS-CE-2052	STORMWATER DRAINAGE DETAILS SHEET 2 OF 2
BHS-CE-2059	SITEWORKS AND PAVEMENT GENERAL ARRANGEMENT PLAN
BHS-CE-2060	SITEWORKS AND PAVEMENT PLAN - SHEET 1
BHS-CE-2061	SITEWORKS AND PAVEMENT PLAN - SHEET 2
BHS-CE-2062	SITEWORKS AND PAVEMENT PLAN - SHEET 3
BHS-CE-2063	SITEWORKS AND PAVEMENT PLAN - SHEET 4
BHS-CE-2065	RETAINING WALL DETAILS
BHS-CE-2071	SITEWORKS DETAILS - SHEET 1
BHS-CE-2091	PAVEMENT DETAILS
BHS-CE-2120	ROAD CIVIL WORKS PAVING GENERAL ARRANGEMENT PLAN
BHS-CE-2121	ROAD CIVIL WORKS PAVING DETAIL PLAN SHEET 1
BHS-CE-2122	ROAD CIVIL WORKS PAVING DETAIL PLAN SHEET 2
BHS-CE-2130	ROAD CIVIL WORKS PAVING DETAIL PLAN SHEET 3
BHS-CE-2200	WOMBAT CROSSING PLAN AND DETAILS
BHS-CE-2201	ROUNDBOUT AND MISCELLANEOUS CIVIL ROAD DETAILS



LOCALITY PLAN
SCALE N.T.S.

BUILDER

**HINDMARSH**

Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT

**Education**
School Infrastructure

NSW Department of Education |
School Infrastructure NSW

Project Managers

TSA Management
T+ 61 2 9276 1400

Architect

TKD Architects
T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD

Norman Disney & Young
T+ 61 2 9928 6800

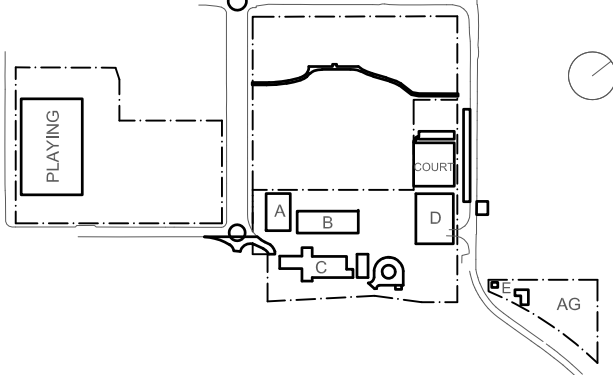
Landscape Architecture

Context
T+ 61 2 8244 8900

Acoustic

Acoustic Logic
T+ 61 2 8339 9000

KEY



Rev	Date	Description	Chkd	Auth.
A	24.03.21	DRAFT SCHEMATIC DESIGN		
B	16.04.21	SCHEMATIC DESIGN		
C	30.04.21	SCHEMATIC DESIGN		
D	07.05.21	SCHEMATIC DESIGN		
E	12.05.21	SCHEMATIC DESIGN		
F	26.11.21	WORK IN PROGRESS		
G	10.12.21	ISSUED FOR DD		
H	14.02.22	GENERALLY REVISED		
I	14.07.22	ISSUED FOR RT'S REVISED DESIGN		
J	21.07.22	ISSUED FOR RT'S REVISED DESIGN		

Project

New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621

Drawing Title

DRAWING REGISTER AND
LOCALITY PLAN

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	NTS
Drawing No.			Revision
BHS-CE-2001			J

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

**M+G Consulting**
M & G CONSULTING ENGINEERS PTY LTD
ABN 65 094 064 990
Member Firm
AUSTRALIAN INSTITUTE OF PROFESSIONAL ENGINEERS

CIVIL NOTES

GENERAL NOTES

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS OR SKETCHES AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH WORK.
- G2 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION, CURRENT SAA CODES, BUILDING REGULATIONS AND THE REQUIREMENTS OF ANY OTHER RELEVANT STATUTORY AUTHORITIES.
- G3 THESE DRAWINGS MUST NOT BE SCALED. ALL DIMENSIONS ARE IN METERS. ALL SET OUT DIMENSIONS AND LEVELS, INCLUDING THOSE SHOWN ON THESE DRAWINGS SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S DRAWINGS AND VERIFIED ON SITE.
- G4 ALL SETOUT AND DIMENSIONS OF THE STRUCTURE INCLUDING KERBS AND RETAINING WALLS, AND BULK EARTHWORKS MUST BE TAKEN FROM THE ARCHITECT'S DRAWINGS. SETOUT OF THE STORMWATER PITS BY OTHERS, CONTRACTOR TO CONFIRM SETOUT OF SERVICE TRENCHING INCLUDING SUBSOIL ON SITE.
- G5 THE CONTRACTOR SHALL COMPLY WITH ALL REGULATIONS OF AUTHORITIES HAVING JURISDICTION VER THE WORKS. REFER TO GEOTECHNICAL REPORT BY 'DOUGLAS PARTNERS', DATED 4 MAY 2021.
- G6 ALL DIMENSIONS AND REDUCED LEVELS MUST BE VERIFIED ON SITE BEFORE THE COMMENCEMENT OF ANY WORK.
- G7 THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE SUPERINTENDENT BUT IS NOT AN AUTHORISATION OF A COST VARIATION. THE SUPERINTENDENT MUST APPROVE ANY COST VARIATION INVOLVED BEFORE ANY WORK STARTS.
- G8 ALL LEVELS SHOWN ARE TO THE AUSTRALIAN HEIGHT DATUM.
- G9 SERVICE INFORMATION SHOWN IS APPROXIMATE ONLY. PRIOR TO COMMENCEMENT OF ANY WORKS, THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND SERVICES AND COMPLY WITH ALL REQUIREMENTS OF THOSE AUTHORITIES.
- G10 EXISTING SURFACE CONTOURS, WHERE SHOWN, ARE INTERPOLATED AND MAY NOT BE ACCURATE.
- G11 UNLESS NOTED OTHERWISE, ALL VEGETATION SHALL BE STRIPPED TO A MINIMUM DEPTH OF 150mm UNDER ALL PROPOSED PAVEMENT AND BUILDING AREAS.
- G12 MAKE SMOOTH CONNECTION WITH ALL EXISTING WORKS.

SITWORKS NOTES

- S1 PRIOR TO THE PLACEMENT OF ANY PAVEMENTS, BUILDINGS OR DRAINS THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 98% STANDARD COMPACTION IN ACCORDANCE WITH TEST 'E1' 1 OF A.S. 1289 FOR THE TOP 300mm. ANY SOFT SPOTS SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL TO THE ENGINEERS APPROVAL AND COMPACTED IN ACCORDANCE WITH THE COMPACTION REQUIREMENTS SET OUT BELOW. ON HIGHLY REACTIVE CLAY AREAS SITE EXCAVATED MATERIAL MAY BE USED WITH THE PRIOR AUTHORISATION OF THE ENGINEER.
- S2 ALL FILL AND PAVEMENT MATERIALS SHALL BE COMPACTED IN ACCORDANCE WITH GEOTECHNICAL REPORT BY 'DOUGLAS PARTNERS', DATED 4 MAY 2021. MOISTURE CONTENT TO BE MAINTAINED AT +/- 2% OMC. MINIMUM COMPACTION REQUIREMENTS ARE DETAILED BELOW FOR (ALL REQUIREMENTS ARE TO BE VERIFIED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER):
- LANDSCAPED AREAS 98% STD.
 - FILL UNDER ANY FOOTINGS AND FLOOR SLABS FOR ANY STRUCTURE TO SUBGRADE LEVEL:
 - FINE CRUSHED ROCK 98% STD.
 - SELECTED FILL WITHOUT CONSPICUOUS CLAY CONTENT 98% STD.
 - BUILDING BASECOURSE 98% MOD
 - FILL UNDER ROAD PAVEMENTS:
 - TO WITHIN 500mm OF FINISHED SUBGRADE LEVEL 98% STD.
 - UP TO FINISHED SUBGRADE LEVEL 98% STD.
 - ROAD PAVEMENT MATERIALS:
 - SUB BASE 98% MOD.
 - BASE COURSE 98% MOD.
- THE MAXIMUM COMPACTION IS TO BE NO GREAT THAN 4% ON TOP OF THE ABOVE MENTION VALUES.
- S3 GRADE EVENLY BETWEEN FINISHED SURFACE SPOT LEVELS. FINISHED SURFACE CONTOURS ARE SHOWN FOR CLARITY. WHERE FINISHED SURFACE LEVELS ARE NOT SHOWN, THE SURFACE SHALL BE GRADED SMOOTHLY SO THAT IT WILL DRAIN AND MATCH ADJACENT SURFACES OR STRUCTURES.
- S4 ALL DIMENSIONS GIVEN ARE TO FACE OF KERB, CENTER OF PIPE OR EXTERIOR FACE OF BUILDING UNLESS NOTED OTHERWISE.
- S5 ANY STRUCTURES, PAVEMENTS OR SURFACES DAMAGED, DIRTIED OR MADE UNSERVICABLE DUE TO CONSTRUCTION WORK SHALL BE REINSTATED TO THE SATISFACTION OF THE ENGINEER.
- S6 ANY FILL REQUIRED SHALL BE APPROVED BY THE ENGINEER / GEOTECHNICAL CONSULTANT
- S7 CONTRACTOR IS TO ENSURE THAT ALL EXCAVATIONS ARE MAINTAINED IN A DRY CONDITION WITH NO WATER ALLOWED TO REMAIN IN THE EXCAVATIONS.
- S8 ALL FINISHES AND COLOURS TO BE IN ACCORDANCE WITH LANDSCAPE ARCHITECTURAL SPECIFICATIONS.
- S9 REFER TO STRUCTURAL DRAWINGS FOR CONCRETE, REINFORCEMENT AND RETAINING WALL DETAILS.
- S10 GENERALLY FOR TRENCHING WORKS THE CONTRACTOR MUST:
A) COMPLY WITH THE GENERAL PROVISIONS OF PART 3.1 "MANAGING RISKS TO HEALTH AND SAFETY" OF NSW WORK AND HEALTH AND SAFETY REGULATION 2011
B) COMPLY PART 6.3 DIVISION 3 "EXCAVATION WORK" OF NSW WORK HEALTH AND SAFETY REGULATION NSW 2011
- S11 PRIOR TO THE EXCAVATION OF ANY TRENCH DEEPER THAN 1.5 METRES THE CONTRACTOR MUST:
A) NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY ON THE APPROPRIATE FORM.

STORMWATER DRAINAGE NOTES

- SW1 UNLESS NOTED OTHERWISE BY HYDRAULIC ENGINEERS DRAWINGS, ALL DOWNPIPES & GRATED INLETS SHALL BE CONNECTED TO PITS OR MAIN STORMWATER DRAINS WITH 150 DIA. UPVC PIPES LAID AT A MINIMUM GRADE OF 1 IN 100. FOR SYNPHONIC ROOF DRAINAGE SYSTEMS ALL DOWNPIPES CONNECTION DRAIN SIZES TO BE CONNECTED INTO MAIN STORMWATER DRAINS SHALL BE IN ACCORDANCE WITH HYDRAULIC ENGINEERS DRAWINGS.
- SW2 ALL MAIN STORMWATER DRAINS SHALL BE CONSTRUCTED USING MATERIALS AS SPECIFIED ON THE DRAWINGS IN ACCORDANCE WITH THE APPROPRIATE A.S. IF NOT SPECIFIED THEN CLASS 2 RRJ RCP SHALL BE USED FOR DIAMETERS > 225mm. SEWER CLASS SEH UPVC IN ACCORDANCE WITH AS1260 SHALL BE USED FOR 8225mm OR SMALLER.
- SW3 ALL PIPEWORK TO BE INSTALLED IN ACCORDANCE WITH AS3725 FOR RCP AND AS2032 FOR PVC. ALL BEDDING TO BE TYPE H2 UNLESS NOTED OTHERWISE.
- SW4 FOR ALL PITS > 1.2m DEEP, STEP IRONS SHALL BE INSTALLED.
- SW5 PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY M+G CONSULTING.
- SW6 ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- SW7 WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED UPVC SEWER GRADE PIPE IS TO BE USED.
- SW8 GRATES AND COVERS SHALL CONFORM WITH AS 3996 AND AS 1428.1 FOR ACCESS REQUIREMENTS.
- SW9 CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- SW10 AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- SW11 ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

KERBING NOTES

- K1 ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32 MPa U.N.O.
- K2 ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 75mm GRANULAR BASECOURSE COMPACTED TO A MINIMUM 98% MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289 5.2.1.
- K3 EXPANSION JOINTS (EJ) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLAB.
- K4 WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLAB.
- K5 BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
- K6 IN THE REPLACEMENT OF KERBS:-
 - EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O. FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER, NEW BASECOURSE AND SURFACE TO BE LAID 600mm WIDE U.N.O.
 - EXISTING KERBS ARE TO BE COMPLETELY REMOVED WHERE NEW KERBS ARE SHOWN.

OSD/INFILTRATON TANK SIGNAGE



CONFINED SPACE DANGER SIGN

A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANKS/S CONFINED SPACE.

COLOURS: 'DANGER' AND BACKGROUND - WHITE
ELLIPTICAL AREA - RED
RECTANGLE CONTAINING ELLIPSE - BLACK
OTHER LETTERING AND BORDER - BLACK

MINIMUM DIMENSIONS:- 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS)
- 250mm x 180mm (SMALL ENTRIES SUCH AS GRATES & MANHOLES)

MATERIAL: COLOUR BONDED ALUMINIUM OR POLYPROPYLENE.

FIXING: USE SCREWS AT EACH CORNER AND/OR SUITABLE EPOXY GLUE/CEMENT.

SEDIMENT AND EROSION CONTROL NOTES

- IT HAS BEEN ASSUMED THAT HOARDINGS/SILT FENCING WILL BE PROVIDED TO THE STAGE BOUNDARY SUFFICIENT TO PREVENT SEDIMENT RUNOFF FROM LEAVING SITE (EXCEPT IN THE CASE OF ENTRY/EXIT LOCATIONS WHERE TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP ARE PROVIDED). IF THIS IS NOT THE CASE, PROVIDE SEDIMENT FENCE TO STANDARD DETAIL BELOW AS REQUIRED TO PREVENT SEDIMENT FROM LEAVING SITE, DIRECT RUNOFF TO SEDIMENT BASIN.
- ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED IN ACCORDANCE WITH LANDCOM MANAGING URBAN STORMWATER "BLUE BOOK".

SEDIMENT CONTROL CONDITIONS

- SEDIMENT FENCES WILL BE INSTALLED AS SHOWN AND ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER TO CONTAIN COARSER SEDIMENT FRACTIONS INCLUDING AGGREGATED FINES) AS NEAR AS POSSIBLE TO THEIR SOURCE.
- SEDIMENT REMOVED FROM ANY TRAPPING DEVICE WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS & WATERWAYS CANNOT OCCUR.
- STOCKPILES WILL BE PLACED WHERE SHOWN ON DRAWING OR ELSEWHERE AT THE DISCRETION OF THE SITE MANAGER AND NOT WITHIN 5m OF HAZARD AREAS INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS & DRIVEWAYS.
- WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM WITH INLET FILTERS (SEE DETAILS) UNLESS IT IS SEDIMENT FREE.
- TEMPORARY SEDIMENT TRAPS WILL BE RETAINED UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
- CONTRACTOR TO DESIGN/SIZE/CONSTRUCT TEMPORARY SEDIMENT BASIN. WATER SHOULD BE ALLOWED TO SETTLE BEFORE DISCHARGE. CONTRACTOR MUST VERIFY THAT WATER QUALITY MEETS AUTHORITIES REQUIREMENTS PRIOR TO DISCHARGE. ACCUMULATED SEDIMENT SHOULD THEN BE REMOVED & DISPOSED OF IN ACCORDANCE WITH ENVIRONMENTAL MANAGEMENT PROCEDURES.

SITE INSPECTION & MAINTENANCE CONDITIONS

THE SITE MANAGER WILL INSPECT THE SITE AT LEAST WEEKLY AND WILL:

- ENSURE THAT DRAINS OPERATE PROPERLY & TO EFFECT ANY NECESSARY REPAIRS
- REMOVE SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5m FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS & PAVED AREAS.
- REMOVE TRAPPED SEDIMENT WHENEVER LESS THAN DESIGN CAPACITY REMAINS WITHIN THE STRUCTURE
- ENSURE REHABILITATED LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD AND TO INITIATE UPGRADING OR REPAIR AS APPROPRIATE.
- CONSTRUCT ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS.
- MAINTAIN EROSION & SEDIMENT CONTROL MEASURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
- REMOVE TEMPORARY SOIL CONSERVATION STRUCTURES AS THE LAST ACTIVITY IN THE REHABILITATION PROGRAM.

AS PART OF THE STATUTORY 'DILIGENCE OF CARE' RESPONSIBILITIES, THE SITE MANAGER WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:

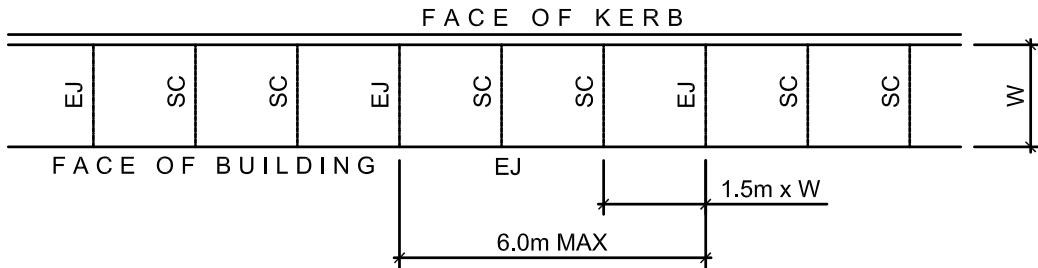
- THE VOLUME & INTENSITY OF ANY RAINFALL EVENTS
- THE CONDITION OF ANY SOIL & WATER MANAGEMENT WORKS
- THE CONDITION OF VEGETATION & ANY NEED TO IRRIGATE
- THE NEED FOR DUST PREVENTION STRATEGIES
- ANY REMEDIAL WORKS TO BE UNDERTAKEN

THE BOOK WILL BE KEPT ONSITE & MADE AVAILABLE TO ANY AUTHORISED PERSON ON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF WORKS.

JOINTING NOTES

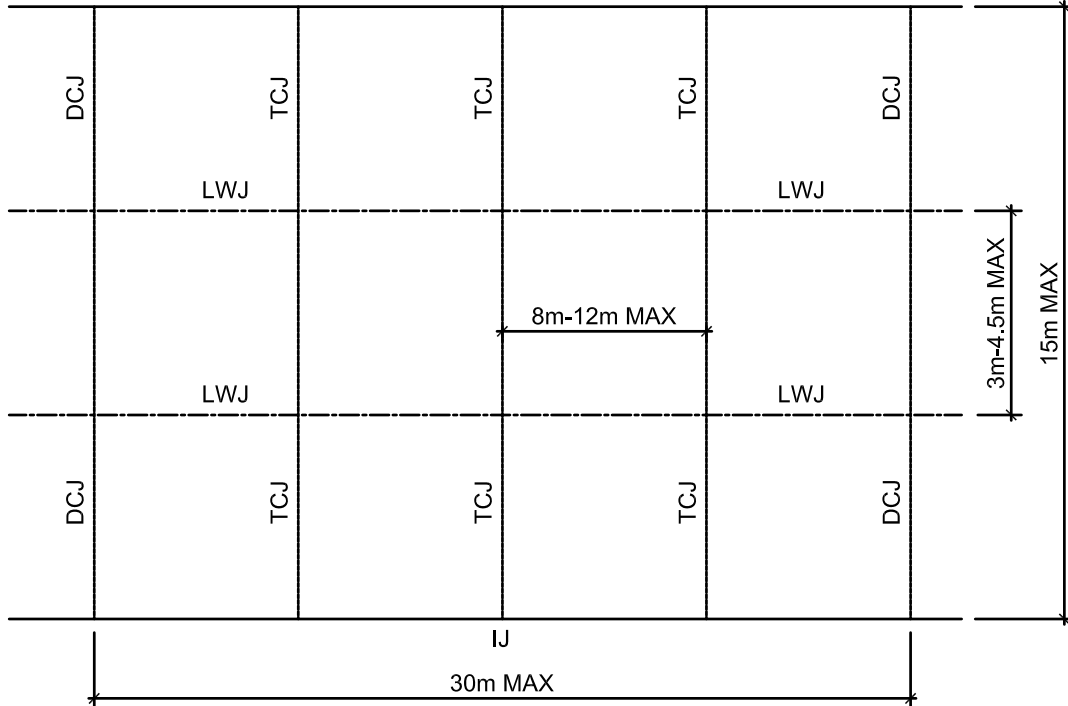
PEDESTRIAN FOOTPATH JOINTS

- J1 EXPANSION JOINTS (EJ) ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT 6m CENTRES.
- J2 SAWCUT JOINTS (SCJ) ARE TO BE LOCATED AT A MAX 1.5m x WIDTH OF PAVEMENT. THE TIMING OF THE SAWCUT IS TO BE CONFIRMED BY THE CONTRACTOR ON SITE. SITE CONDITIONS WILL DETERMINE HOW MANY HOURS AFTER THE CONCRETE POUR BEFORE THE SAW CUTS ARE COMMENCED.
- J3 WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND / OR ADJACENT PAVEMENT JOINTS.
- J4 PROVIDE 10mm WIDE FULL DEPTH EXPANSION JOINTS (EJ) BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVERS
- J5 ALL PEDESTRIAN FOOTPATH JOINTINGS AS FOLLOWS (U.N.O.).



VEHICULAR PAVEMENT JOINTS

- J6 ALL VEHICULAR PAVEMENTS TO BE JOINTED AS SHOWN ON DRAWINGS.
- J7 LONGITUDINAL WARPING JOINTS (LWJ) SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 3m TO 4.5m MAX CENTERS. ALL LWJ's SHOULD BE TIED UP TO A MAXIMUM TOTAL WIDTH OF 30m.
- J8 TRANSVERSE CONTRACTION JOINTS (TCJ) SHOULD GENERALLY BE LOCATED AT A MAXIMUM OF 8m TO 12m MAX CENTERS. TCJ's CAN BE SPACED AT SUITABLE INTERVALS UP TO A RECOMMENDED MAXIMUM LENGTH OF 15m.
- J9 TRANSVERSE DOWELLED CONSTRUCTION JOINTS (DCJ) TO BE PROVIDED FOR PLANNED INTERRUPTIONS SUCH AS AT THE END OF EACH DAY'S OPERATIONS (POUR BREAK), AT BLOCK OUTS FOR BRIDGES AND INTERSECTIONS OR FOR UNEXPECTED DELAYS WHEN THE SUSPENSION OF OPERATIONS IS LIKELY TO CREATE A JOINT.
- J10 ISOLATION JOINTS WITH SUB-GRADE BEAM (IJ) TO BE PROVIDED AT INTERSECTIONS OR AT THE JUNCTION OF A POUR BREAK.
- J11 ALL VEHICULAR PAVEMENTS TO BE JOINTED IN ACCORDANCE WITH AUSTRROADS AGPT02-12 GUIDE TO PAVEMENT TECHNOLOGY PART 2 STRUCTURAL PAVEMENT DESIGN AND SUPPLEMENT AP-T36-06 PAVEMENT DESIGN FOR LIGHT TRAFFIC
- J12 VEHICULAR PAVEMENT JOINTING AS FOLLOWS (U.N.O.).



NOTES

- SITE SURVEY SUPPLIED BY 'PROJECT SURVEYORS JOB REF: B04901, DRAWING No. B04901-BUN-REV K-1 DATED 06.06.22.

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE.

NOT FOR CONSTRUCTION

M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)



DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

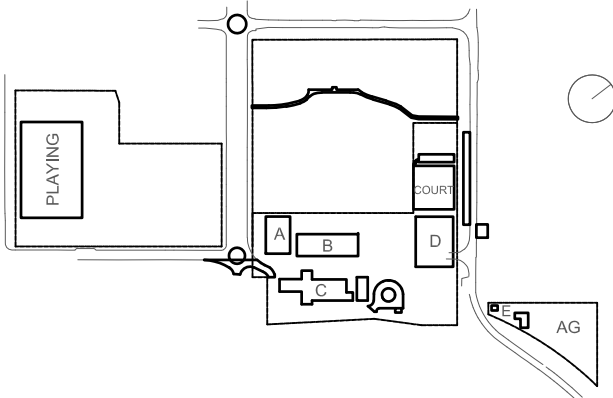
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9261 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



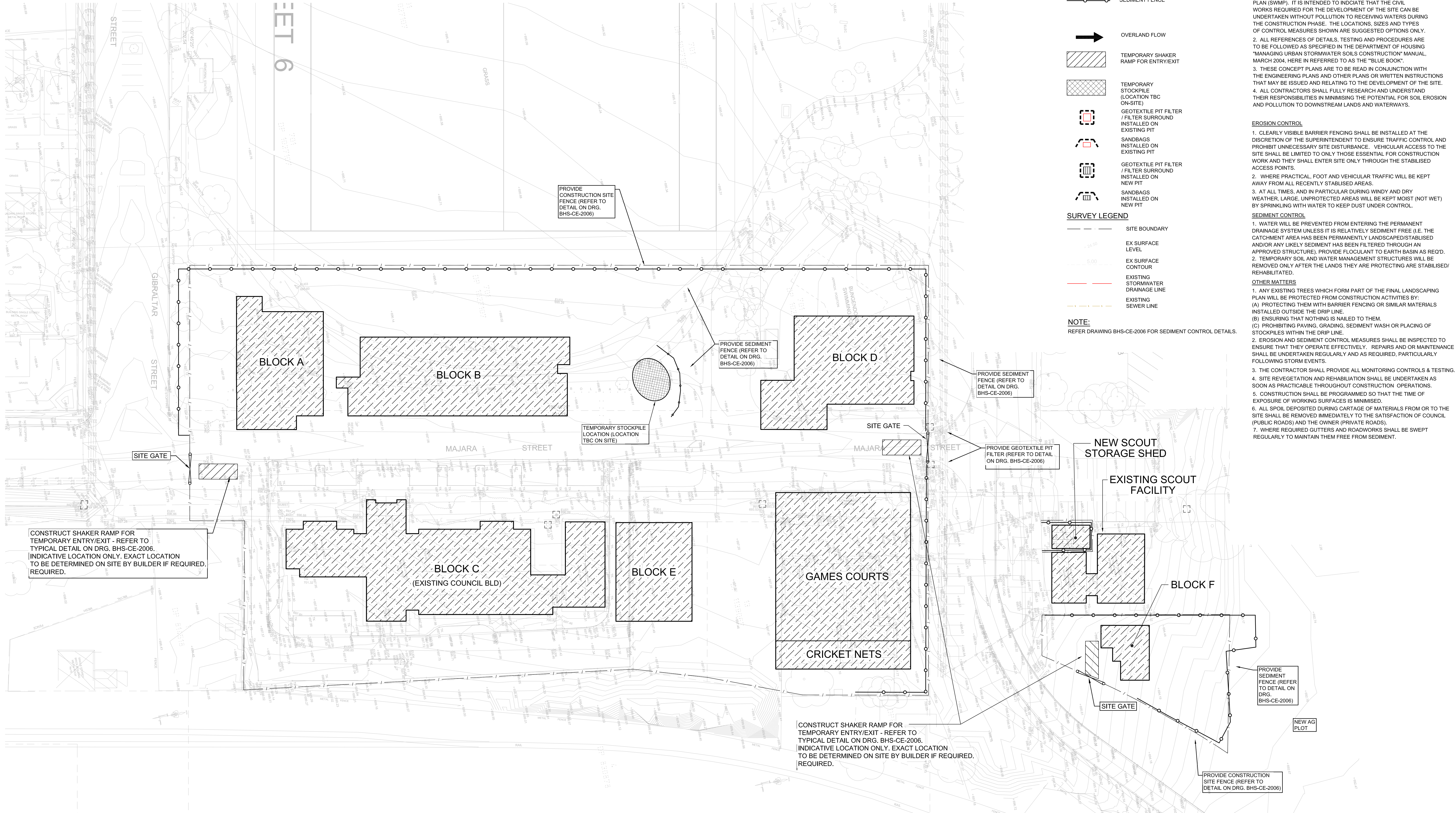
WARNING
NO DRAINAGE WORKS SHALL COMMENCE UNTIL THE CONTRACTOR CONFIRMS THE I.L. OF ALL EXISTING DRAINS, AND CONFIRMS IN WRITING WITH THE ENGINEERING SUPERVISOR.

ALL EXISTING PROPERTY SERVICES' LOCATIONS AND DEPTHS ARE APPROXIMATE AND MUST BE VERIFIED ON SITE.
THE CONTRACTOR SHOULD SUPPLY PRECISE LOCATIONS AND DEPTHS TO THE ENGINEER FOR REVIEW PRIOR TO ANY WORKS THAT MAY AFFECT THESE SERVICES.

Rev	Date	Description	Chkd	Auth.
A	24.03.21	DRAFT SCHEMATIC DESIGN ISSUE		
B	16.04.21	SCHEMATIC DESIGN		
C	30.04.21	SCHEMATIC DESIGN		
D	07.05.21	SCHEMATIC DESIGN		
E	10.05.21	SCHEMATIC DESIGN		
F	12.05.21	SCHEMATIC DESIGN		
G	20.11.21	WORK IN PROGRESS		
H	10.12.21	ISSUED FOR DD		
I	14.02.22	GENERALLY REVISED		
J	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
CIVIL NOTES

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	AS NOTED AT B1
Drawing No.	Revision		
BHS-CE-2002	J		



SOIL AND WATER MANAGEMENT LEGEND

- SITE BOUNDARY FENCE
- SEDIMENT FENCE

- OVERLAND FLOW
- TEMPORARY SHAKER RAMP FOR ENTRY/EXIT
- TEMPORARY STOCKPILE (LOCATION TBC ON-SITE)
- GEOTEXTILE PIT FILTER / FILTER SURROUND INSTALLED ON EXISTING PIT
- SANDBAGS INSTALLED ON EXISTING PIT
- GEOTEXTILE PIT FILTER / FILTER SURROUND INSTALLED ON NEW PIT
- SANDBAGS INSTALLED ON NEW PIT

SURVEY LEGEND

- SITE BOUNDARY
- EX SURFACE LEVEL
- EX SURFACE CONTOUR
- EXISTING STORMWATER DRAINAGE LINE
- EXISTING SEWER LINE

NOTE:
REFER DRAWING BHS-CE-2006 FOR SEDIMENT CONTROL DETAILS.

SOIL AND WATER MANAGEMENT NOTES

INTRODUCTORY NOTES

- THIS IS A CONCEPTUAL SOIL AND WATER MANAGEMENT PLAN (SWMP). IT IS INTENDED TO INDICATE THAT THE CIVIL WORKS REQUIRED FOR THE DEVELOPMENT OF THE SITE CAN BE UNDERTAKEN WITHOUT POLLUTION TO RECEIVING WATERS DURING THE CONSTRUCTION PHASE. THE LOCATIONS, SIZES AND TYPES OF CONTROL MEASURES SHOWN ARE SUGGESTED OPTIONS ONLY.
- ALL REFERENCES OF DETAILS, TESTING AND PROCEDURES ARE TO BE FOLLOWED AS SPECIFIED IN THE DEPARTMENT OF HOUSING "MANAGING URBAN STORMWATER SOILS CONSTRUCTION" MANUAL, MARCH 2004, HERE IN REFERRED TO AS THE "BLUE BOOK".
- THESE CONCEPT PLANS ARE TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS AND OTHER PLANS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED AND RELATING TO THE DEVELOPMENT OF THE SITE.
- ALL CONTRACTORS SHALL FULLY RESEARCH AND UNDERSTAND THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSTREAM LANDS AND WATERWAYS.

EROSION CONTROL

- CLEARLY VISIBLE BARRIER FENCING SHALL BE INSTALLED AT THE DISCRETION OF THE SUPERINTENDENT TO ENSURE TRAFFIC CONTROL AND PROHIBIT UNNECESSARY SITE DISTURBANCE. VEHICULAR ACCESS TO THE SITE SHALL BE LIMITED TO ONLY THOSE ESSENTIAL FOR CONSTRUCTION WORK AND THEY SHALL ENTER SITE ONLY THROUGH THE STABILISED ACCESS POINTS.
- WHERE PRACTICAL, FOOT AND VEHICULAR TRAFFIC WILL BE KEPT AWAY FROM ALL RECENTLY STABILISED AREAS.
- AT ALL TIMES, AND IN PARTICULAR DURING WINDY AND DRY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

SEDIMENT CONTROL

- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE (I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED/STABILISED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE). PROVIDE FLOCCULANT TO EARTH BASIN AS REQ'D.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED/REHABILITATED.

OTHER MATTERS

- ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
(A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE.
(B) ENSURING THAT NOTHING IS NAILED TO THEM.
(C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED TO ENSURE THAT THEY OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN REGULARLY AND AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.
- THE CONTRACTOR SHALL PROVIDE ALL MONITORING CONTROLS & TESTING.
- SITE REVEGETATION AND REHABILITATION SHALL BE UNDERTAKEN AS SOON AS PRACTICABLE THROUGHOUT CONSTRUCTION OPERATIONS.
- CONSTRUCTION SHALL BE PROGRAMMED SO THAT THE TIME OF EXPOSURE OF WORKING SURFACES IS MINIMISED.
- ALL SPOIL DEPOSITED DURING CARTAGE OF MATERIALS FROM OR TO THE SITE SHALL BE REMOVED IMMEDIATELY TO THE SATISFACTION OF COUNCIL (PUBLIC ROADS) AND THE OWNER (PRIVATE ROADS).
- WHERE REQUIRED GUTTERS AND ROADWORKS SHALL BE SWEEPED REGULARLY TO MAINTAIN THEM FREE FROM SEDIMENT.

SEDIMENT AND EROSION CONTROL PLAN
SCALE 1:400

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

NOT FOR CONSTRUCTION

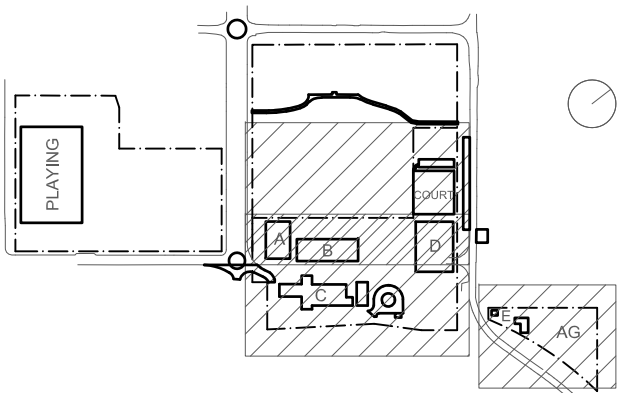
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW Education
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9261 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY

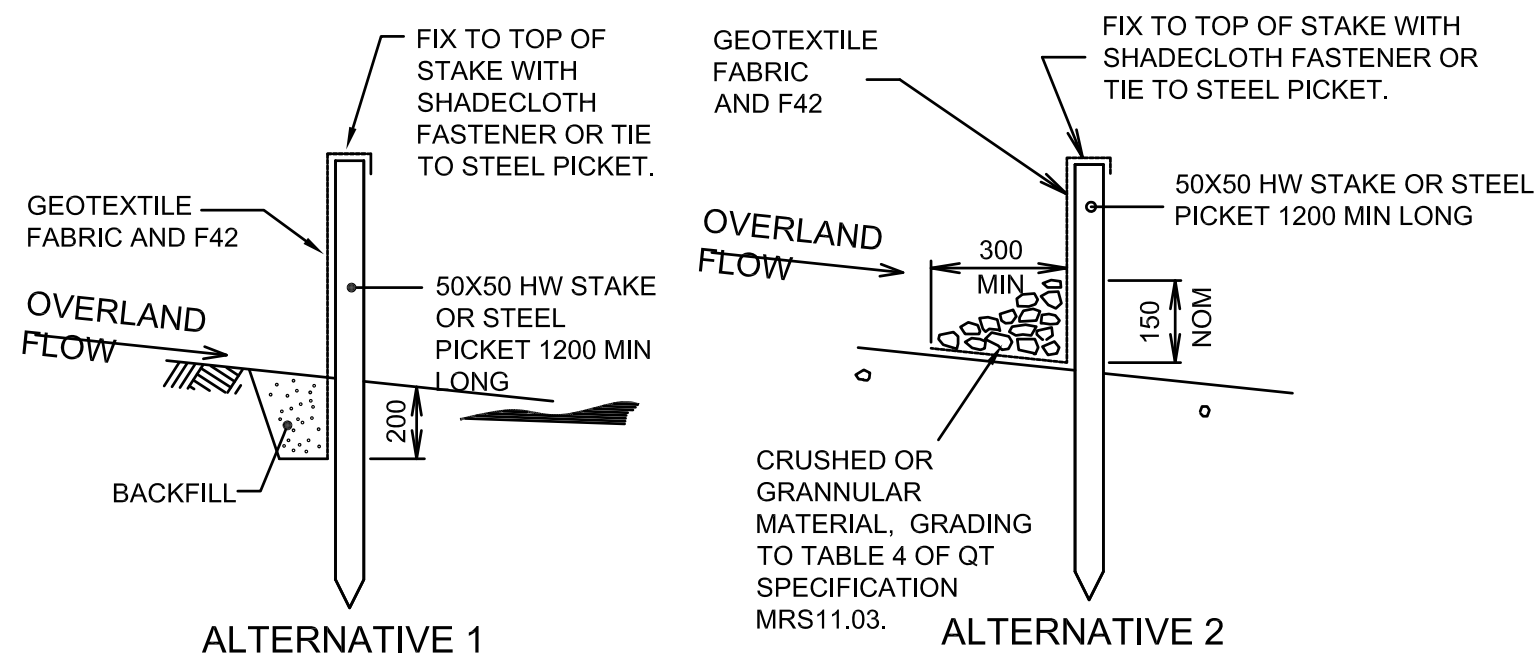


Rev	Date	Description	Chkd	Auth.
A	24.03.21	DRAFT SCHEMATIC DESIGN ISSUE		
B	16.04.21	SCHEMATIC DESIGN		
C	30.04.21	SCHEMATIC DESIGN		
D	07.05.21	SCHEMATIC DESIGN		
E	12.05.21	SCHEMATIC DESIGN		
F	26.11.21	WORK IN PROGRESS		
G	10.12.21	ISSUED FOR DD		
H	14.02.22	GENERALLY REVISED		
I	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
**SEDIMENT & EROSION
CONTROL PLAN**

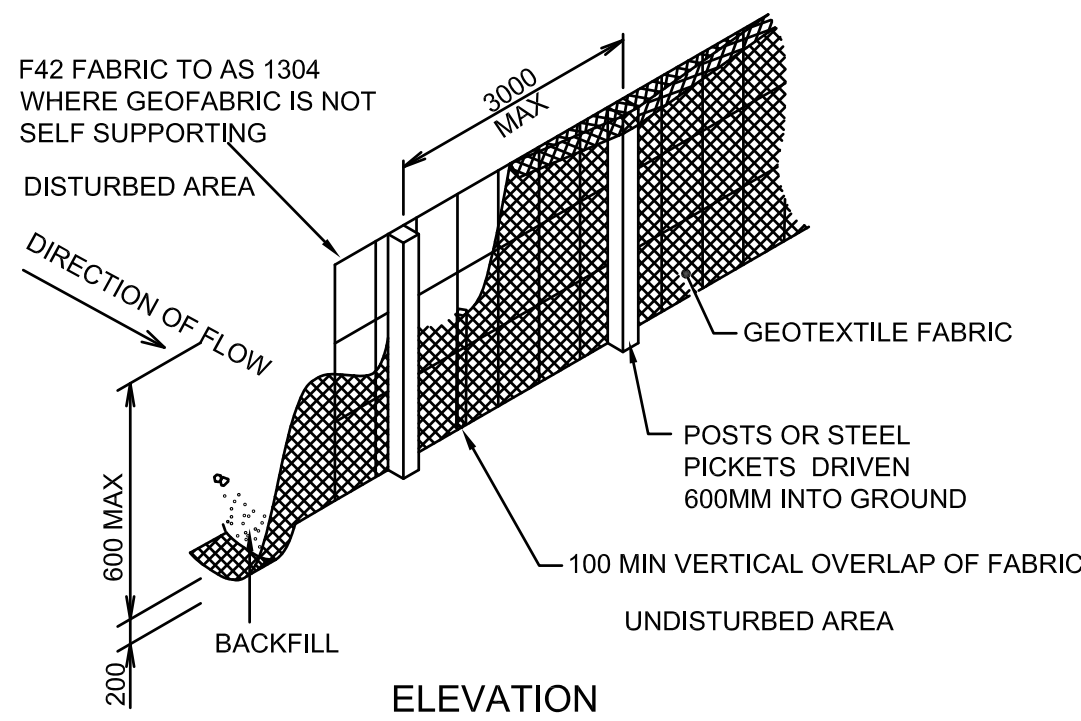
Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:400
Drawing No.	Revision		
BHS-CE-2005	I		

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD
Tel: +61 (0)2 8666 7888
ABN 65 094 064 990
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
Member Firm
AUSTRALIAN STEEL INSTITUTE
AUSTRALIAN INSTITUTE OF PROFESSIONAL ENGINEERS



ALTERNATIVE 1

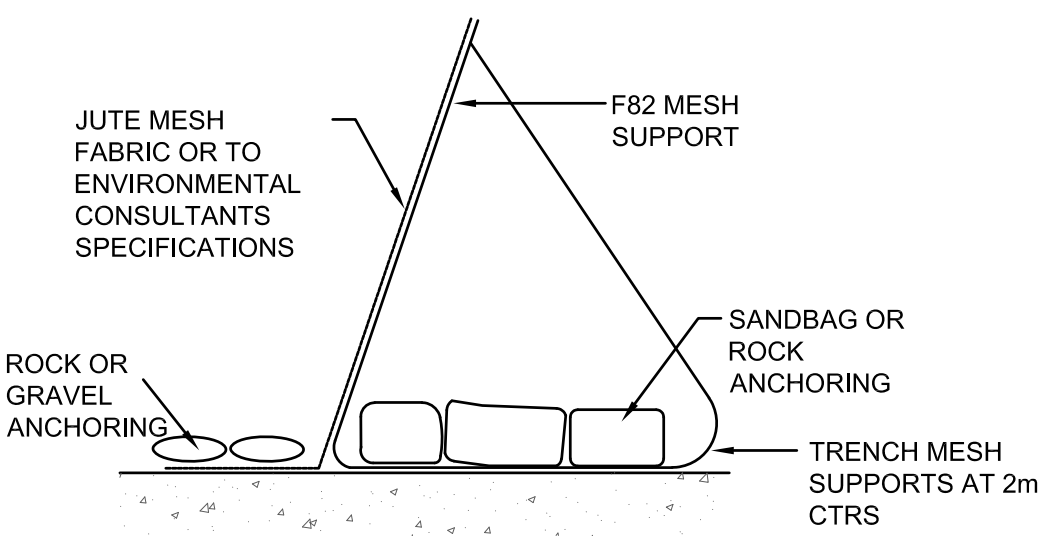
ALTERNATIVE 2



ELEVATION

SEDIMENT FENCE

NOT TO SCALE

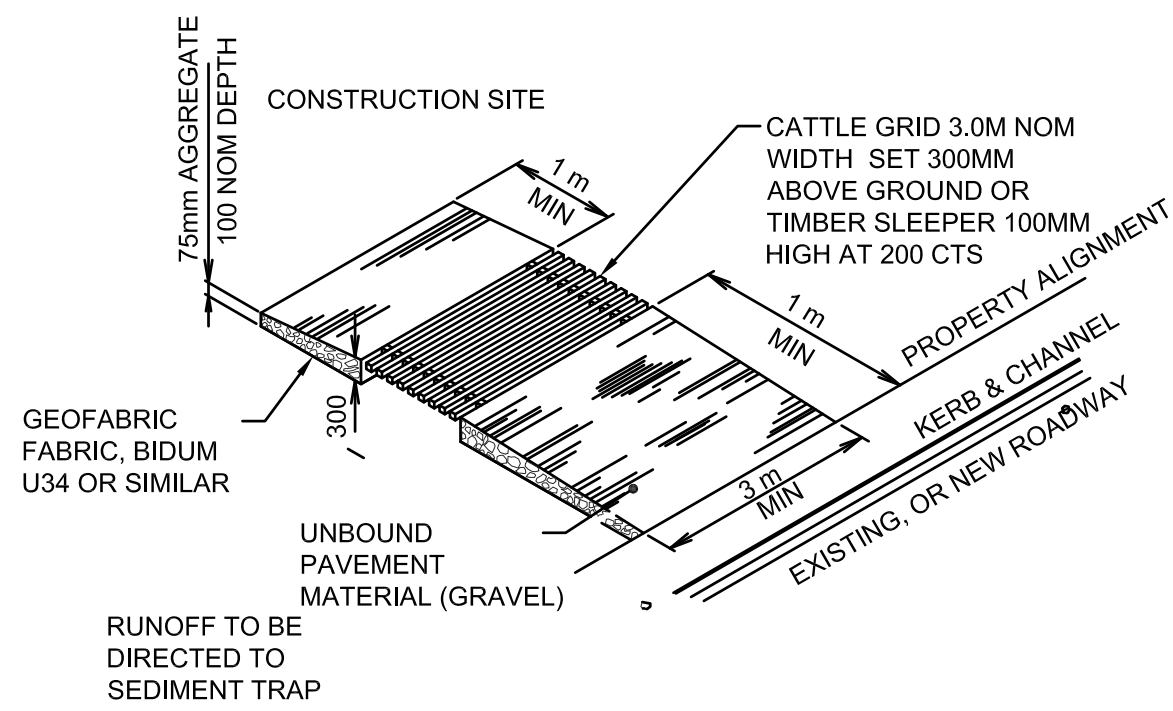


ALTERNATIVE SEDIMENT FENCE

NOT TO SCALE

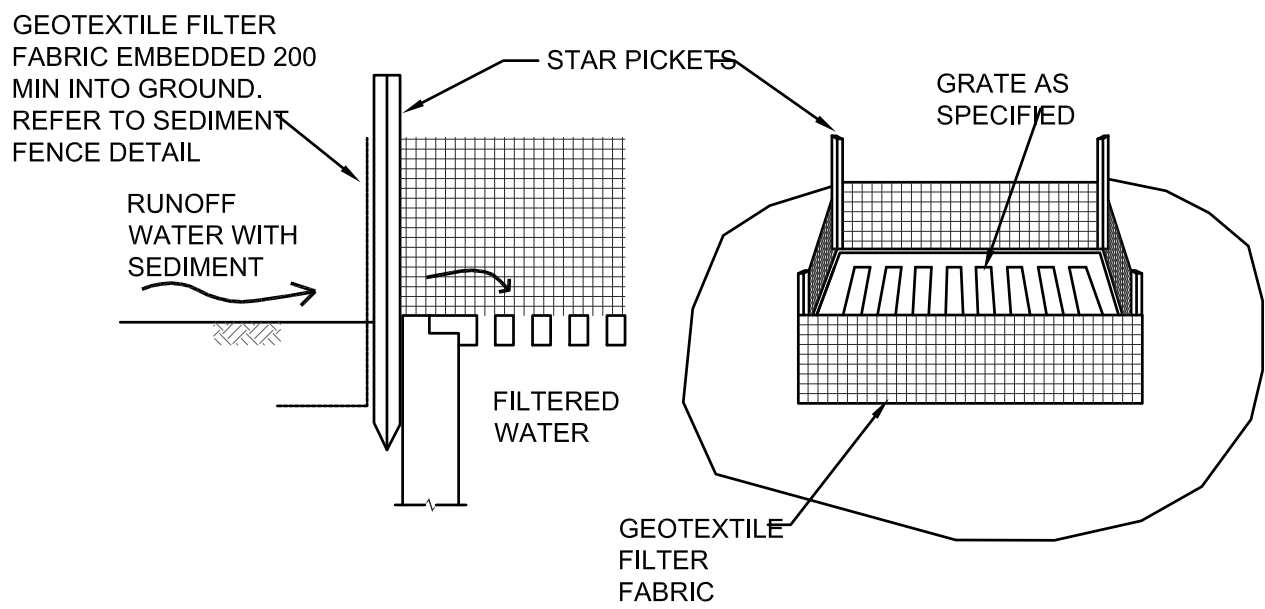
ALTERNATIVE SEDIMENT FENCE NOTES

1. INSTALL THIS TYPE OF SEDIMENT FENCE WHEN USE OF SUPPORT POSTS IS NOT DESIRABLE OR NOT POSSIBLE. SUCH CONDITIONS MIGHT APPLY, FOR EXAMPLE, WHERE APPROVAL IS GRANTED FROM THE APPROPRIATE AUTHORITIES TO PLACE THESE FENCES IN HIGHLY SENSITIVE ESTUARINE AREAS.
2. USE BENT TRENCH MESH TO SUPPORT THE F82 WELDED MESH FACING AS SHOWN ON THE DRAWING ABOVE. ATTACH THE JUTE MESH TO THE WELDED MESH FACING USING UV-RESISTANT CABLE TIES.
3. STABILISE THE WHOLE STRUCTURE WITH SANDBAG OR ROCK ANCHORING OVER THE TRENCH MESH AND THE LEADING EDGE OF THE JUTE MESH. THE ANCHORING SHOULD BE SUFFICIENTLY LARGE TO ENSURE STABILITY OF THE STRUCTURE IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.



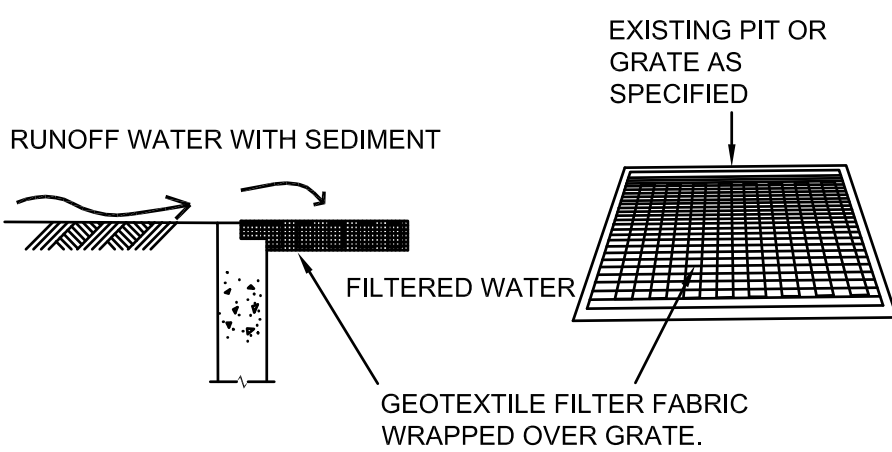
TEMPORARY CONSTRUCTION VEHICLE ENTRY/EXIT SEDIMENT TRAP

NOT TO SCALE



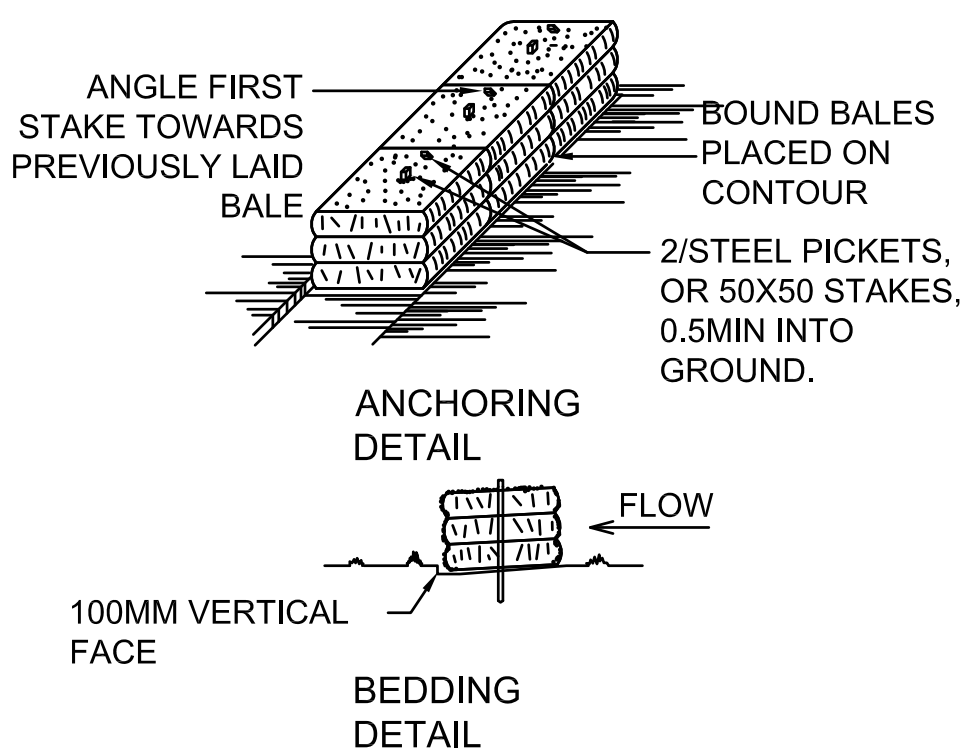
GEOTEXTILE PIT FILTER 1

NOT TO SCALE



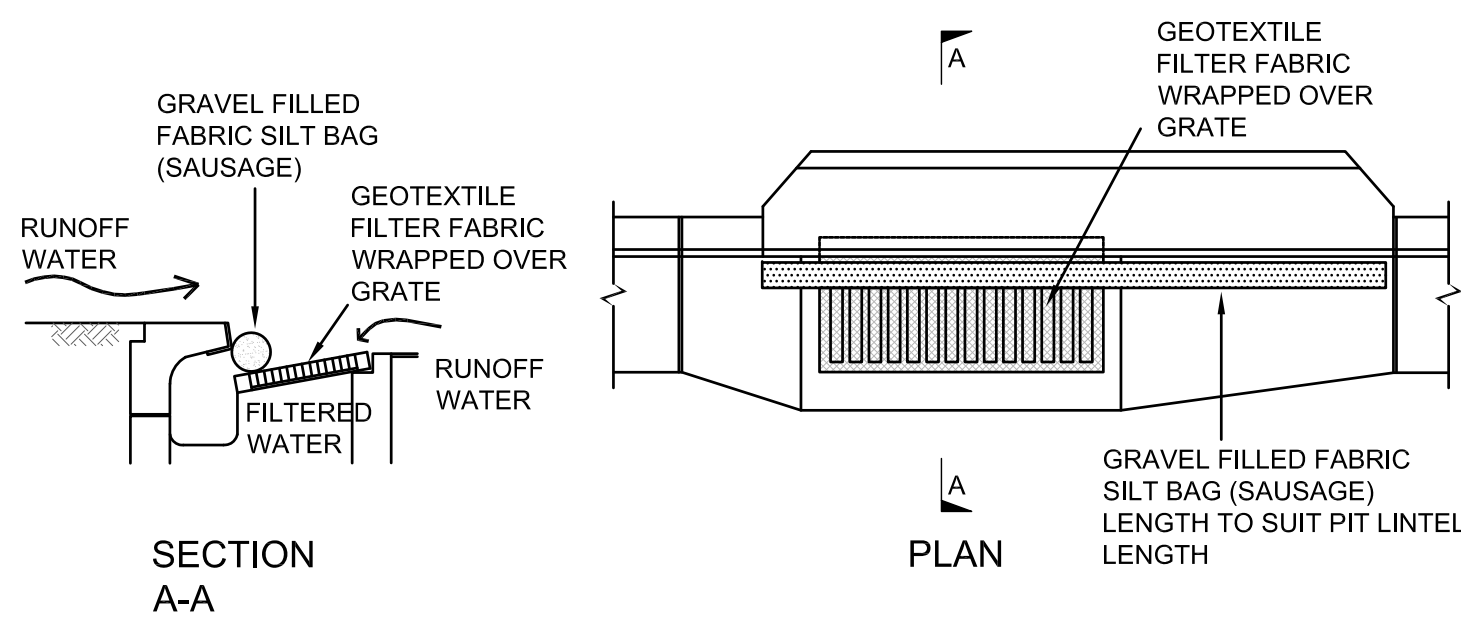
GEOTEXTILE PIT FILTER 2

NOT TO SCALE



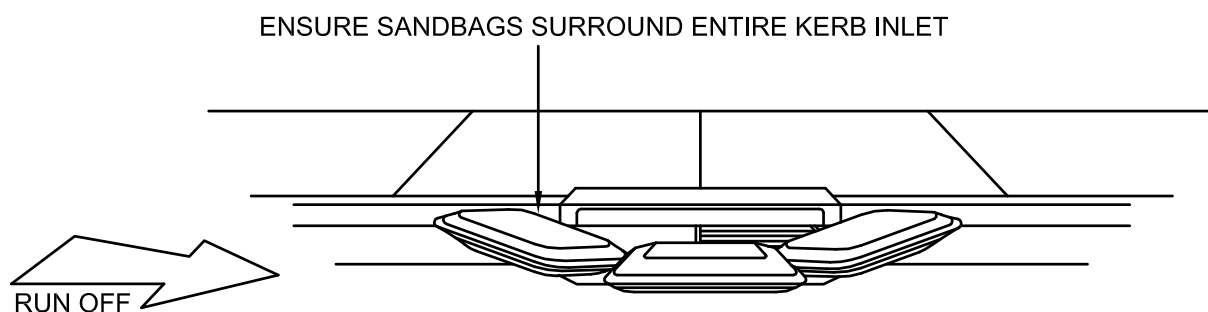
STRAW BALE BANK SEDIMENT CONTROL

NOT TO SCALE



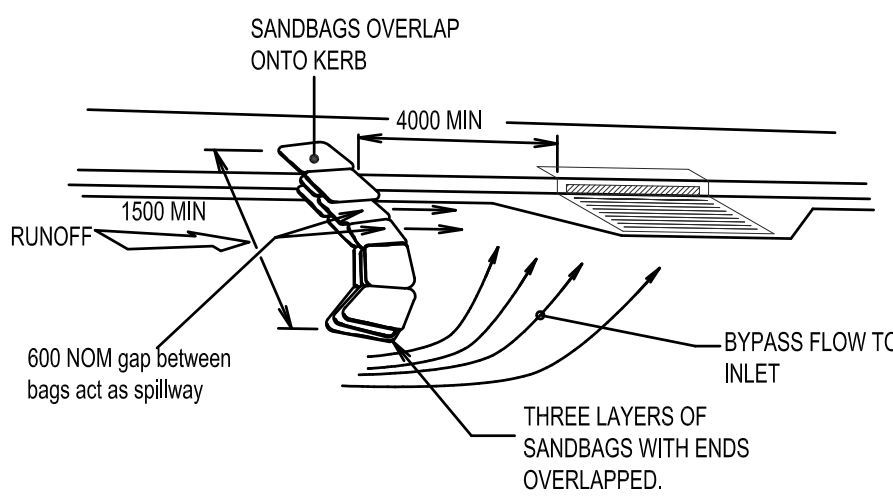
KERB INLET SEDIMENT TRAP

NOT TO SCALE



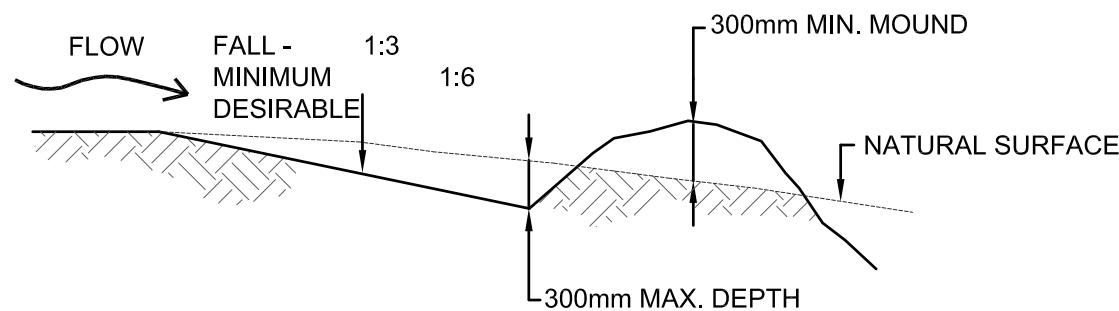
SANDBAG KERB INLET SEDIMENT TRAP

NOT TO SCALE



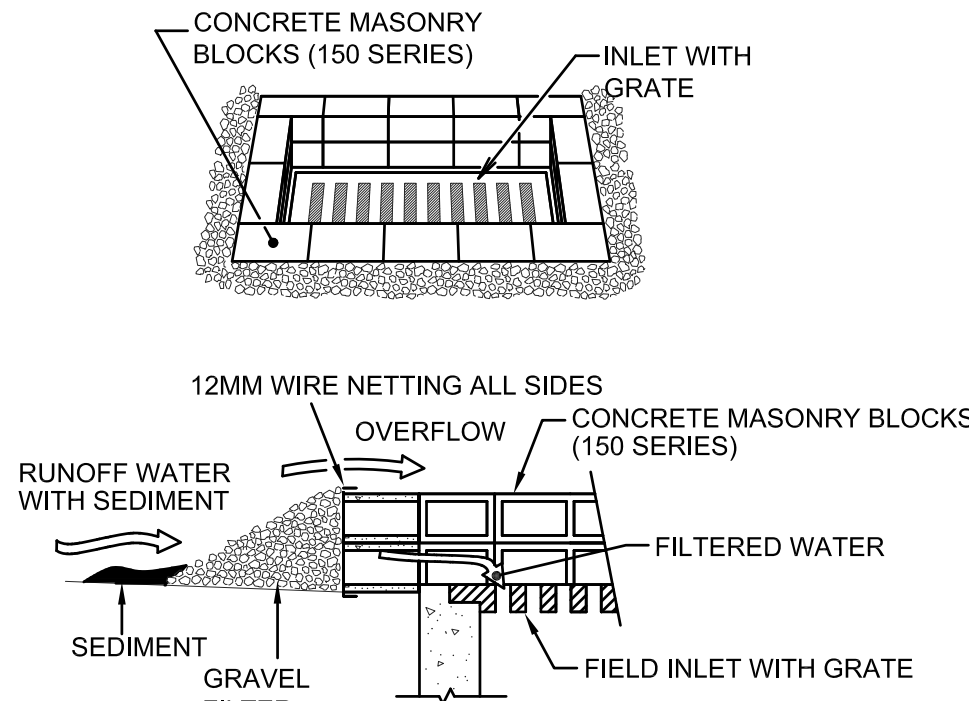
ON GRADE KERB INLET SEDIMENT TRAP

NOT TO SCALE



CATCH DRAIN

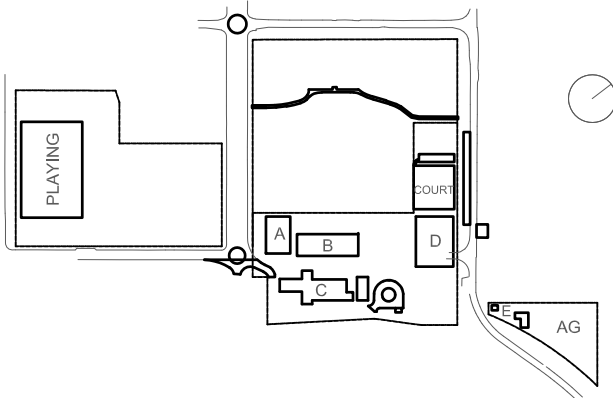
NOT TO SCALE



FIELD INLET SEDIMENT TRAP

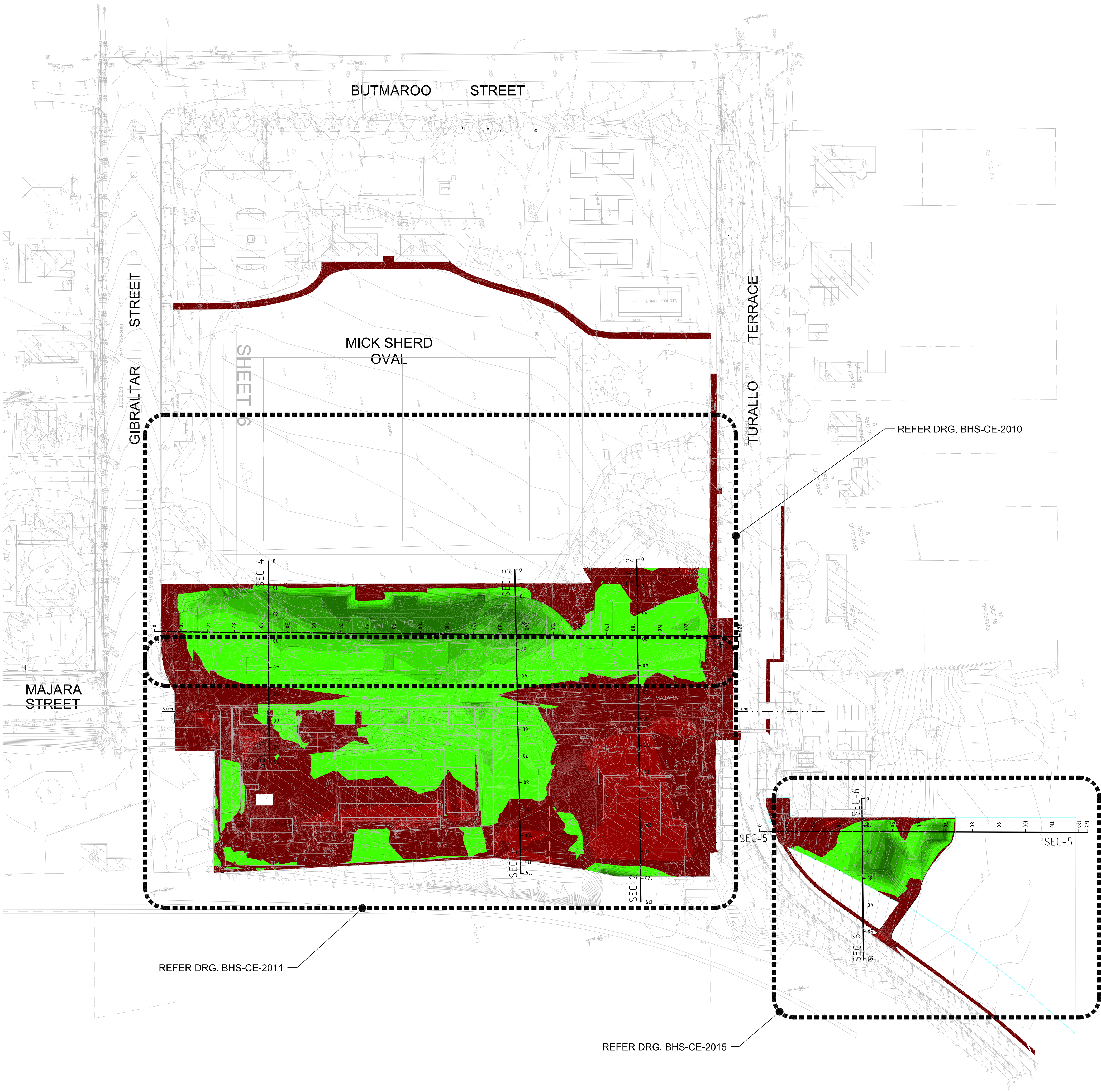
NOT TO SCALE

KEY



NOT FOR CONSTRUCTION

M+G Consulting



Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Red	-2.000	-1.800
2	Red	-1.800	-1.600
3	Red	-1.600	-1.400
4	Red	-1.400	-1.200
5	Red	-1.200	-1.000
6	Red	-1.000	-0.800
7	Red	-0.800	-0.600
8	Red	-0.600	-0.400
9	Red	-0.400	-0.200
10	Red	-0.200	0.000
11	Green	0.000	0.200
12	Green	0.200	0.400
13	Green	0.400	0.600
14	Green	0.600	0.800
15	Green	0.800	1.000
16	Green	1.000	1.200
17	Green	1.200	1.400

Cut/Fill Summary						
Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
VOLUME	1.000	1.000	24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>
Totals			24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>

- EXCAVATION NOTES**
- E1 VOLUMES ARE APPROXIMATE ONLY AND DO NOT INCORPORATE BULKING AND SHRINKAGE FACTORS.
 - E2 GROUND WATER SEEPAGE MAY OCCUR IN EXCAVATED AREAS. DE-WATERING MAY BE REQUIRED IN THIS INSTANCE.
 - E3 THIS DRAWING ONLY DETAILS EXCAVATION ASSOCIATED WITH THE BUILDING SLAB (IGNORING STRUCTURAL FOOTINGS, BEAMS AND COLUMNS). IN ADDITION TO MAKING NO ALLOWANCE FOR TRENCH BACKFILL, TREE ROOTBALLS OR DETAILED EXCAVATION.
 - E4 PROVIDE TEMPORARY MAXIMUM 1 IN 1 BATTERS U.N.O. GEOTECH TO CONFIRM BATTER ACCEPTABILITY DURING CONSTRUCTION.
 - E5 THE EXCAVATED MATERIAL IS TO BE TEMPORARILY STOCKPILED WITHIN THE LANDSCAPED AREAS (TO BE CONFIRMED ON-SITE) AND RE-USED USING VALIDATED MATERIALS AS LANDSCAPING SOIL BUILD-UP/BACKFILL IN ACCORDANCE WITH LANDSCAPE ARCHITECT'S AND SOIL AND WATER MANAGEMENT PLAN (SWMP).
 - E6 REFER TO ARBORIST REPORT FOR TREE PROTECTION MEASURES IF REQUIRED.
 - E7 500mm ZONE OFFSET FROM BUILDING HAS BEEN ALLOWED FOR FORM WORK.
 - E8 SITE SURVEY SUPPLIED BY 'PROJECT SURVEYORS' PTY LTD JOB REFERENCE No. B04901 DRAWING No. B04901-BUN-REV K-1 REVISION K DATED 06.06.2022.
 - E9 EARTHWORKS TO PROVIDE A BUILDING PLATFORM BENCH WITH A MINIMUM ALLOWABLE BEARING PRESSURE OF 150 kPa. GEOTECHNICAL ENGINEER TO CONFIRM.
 - E10 ALL EARTHWORKS TO COMPLY WITH AS 3798-2007 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
 - E11 LEVEL 2 INSPECTION AND TESTING OF EARTHWORKS TO AS 3798-2007.

NOTE:
EXCESS FILL TO BE REUSED ON SITE

BULK EXCAVATION GENERAL ARRANGEMENT PLAN
SCALE 1:750

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER

HINDMARSH

Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT

NSW GOVERNMENT

Education

School Infrastructure

NSW Department of Education |
School Infrastructure NSW

T+ 02 9561 8287

Project Managers

TSA Management

T+ 61 2 9276 1400

Architect

TKD Architects

T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD

Norman Disney & Young

T+ 61 2 9928 6800

Landscape Architecture

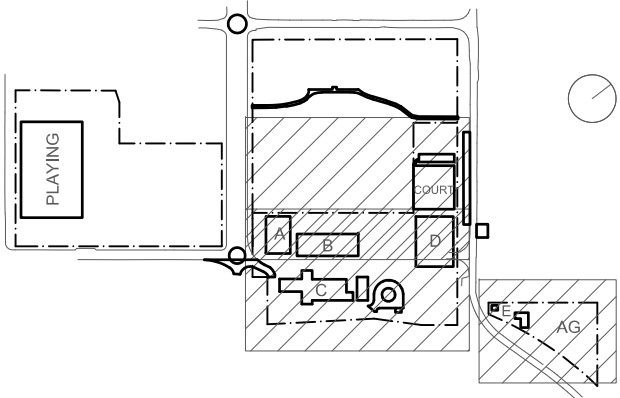
Context

T+ 61 2 8244 8900

Acoustic

Acoustic Logic

T+ 61 2 8339 8000



Rev	Date	Description	Chkd	Auth.
A	14.12.21	ISSUED FOR DD		
B	14.02.22	GENERALLY REVISED		
C	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project

New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621

Drawing Title

**BULK EARTHWORKS
GENERAL ARRANGEMENT
PLAN**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:750
Drawing No.	Revision		
BHS-CE-2009	C		

NOT FOR CONSTRUCTION

M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888

CONSIST AUSTRALIA
Member Firm

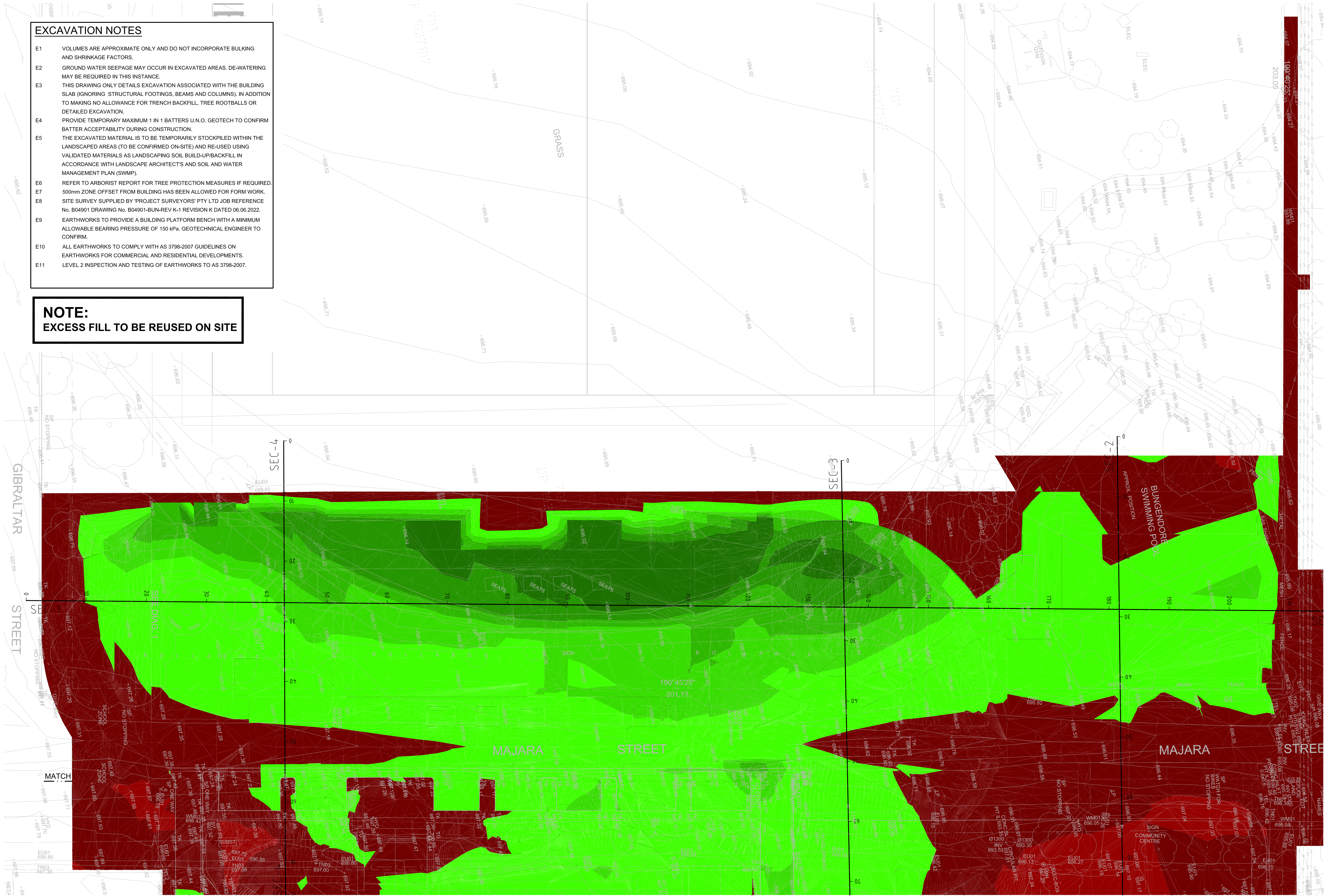
AUSTRALIAN STEEL INSTITUTE

EXCAVATION NOTES

- E1 VOLUMES ARE APPROXIMATE ONLY AND DO NOT INCORPORATE BULKING AND SHRINKAGE FACTORS.
- E2 GROUND WATER SEEPAGE MAY OCCUR IN EXCAVATED AREAS. DE-WATERING MAY BE REQUIRED IN THIS INSTANCE.
- E3 THIS DRAWING ONLY DETAILS EXCAVATION ASSOCIATED WITH THE BUILDING SLAB (IGNORING STRUCTURAL FOOTINGS, BEAMS AND COLUMNS), IN ADDITION TO MAKING NO ALLOWANCE FOR TRENCH BACKFILL, TREE ROOTBALLS OR DETAILED EXCAVATION.
- E4 PROVIDE TEMPORARY MAXIMUM 1 IN 1 BATTERS U.N.O. GEOTECH TO CONFIRM BATTER ACCEPTABILITY DURING CONSTRUCTION.
- E5 THE EXCAVATED MATERIAL IS TO BE TEMPORARILY STOCKPILED WITHIN THE LANDSCAPED AREAS (TO BE CONFIRMED ON-SITE) AND RE-USED USING VALIDATED MATERIALS AS LANDSCAPING SOIL BUILD-UP/BACKFILL IN ACCORDANCE WITH LANDSCAPE ARCHITECT'S AND SOIL AND WATER MANAGEMENT PLAN (SWMP).
- E6 REFER TO ARBORIST REPORT FOR TREE PROTECTION MEASURES IF REQUIRED.
- E7 500mm ZONE OFFSET FROM BUILDING HAS BEEN ALLOWED FOR FORM WORK.
- E8 SITE SURVEY SUPPLIED BY 'PROJECT SURVEYORS' PTY LTD JOB REFERENCE No. B04901 DRAWING No. B04901-BUN-REV K-1 REVISION K DATED 06.06.2022.
- E9 EARTHWORKS TO PROVIDE A BUILDING PLATFORM BENCH WITH A MINIMUM ALLOWABLE BEARING PRESSURE OF 150 kPa. GEOTECHNICAL ENGINEER TO CONFIRM.
- E10 ALL EARTHWORKS TO COMPLY WITH AS 3798-2007 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
- E11 LEVEL 2 INSPECTION AND TESTING OF EARTHWORKS TO AS 3798-2007.

NOTE:
EXCESS FILL TO BE REUSED ON SITE

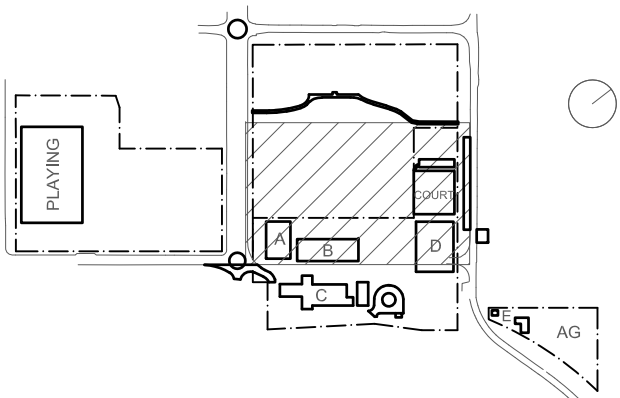
Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-2.000	-1.800
2		-1.800	-1.600
3		-1.600	-1.400
4		-1.400	-1.200
5		-1.200	-1.000
6		-1.000	-0.800
7		-0.800	-0.600
8		-0.600	-0.400
9		-0.400	-0.200
10		-0.200	0.000
11		0.000	0.200
12		0.200	0.400
13		0.400	0.600
14		0.600	0.800
15		0.800	1.000
16		1.000	1.200
17		1.200	1.400



FOR CONTINUATION REFER DRG. BHS-CE-2011

PART BULK EXCAVATION PLAN

SCALE 1:250



Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
VOLUME	1.000	1.000	24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>
Totals			24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>

Rev	Date	Description	Chkd	Auth.
A	24.03.21	DRAFT SCHEMATIC DESIGN ISSUE		
B	08.04.21	SCHEMATIC DESIGN		
C	16.04.21	SCHEMATIC DESIGN		
D	30.04.21	SCHEMATIC DESIGN		
E	07.05.21	SCHEMATIC DESIGN		
F	12.05.21	SCHEMATIC DESIGN		
G	10.12.21	ISSUED FOR DD		
H	14.02.22	GENERALLY REVISED		
I	14.07.22	ISSUED FOR RT'S REVISED DESIGN		

Project
New High School in Bungendore

MAJARA STREET
BUNGENDORE NSW 2621

Drawing Title
BULK EARTHWORKS
DETAIL PLAN
SHEET 1

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250
Drawing No.		Revision	
BHS-CE-2010		I	

NOT FOR CONSTRUCTION

M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990

Tel: +61 (02) 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

CONSENT AUSTRALIA
Member Firm
AUSTRALIAN SOCIETY OF PROFESSIONAL ENGINEERS

BUILDER

HINDMARSH

Hindmarsh Construction Australia Pty Ltd

Level 27, 100 Miller Street
North Sydney NSW 2060

T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT

NSW Education
School Infrastructure

NSW Department of Education |
School Infrastructure NSW

T+ 02 9561 8287

Project Managers
TSA Management

T+ 61 2 9276 1400

Architect
TKD Architects

T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD

Norman Disney & Young

T+ 61 2 9928 6600

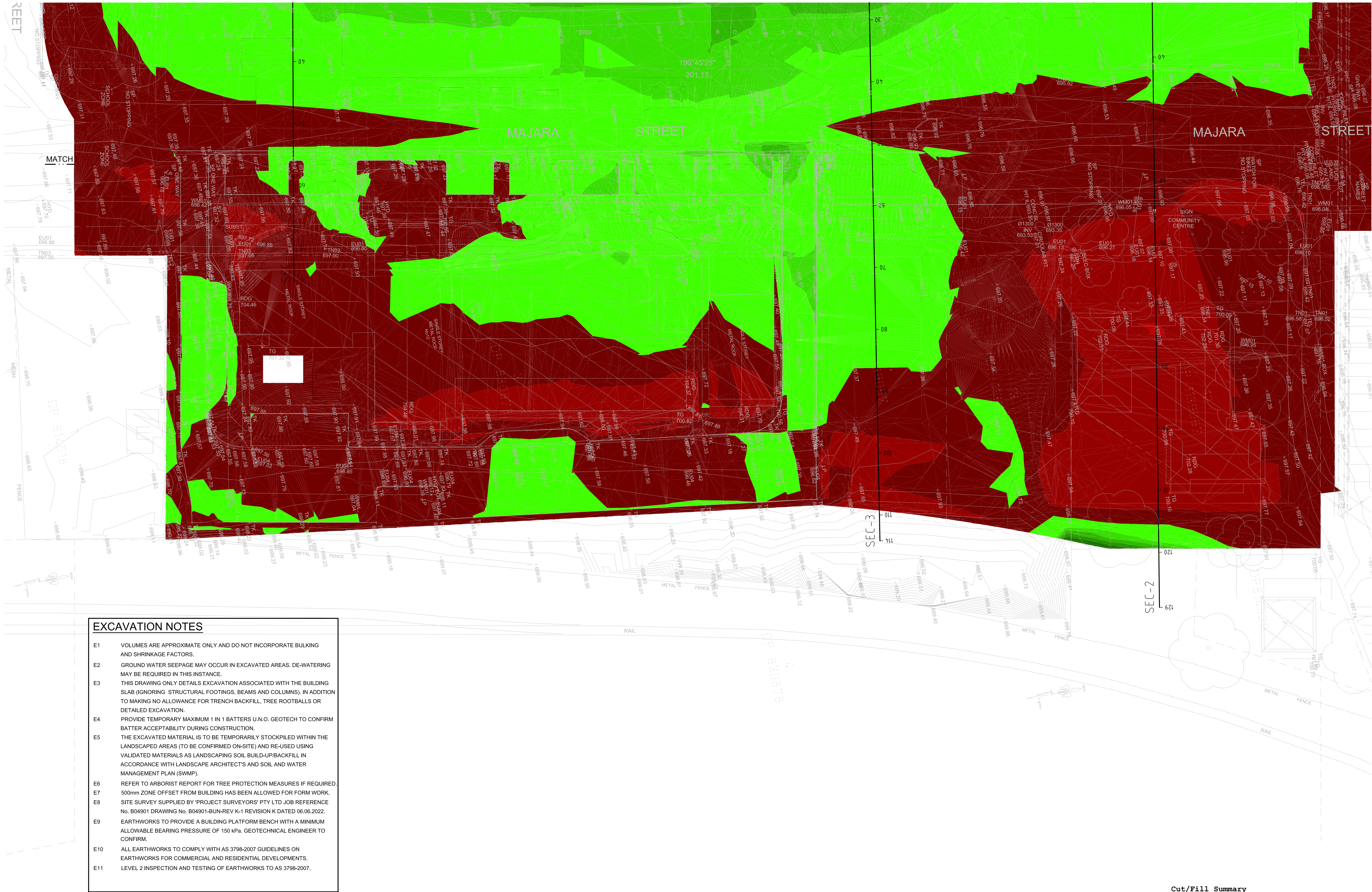
Landscape Architecture
Context

T+ 61 2 8244 8900

Acoustic
Acoustic Logic

T+ 61 2 8339 9000

KEY



Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-2.000	-1.800
2		-1.800	-1.600
3		-1.600	-1.400
4		-1.400	-1.200
5		-1.200	-1.000
6		-1.000	-0.800
7		-0.800	-0.600
8		-0.600	-0.400
9		-0.400	-0.200
10		-0.200	0.000
11		0.000	0.200
12		0.200	0.400
13		0.400	0.600
14		0.600	0.800
15		0.800	1.000
16		1.000	1.200
17		1.200	1.400

EXCAVATION NOTES

- E1 VOLUMES ARE APPROXIMATE ONLY AND DO NOT INCORPORATE BULKING AND SHRINKAGE FACTORS.
- E2 GROUND WATER SEEPAGE MAY OCCUR IN EXCAVATED AREAS. DE-WATERING MAY BE REQUIRED IN THIS INSTANCE.
- E3 THIS DRAWING ONLY DETAILS EXCAVATION ASSOCIATED WITH THE BUILDING SLAB (IGNORING STRUCTURAL FOOTINGS, BEAMS AND COLUMNS). IN ADDITION TO MAKING NO ALLOWANCE FOR TRENCH BACKFILL, TREE ROOTBALLS OR DETAILED EXCAVATION.
- E4 PROVIDE TEMPORARY MAXIMUM 1 IN 1 BATTERS U.N.O. GEOTECH TO CONFIRM BATTER ACCEPTABILITY DURING CONSTRUCTION.
- E5 THE EXCAVATED MATERIAL IS TO BE TEMPORARILY STOCKPILED WITHIN THE LANDSCAPED AREAS (TO BE CONFIRMED ON-SITE) AND RE-USED USING VALIDATED MATERIALS AS LANDSCAPING SOIL BUILD-UP/BACKFILL IN ACCORDANCE WITH LANDSCAPE ARCHITECT'S AND SOIL AND WATER MANAGEMENT PLAN (SWMP).
- E6 REFER TO ARBORIST REPORT FOR TREE PROTECTION MEASURES IF REQUIRED.
- E7 500mm ZONE OFFSET FROM BUILDING HAS BEEN ALLOWED FOR FORM WORK.
- E8 SITE SURVEY SUPPLIED BY 'PROJECT SURVEYORS' PTY LTD JOB REFERENCE No. B04901 DRAWING No. B04901-BUN-REV K-1 REVISION K DATED 06.06.2022.
- E9 EARTHWORKS TO PROVIDE A BUILDING PLATFORM BENCH WITH A MINIMUM ALLOWABLE BEARING PRESSURE OF 150 kPa. GEOTECHNICAL ENGINEER TO CONFIRM.
- E10 ALL EARTHWORKS TO COMPLY WITH AS 3798-2007 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
- E11 LEVEL 2 INSPECTION AND TESTING OF EARTHWORKS TO AS 3798-2007.

NOTE:
EXCESS FILL TO BE REUSED ON SITE

PART BULK EXCAVATION PLAN
SCALE 1:250

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
VOLUME	1.000	1.000	24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>
Totals			24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER

HINDMARSH

Hindmarsh Construction Australia Pty Ltd

Level 27, 100 Miller Street
North Sydney NSW 2060

T +61 2 9274 1100
F +61 2 6274 8898

www.hindmarsh.com.au

CLIENT

NSW Education
SCHOOL INFRASTRUCTURE

NSW Department of Education |
School Infrastructure NSW

T+ 02 9561 8287

Project Managers

TSA Management

T+ 61 2 9276 1400

Architect

TKD Architects

T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD

Norman Disney & Young

T+ 61 2 9928 6600

Landscape Architecture

Context

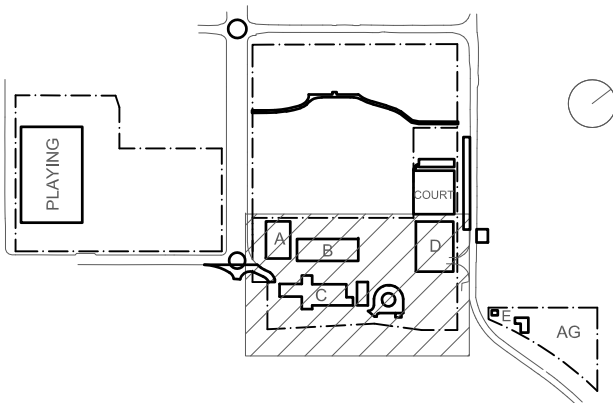
T+ 61 2 8244 8900

Acoustic

Acoustic Logic

T+ 61 2 8339 9000

KEY



Rev	Date	Description	Chkd	Auth
A	24.03.21	DRAFT SCHEMATIC DESIGN ISSUE		
B	09.04.21	SCHEMATIC DESIGN		
C	16.04.21	SCHEMATIC DESIGN		
D	30.04.21	SCHEMATIC DESIGN		
E	07.05.21	SCHEMATIC DESIGN		
F	12.05.21	SCHEMATIC DESIGN		
G	10.12.21	ISSUED FOR DD		
H	14.02.22	GENERALLY REVISED		
I	14.07.22	ISSUED FOR RT'S REVISED DESIGN		

Project

New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621

Drawing Title **BULK EARTHWORKS
DETAIL PLAN
SHEET 2**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250
Drawing No.			Revision
BHS-CE-2011			I

NOT FOR CONSTRUCTION

M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990

Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO BOX 1656, NSW 2059)

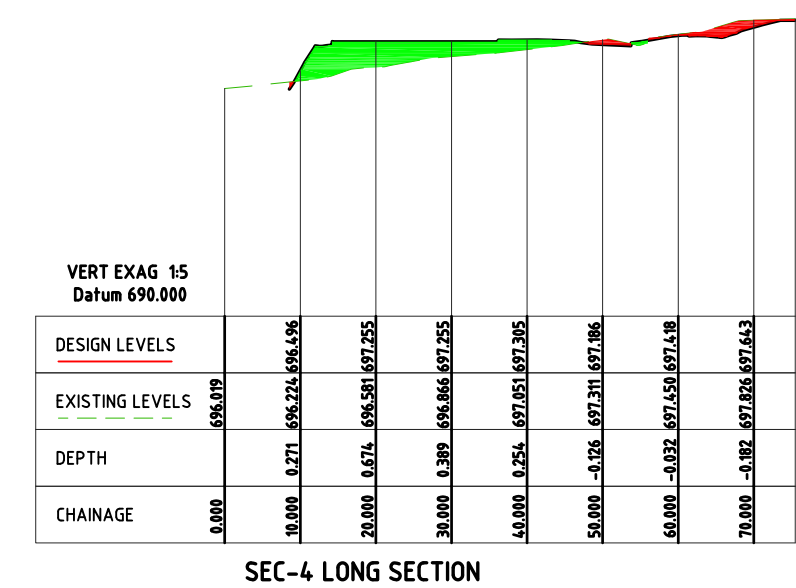
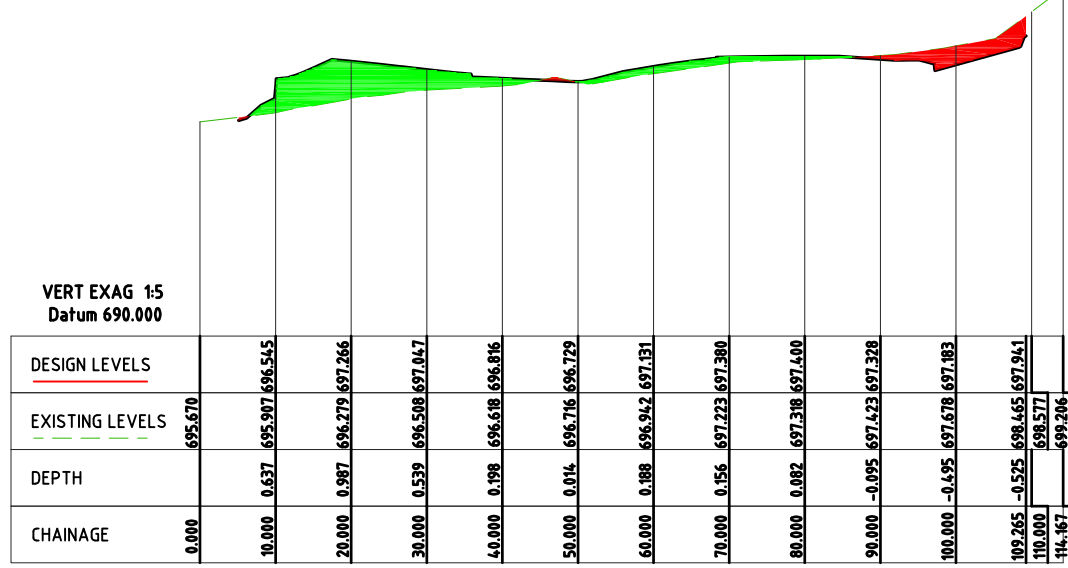
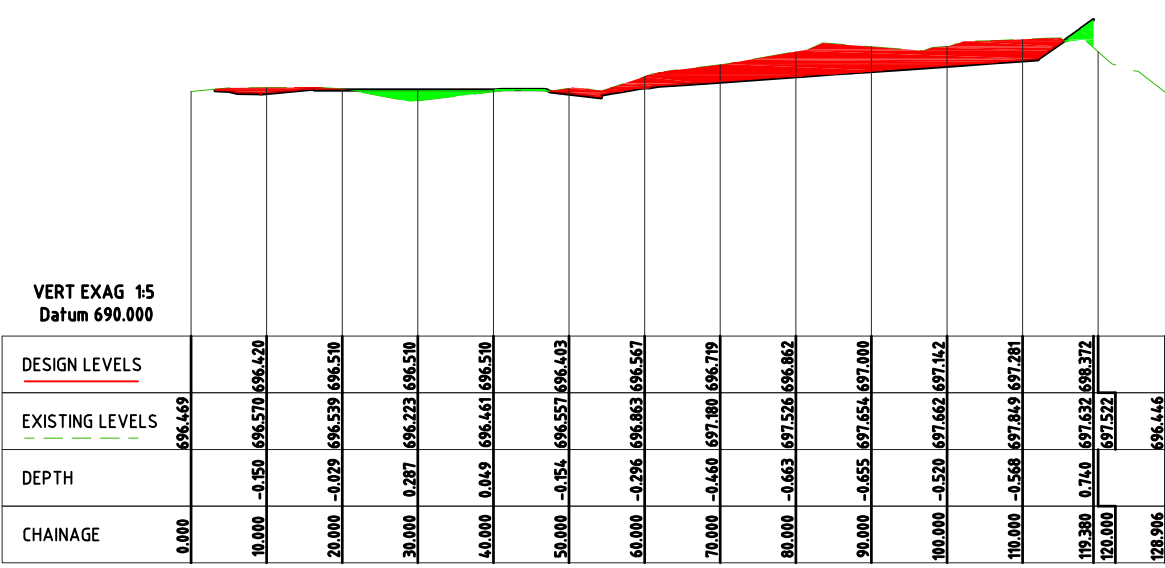
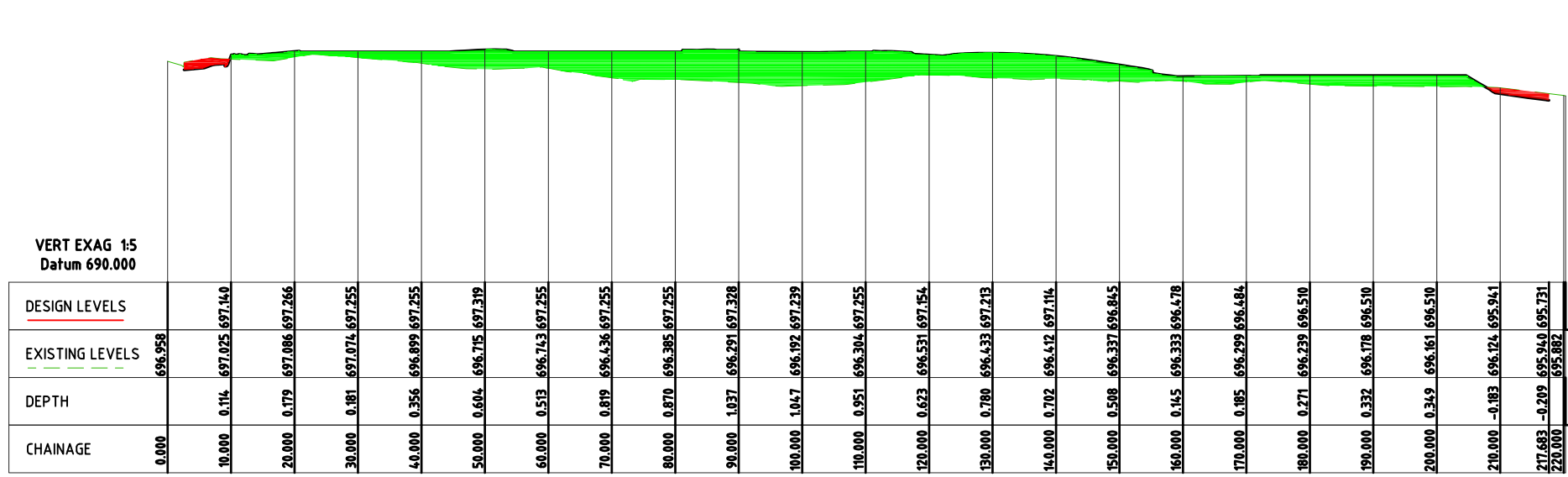
CONSENT AUSTRALIA

MEMBER FIRM

AUSTRALIAN STEEL INSTITUTE

REGISTERED

REGISTERED



Surface Analysis Elevation Ranges			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1	Red	-2.000	-1.800
2	Red	-1.800	-1.600
3	Red	-1.600	-1.400
4	Red	-1.400	-1.200
5	Red	-1.200	-1.000
6	Red	-1.000	-0.800
7	Red	-0.800	-0.600
8	Red	-0.600	-0.400
9	Red	-0.400	-0.200
10	Red	-0.200	0.000
11	Green	0.000	0.200
12	Green	0.200	0.400
13	Green	0.400	0.600
14	Green	0.600	0.800
15	Green	0.800	1.000
16	Green	1.000	1.200
17	Green	1.200	1.400

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

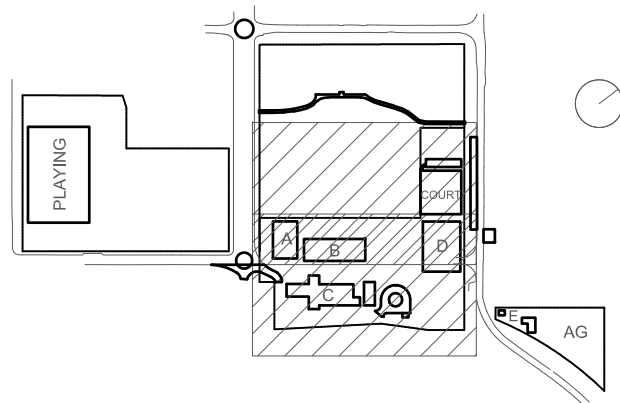
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW Education
NSW Department of Education |
School Infrastructure NSW

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 8000

KEY



Rev	Date	Description	Chkd	Auth.
A	24.03.21	DRAFT SCHEMATIC DESIGN ISSUE		
B	09.04.21	SCHEMATIC DESIGN		
C	16.04.21	SCHEMATIC DESIGN		
D	30.04.21	SCHEMATIC DESIGN		
E	07.05.21	SCHEMATIC DESIGN		
F	12.05.21	SCHEMATIC DESIGN		
G	10.12.21	ISSUED FOR DD		
H	14.02.22	GENERALLY REVISED		
I	14.07.22	ISSUED FOR RTS REVISED DESIGN		

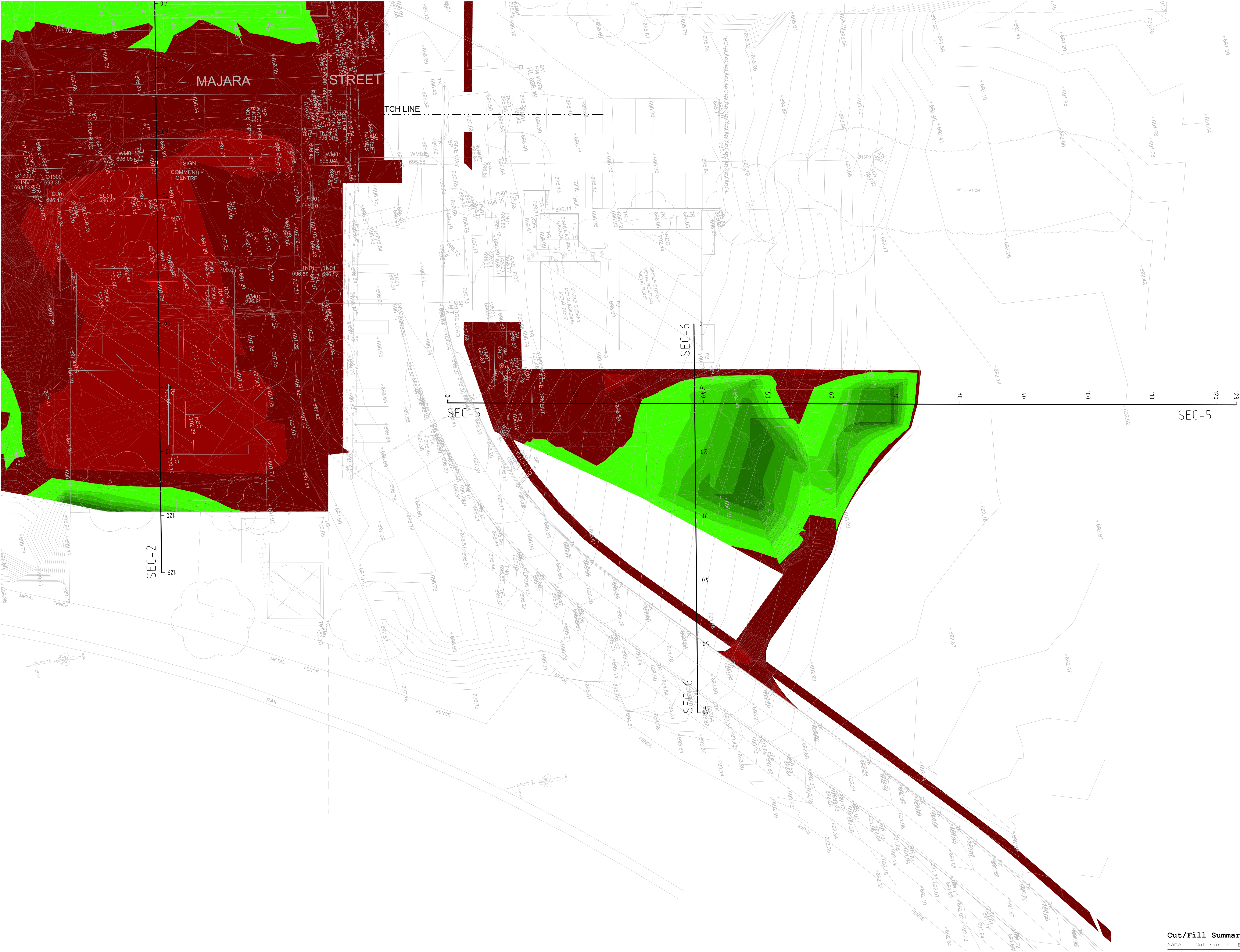
Project
New High School in Bungendore
MAJARA STREET
BUNGENDORE NSW 2621
Drawing Title
BULK EARTHWORKS
LONGITUDINAL SECTIONS

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:500

Drawing No.
BHS-CE-2012
Revision
I

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
ABN 65 094 064 990
CONSULT AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
REGISTERED
ACQUA
REGISTERED



Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-2.000	-1800
2		-1800	-1600
3		-1600	-1400
4		-1400	-1200
5		-1200	-1000
6		-1000	-800
7		-800	-600
8		-600	-400
9		-400	-200
10		-200	0.000
11		0.000	0.200
12		0.200	0.400
13		0.400	0.600
14		0.600	0.800
15		0.800	1.000
16		1.000	1.200
17		1.200	1.400

EXCAVATION NOTES

- E1 VOLUMES ARE APPROXIMATE ONLY AND DO NOT INCORPORATE BULKING AND SHRINKAGE FACTORS.
- E2 GROUND WATER SEEPAGE MAY OCCUR IN EXCAVATED AREAS. DE-WATERING MAY BE REQUIRED IN THIS INSTANCE.
- E3 THIS DRAWING ONLY DETAILS EXCAVATION ASSOCIATED WITH THE BUILDING SLAB (IGNORING STRUCTURAL FOOTINGS, BEAMS AND COLUMNS), IN ADDITION TO MAKING NO ALLOWANCE FOR TRENCH BACKFILL, TREE ROOTBALLS OR DETAILED EXCAVATION.
- E4 PROVIDE TEMPORARY MAXIMUM 1 IN 1 BATTERS U.N.O. GEOTECH TO CONFIRM BATTER ACCEPTABILITY DURING CONSTRUCTION.
- E5 THE EXCAVATED MATERIAL IS TO BE TEMPORARILY STOCKPILED WITHIN THE LANDSCAPED AREAS (TO BE CONFIRMED ON-SITE) AND RE-USED USING VALIDATED MATERIALS AS LANDSCAPING SOIL BUILD-UP/BACKFILL IN ACCORDANCE WITH LANDSCAPE ARCHITECT'S AND SOIL AND WATER MANAGEMENT PLAN (SWMP).
- E6 REFER TO ARBORIST REPORT FOR TREE PROTECTION MEASURES IF REQUIRED.
- E7 500mm ZONE OFFSET FROM BUILDING HAS BEEN ALLOWED FOR FORM WORK.
- E8 SITE SURVEY SUPPLIED BY 'PROJECT SURVEYORS' PTY LTD JOB REFERENCE No. B04901-DRAWING No. B04901-BUN-REV K-1 REVISION K DATED 06.06.2022.
- E9 EARTHWORKS TO PROVIDE A BUILDING PLATFORM BENCH WITH A MINIMUM ALLOWABLE BEARING PRESSURE OF 150 kPa. GEOTECHNICAL ENGINEER TO CONFIRM.
- E10 ALL EARTHWORKS TO COMPLY WITH AS 3798-2007 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS.
- E11 LEVEL 2 INSPECTION AND TESTING OF EARTHWORKS TO AS 3798-2007.

NOTE:
EXCESS FILL TO BE REUSED ON SITE

AG PLOT BULK EXCAVATION PLAN
SCALE 1:250

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
VOLUME	1.000	1.000	24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>
Totals			24355.174sq.m	2995.914 Cu. M.	4081.035 Cu. M.	1085.121 Cu. M.<Fill>

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

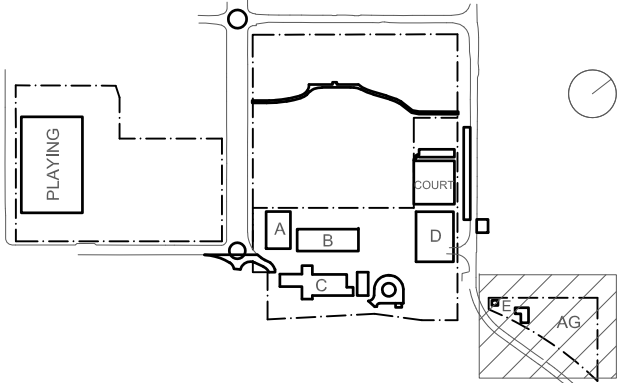
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 61 2 9261 4399
T+ 61 2 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9261 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



Rev	Date	Description	Chkd	Auth.
A	11.05.21	SCHEMATIC DESIGN		
B	10.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REISED		
D	14.07.22	ISSUED FOR RT'S REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
AG PLOT
BULK EARTHWORKS PLAN

Designed MW	Reviewed SCM	Drawn MW	Sheet B1
Job No. 5555	Status SSDA	Date OCT '21	Scale 1:250
Drawing No. BHS-CE-2015			Revision D

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
MEMBER OF
AUSTRALIAN STEEL INSTITUTE
MEMBER OF
AUSTRALIAN STEEL INSTITUTE



Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-2.000	-1.800
2		-1.800	-1.600
3		-1.600	-1.400
4		-1.400	-1.200
5		-1.200	-1.000
6		-1.000	-0.800
7		-0.800	-0.600
8		-0.600	-0.400
9		-0.400	-0.200
10		-0.200	0.000
11		0.000	0.200
12		0.200	0.400
13		0.400	0.600
14		0.600	0.800
15		0.800	1.000
16		1.000	1.200
17		1.200	1.400

BUILDER

 **HINDMARSH**

Hindmarsh Construction Australia Pty Ltd

Level 27, 100 Miller Street
North Sydney NSW 2060

T +61 2 9274 1100
F +61 2 6274 8898

www.hindmarsh.com.au

CLIENT

 **Education**
School Infrastructure

NSW Department of Education
School Infrastructure NSW

T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400

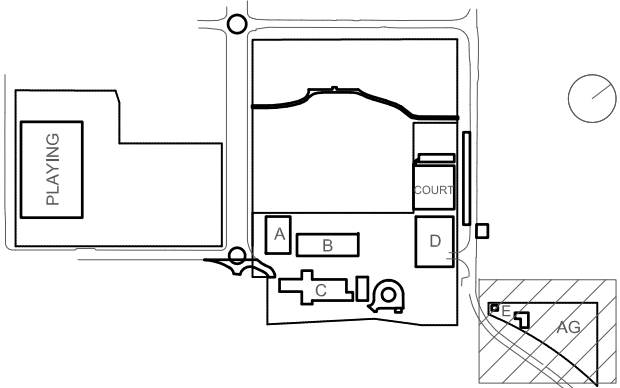
Architect
TKD Architects
T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900

Acoustic
Acoustic Logic
T+ 61 2 8339 8000

KEY



Rev	Date	Description	Chkd	Auth.
A	11.05.21	SCHEMATIC DESIGN		
B	10.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621

Drawing Title **AG PLOT**
BULK EARTHWORKS
LONGITUDINAL SECTIONS

Designed MW	Reviewed SCM	Drawn MW	Sheet B1
Job No. 5555	Status SSDA	Date OCT '21	Scale 1:500


Drawing No.
BHS-CE-2016


Revision
D


M+G Consulting

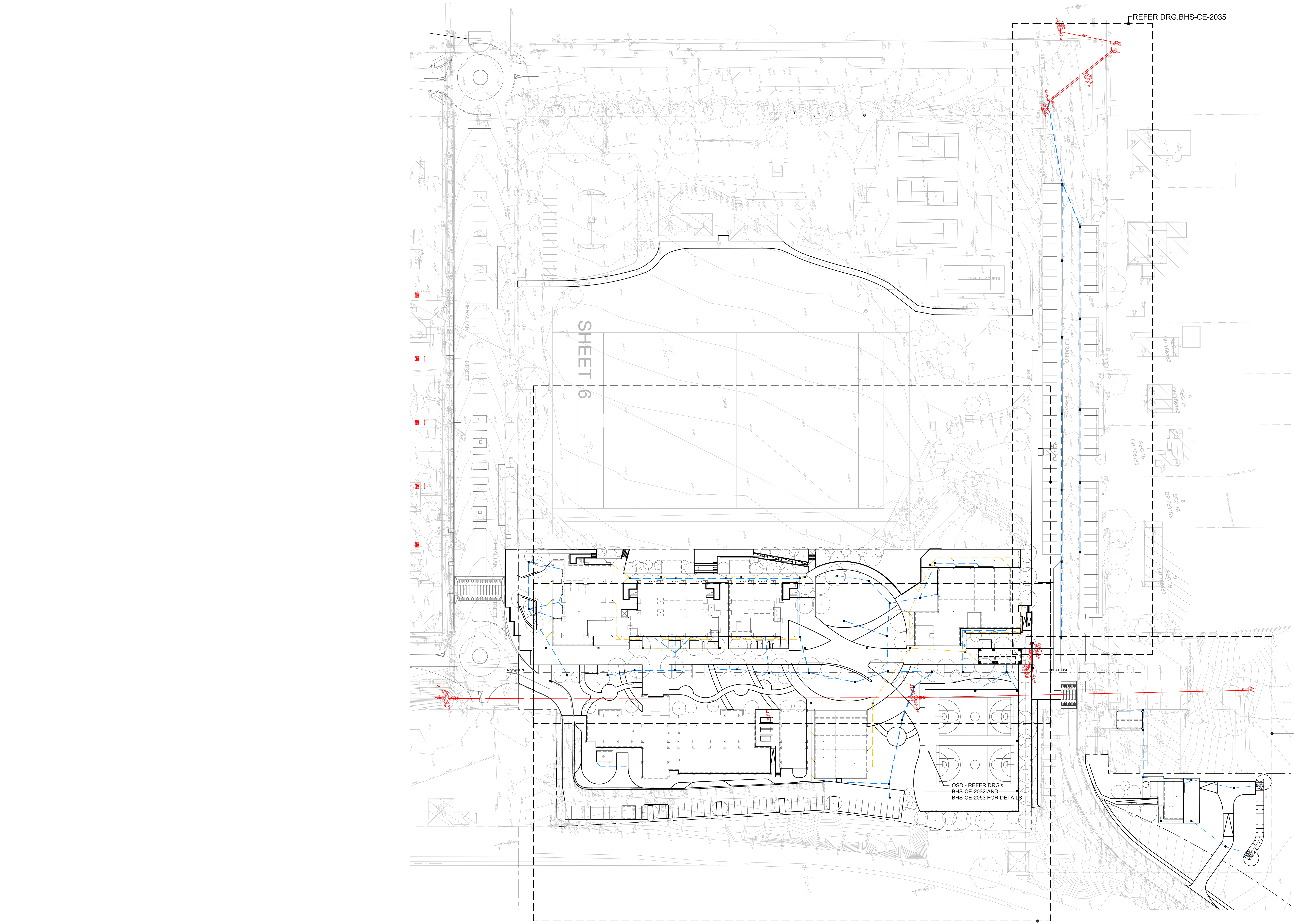
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

 CONSULT AUSTRALIA
Member Firm

 Member of
AUSTRALIAN STEEL INSTITUTE

 ACSE
CORPORATED 1980



DRAINAGE LEGEND

- EXISTING SURFACE/PAVEMENT LEVEL
- + 8.05 PROPOSED SURFACE/PAVEMENT LEVEL
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING STORMWATER PIPE AND PIT
- PROPOSED UPVC STORMWATER PIPE AND JUNCTION PIT
- PROPOSED UPVC STORMWATER PIPE AND SURFACE INLET PIT
- PROPOSED UPVC STORMWATER PIPE AND JUNCTION PIT (DRAINING TO RW TANK)
- PROPOSED UPVC STORMWATER PIPE AND SURFACE INLET PIT (DRAINING TO RW TANK)
- PROPOSED 1000 SUBSOIL PIPE
- PROPOSED DOWNPIPE
- INVERT LEVEL OF PIPE
- GUTTER OVERFLOW (SPITTER) INTO COURTYARD
- PROPOSED FLUSHING POINT
- PROPOSED SUMP POINT
- OVERLAND FLOW PATH
- GRATED DRAIN
- DIRECTION OF FALL
- FINISHED FLOOR LEVEL
- RAINWATER OUTLET
- CONFIRM ON SITE
- PROPOSED SEDIMENT FENCE
- GEOTEXTILE FABRIC TO PIT

STORMWATER GENERAL ARRANGEMENT PLAN
SCALE 1:250

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

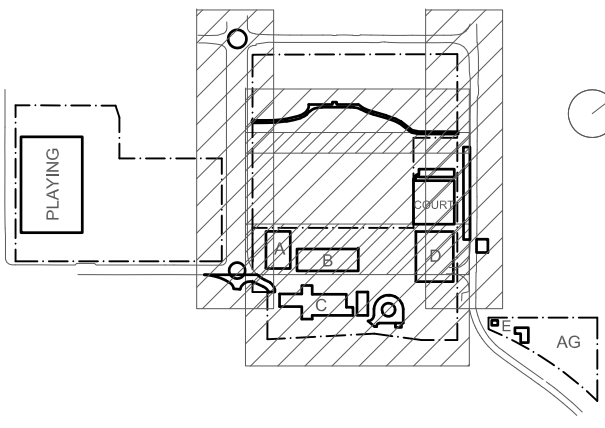
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T +61 2 9281 4399
T +61 2 9281 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



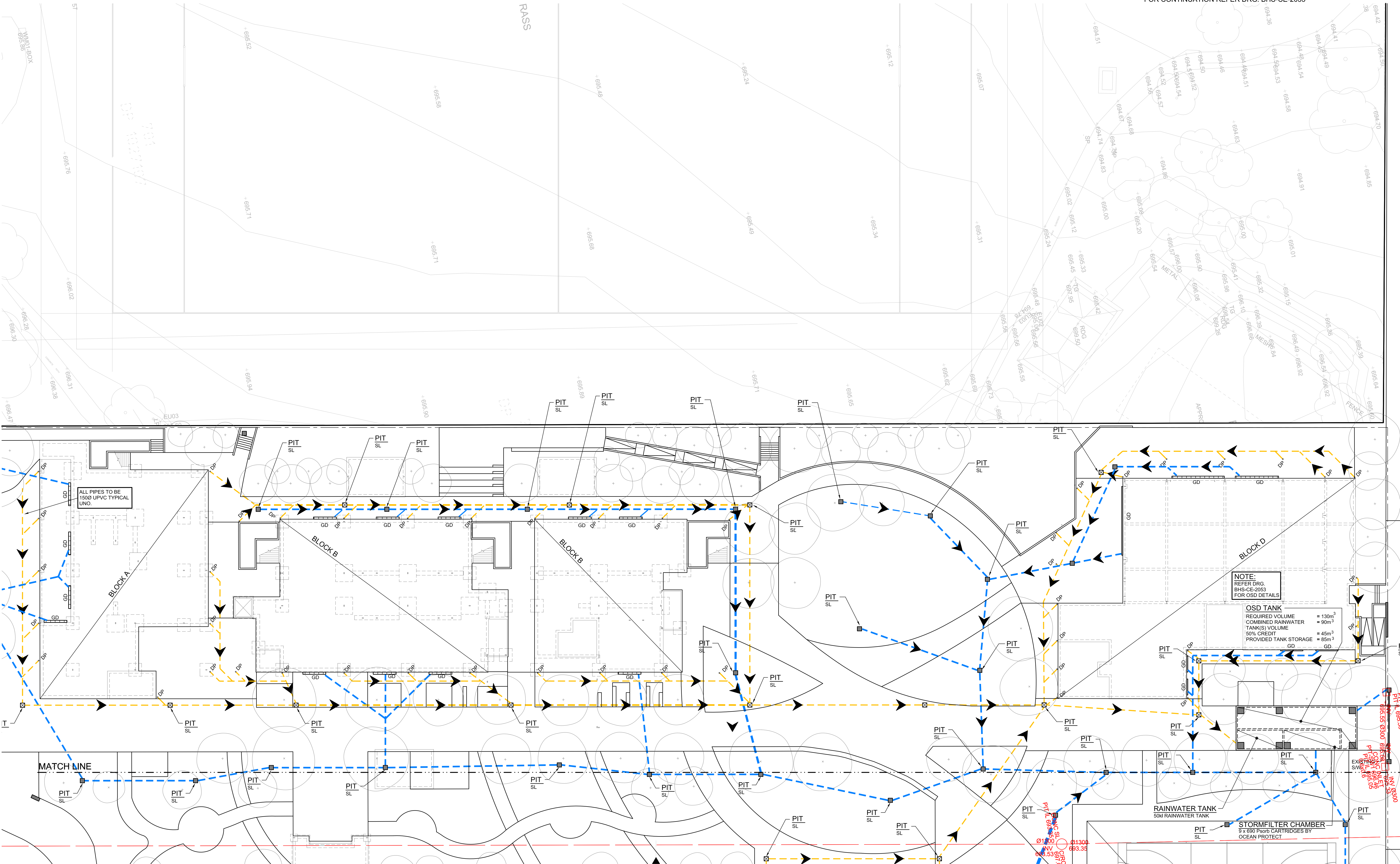
Rev	Date	Description	Chkd	Auth.
D	07.05.21	SCHEMATIC DESIGN		
E	12.05.21	SCHEMATIC DESIGN		
F	24.11.21	50% DD ISSUE		
G	10.12.21	ISSUED FOR DD		
H	21.12.21	ISSUED FOR DD		
I	14.02.22	GENERALLY REVISED		
J	14.07.22	ISSUED FOR RTS REVISED DESIGN		
K	21.07.22	ISSUED FOR RTS REVISED DESIGN		
L	25.07.22	ISSUED FOR RTS REVISED DESIGN		
M	27.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
STORMWATER DRAINAGE
GENERAL ARRANGEMENT
PLAN

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250
Drawing No.			Revision
BHS-CE-2030			M

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSULT AUSTRALIA
Member Firm
AUSTRALIAN INSTITUTE OF PROFESSIONAL ENGINEERS



FOR CONTINUATION REFER DRG. BHS-CE-2032

STORMWATER DRAINAGE PLAN

SCALE 1:200

NOTE:
FOR DRAINAGE LEGEND REFER DRG. BHS-CE-2030.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER

HINDMARSH

Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT

NSW GOVERNMENT

Education

School Infrastructure

NSW Department of Education |
School Infrastructure NSW

T+ 02 9561 8287

Project Managers

TSA Management

T+ 61 2 9276 1400

Architect

TKD Architects

T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD

Norman Disney & Young

T+ 61 2 9928 6800

Landscape Architecture

Context

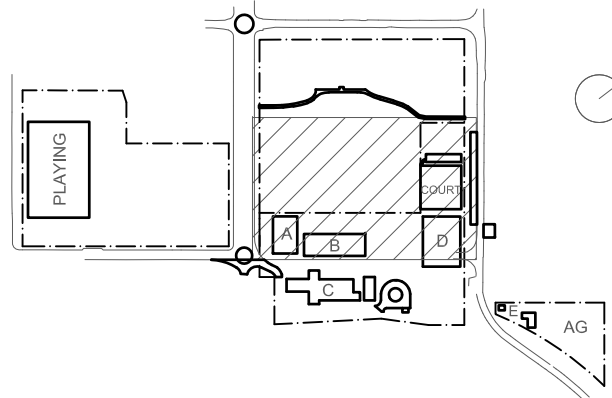
T+ 61 2 8244 8900

Acoustic

Acoustic Logic

T+ 61 2 8339 8000

KEY



Rev	Date	Description	Chkd	Auth.
A	24.03.21	DRAFT SCHEMATIC DESIGN ISSUE		
B	16.04.21	SCHEMATIC DESIGN		
C	30.04.21	SCHEMATIC DESIGN		
D	07.05.21	SCHEMATIC DESIGN		
E	12.05.21	SCHEMATIC DESIGN		
F	24.11.21	50% DO ISSUE		
G	10.12.21	ISSUED FOR DD		
H	21.12.21	ISSUED FOR DD		
I	14.02.22	GENERALLY REVISED		
J	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project

New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621

Drawing Title **STORMWATER DRAINAGE PLAN SHEET 1**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:200
Drawing No.			Revision
BHS-CE-2031			J

NOT FOR CONSTRUCTION

M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

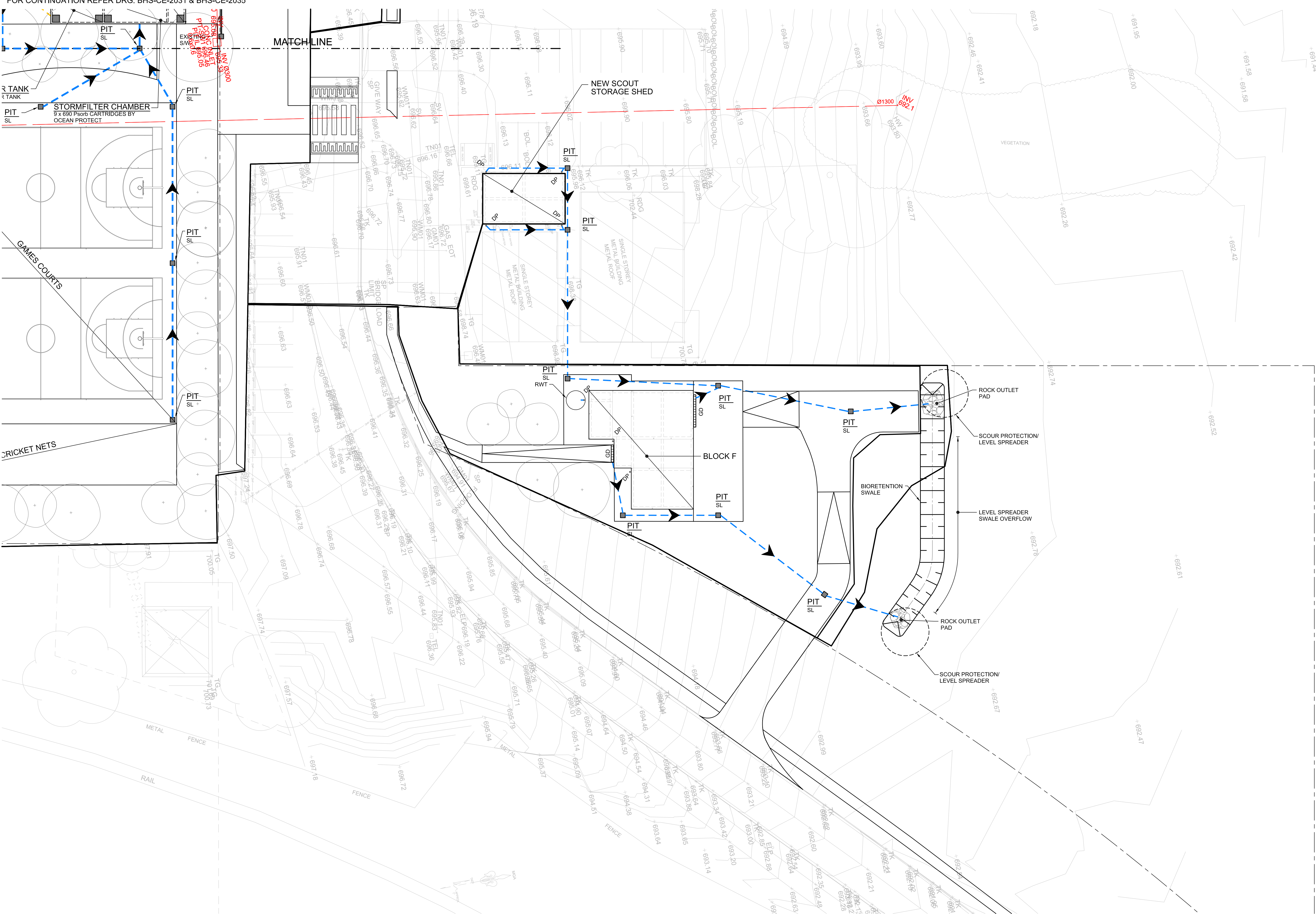
COASTAL AUSTRALIA

WATER FLOW

AUTOMATIC STEEL INSTITUTE

ACI

FOR CONTINUATION REFER DRG. BHS-CE-2031 & BHS-CE-2032



PART STORMWATER DRAINAGE PLAN

SCALE 1:200

NOTE:

FOR DRAINAGE LEGEND REFER DRG. BHS-CE-2030.

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

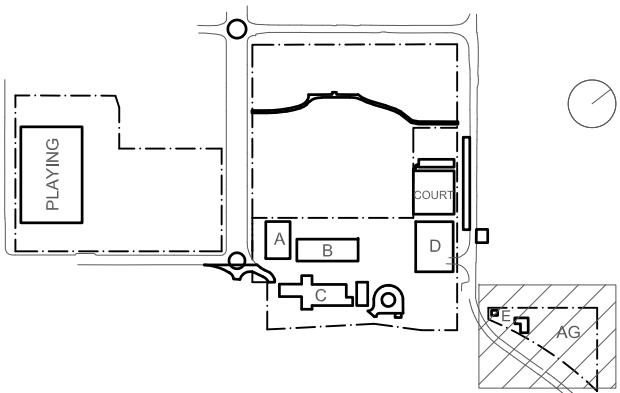
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9261 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6600

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



Rev	Date	Description	Chkd Auth.
A	30.04.21	SCHEMATIC DESIGN	
B	07.05.21	SCHEMATIC DESIGN	
C	07.05.21	SCHEMATIC DESIGN	
D	12.05.21	SCHEMATIC DESIGN	
E	10.12.21	ISSUED FOR DD	
F	14.12.21	DRG. NUMBER REVISED - ISSUED FOR DD	
G	21.12.21	ISSUED FOR DD	
H	14.02.22	GENERALLY REVISED	
I	14.07.22	ISSUED FOR RTS REVISED DESIGN	

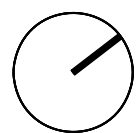
Project
New High School in Bungendore

MAJARA STREET
BUNGENDORE NSW 2621

Drawing Title
STORMWATER DRAINAGE
PLAN
SHEET 3

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:200

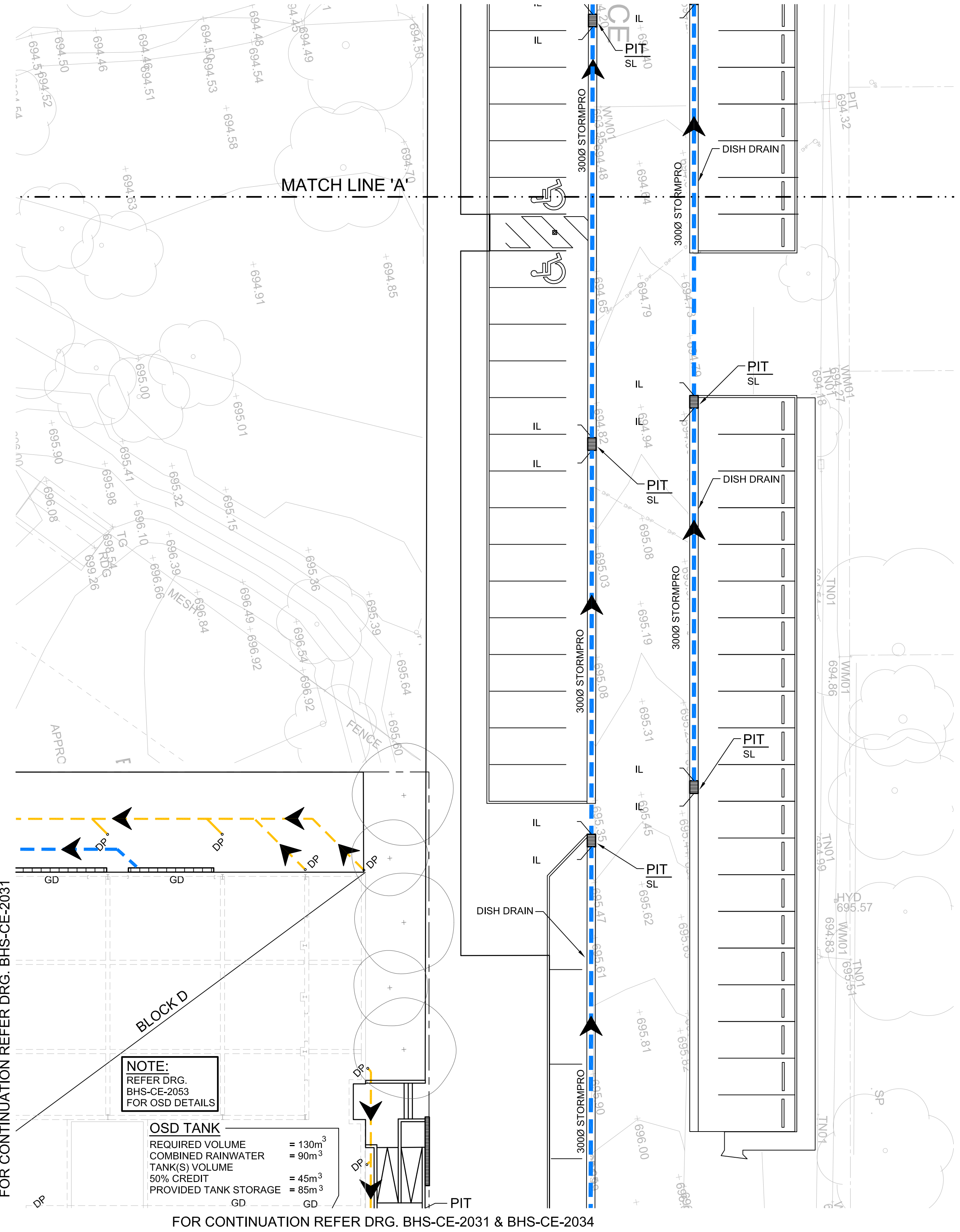
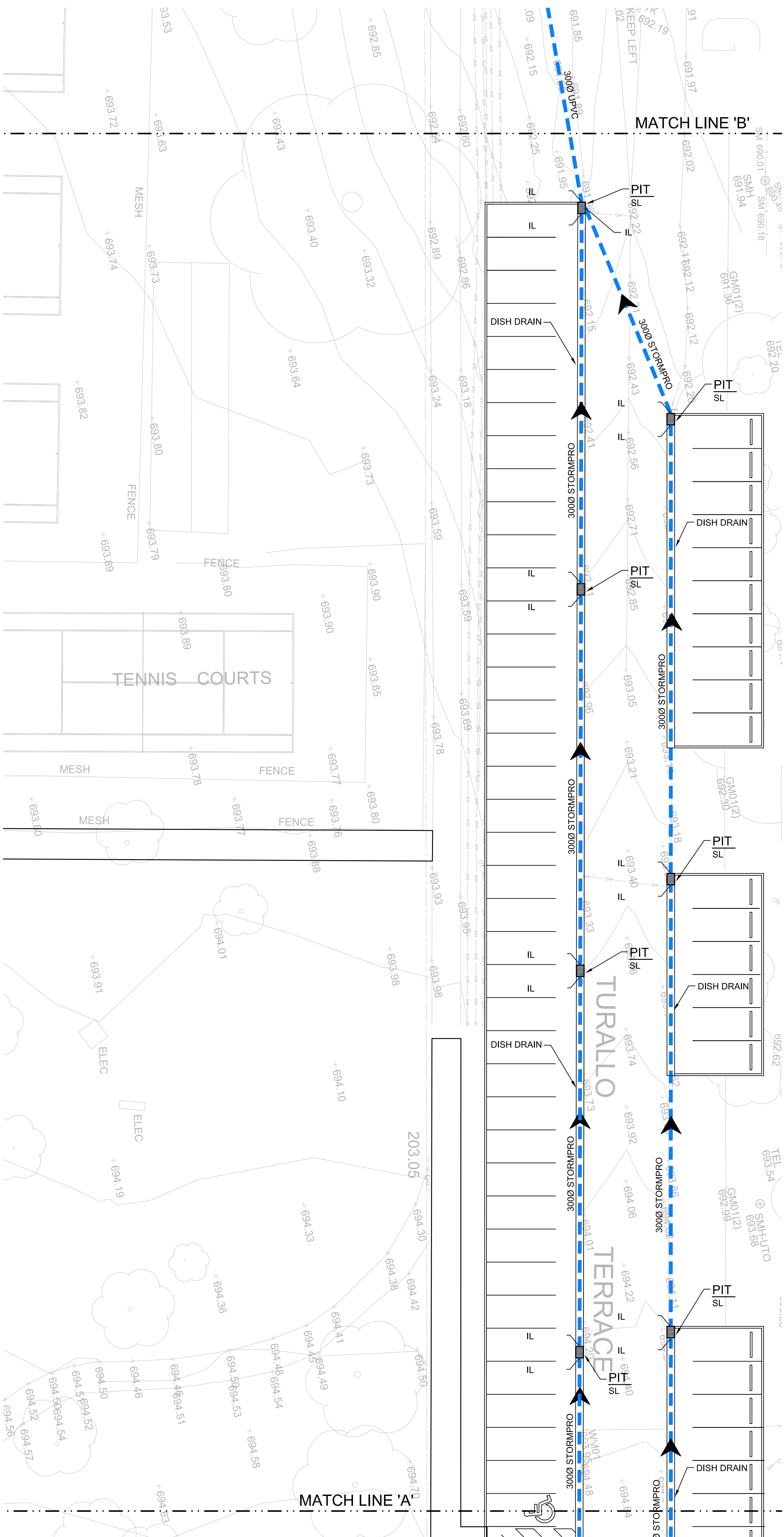
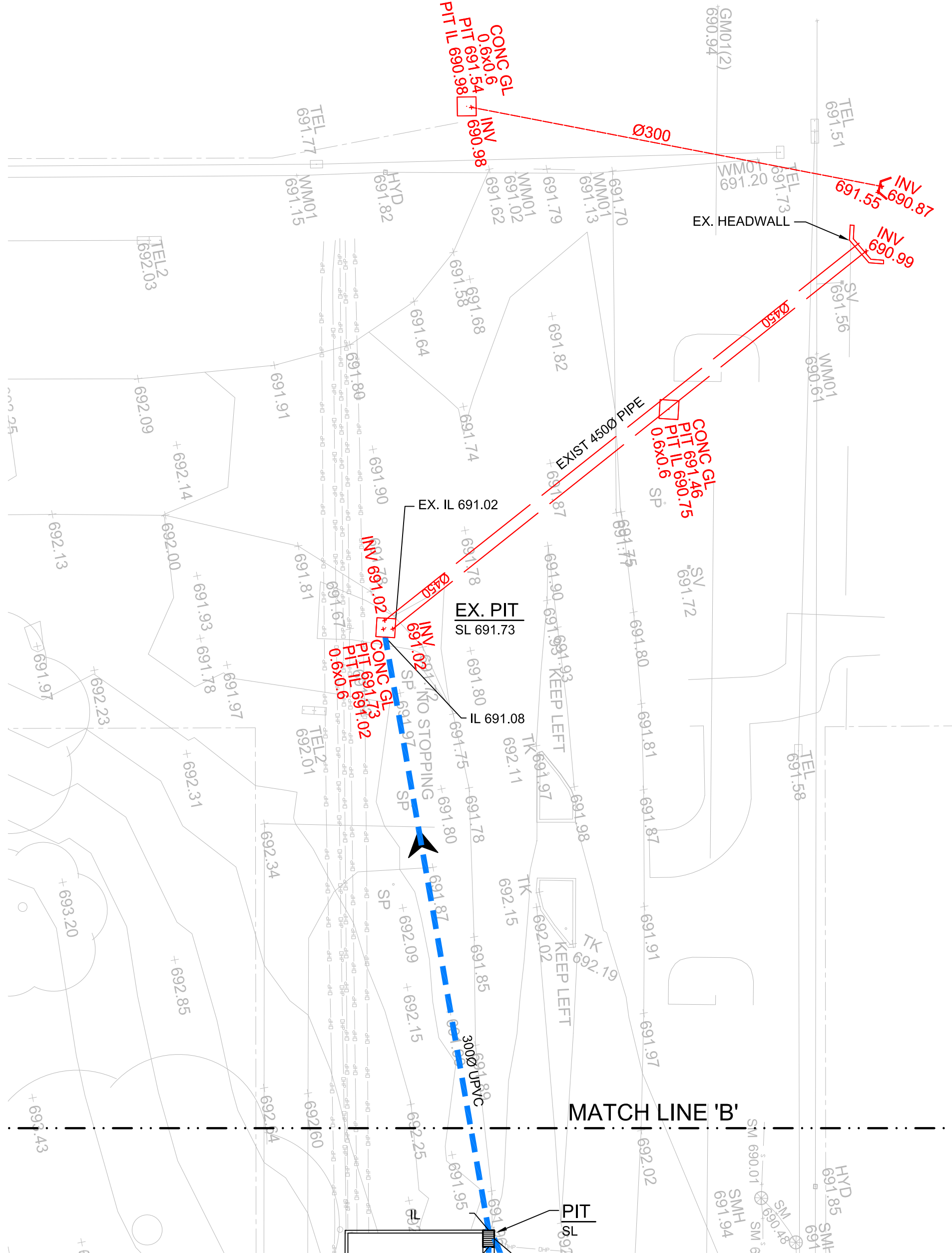
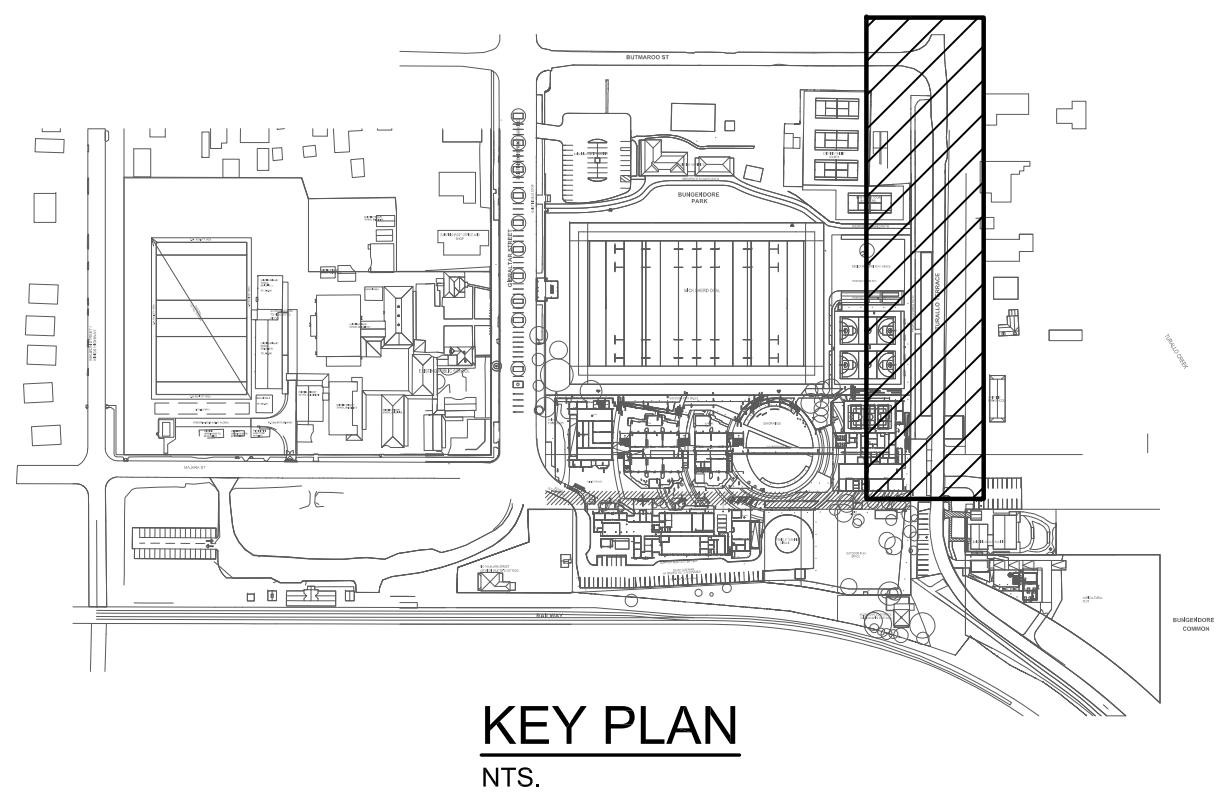
Drawing No.
BHS-CE-2034



Revision
I

NOT FOR CONSTRUCTION

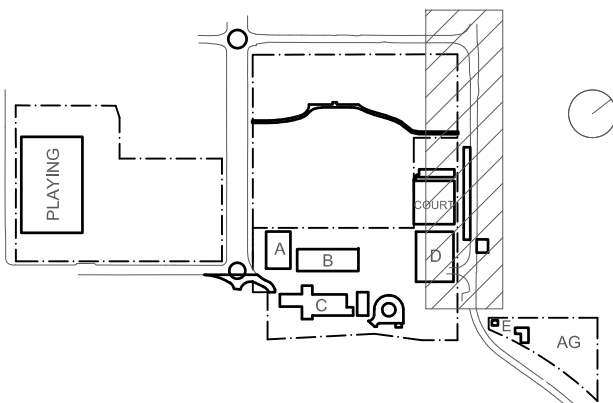
M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSULT AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
REGISTERED



STORMWATER DRAINAGE PLAN
SCALE 1:200

NOTE:
FOR DRAINAGE LEGEND REFER DRG. BHS-CE-2030.

KEY



Rev	Date	Description	Chkd	Auth.
A	10.12.21	ISSUED FOR DD		
B	21.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	15.02.22	GENERALLY REVISED		
E	14.07.22	ISSUED FOR RTS REVISED DESIGN		
F	27.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
**STORMWATER DRAINAGE
PLAN
SHEET 4**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:200
Drawing No.			Revision
BHS-CE-2035			F

NOT FOR CONSTRUCTION

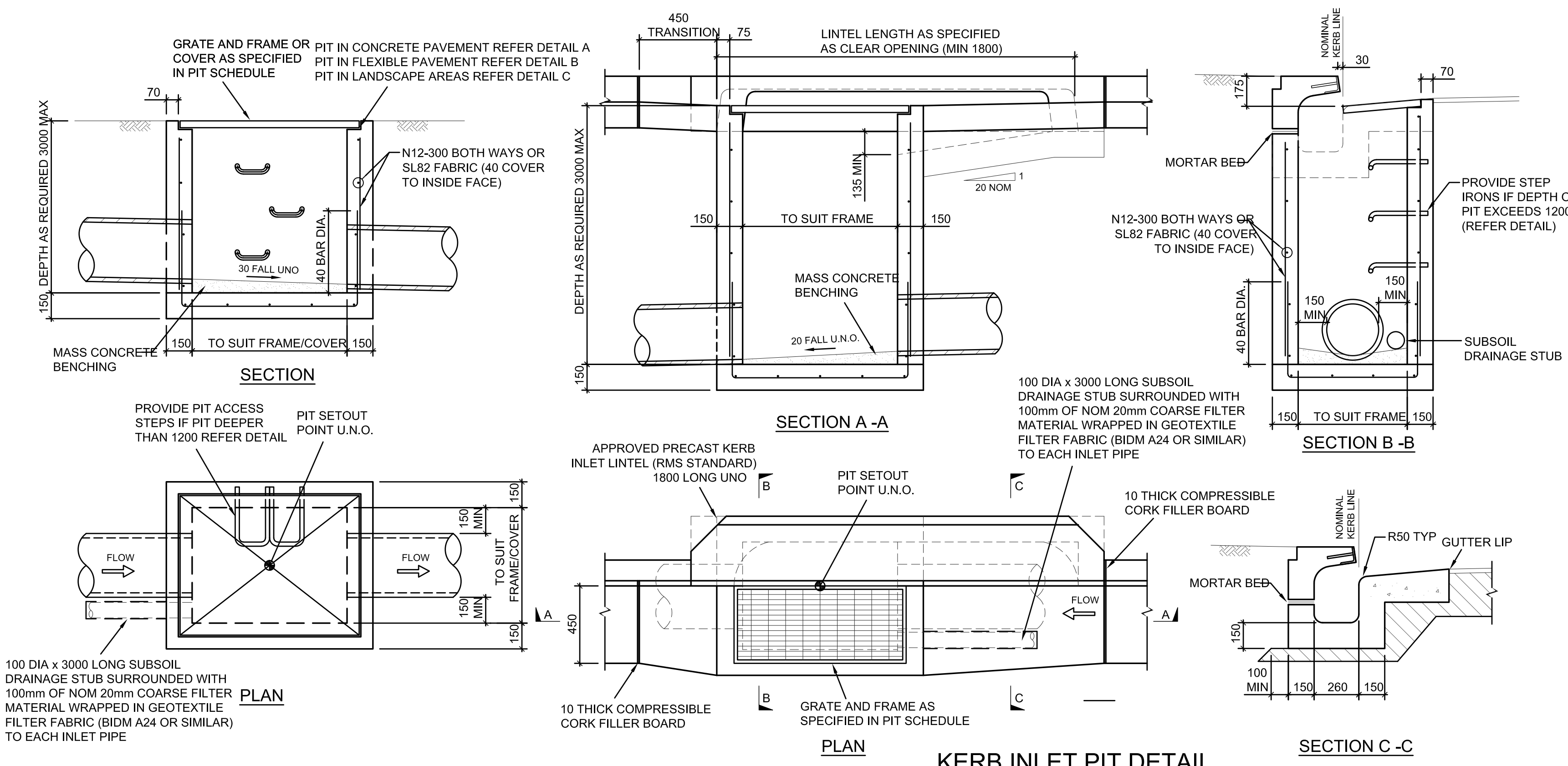
M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW Education
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

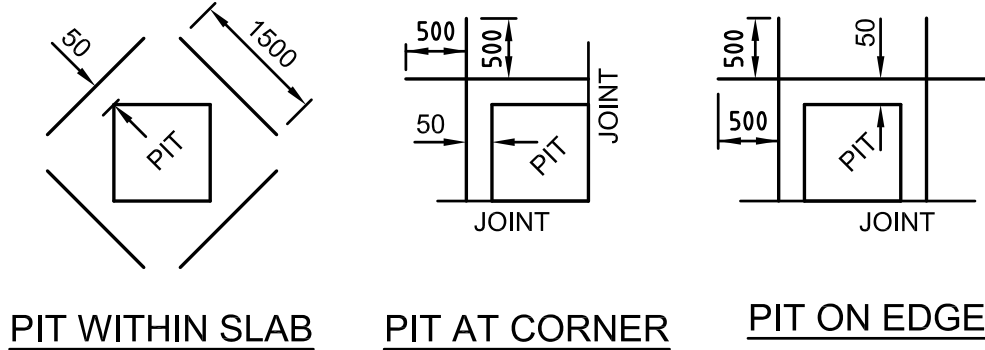
Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000



SURFACE INLET/JUNCTION PIT DETAIL

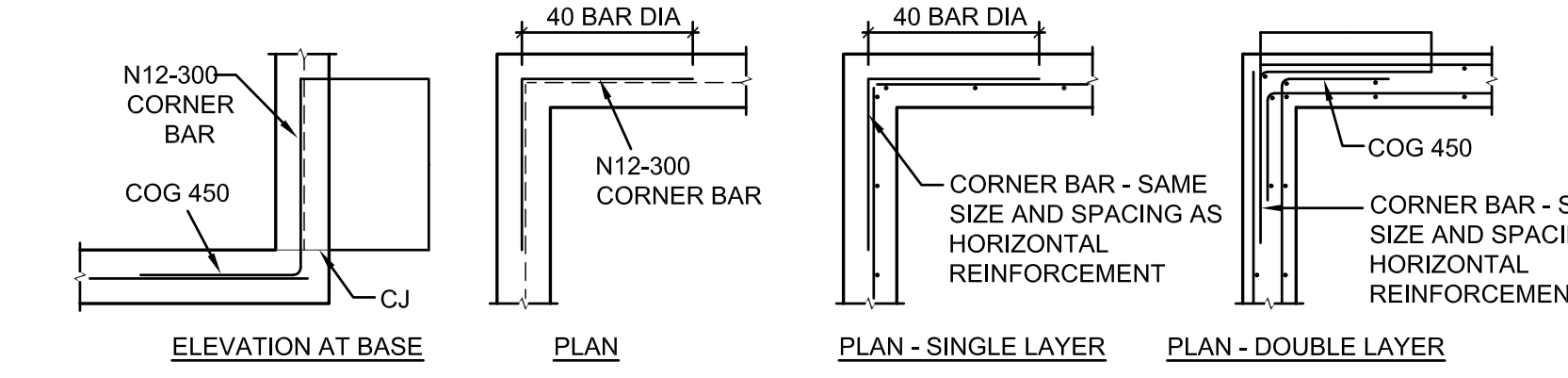
SCALE 1:20

- #### STORMWATER PIT NOTES
1. CONCRETE TO HAVE A MIN. COMPRESSIVE STRENGTH (F_c) OF 25 MPa AT 28 DAYS.
 2. REINFORCEMENT NOT REQUIRED IF DEPTH OF PIT IS LESS THAN 1000mm. PITS GREATER THAN 3000mm DEEP TO HAVE WALL AND BASE 200mm THICK REINFORCED WITH N12-250 EACH WAY EACH FACE WITH CONCRETE STRENGTH F_c = 40 MPa.
 3. PROVIDE STEP IRONS AT MAX 350mm CTRS IF DEPTH OF PIT EXCEEDS 1200mm.
 4. IF REINFORCING FABRIC IS TO BE USED REFER TO WALL AND CORNER DETAILS
 5. PRECAST PITS ARE TO GENERALLY COMPLY WITH THESE DETAILS.
 6. PRECAST PIT MAY BE USED SUBJECT TO ENGINEERS APPROVAL.
 7. ALL PITS TO BE LOCKABLE.
 8. FINAL INTERNAL PIT DIMENSIONS ARE TO COMPLY WITH AS 3500.



DETAIL OF SLAB REINFORCEMENT AT PITS IN CONCRETE PAVEMENT

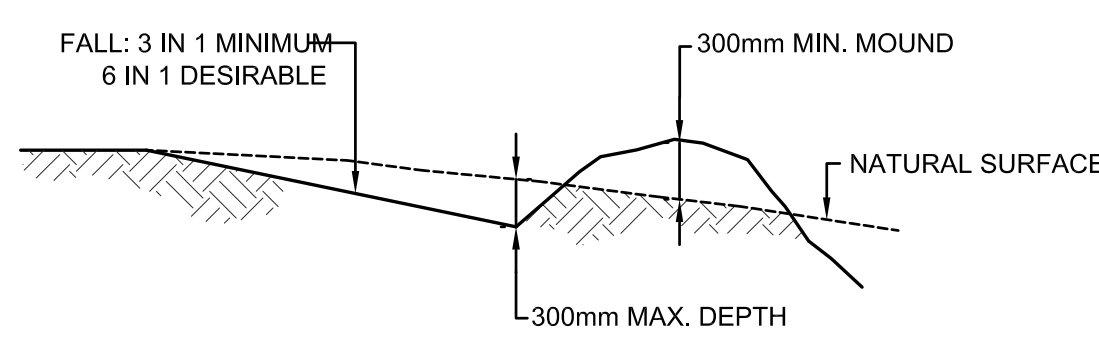
N.T.S.



PIT CORNER DETAILS

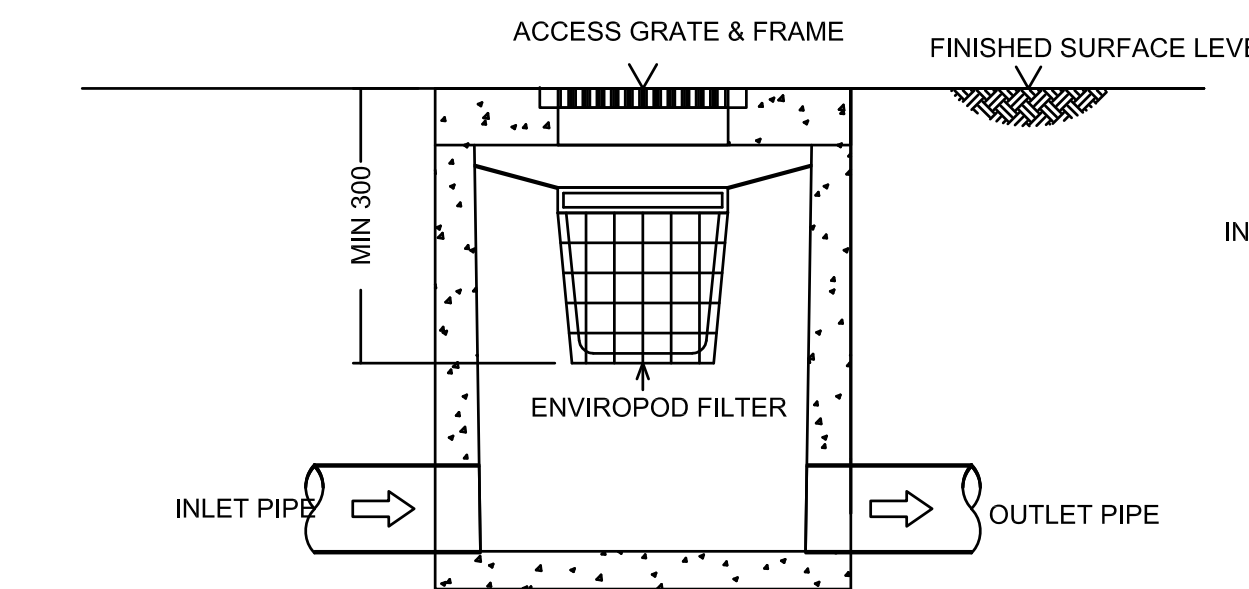
SCALE 1:20

NOTE: DESIGNER TO VERIFY EXTENT OF DETAILING

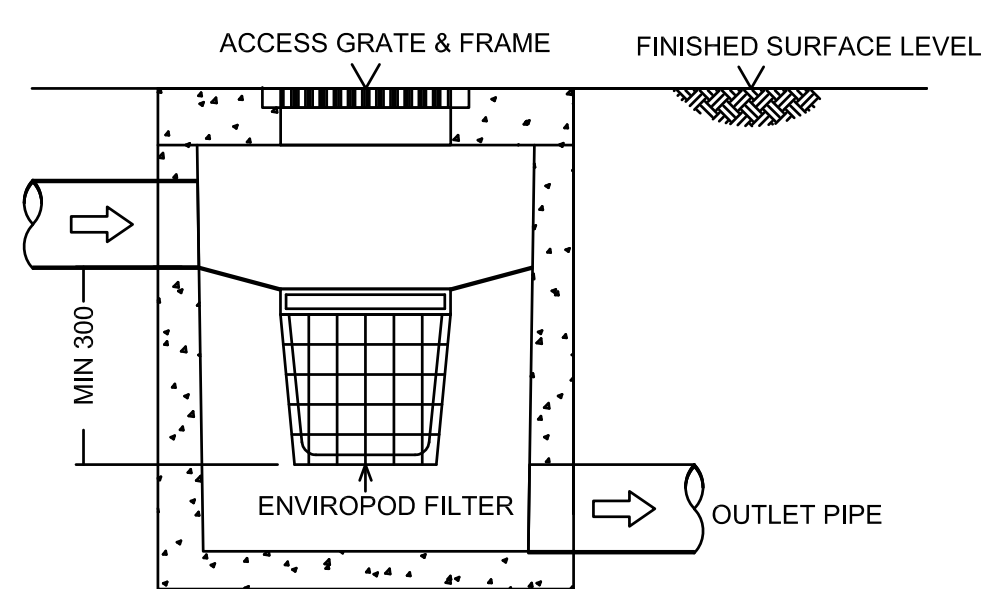


TYPICAL CATCH DRAIN

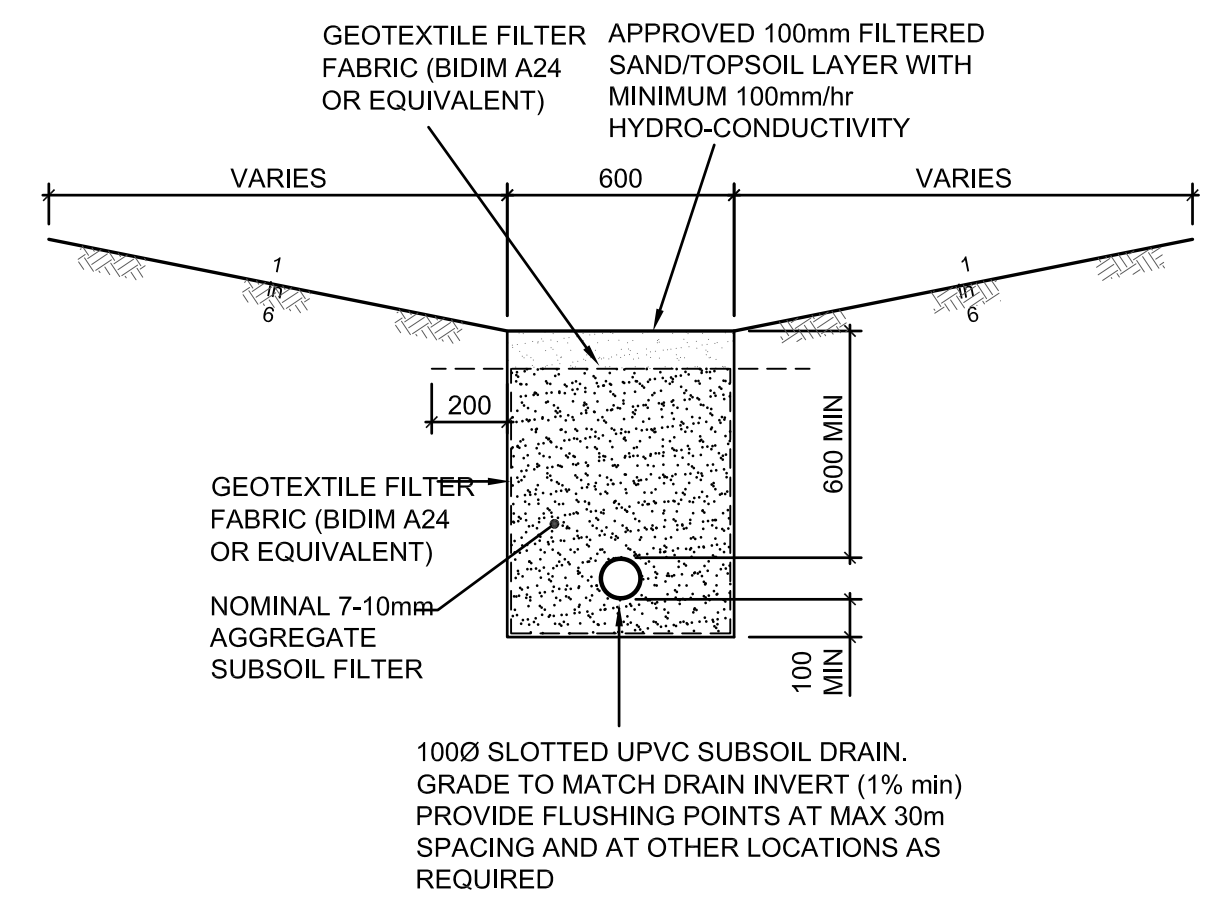
N.T.S.



STANDARD ENVIROPOD CONFIGURATION SECTION

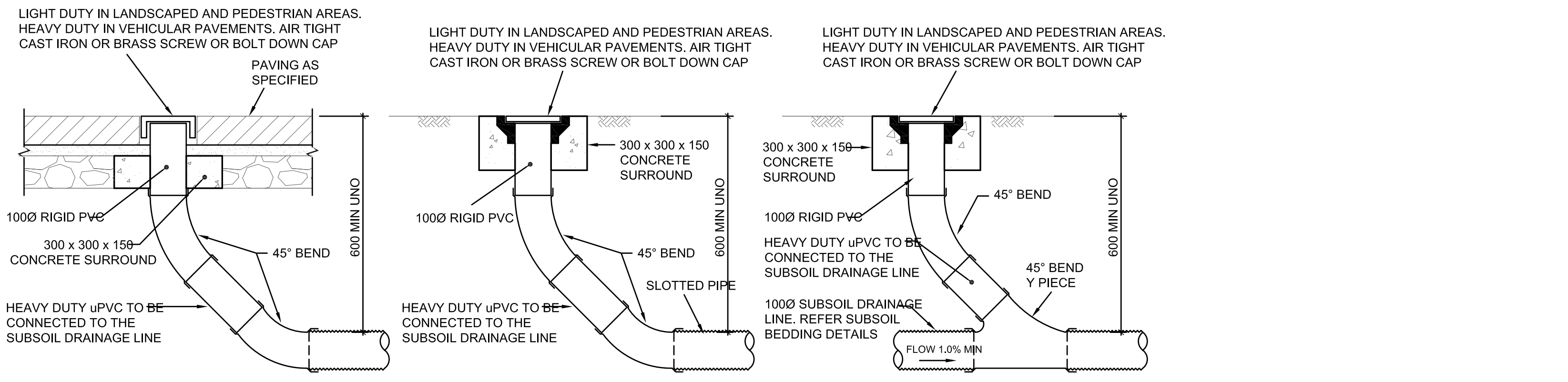
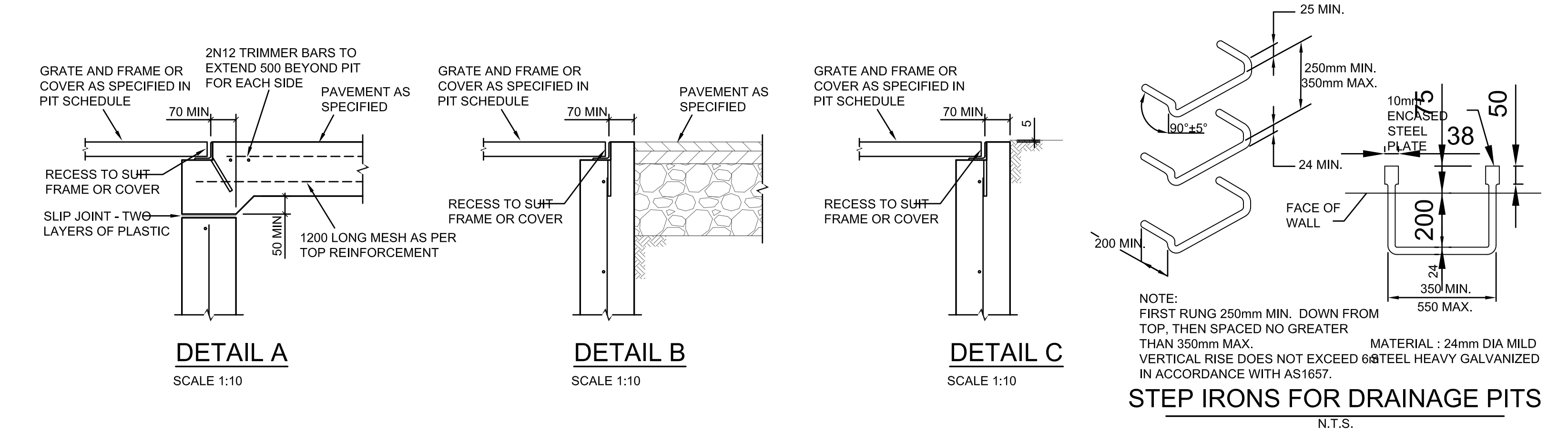


DROP PIPE ENVIROPOD CONFIGURATION SECTION



TURFED SWALE DETAIL

SCALE 1:20



FLUSHOUT RISER (FOR) IN PAVING BRICKS

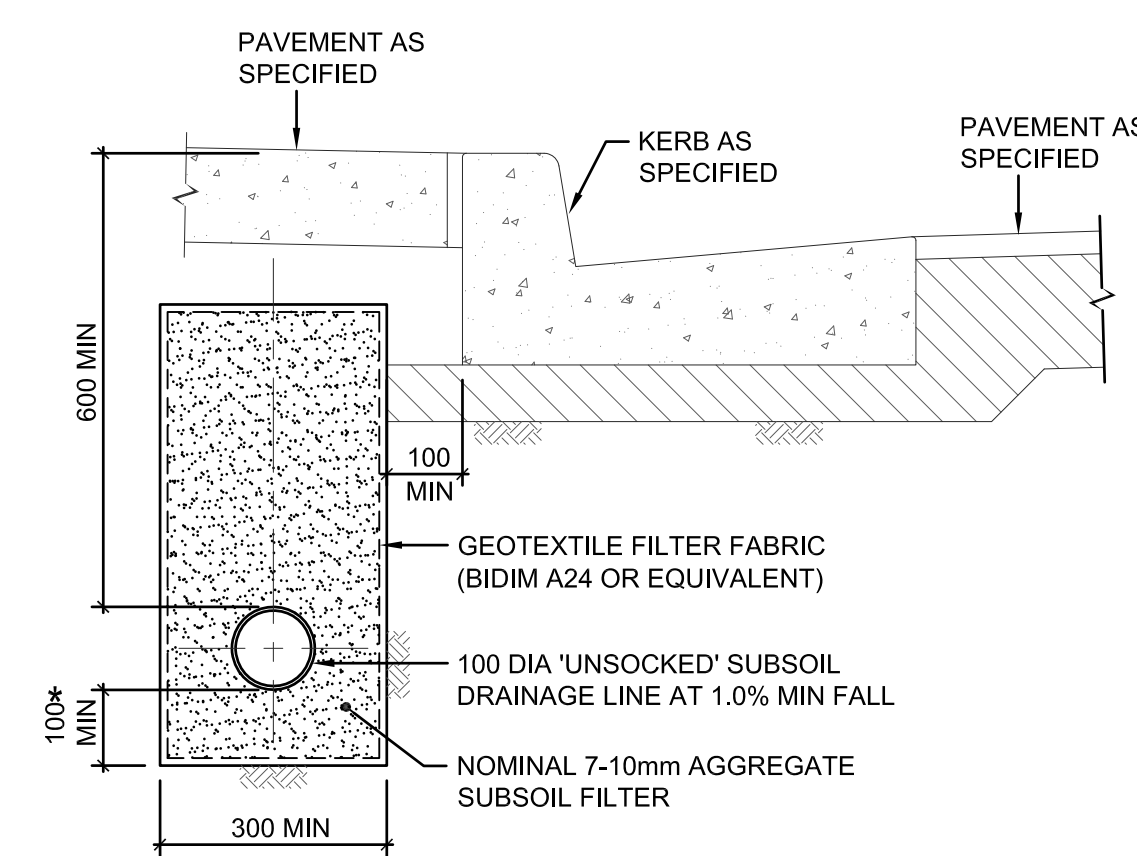
SCALE 1:10

FLUSHOUT RISER (FOR) INTERMEDIATE RISER

SCALE 1:10

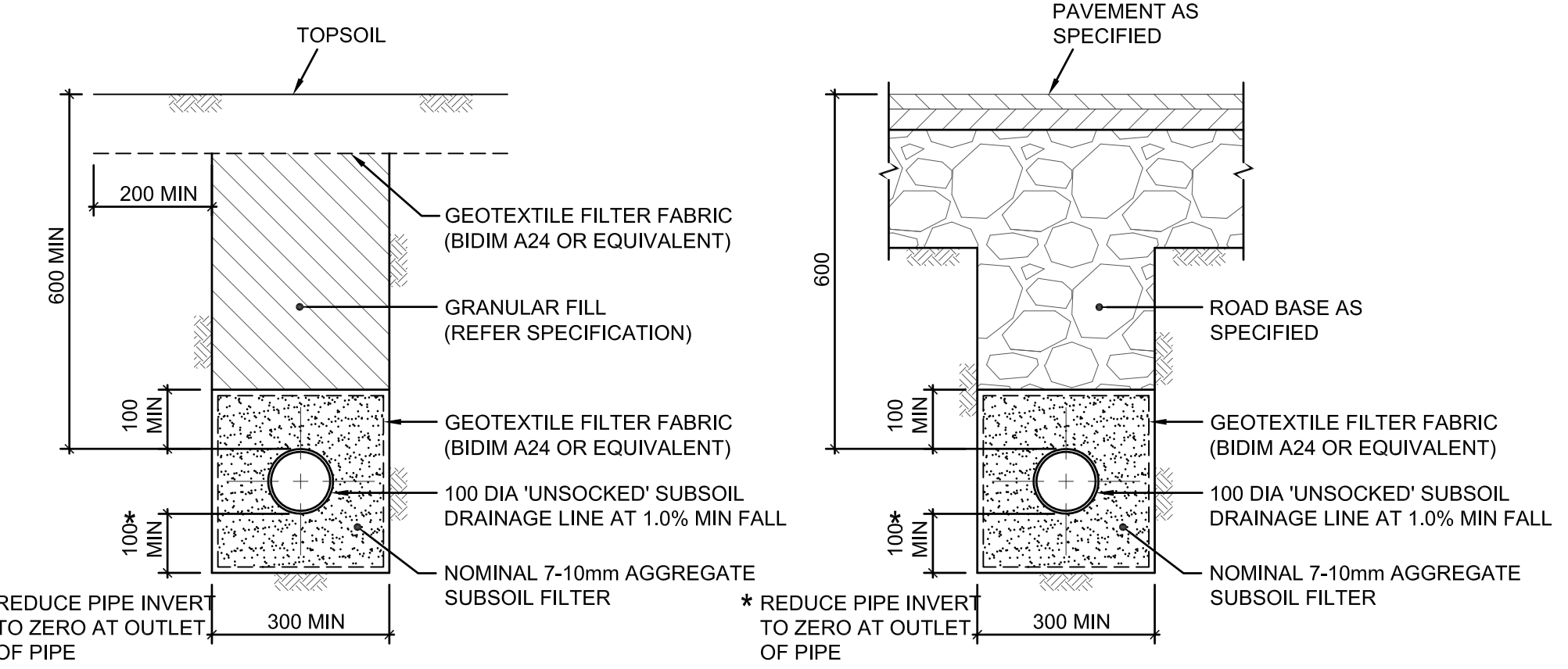
NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS WITHIN DRAINAGE LAYER ONLY

NOTE: SLOTTED RIGID PVC PIPE AND FITTINGS MAY BE USED



SUBSOIL BEHIND KERB

SCALE 1:10



SUBSOIL IN LANDSCAPED AREAS

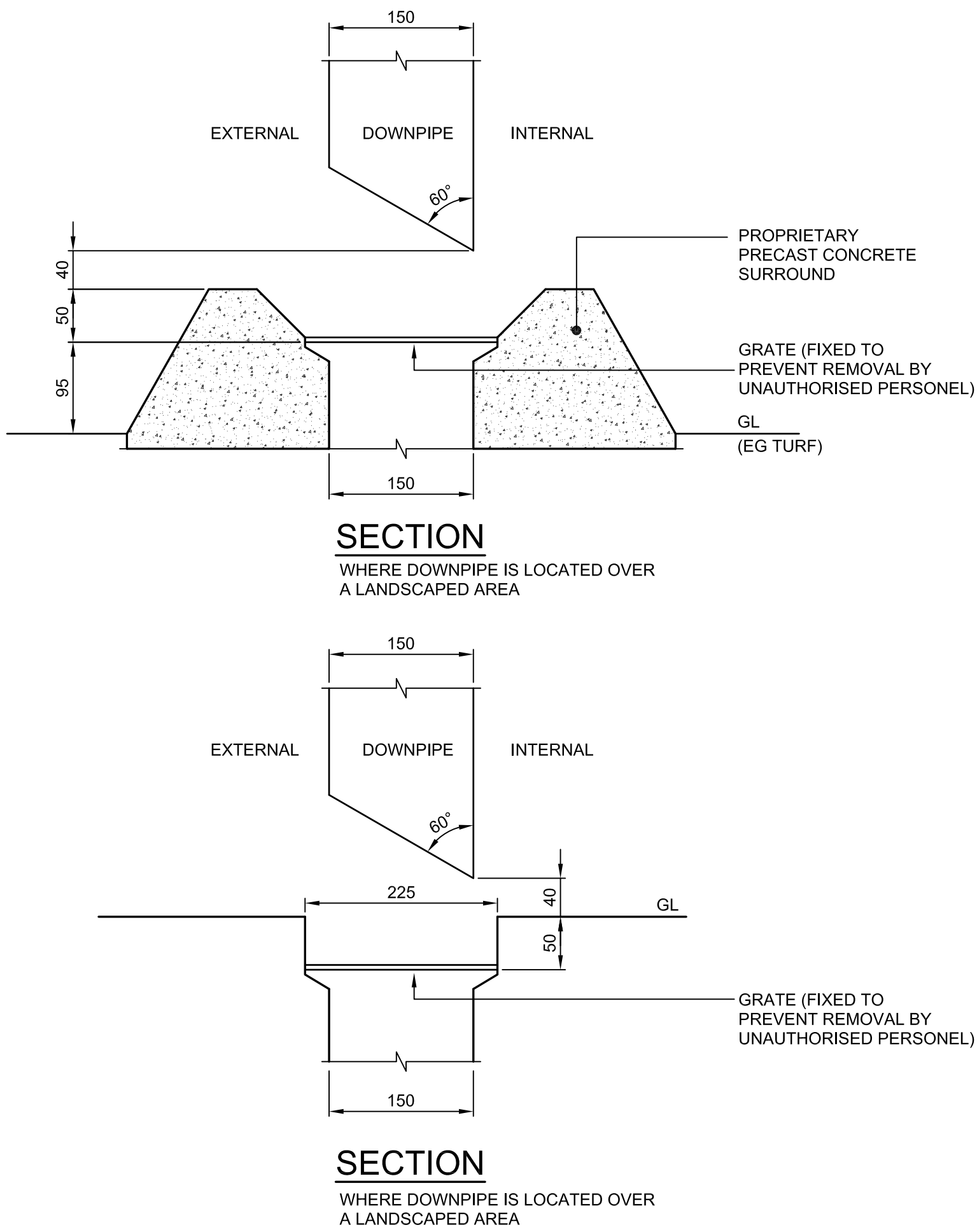
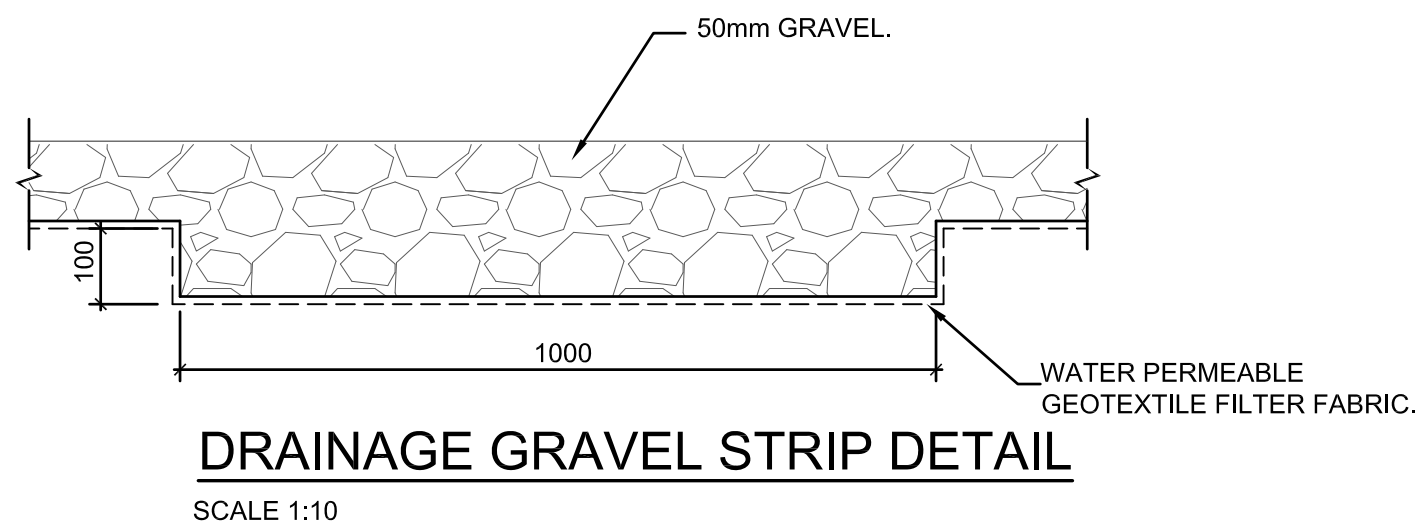
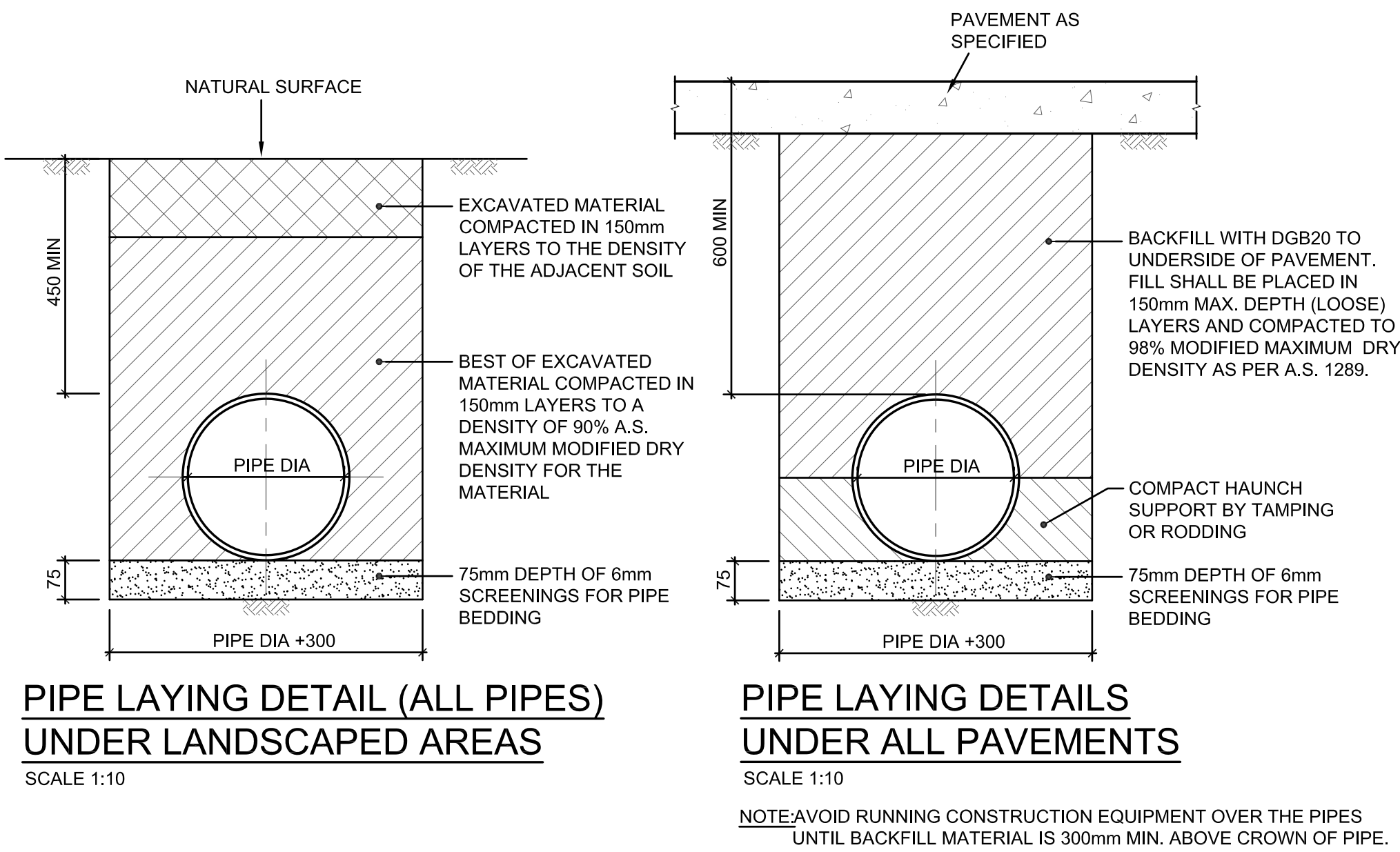
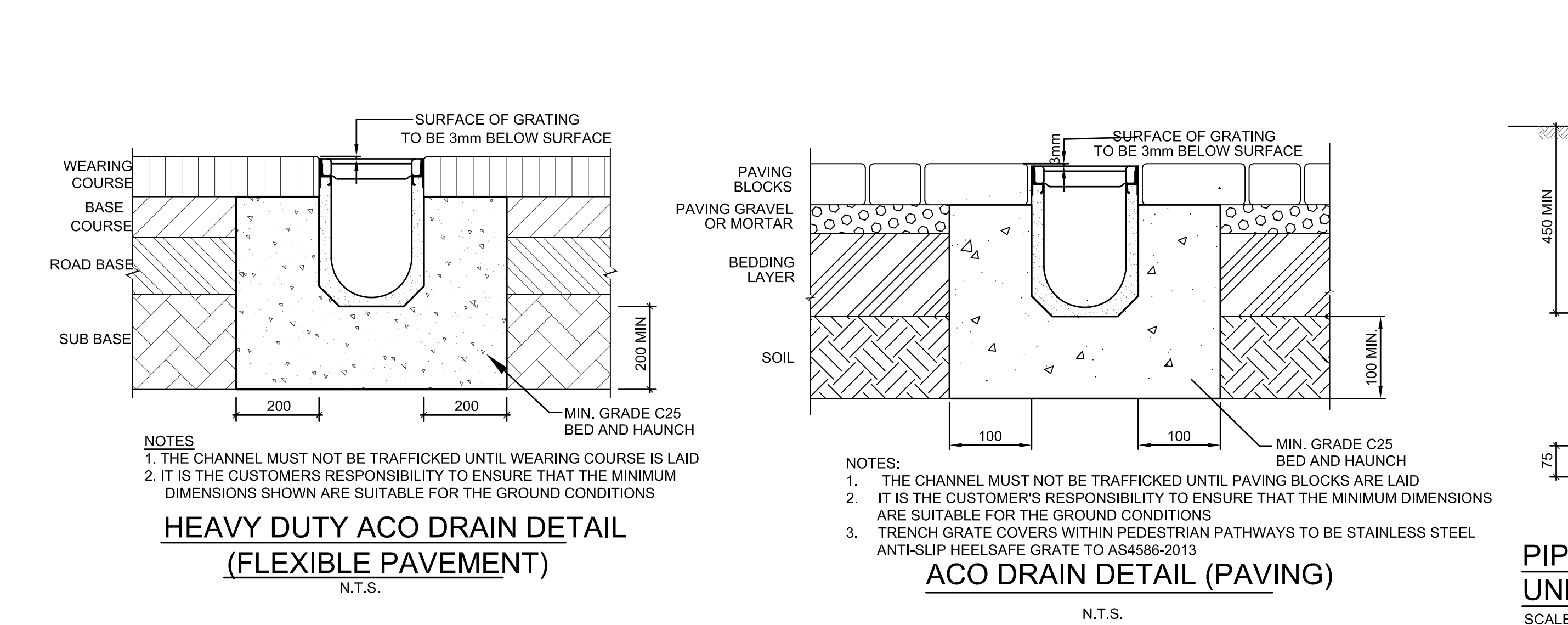
SCALE 1:10

SUBSOIL IN PAVED AREAS

SCALE 1:10

BUILDER Hindmarsh Construction Australia Pty Ltd Level 27, 100 Miller Street North Sydney NSW 2060 T +61 2 9274 1100 F +61 2 6274 8898 www.hindmarsh.com.au	CLIENT Education School Infrastructure NSW Department of Education School Infrastructure NSW T+ 02 9561 8287	Project Managers TSA Management T+ 61 2 9276 1400 Architect TKD Architects T+ 61 2 9281 4399 Mechanical, Electrical, Hydraulic, ESD Norman Disney & Young T+ 61 2 9928 6800	Landscape Architecture Context T+ 61 2 8244 8900 Acoustic Acoustic Logic T+ 61 2 8339 9000	KEY
--	--	---	---	----------------

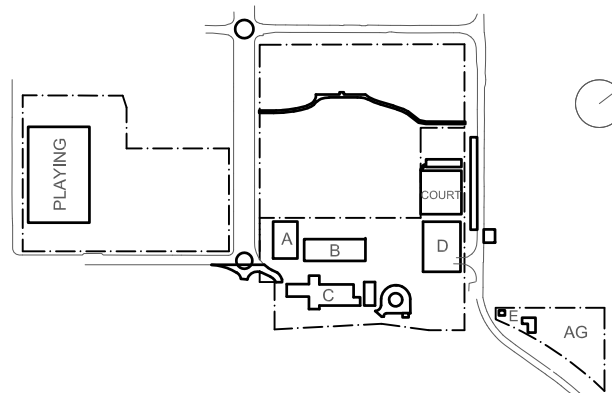
Project New High School in Bungendore MAJARA STREET BUNGENDORE NSW 2621 Drawing Title STORMWATER DRAINAGE DETAILS SHEET 1 OF 2	Design MW Job No. 5555 Drawing No. BHS-CE-2051	Reviewed SCM Status SSDA Revision H	Drawn MW Date OCT '21 AS NOTED AT B1	Sheet B1 Scale AS NOTED AT B1	NOT FOR CONSTRUCTION M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990 Tel: +61 (0)2 8666 7888 L3, 50 Berry Street North Sydney NSW 2060 (PO Box 1656, NSW 2059)
--	--	---	---	---	---



DOWNPIPE OUTLET DETAILS

NOT TO SCALE

KEY



Rev	Date	Description	Chkd	Auth.
A	26.11.21	WORK IN PROGRESS		
B	08.12.21	ISSUED FOR DD		
C	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621

Drawing Title **STORMWATER DRAINAGE DETAILS SHEET 2 OF 2**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1

Job No. 5555 Status SSDA Date OCT '21 Scale AS NOTED AT B1

Drawing No. **BHS-CE-2052**

Revision **C**

NOT FOR CONSTRUCTION

M+G Consulting

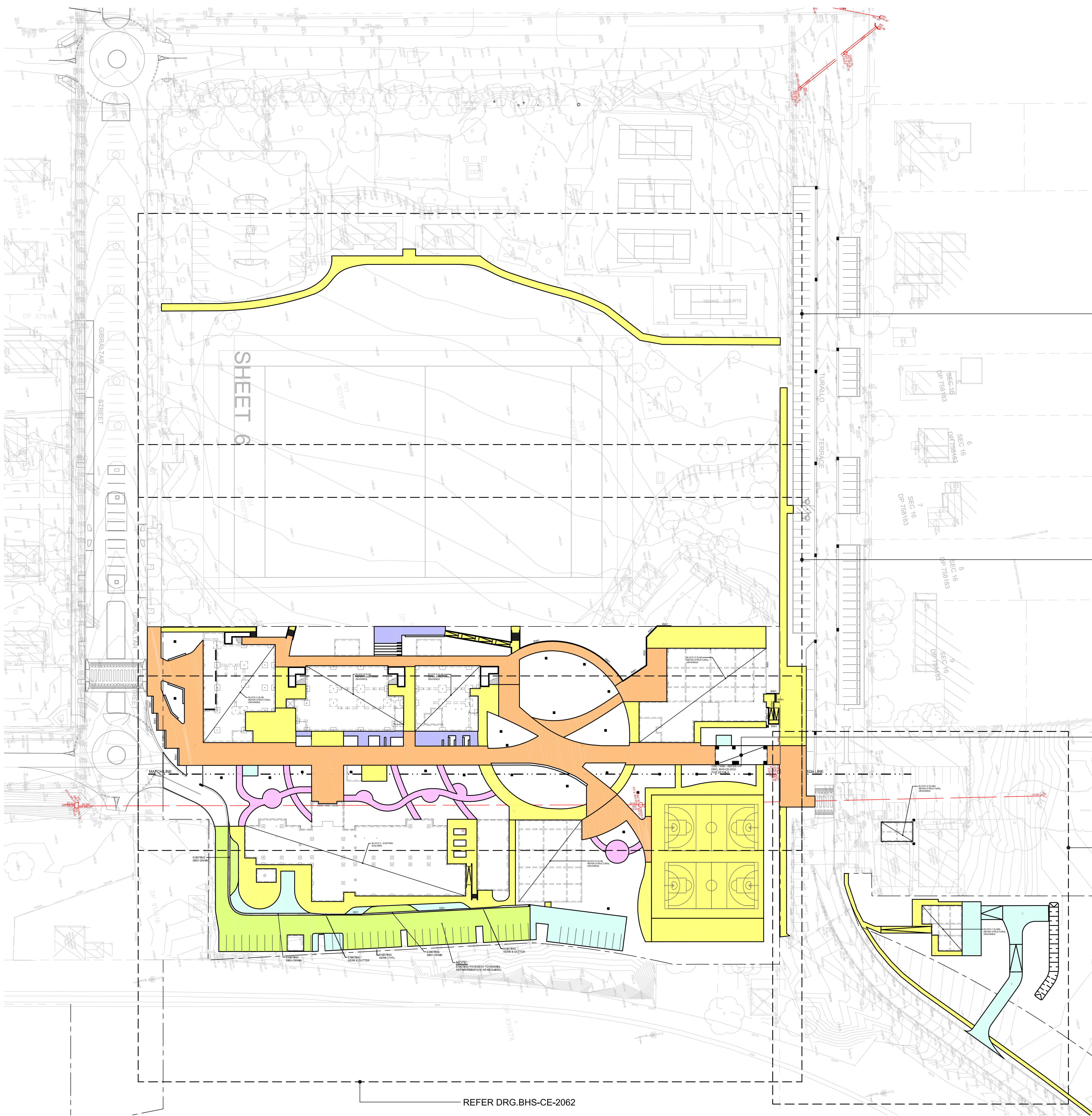
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

CONCRETE AUSTRALIA
Member Firm

MEMBER OF
AUSTRALIAN STEEL INSTITUTE

ACI
AUSTRALIAN CONCRETE INSTITUTE



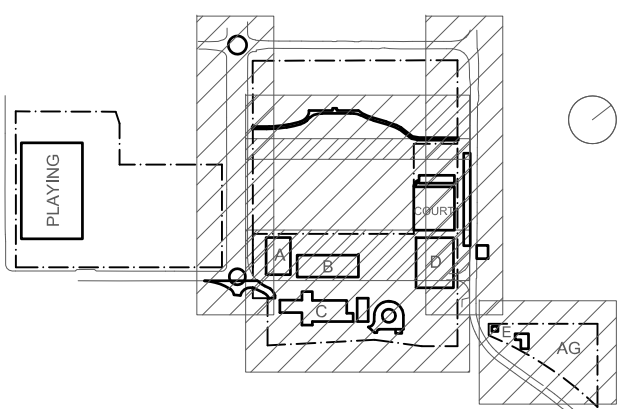
PAVEMENT LEGEND

- PAVEMENT TYPE 1 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 2 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 3 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 4 - REFER LANDSCAPE ARCHITECT'S DRAWINGS FOR DETAILS
- PAVEMENT TYPE 5 - REFER DRG. BHS-CE-2091 FOR DETAILS
- DENOTES EXISTING PAVEMENT TO REMAIN

STORMWATER GENERAL ARRANGEMENT PLAN

SCALE 1:250

KEY



DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

Rev	Date	Description	Chkd	Auth.
A	14.02.22	ISSUED FOR DD		
B	14.07.22	ISSUED FOR RTS REVISED DESIGN		
C	21.07.22	ISSUED FOR RTS REVISED DESIGN		
D	21.07.22	ISSUED FOR RTS REVISED DESIGN		
E	27.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore

Drawing Title
SITeworks PAVEMENT
GENERAL ARRANGEMENT
PLAN

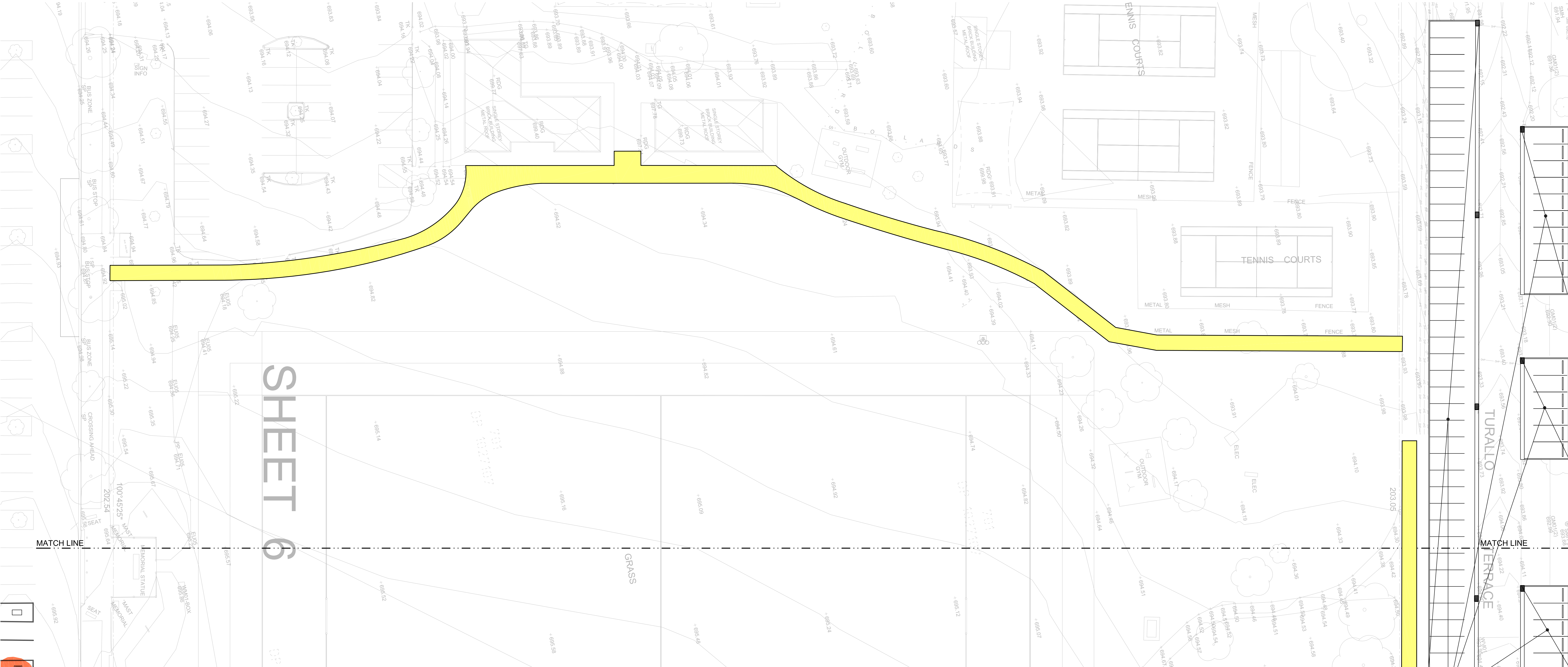
Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250

Drawing No.
BHS-CE-2059

Revision
E

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONCRETE AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
ACI



FOR CONTINUATION REFER DRG. BHS-CE-2061
PART SITEWORKS AND PAVEMENT PLAN

SCALE 1:250
PAVEMENT LEGEND

- PAVEMENT TYPE 1 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 2 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 3 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 4 - REFER LANDSCAPE ARCHITECT'S DRAWINGS FOR DETAILS
- PAVEMENT TYPE 5 - REFER DRG. BHS-CE-2091 FOR DETAILS
- DENOTES EXISTING PAVEMENT TO REMAIN

FOR CARPARK PAVING REFER
DRG. BHS-CE-2130

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

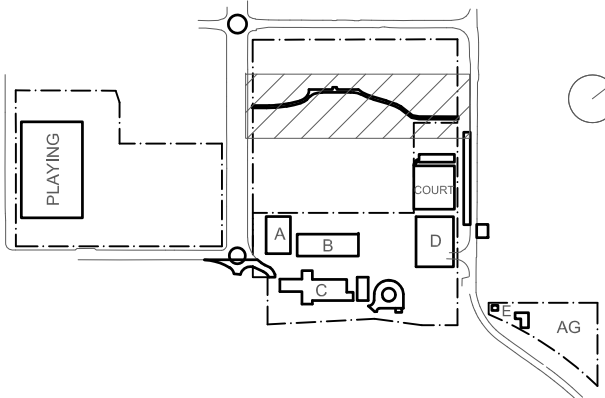
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 8000

KEY



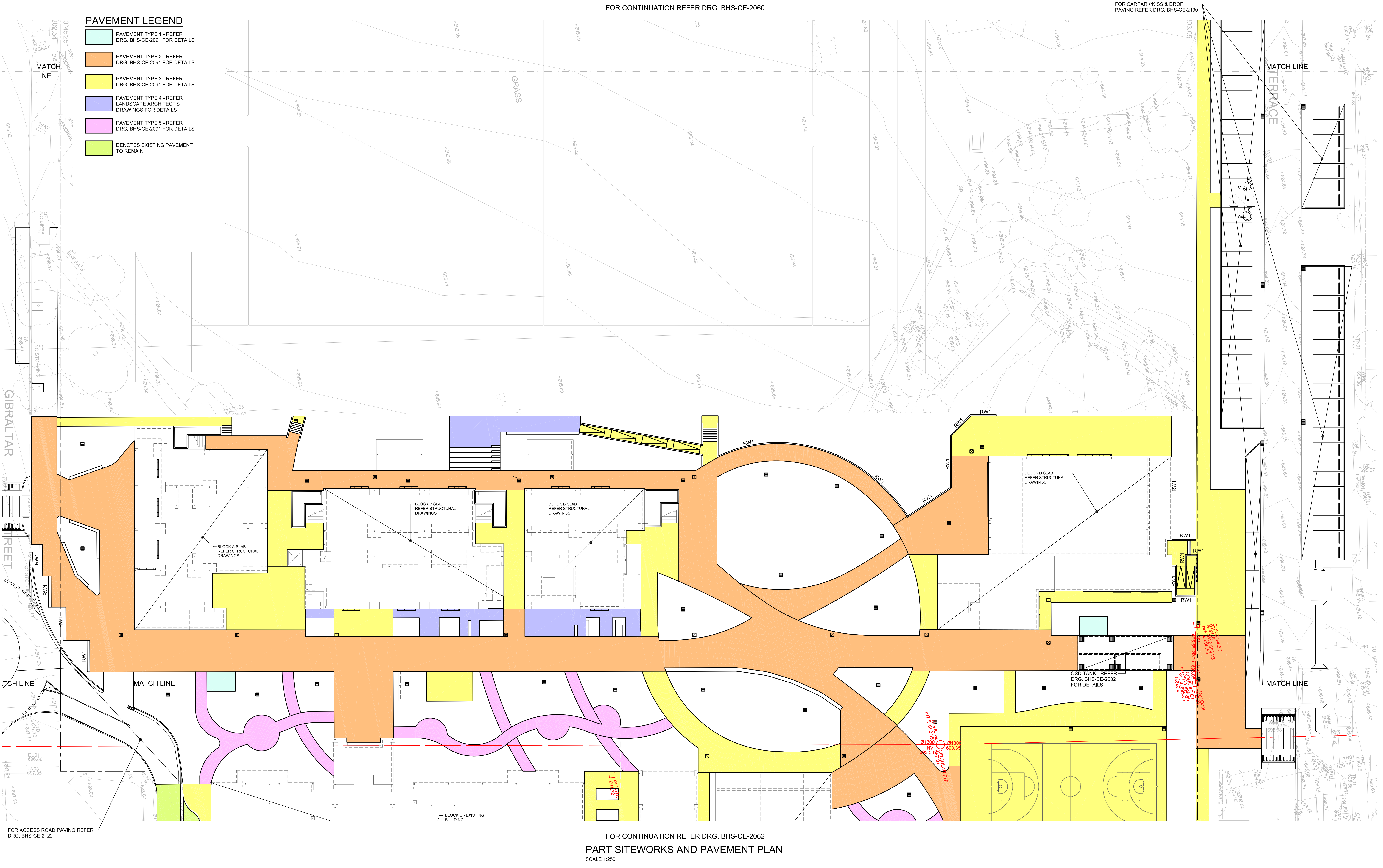
Rev	Date	Description	Chkd	Auth.
A	10.12.21	ISSUED FOR DD		
B	21.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	14.07.22	ISSUED FOR RTS REVISED DESIGN		
E	21.07.22	ISSUED FOR RTS REVISED DESIGN		
F	26.07.22	ISSUED FOR RTS REVISED DESIGN		
G	27.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET
BUNGENDORE NSW 2621
Drawing Title
SITEWORKS & PAVEMENT
PLAN
SHEET 1

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250
Drawing No.	Revision		
BHS-CE-2060	G		

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSENT AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
ACI



FOR CONTINUATION REFER DRG. BHS-CE-2060

FOR CARPARKKISS & DROP
PAVING REFER DRG. BHS-CE-2130

PAVEMENT LEGEND

- PAVEMENT TYPE 1 - REFER
DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 2 - REFER
DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 3 - REFER
DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 4 - REFER
LANDSCAPE ARCHITECT'S
DRAWINGS FOR DETAILS
- PAVEMENT TYPE 5 - REFER
DRG. BHS-CE-2091 FOR DETAILS
- DENOTES EXISTING PAVEMENT
TO REMAIN

FOR CONTINUATION REFER DRG. BHS-CE-2062

PART SITeworks AND PAVEMENT PLAN

SCALE 1:250

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

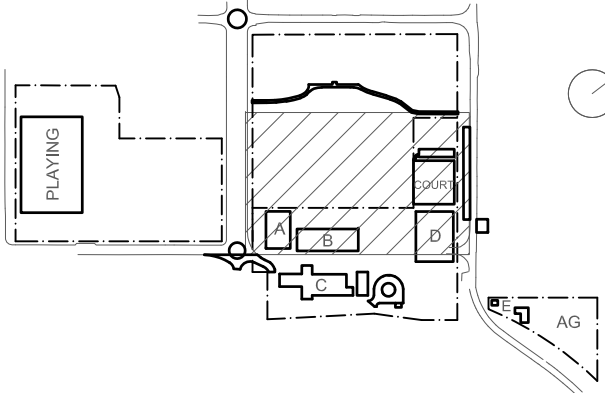
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6600

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



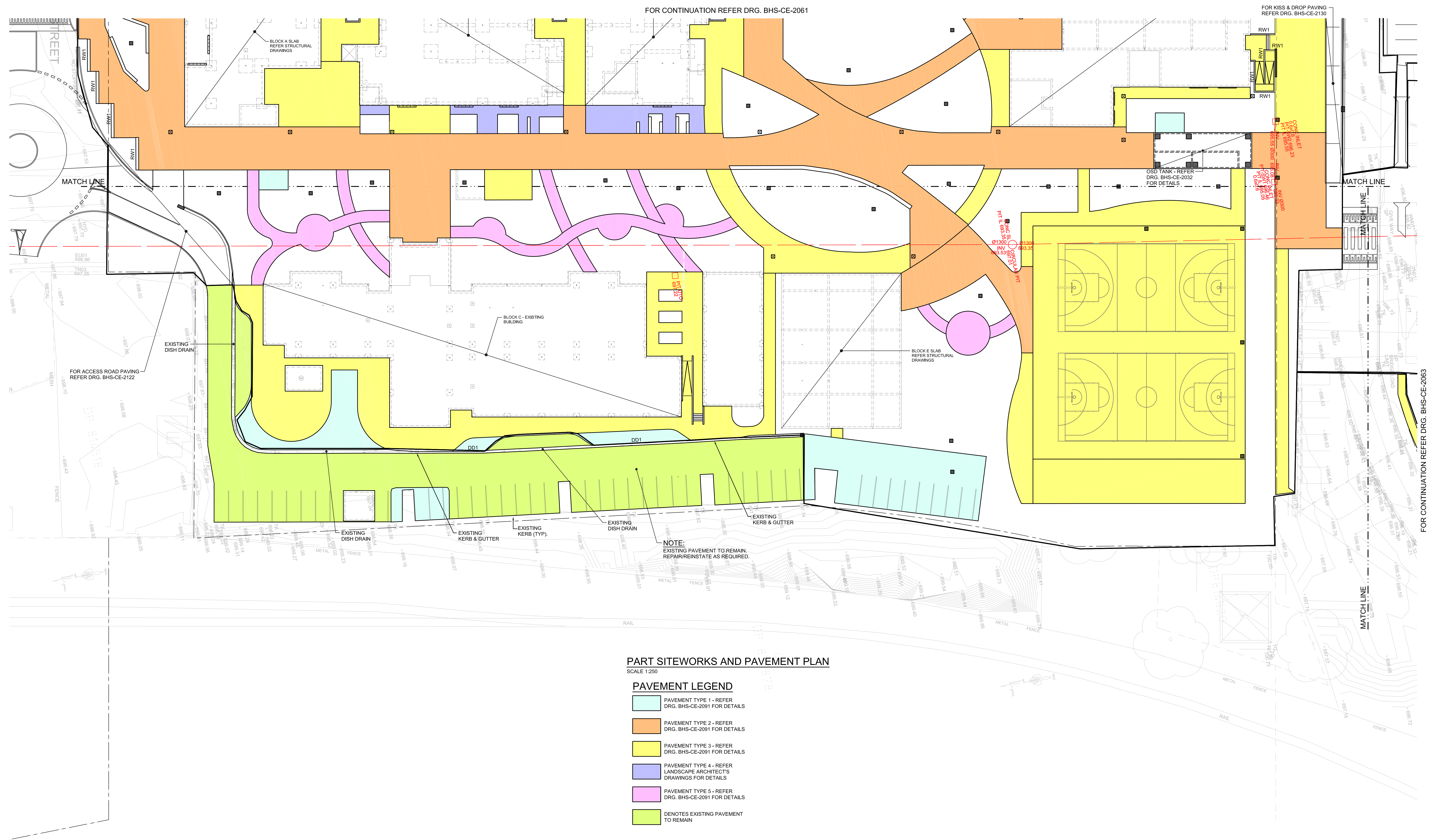
Rev	Date	Description	Chkd	Auth.
C	30.04.21	SCHEMATIC DESIGN		
D	07.05.21	SCHEMATIC DESIGN		
E	12.05.21	SCHEMATIC DESIGN		
F	24.11.21	50% DD ISSUE		
G	10.12.21	ISSUED FOR DD		
H	14.02.22	GENERALLY REVISED		
I	14.07.22	ISSUED FOR RTS REVISED DESIGN		
J	21.07.22	ISSUED FOR RTS REVISED DESIGN		
K	25.07.22	ISSUED FOR RTS REVISED DESIGN		
L	27.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET
BUNGENDORE NSW 2621
Drawing Title **SITeworks & PAVEMENT**
PLAN
SHEET 2

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250
Drawing No.			Revision
BHS-CE-2061			L

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

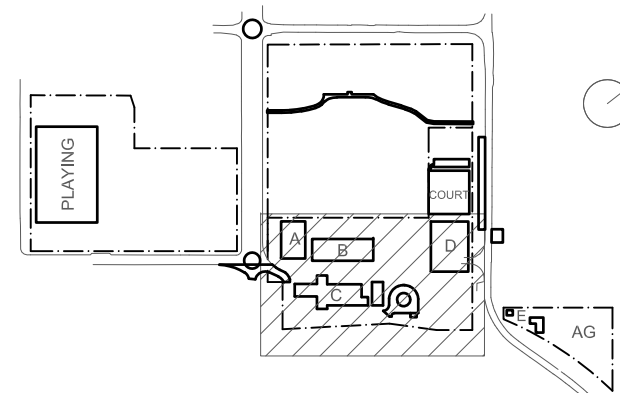


PART SITESWORKS AND PAVEMENT PLAN
SCALE 1:250

PAVEMENT LEGEND

- PAVEMENT TYPE 1 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 2 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 3 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 4 - REFER LANDSCAPE ARCHITECT'S DRAWINGS FOR DETAILS
- PAVEMENT TYPE 5 - REFER DRG. BHS-CE-2091 FOR DETAILS
- DENOTES EXISTING PAVEMENT TO REMAIN

KEY



DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 02 9561 8287
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 8000

Do not scale drawings. Verify all dimensions on site.			
Rev	Date	Description	Chkd Auth.
C	30.04.21	SCHEMATIC DESIGN	
D	07.05.21	SCHEMATIC DESIGN	
E	12.05.21	SCHEMATIC DESIGN	
F	11.06.21	SCHEMATIC DESIGN	
G	24.11.21	50% DD ISSUE	
H	10.12.21	ISSUED FOR DD	
I	21.12.21	ISSUED FOR DD	
J	14.02.22	GENERALLY REVISED	
K	14.07.22	ISSUED FOR RTS REVISED DESIGN	
L	27.07.22	ISSUED FOR RTS REVISED DESIGN	

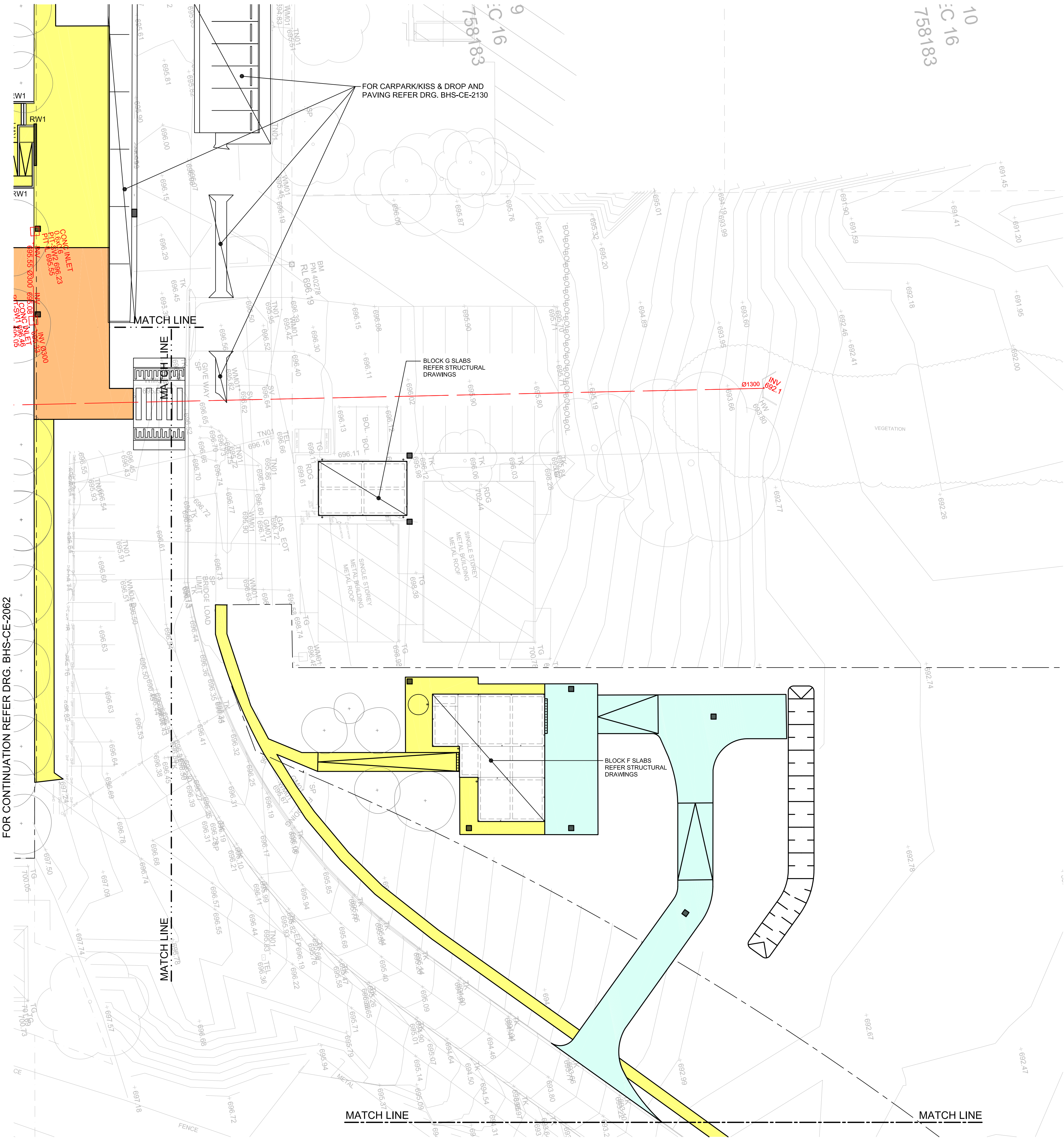
Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
SITESWORKS & PAVEMENT
PLAN
SHEET 3

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250
Drawing No.		Revision	
BHS-CE-2062		L	

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSENT AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE

FOR CONTINUATION REFER DRG. BHS-CE-2060



PART SITEWORKS AND PAVEMENT PLAN
SCALE 1:250

PAVEMENT LEGEND

- PAVEMENT TYPE 1 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 2 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 3 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 4 - REFER LANDSCAPE ARCHITECT'S DRAWINGS FOR DETAILS
- PAVEMENT TYPE 5 - REFER DRG. BHS-CE-2091 FOR DETAILS
- DENOTES EXISTING PAVEMENT TO REMAIN

MATCH LINE

PART SITEWORKS AND PAVEMENT PLAN
SCALE 1:250

FOR CONTINUATION REFER DRG. BHS-CE-2062

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

NOT FOR CONSTRUCTION

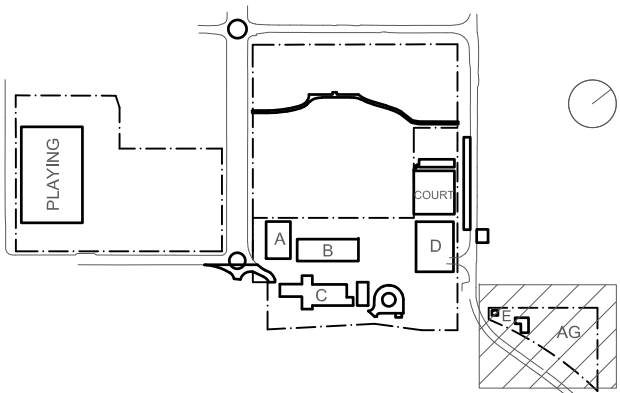
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6600

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 8000

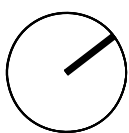
KEY



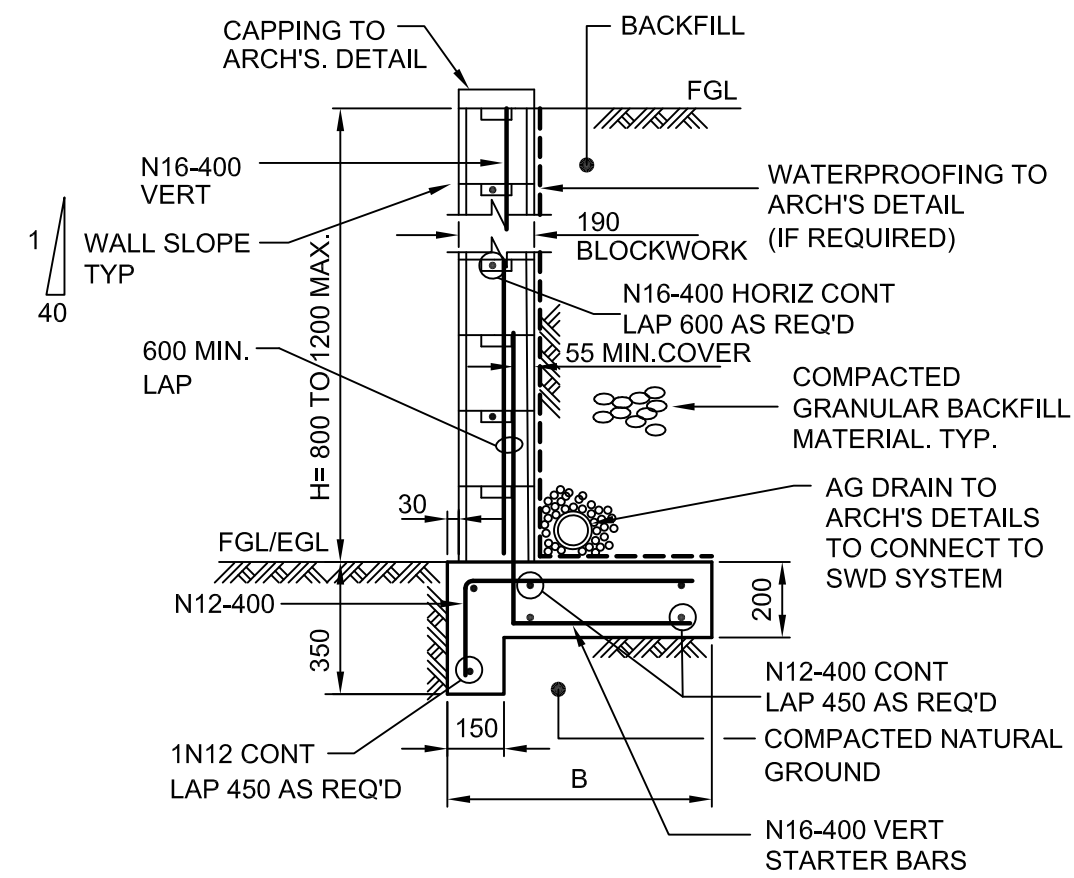
Rev	Date	Description	Chkd	Auth.
A	10.12.21	ISSUED FOR DD		
B	21.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	14.07.22	ISSUED FOR RT'S REVISED DESIGN		
E	27.07.22	ISSUED FOR RT'S REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
SITEWORKS & PAVEMENT
PLAN
SHEET 4

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:250
Drawing No.	Revision		
BHS-CE-2063	E		



M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSIST AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
MEMBER

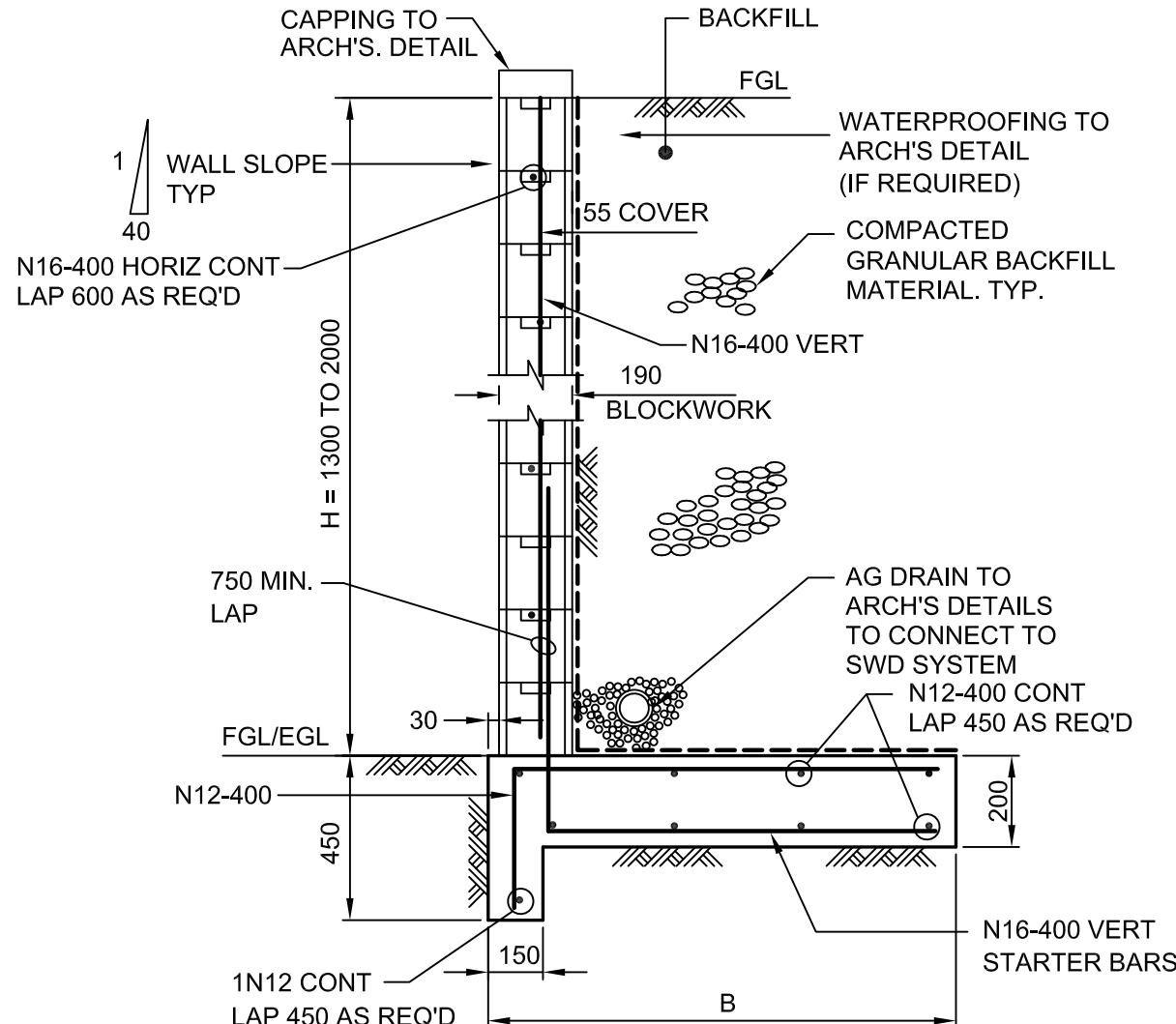


TYPICAL RETAINING WALL DETAIL

H = 600 TO 1200 MAX

SCALE 1:20

BASE DIMENSIONS	
H	B
600	500
800	600
1000	700
1200	800

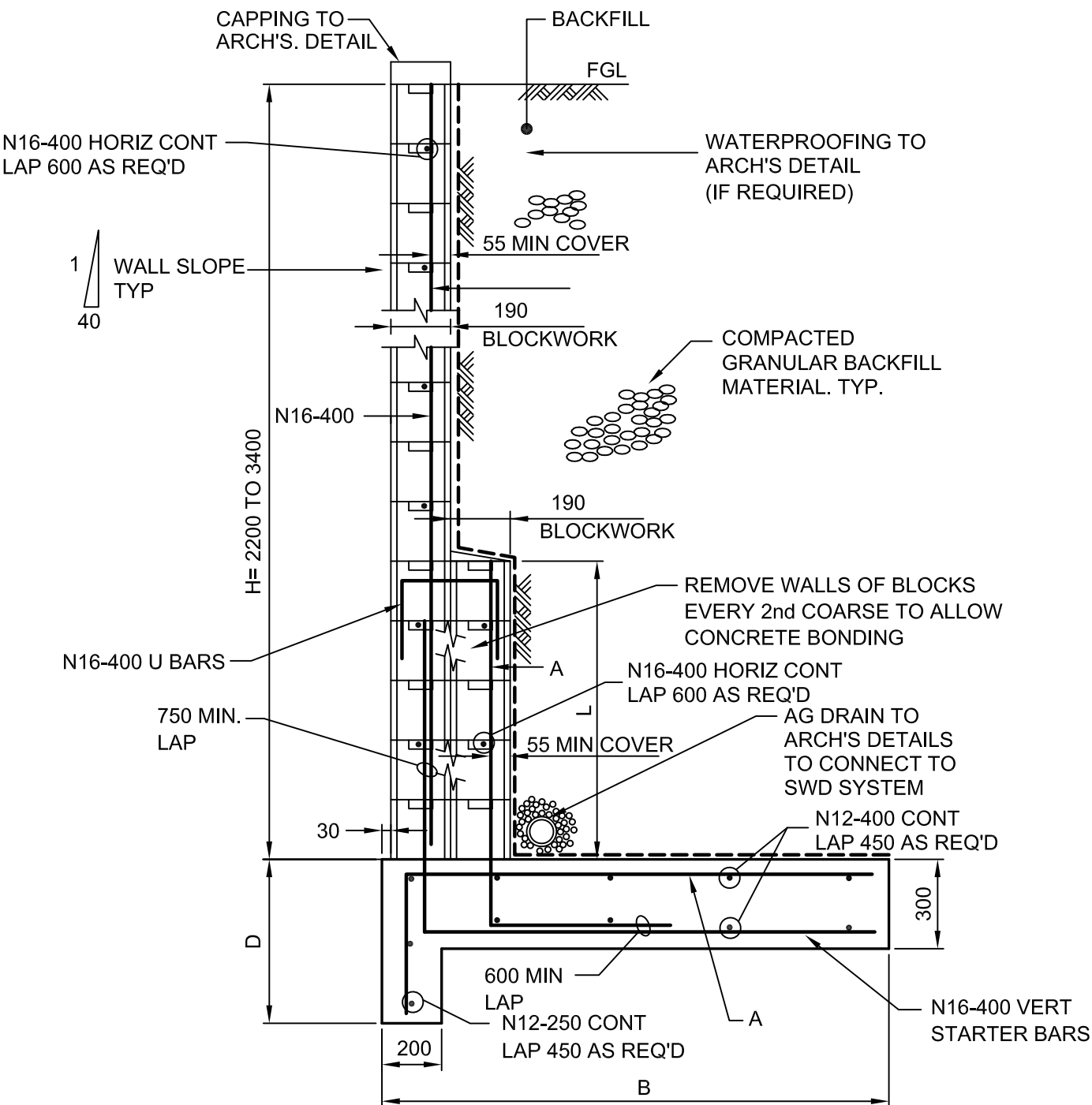


TYPICAL RETAINING WALL DETAIL

H = 1300 TO 1600 MAX

SCALE 1:20

BASE DIMENSIONS	
H	B
1400	1000
1600	1100
1800	1200



TYPICAL RETAINING WALL DETAIL

H = 2200 TO 3400 MAX

SCALE 1:20

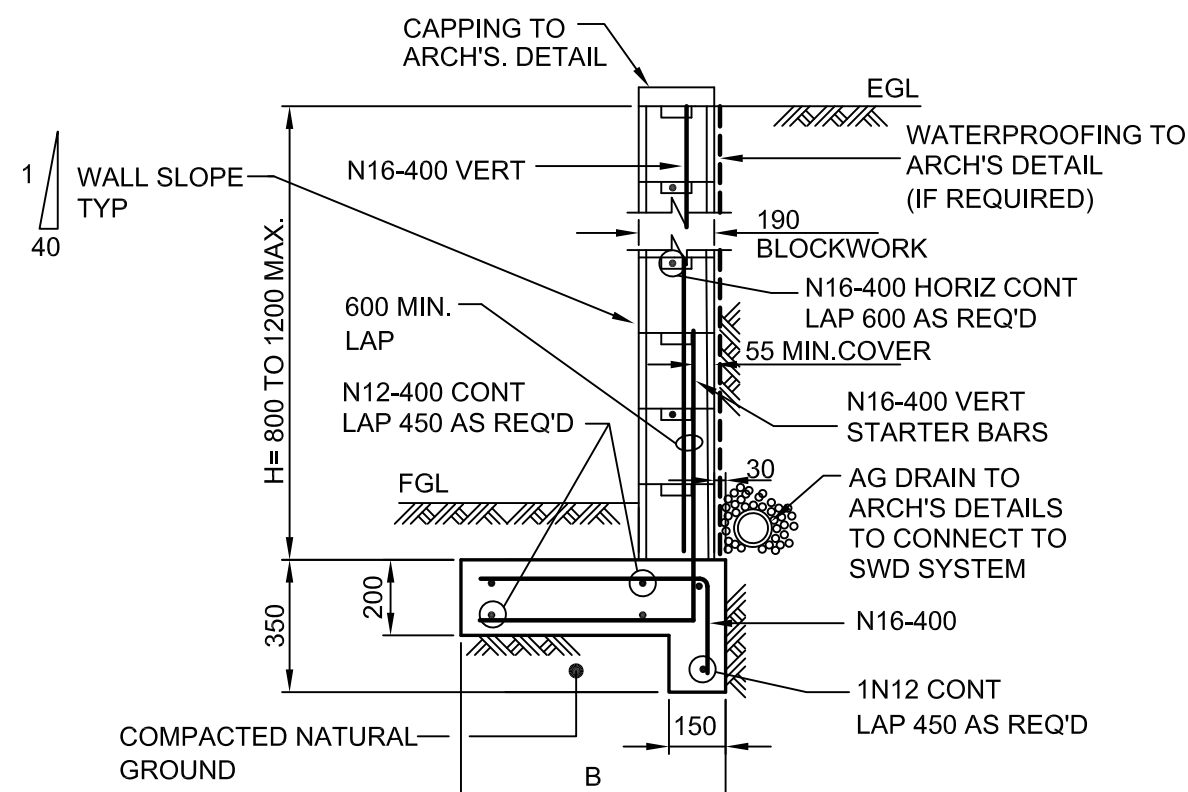
BASE DIMENSIONS				
H	B	L	A	D
2200	1400	600	N16-400	550
2400	1600	800	N16-400	550
2600	1800	1000	N16-400	550
2800	2000	1200	N16-400	550
3000	2300	1400	N20-400	750
3200	2600	1600	N20-400	750
3400	3000	1800	N20-400	750

BLOCKWORK NOTES:

- ALL BLOCKS TO BE 190 DOUBLE "U" BLOCKS. PROVIDE CLEAN OUT HOLES TO BTM. COURSE. FILL ALL CORES WITH CONCRETE: 10mm AGG. 15 MPa 225 SLUMP
- 50 MIN. COVER TO ALL BASE REINFORCEMENT.
- BACKFILL TO BE COMPACTED CLEAN GRANULAR FREE DRAINING MATERIAL.

TYPICAL RETAINING WALL DETAILS IN FILL

DENOTED RW1 ON PLANS

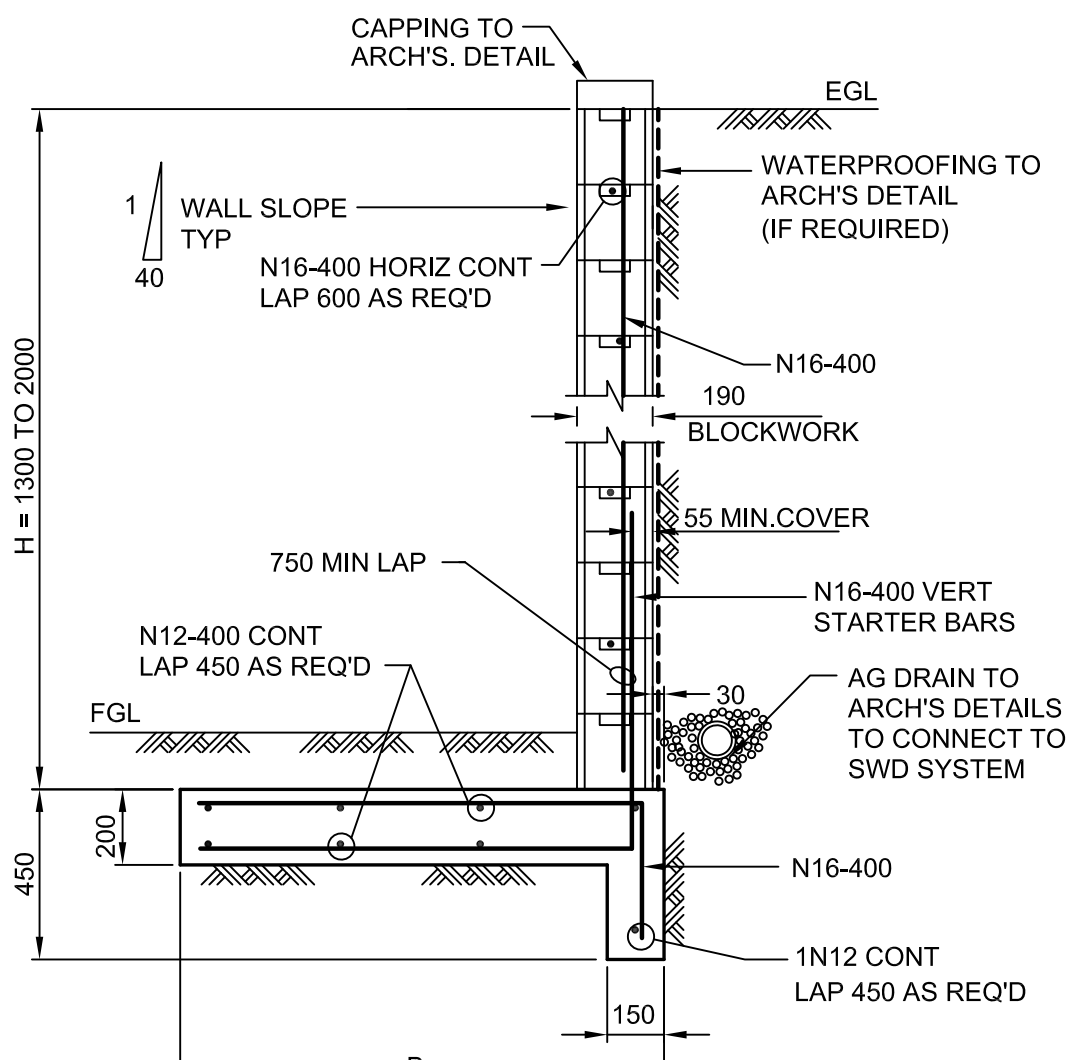


TYPICAL RETAINING WALL DETAIL

H = 600 TO 1200 MAX

SCALE 1:20

BASE DIMENSIONS	
H	B
600	500
800	600
1000	700
1200	800

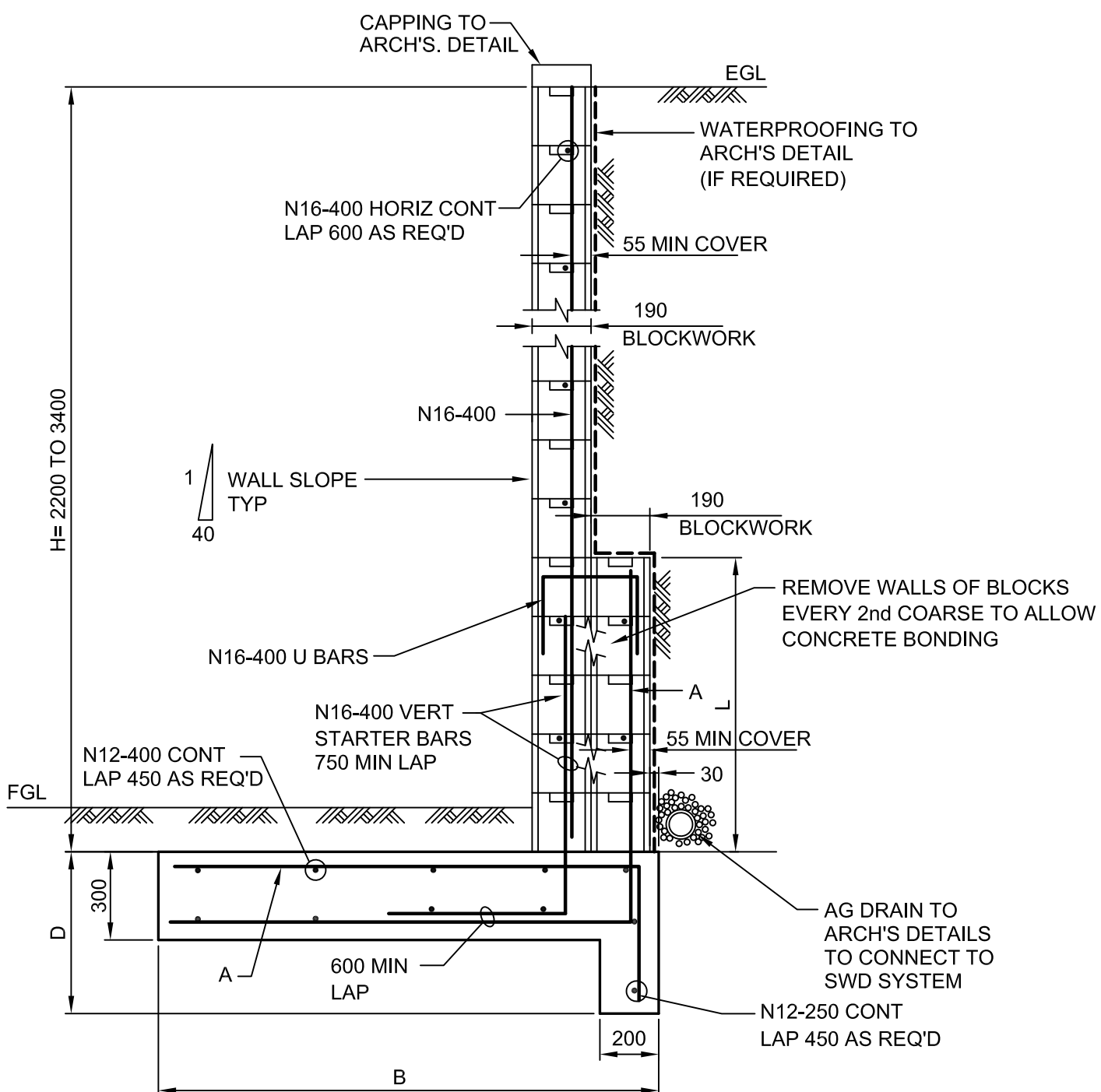


TYPICAL RETAINING WALL DETAIL

H = 1300 TO 1600 MAX

SCALE 1:20

BASE DIMENSIONS	
H	B
1400	1000
1600	1100
1800	1200



TYPICAL RETAINING WALL DETAIL

H = 2200 TO 3400 MAX

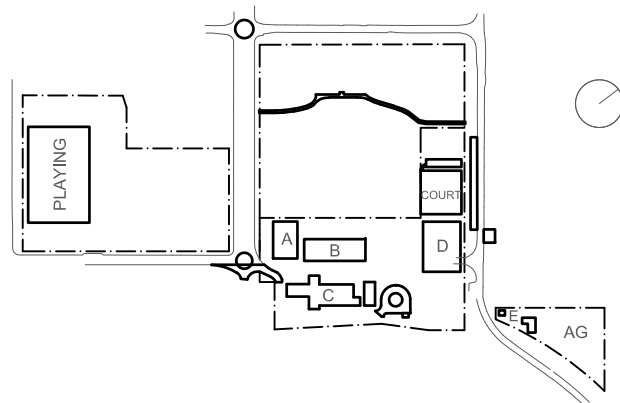
SCALE 1:20

BASE DIMENSIONS				
H	B	L	A	D
2200	1400	600	N16-400	550
2400	1600	800	N16-400	550
2600	1800	1000	N16-400	550
2800	2000	1200	N16-400	550
3000	2300	1400	N20-400	750
3200	2600	1600	N20-400	750
3400	3000	1800	N20-400	750

TYPICAL RETAINING WALL DETAILS IN CUT

DENOTED RW1 ON PLANS

KEY



Rev	Date	Description	Chkd	Auth.
A	10.12.21	ISSUED FOR DD		
B	14.02.22	GENERALLY REVISED		
C	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621

Drawing Title
RETAINING WALL
DETAILS

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:20

Drawing No.
BHS-CE-2065

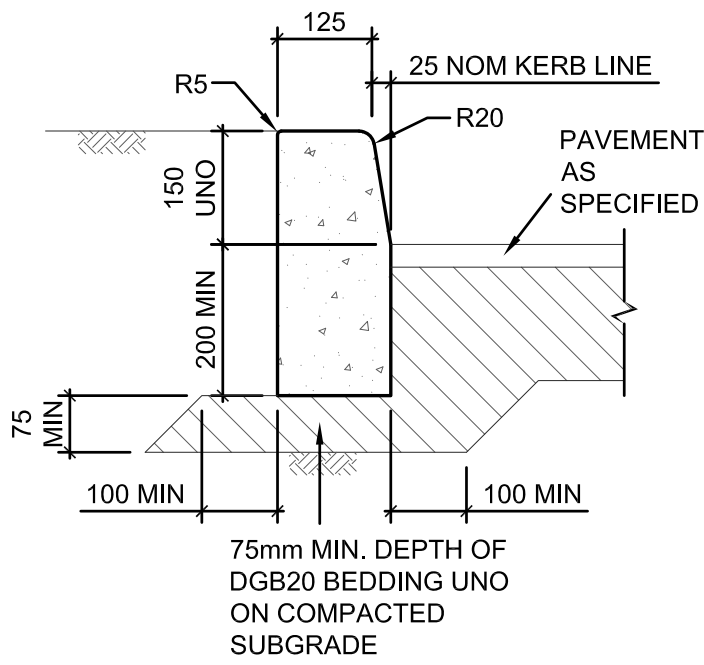
Revision
C

NOT FOR CONSTRUCTION

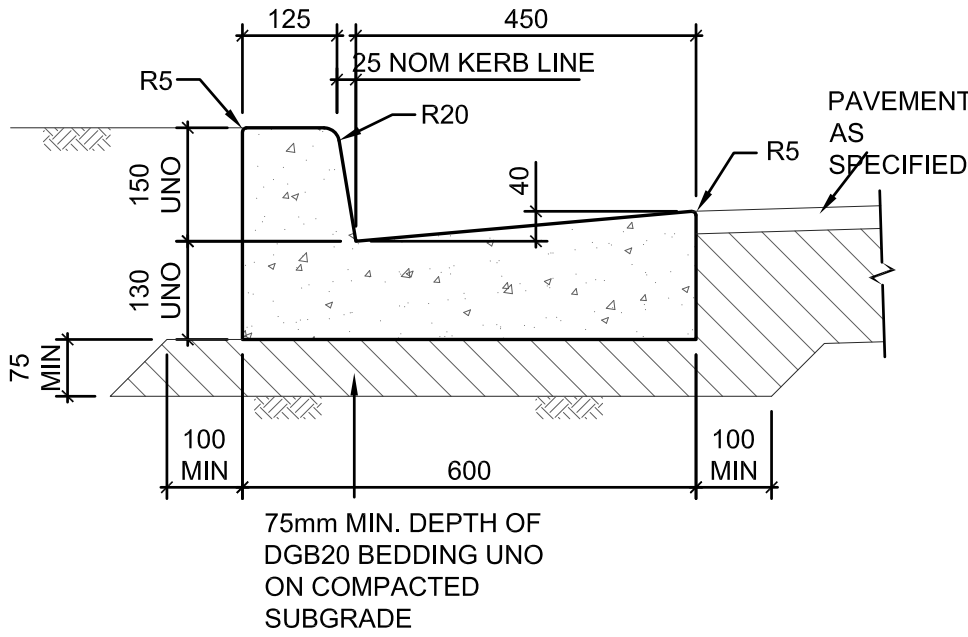
M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

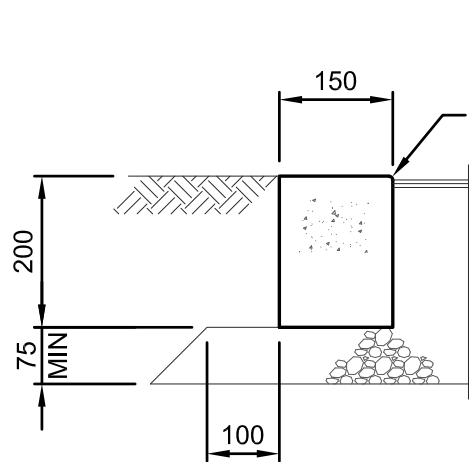




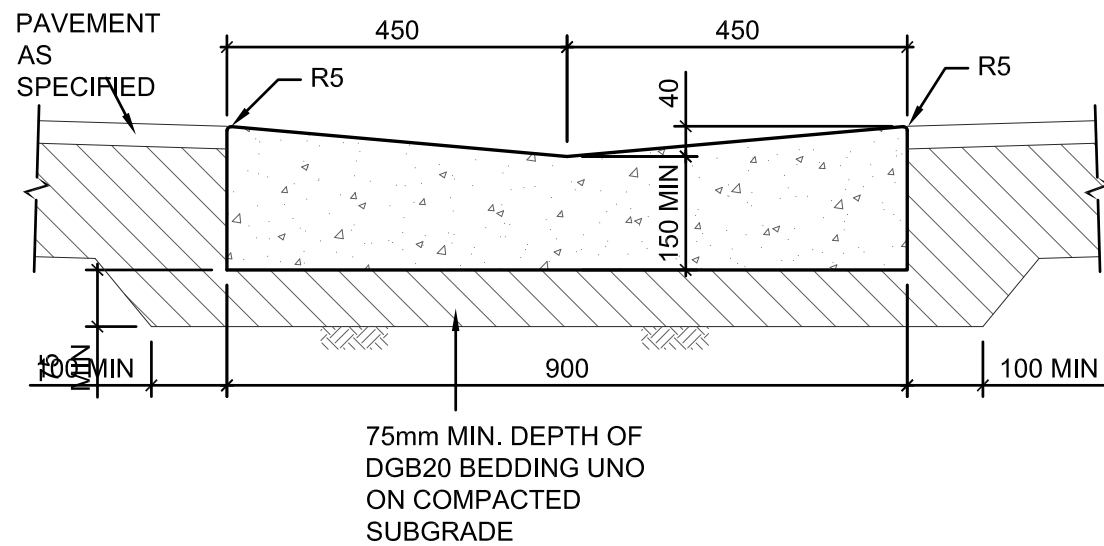
KERB ONLY (KO)
SCALE 1:10



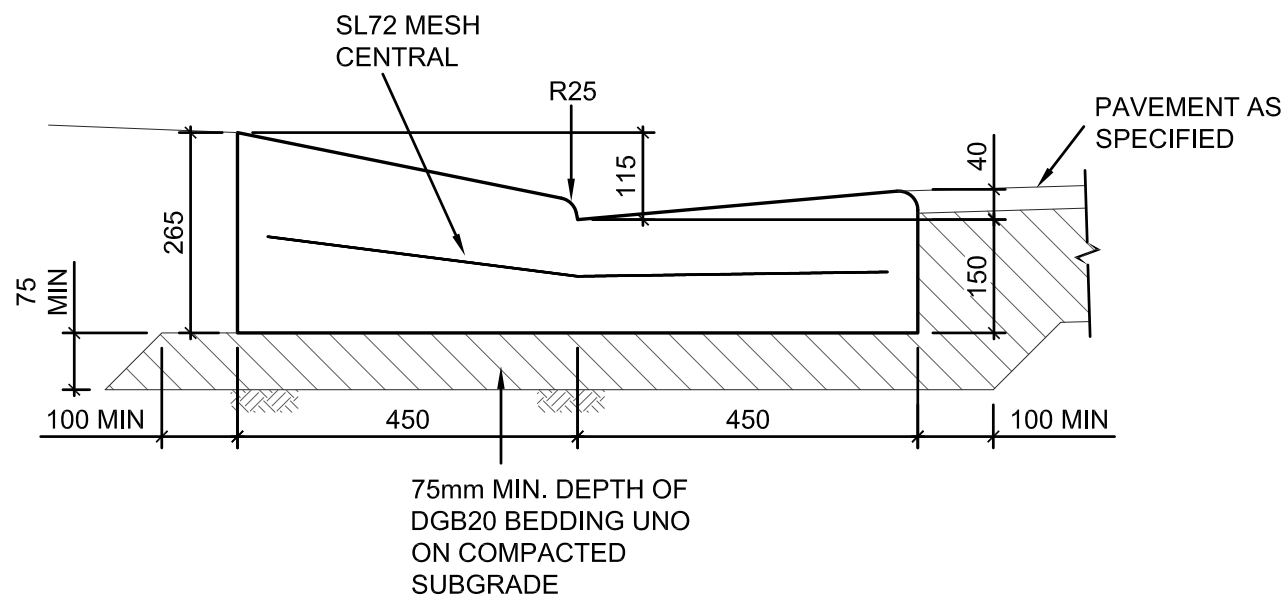
KERB AND GUTTER (K&G)
SCALE 1:10



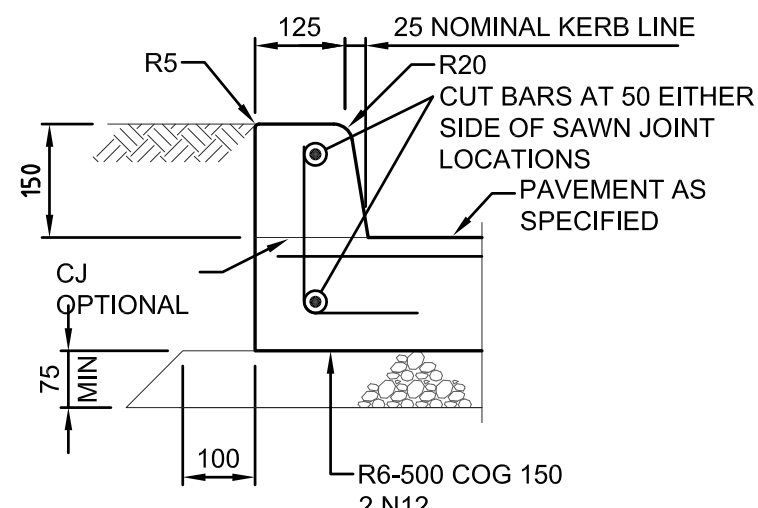
FLUSH KERB (FK)
SCALE 1:10



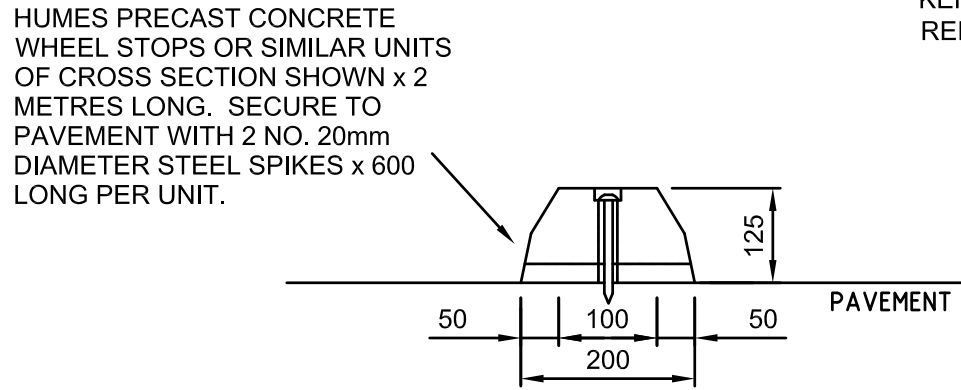
DISH DRAIN (DD1)
SCALE 1:10



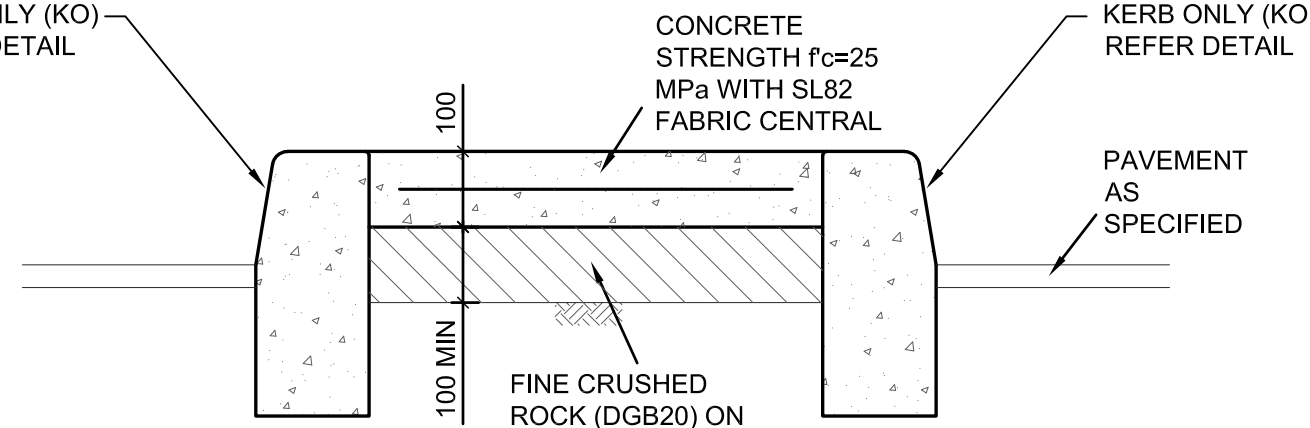
VEHICULAR CROSSING (VC)
SCALE 1:10



INTERGRAL KERB (IK)
SCALE 1:10

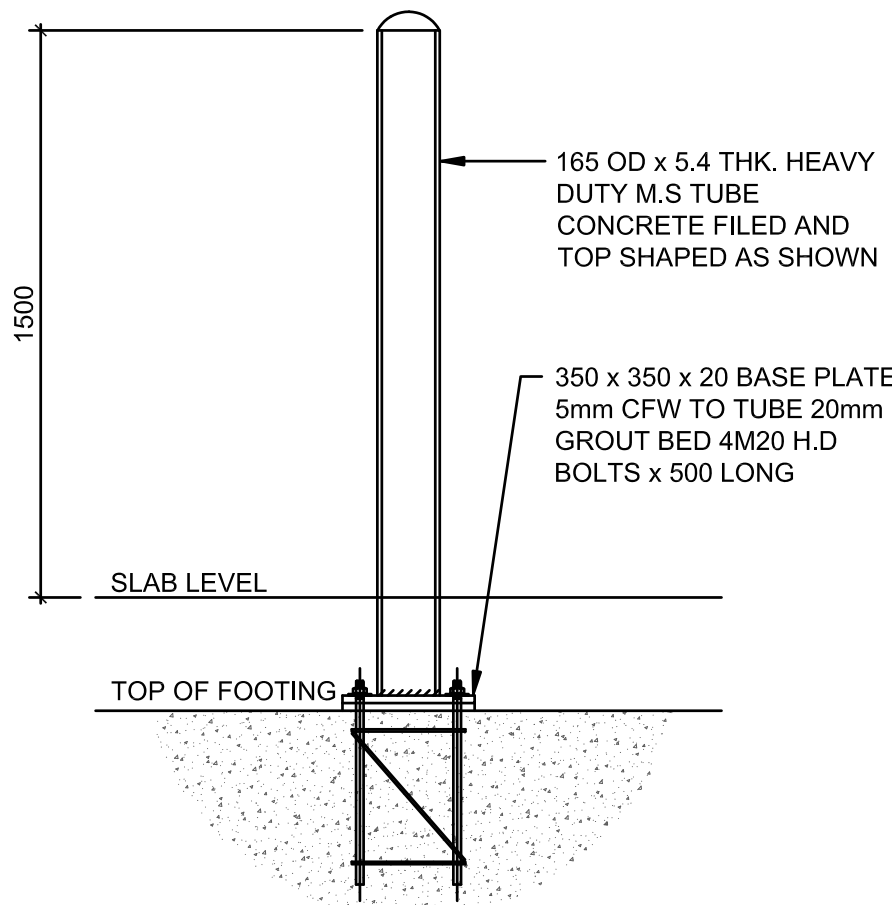


PRECAST WHEEL STOP
N.T.S.

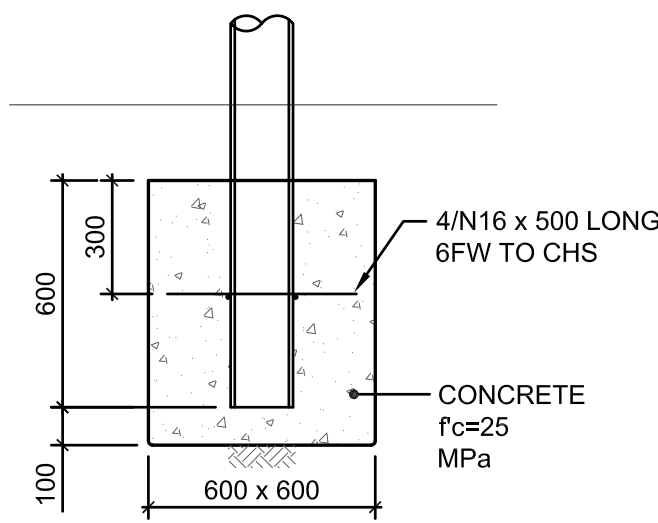


CONCRETE ISLAND INFILL
SCALE 1:10

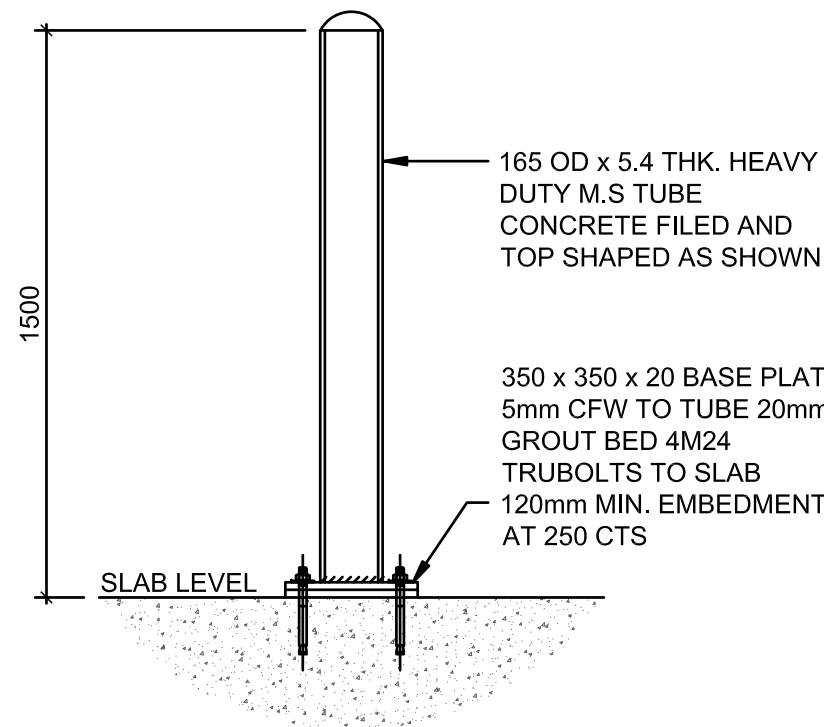
NOTE:
FOR WOMBAT CROSSING DETAILS REFER
DRG. BHS-CE-2200



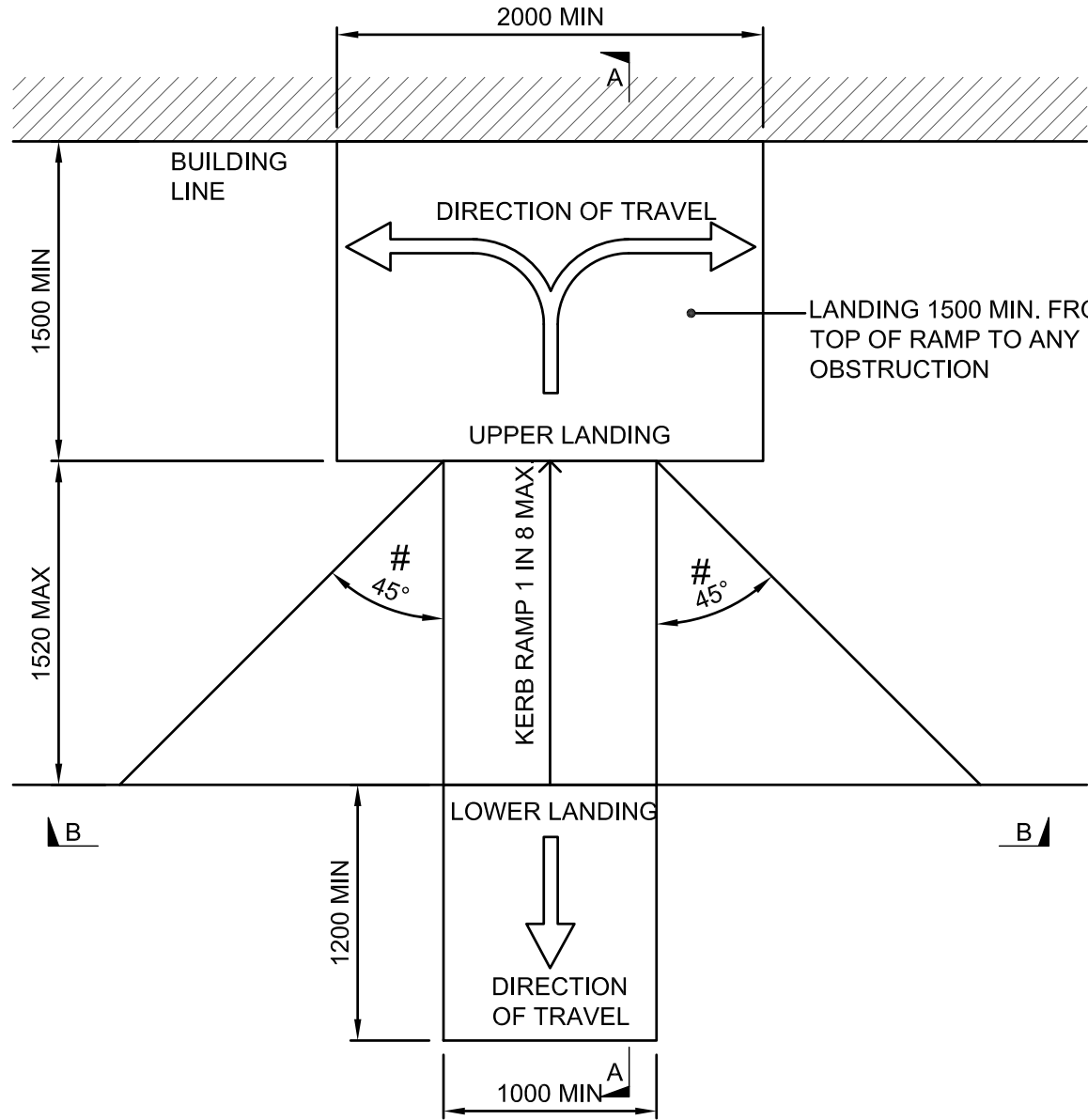
BOLLARD DETAIL TYPE 1 (FOOTING)



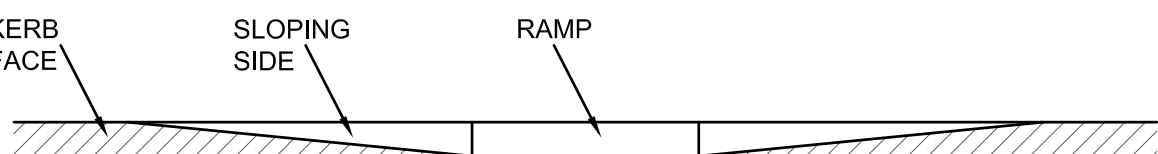
BOLLARD FOOTING DETAIL



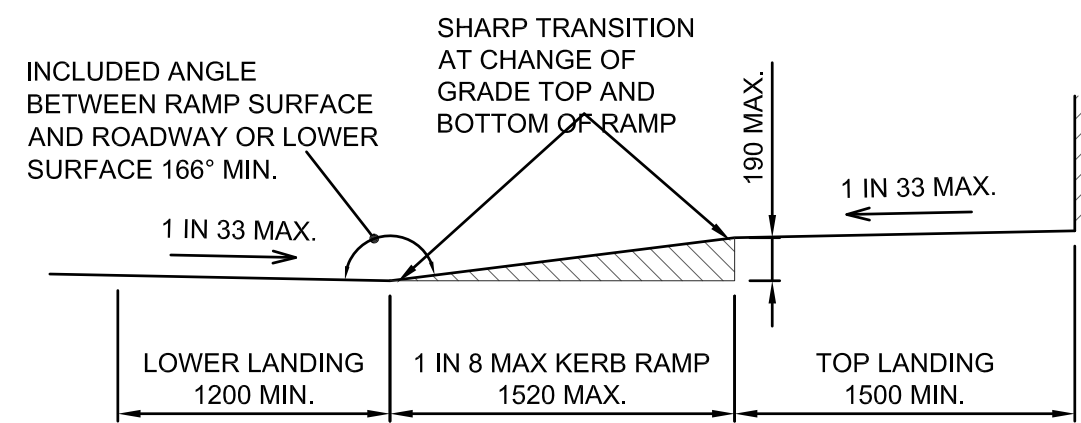
BOLLARD DETAIL TYPE 2 (SLAB)



PLAN VIEW



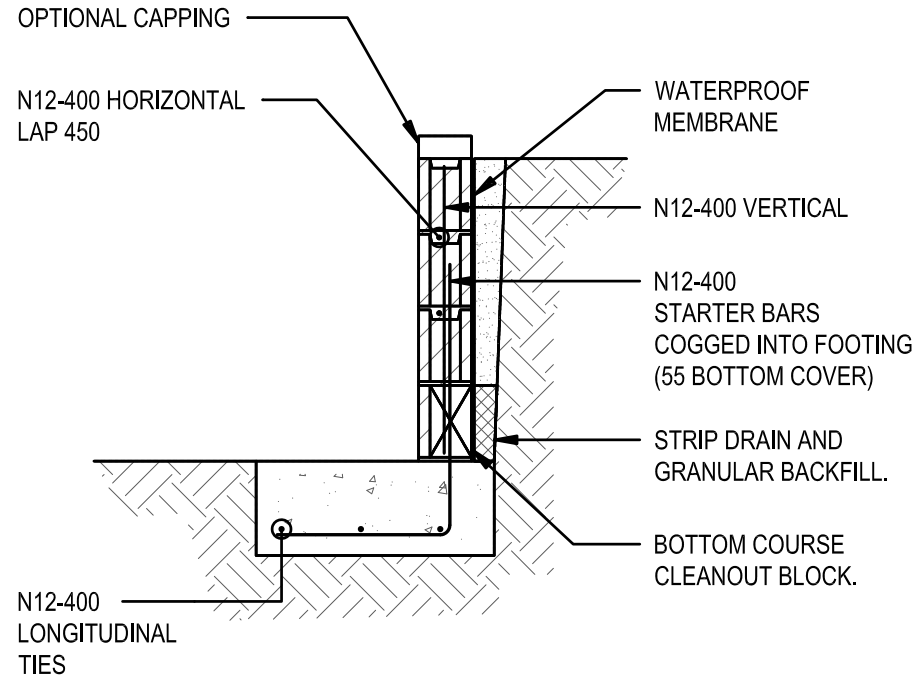
SECTION B - B



SECTION A - A

PRAM RAMP DETAIL

- NTS
NOTES
- THE RAMP AND SLOPING SIDES SHOULD BE SLIP RESISTANT AND OF A COLOUR THAT CONTRASTS WITH THE ADJOINING SURFACES.
 - A TACTILE INDICATOR, AS SPECIFIED IN AS1428.4 SHOULD BE INTEGRATED AND EXTENDED FOR 200mm AWAY FROM THE RAMP AT THE SHARP TRANSITION AT THE TOP AND BOTTOM OF THE RAMP. THIS COULD TAKE THE FORM OF ROUGH BROOMING OR SIMILAR TEXTURE WHICH WILL AID ORIENTATION FOR PEOPLE WITH A VISUAL IMPAIRMENT.
 - # WHERE CONSTRAINTS DICTATE THE ANGLE MAY BE REDUCED TO 30° IN ACCORDANCE WITH RMS STANDARD DRAWING No. R0306-11.
 - MINIMUM 125mm THICKNESS OF CONCRETE REINFORCED WITH SL82 MESH BOTTOM, 40mm COVER

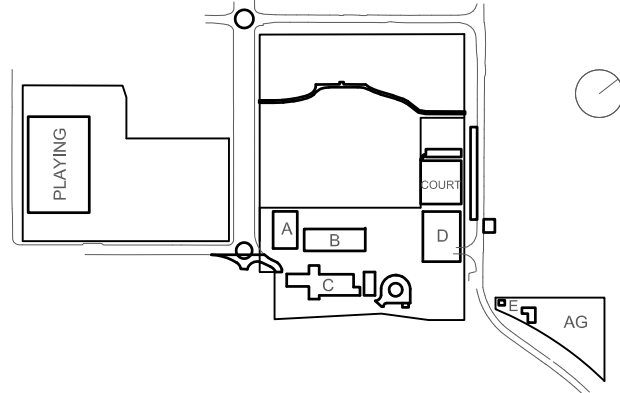


RETAINING WALL - 1.0m HIGH MAX. (TYPE 2)

- SCALE 1:20
- WALLS TO BE CONSTRUCTED USING 140 'H' BLOCKS
 - ALL BLOCKWORK TO BE CONCRETE CORE FILLED AS PER BLOCKWORK RETAINING WALL NOTES

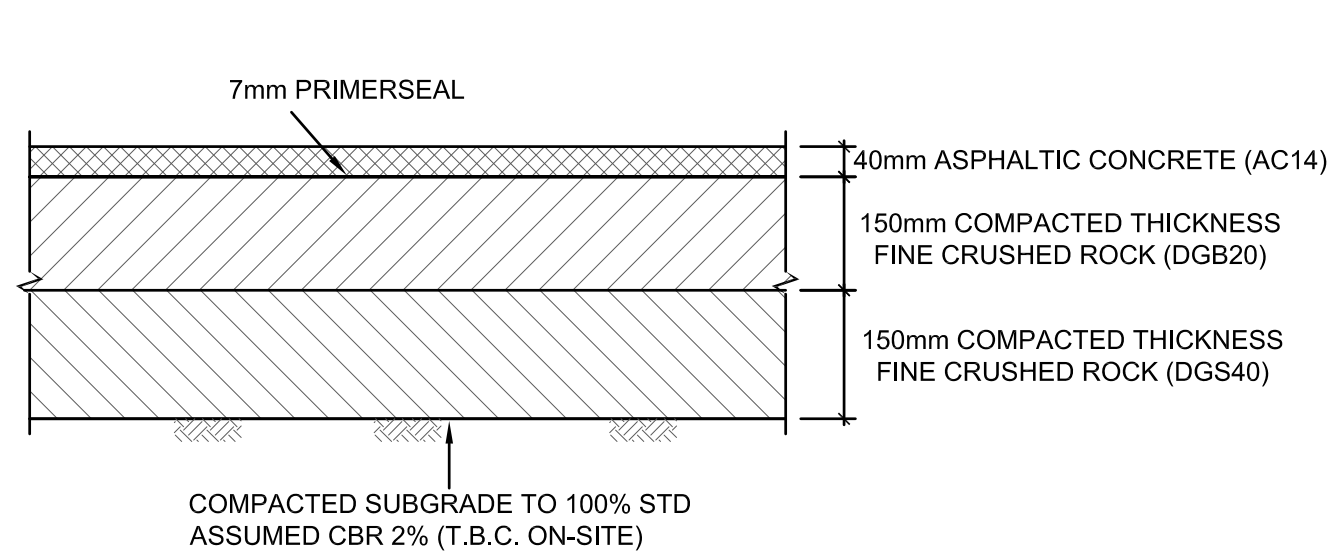
BASE DIMENSIONS	
'H' (HEIGHT mm)	'B' (BASE mm)
600	600
800	700
1000	900

KEY



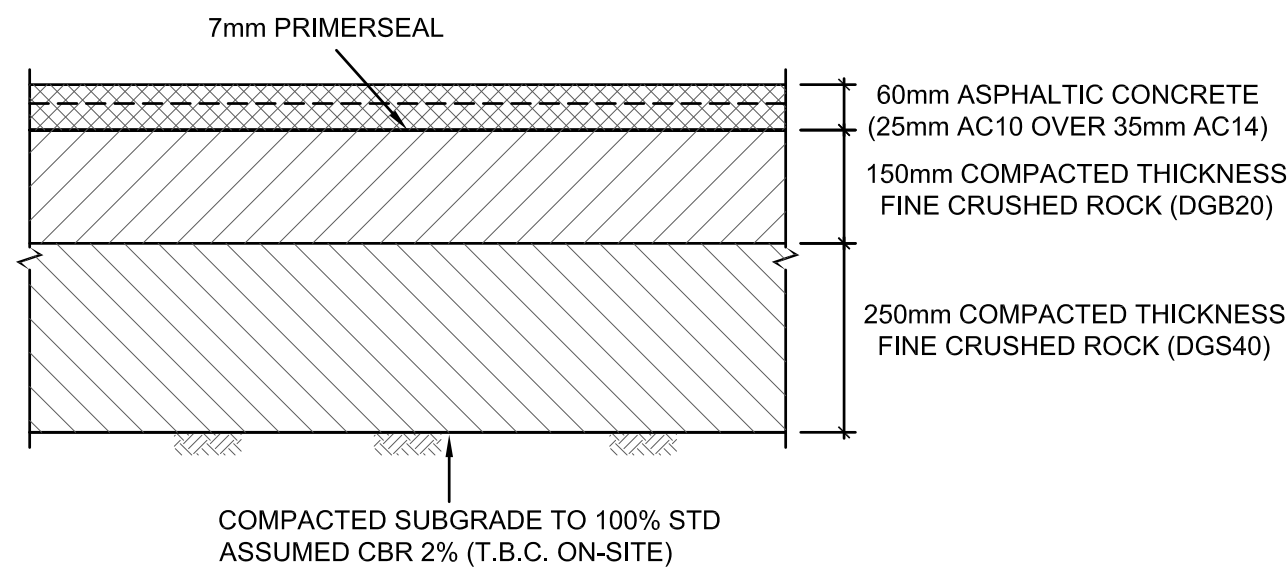
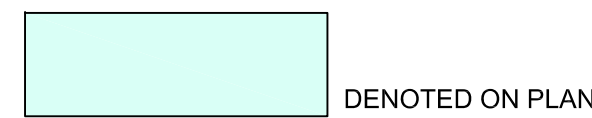
NOT FOR CONSTRUCTION

M+G Consulting



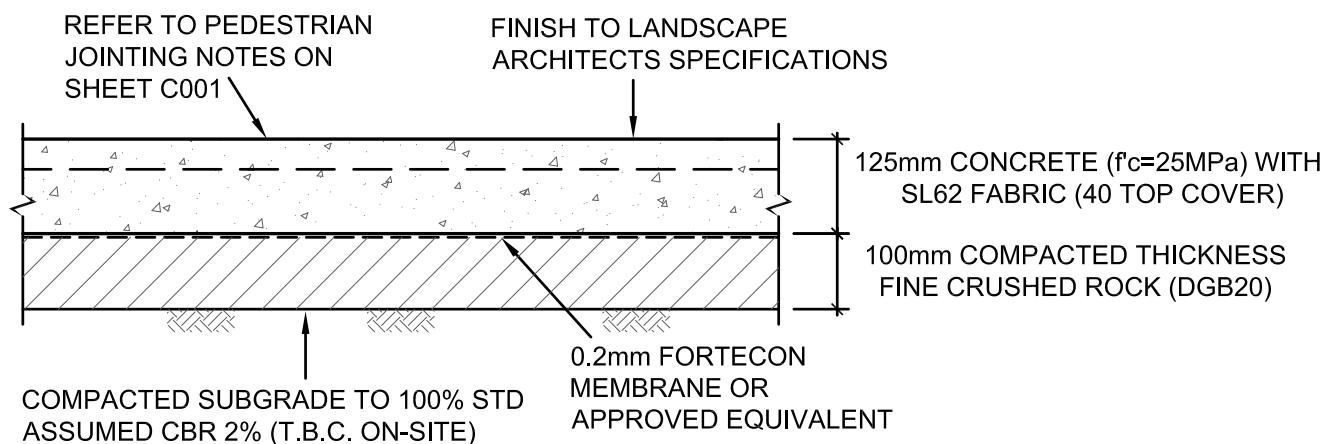
PAVEMENT TYPE 1 MEDIUM DUTY ASPHALT PAVEMENT

SCALE 1:10



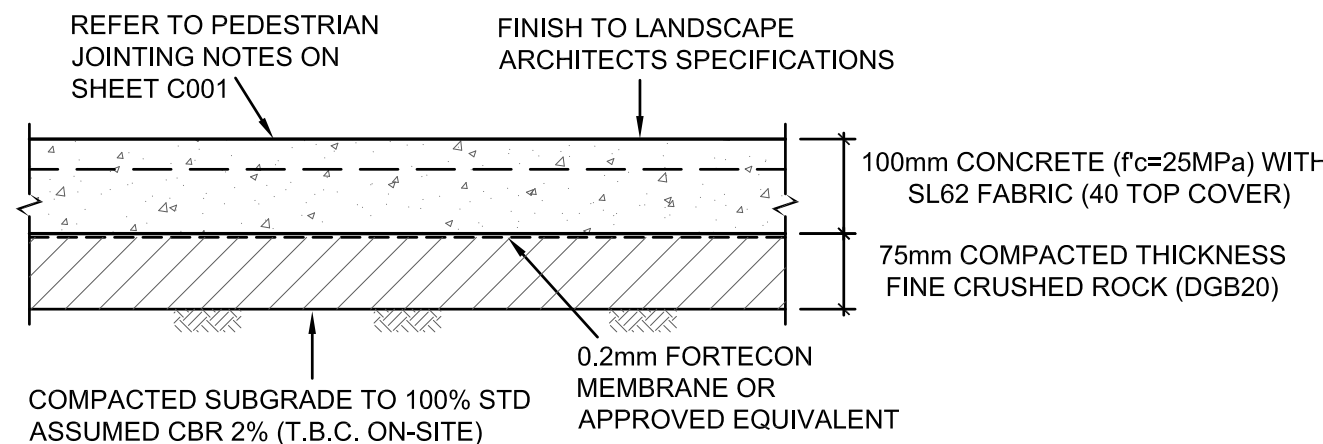
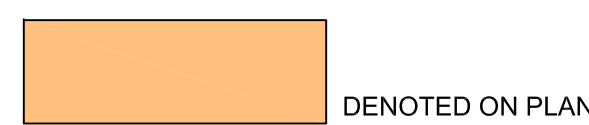
PAVEMENT TYPE 6 HEAVY DUTY ASPHALT PAVEMENT

SCALE 1:10



PAVEMENT TYPE 2 HEAVY DUTY CONCRETE PAVEMENT PEDESTRAIN AND LIGHT VEHICLE

SCALE 1:10

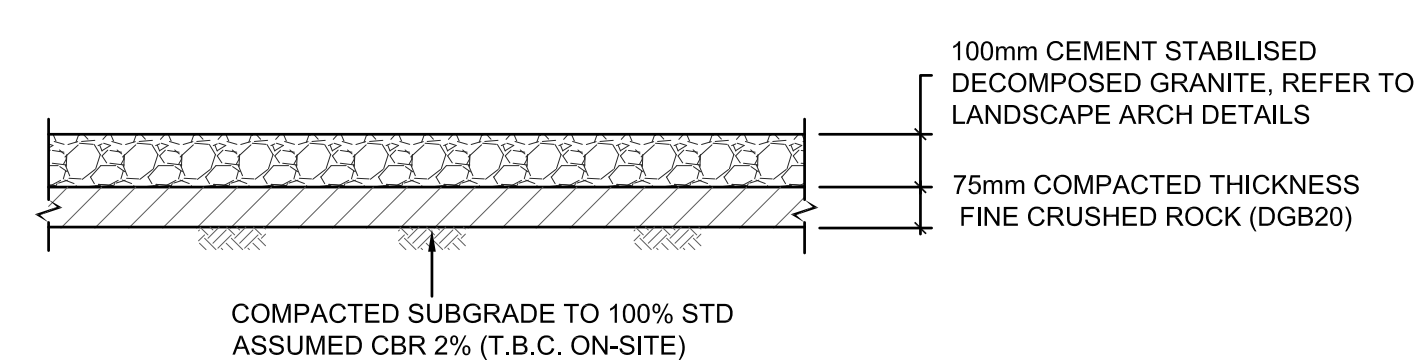


PAVEMENT TYPE 3 CONCRETE FOOTPATH PAVEMENT PEDESTRAIN ONLY

SCALE 1:10

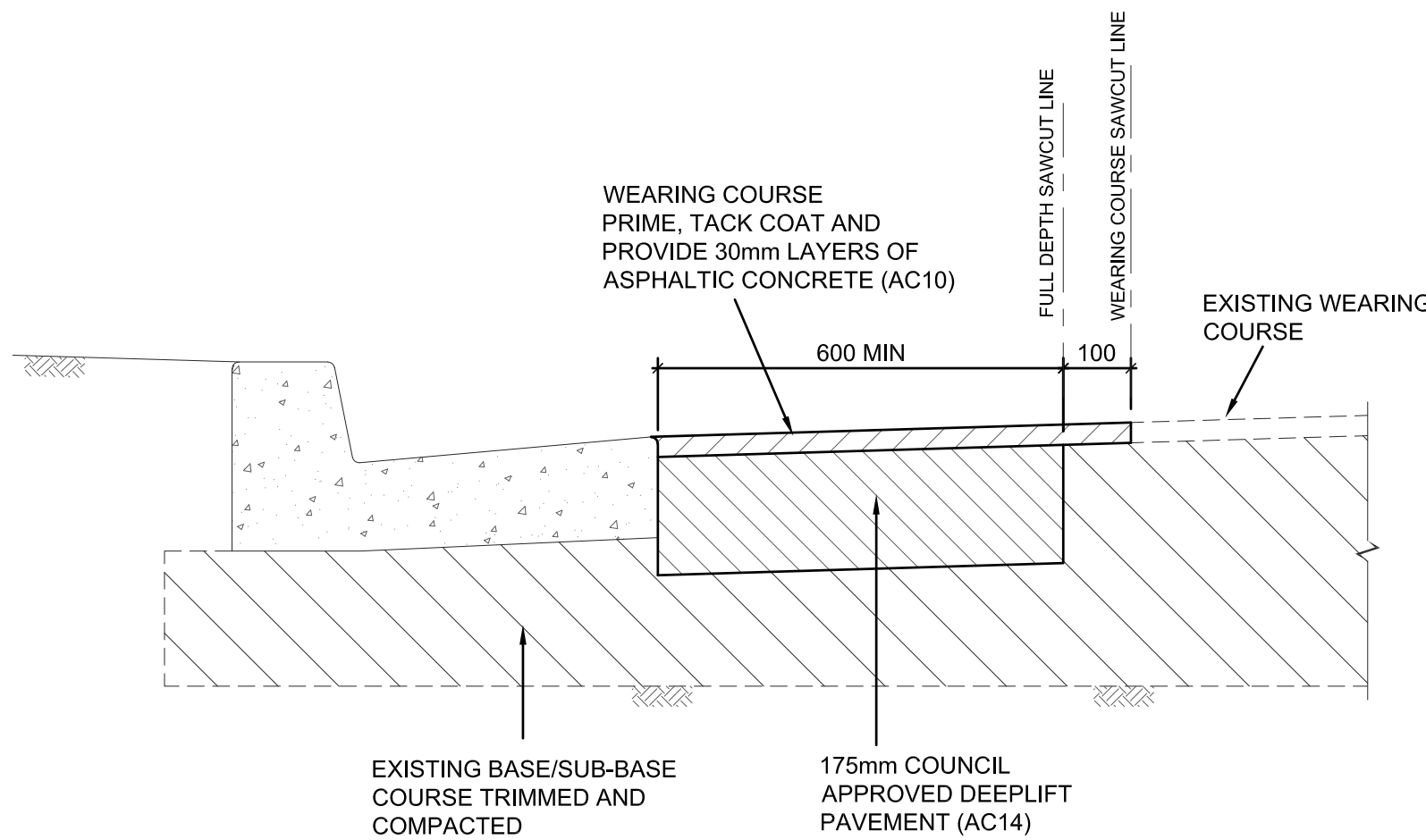


PAVEMENT TYPE 4 REFER LANDSCAPE ARCHITECT'S DRAWINGS



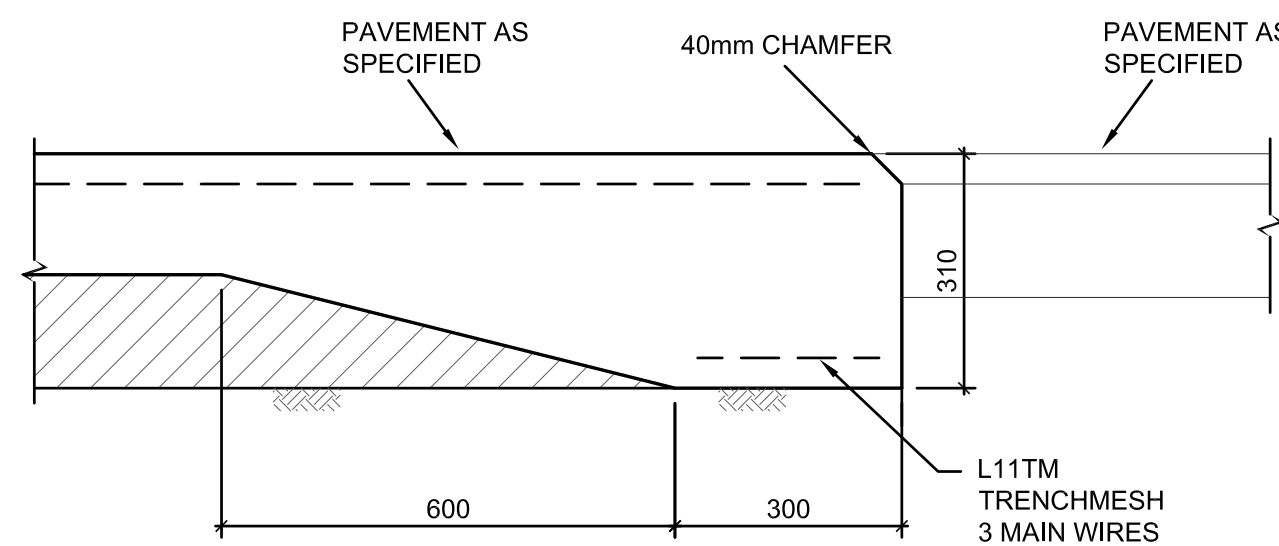
PAVEMENT TYPE 5

SCALE 1:10



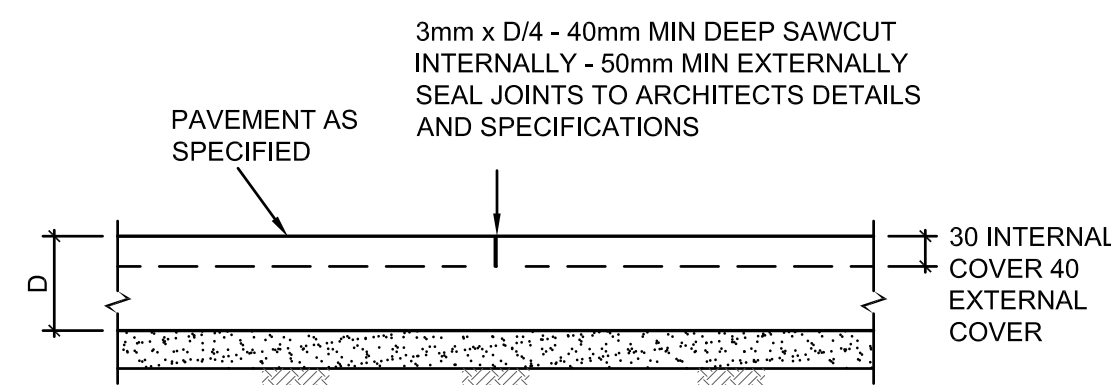
PAVEMENT - DEEPLIFT

SCALE 1:10



EDGE THICKENING (ET)

SCALE 1:10

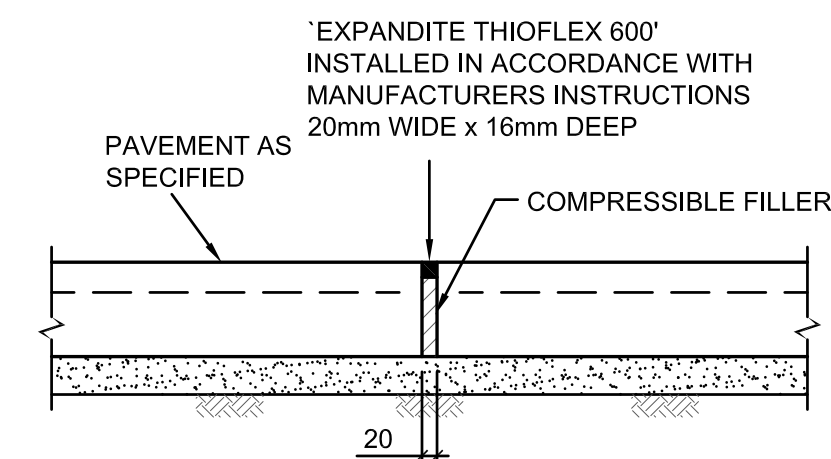


SAWCUT JOINT (SJ)

SCALE 1:10

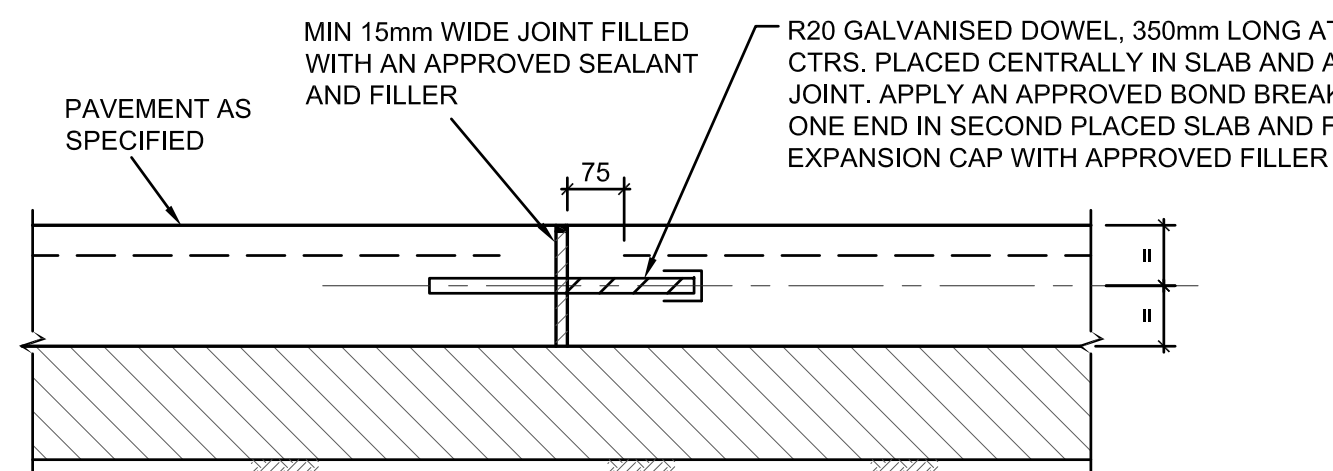
NOTES

1. SLAB MUST BE SAWCUT AS SOON AS PRACTICABLE AFTER FINISHING OF THE SLAB WITHOUT CAUSING DAMAGE TO THE SAWCUT EDGES - USUALLY 12-24 HOURS.
2. SLABS MUST NOT BE POURED IF TEMPERATURE EXCEEDS 32°
3. HOT WEATHER PLACING (25° AND OVER) MAY REQUIRE SLABS TO BE SAWCUT AS SOON AS 5-6 HOURS AFTER POURING.
4. ANY SLAB BAY IN WHICH SHRINKAGE CRACKS OCCUR DUE TO LATE SAWCUTTING MUST BE REMOVED AND REPLACED BY THE BUILDER/CONTRACTOR.



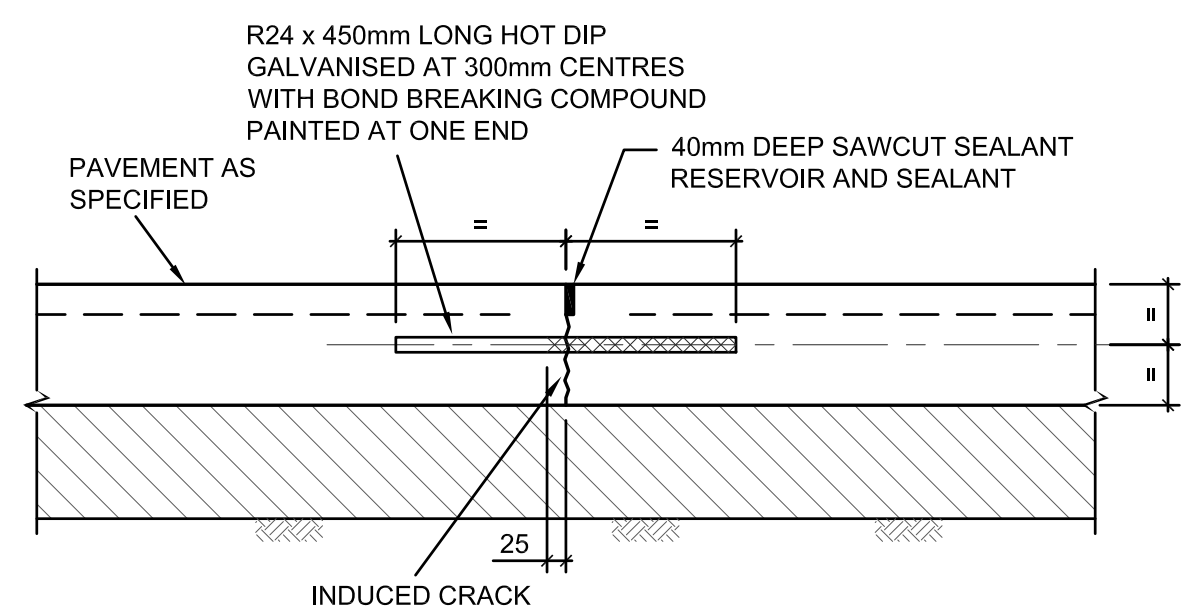
EXPANSION JOINT (EJ)

SCALE 1:10



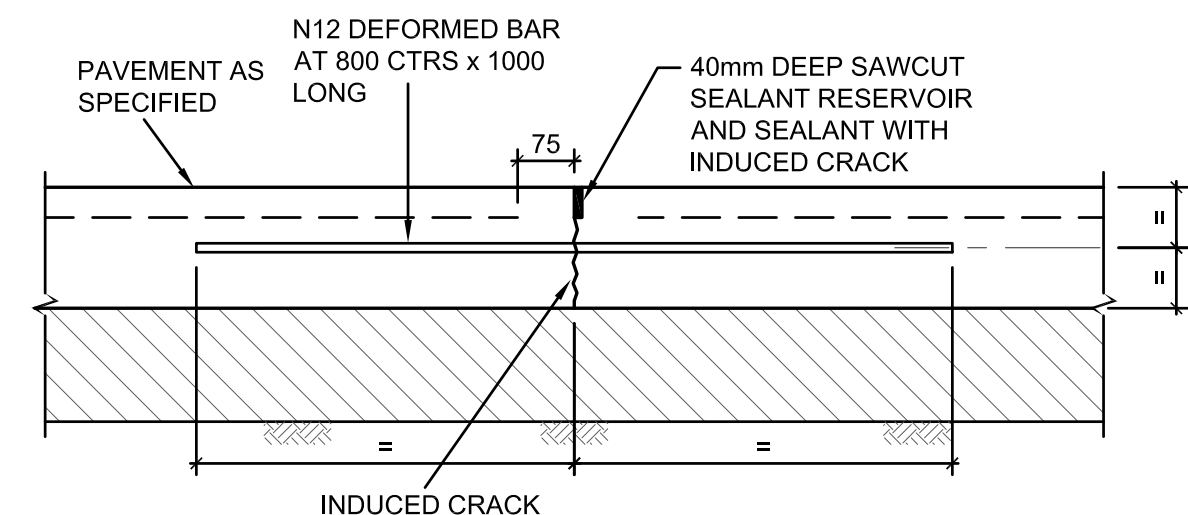
DOWELLED EXPANSION JOINT (DEJ)

SCALE 1:10



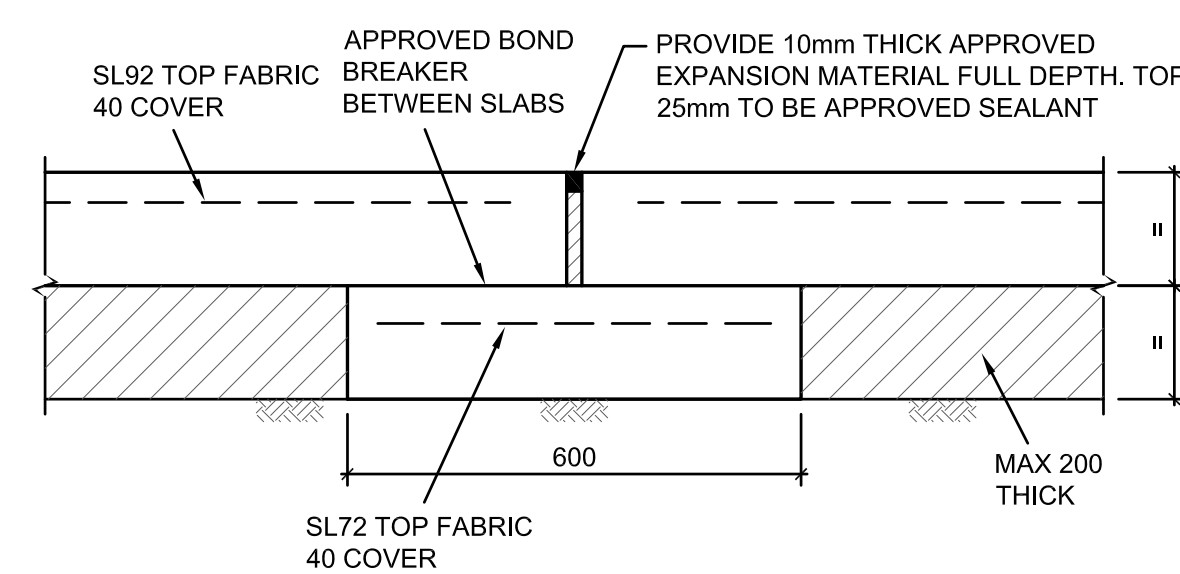
TRANSVERSE CONTRACTION JOINT (TCJ)

SCALE 1:10



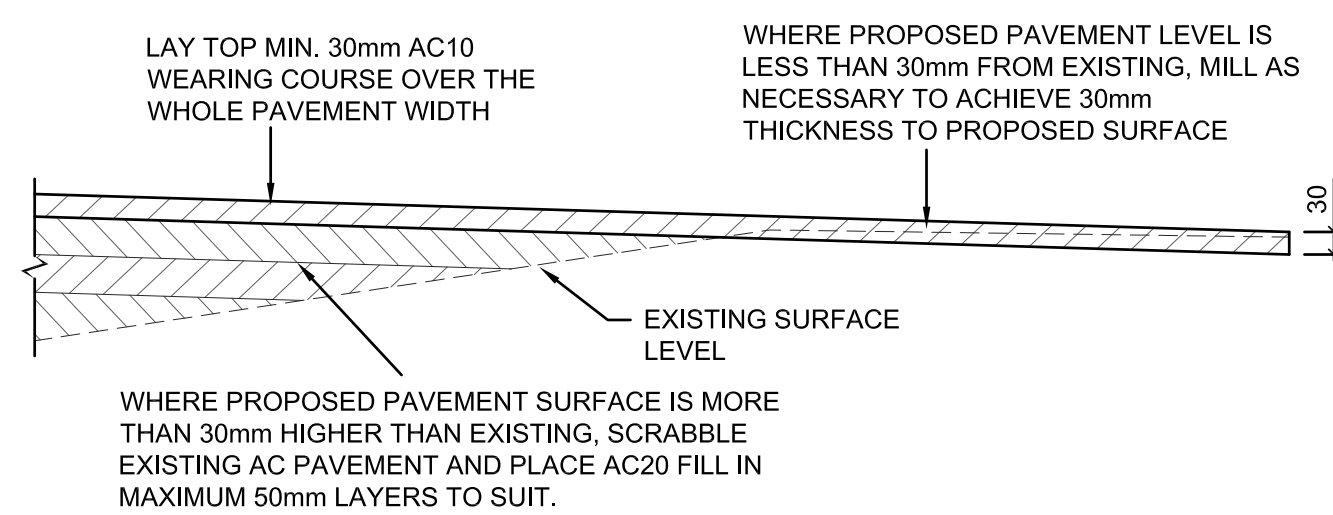
LONGITUDINAL WARPING JOINT (LWJ)

SCALE 1:10



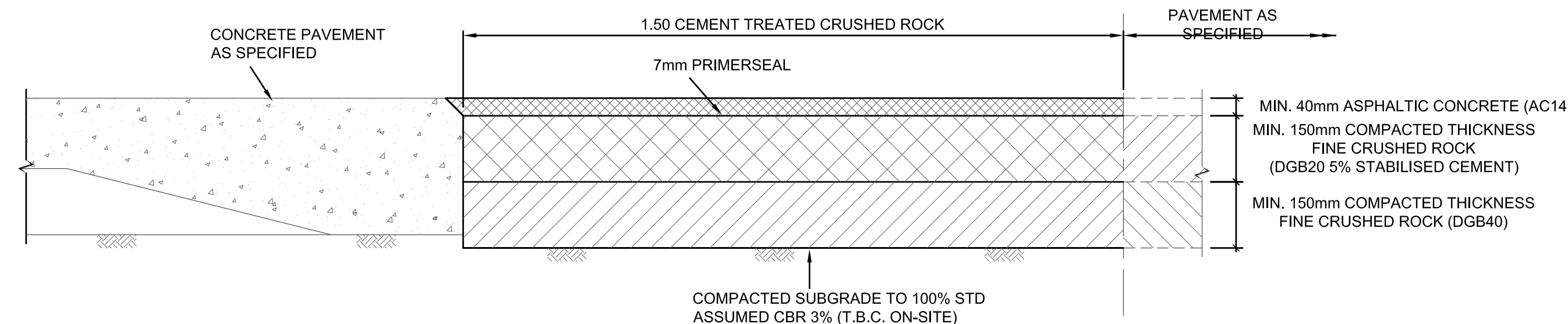
ISOLATION JOINT (IJ) WITH SUBGRADE BEAM

SCALE 1:20



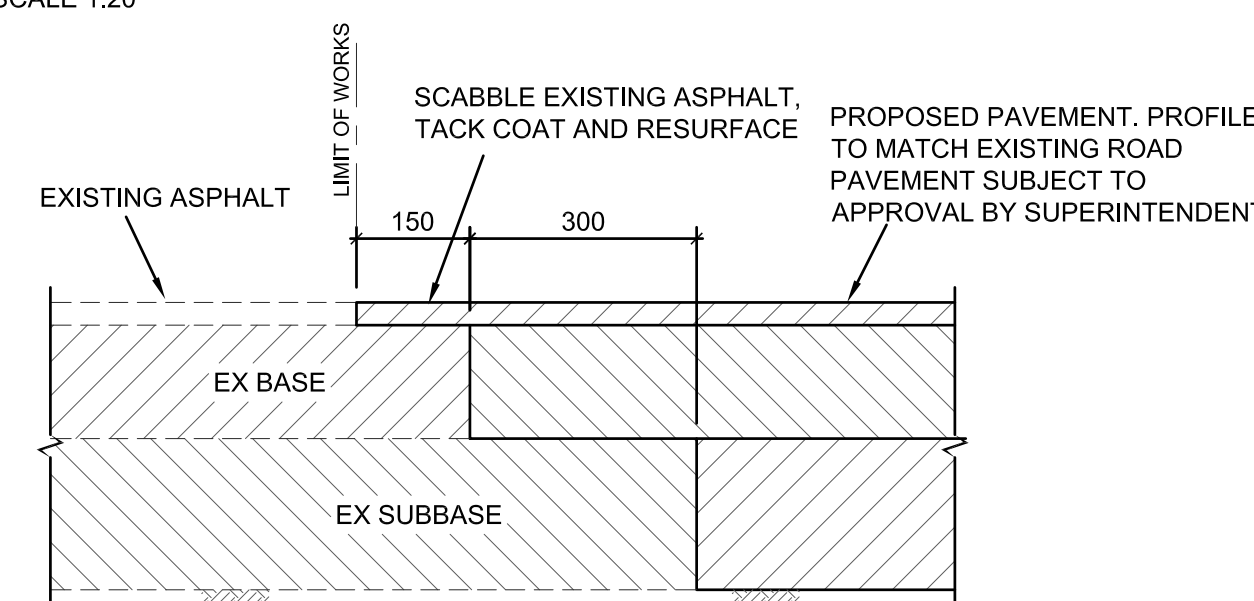
MILL RE-SHEET/SCRABBLE AND FILL DETAIL

SCALE 1:10



CONCRETE CONNECTION TO ASPHALT PAVEMENT

SCALE 1:10

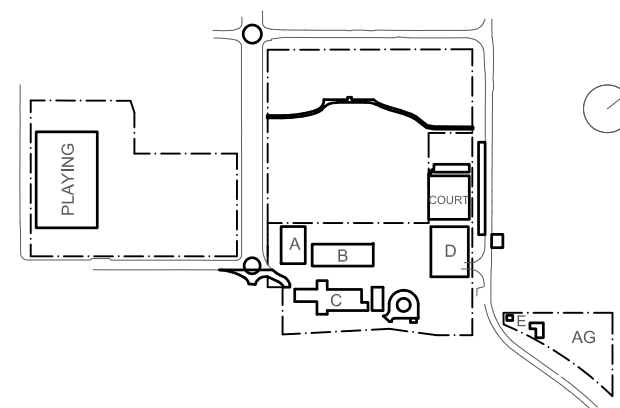


ASPHALT CONNECTION TO EXISTING PAVEMENT

SCALE 1:10

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

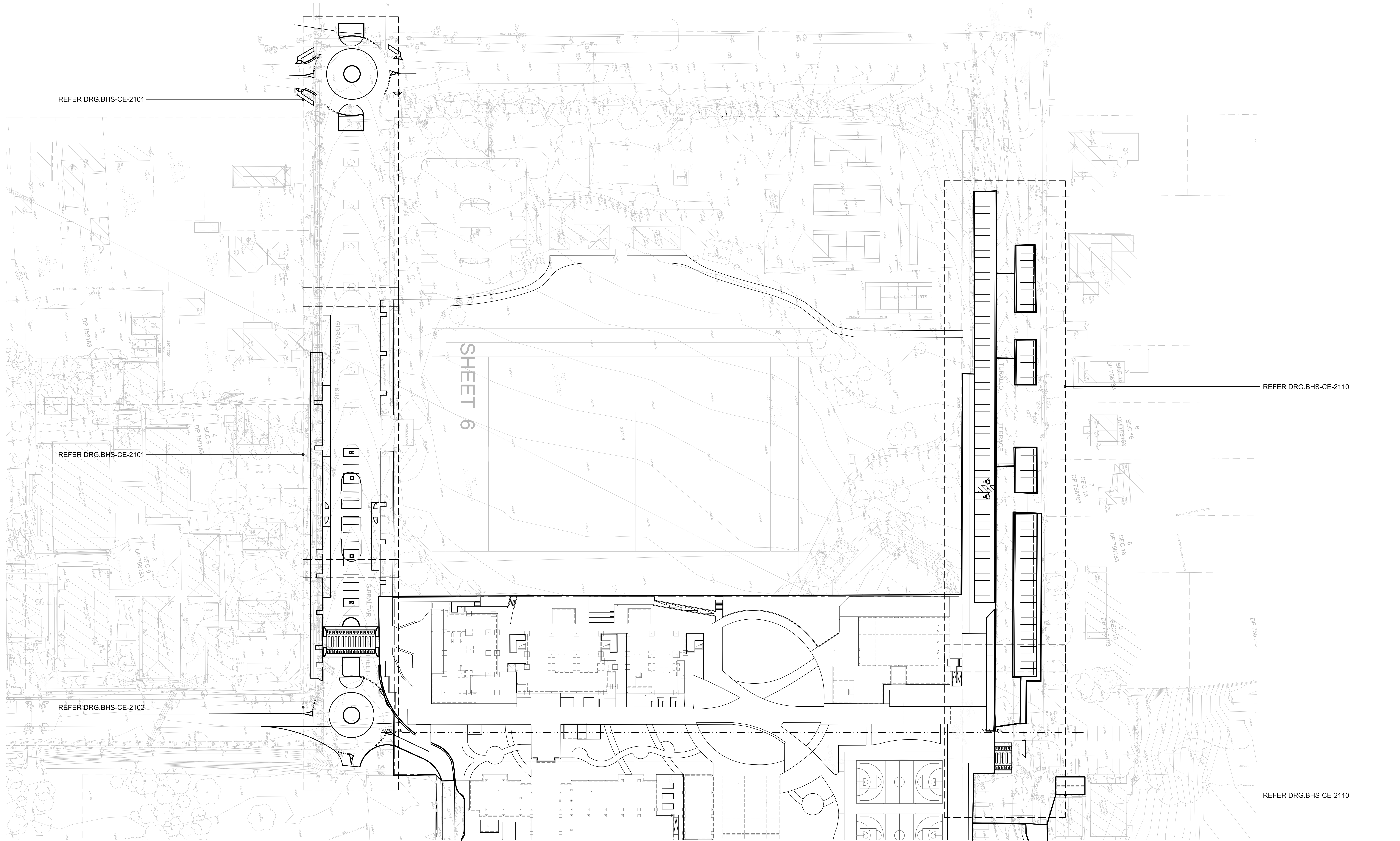
KEY



Rev	Date	Description	Chkd	Auth.
A	24.03.21	DRAFT SCHEMATIC DESIGN ISSUE		
B	16.04.21	SCHEMATIC DESIGN ISSUE		
C	30.04.21	SCHEMATIC DESIGN ISSUE		
D	07.05.21	SCHEMATIC DESIGN		
E	12.05.21	SCHEMATIC DESIGN		
F	28.11.21	WORK IN PROGRESS		
G	10.12.21	ISSUED FOR DD		
H	21.12.21	ISSUED FOR DD		
I	14.07.22	ISSUED FOR RTs REVISED DESIGN		

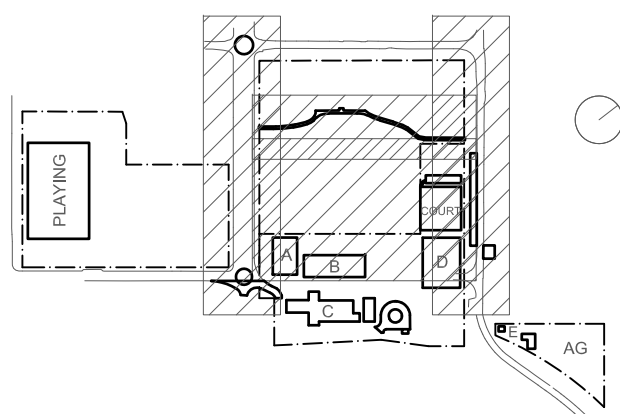
Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	AS NOTED
Drawing No.			
BHS-CE-2091			

NOT FOR CONSTRUCTION



ROAD CIVIL WORKS LINEMARKING GENERAL ARRANGEMENT PLAN
SCALE 1:500

KEY



Rev	Date	Description	Chkd	Auth.
A	10.12.21	ISSUED FOR DD		
B	21.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	14.07.22	ISSUED FOR RTS REVISED DESIGN		
E	21.07.22	ISSUED FOR RTS REVISED DESIGN		

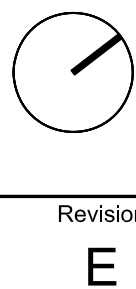
Project
New High School in Bungendore

MAJARA STREET
BUNGENDORE NSW 2621

Drawing Title
ROAD CIVIL WORKS
LINEMARKING GENERAL
ARRANGEMENT PLAN

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:500

Drawing No.
BHS-CE-2100



Revision
E

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

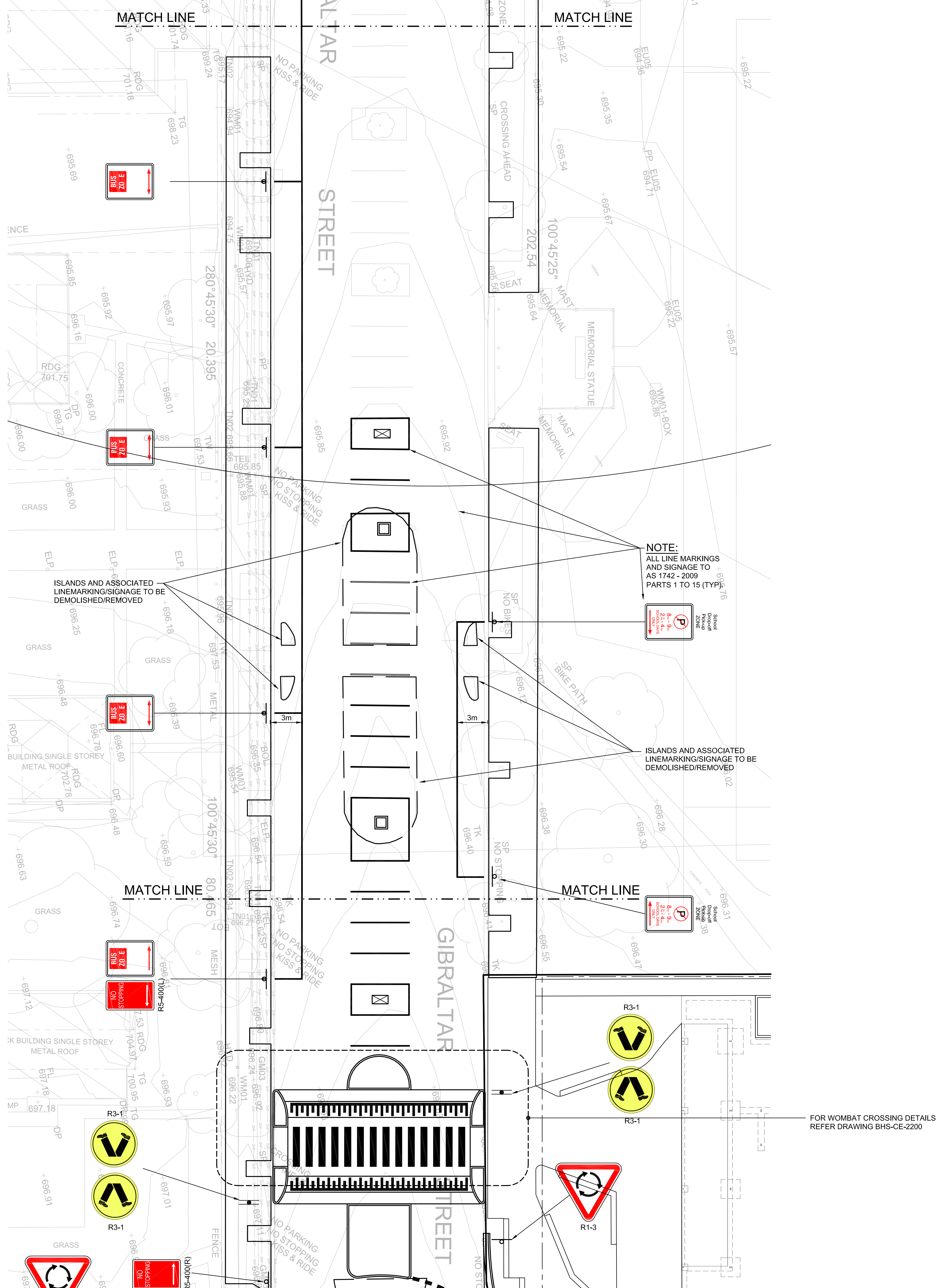
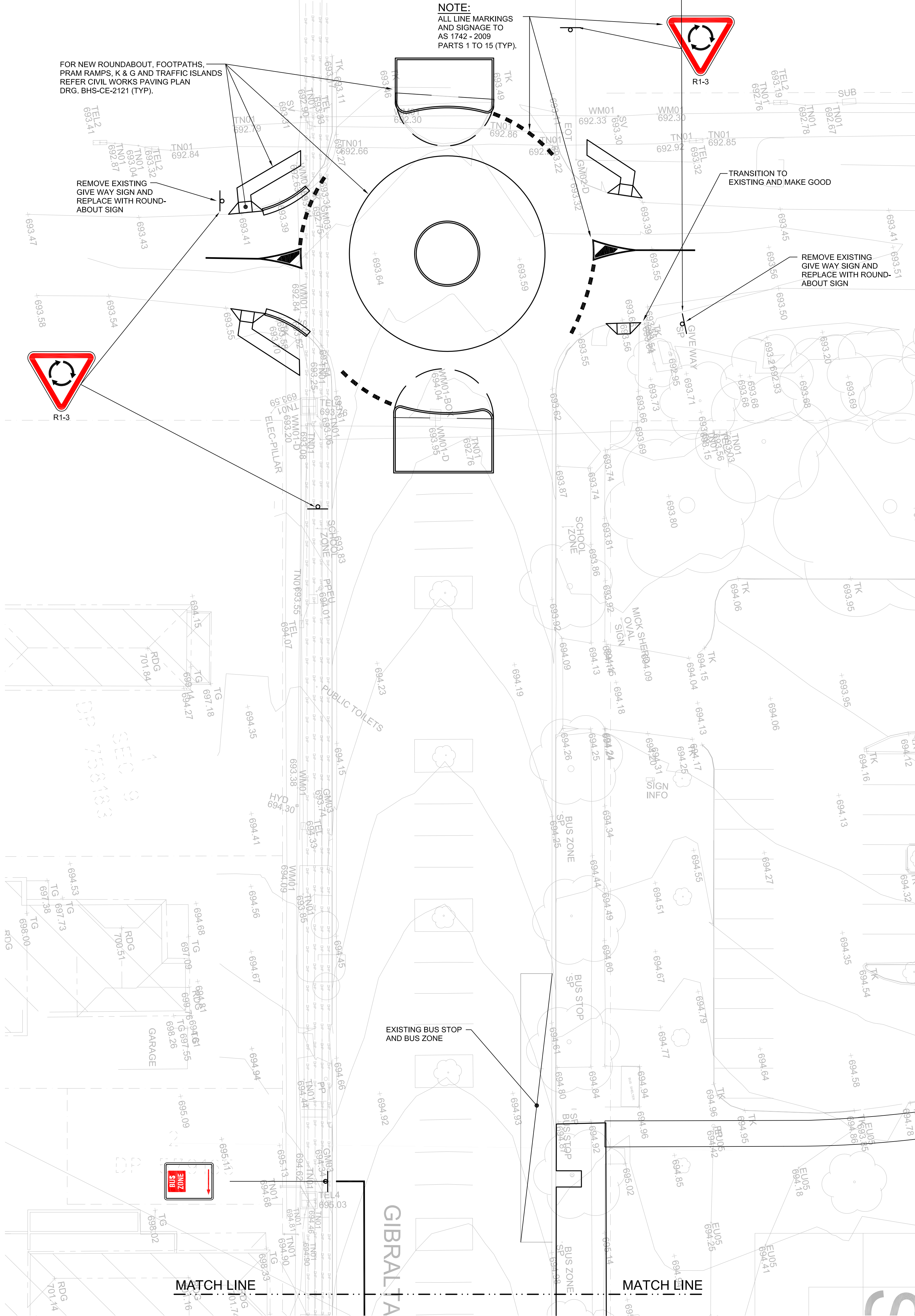


BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW Education
NSW Department of Education |
School Infrastructure NSW
T +61 2 9561 8287
T +61 2 9528 6800

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9528 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000



DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER

HINDMARSH

Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT

NSW Education
School Infrastructure

NSW Department of Education |
School Infrastructure NSW

T +61 2 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400

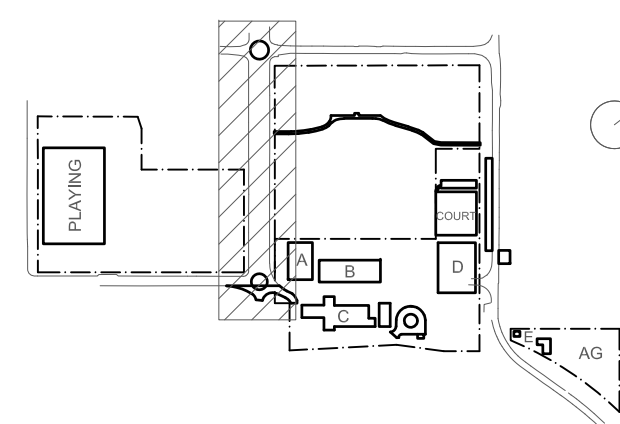
Architect
TKD Architects
T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6600

Landscape Architecture
Context
T+ 61 2 8244 8900

Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



Project
New High School in Bungendore

Rev	Date	Description	Chkd	Auth
A	10.12.21	ISSUED FOR DD		
B	21.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	14.07.22	ISSUED FOR RT'S REVISED DESIGN		
E	21.07.22	ISSUED FOR RT'S REVISED DESIGN		

MAJARA STREET
BUNGENDORE NSW 2621

Drawing Title
**ROAD CIVIL WORKS
LINEMARKING DETAIL PLAN
SHEET 1**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:200

Drawing No.
BHS-CE-2101

Revision
E

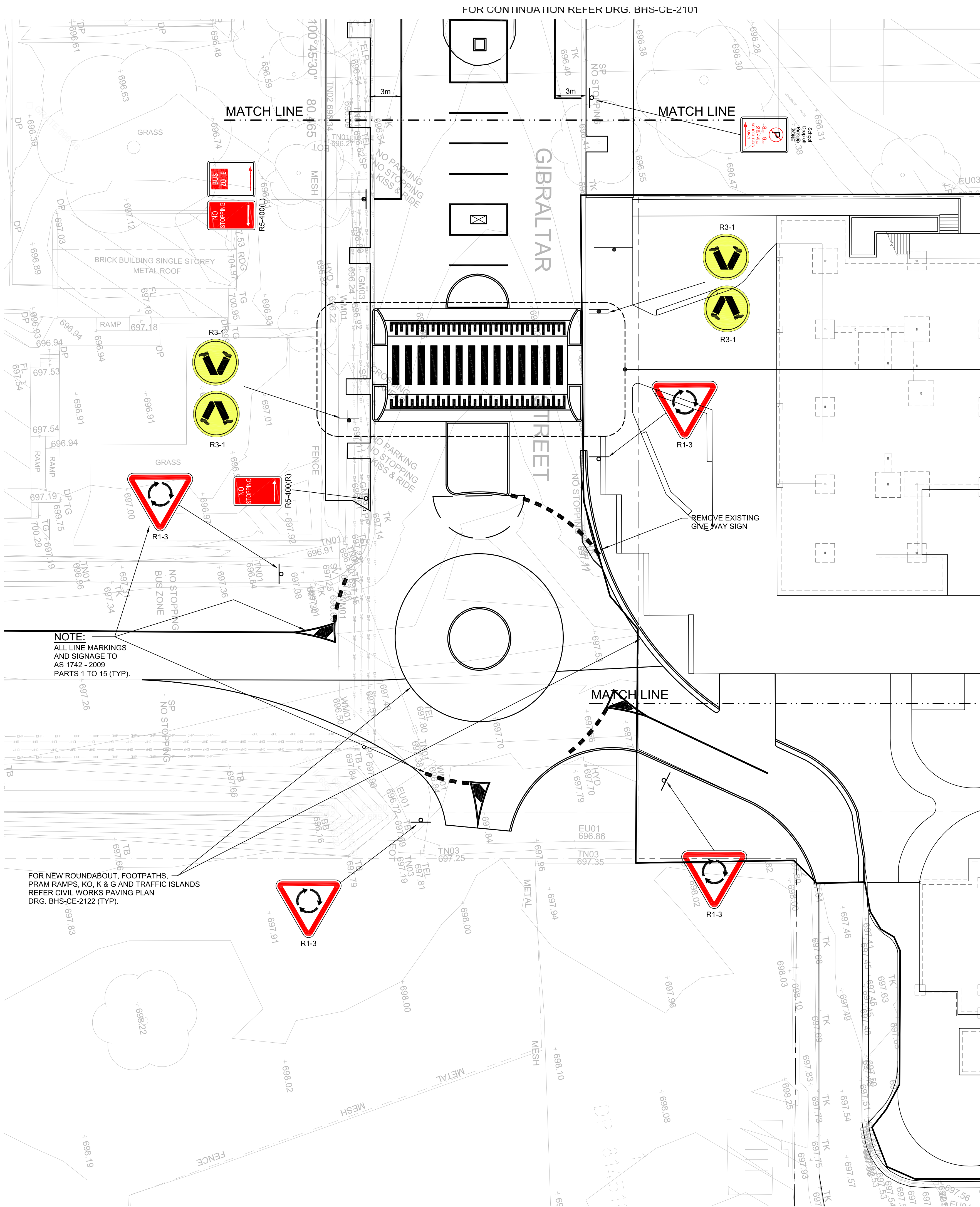
NOT FOR CONSTRUCTION

M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

CONCRETE AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
MEMBER



ROAD CIVIL WORKS LINEMARKING PART PLAN
SCALE 1:200

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

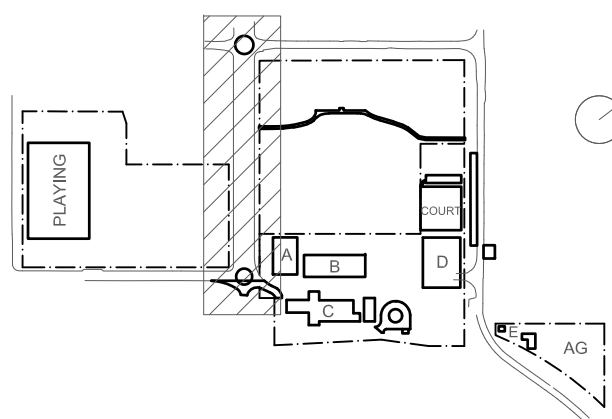
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



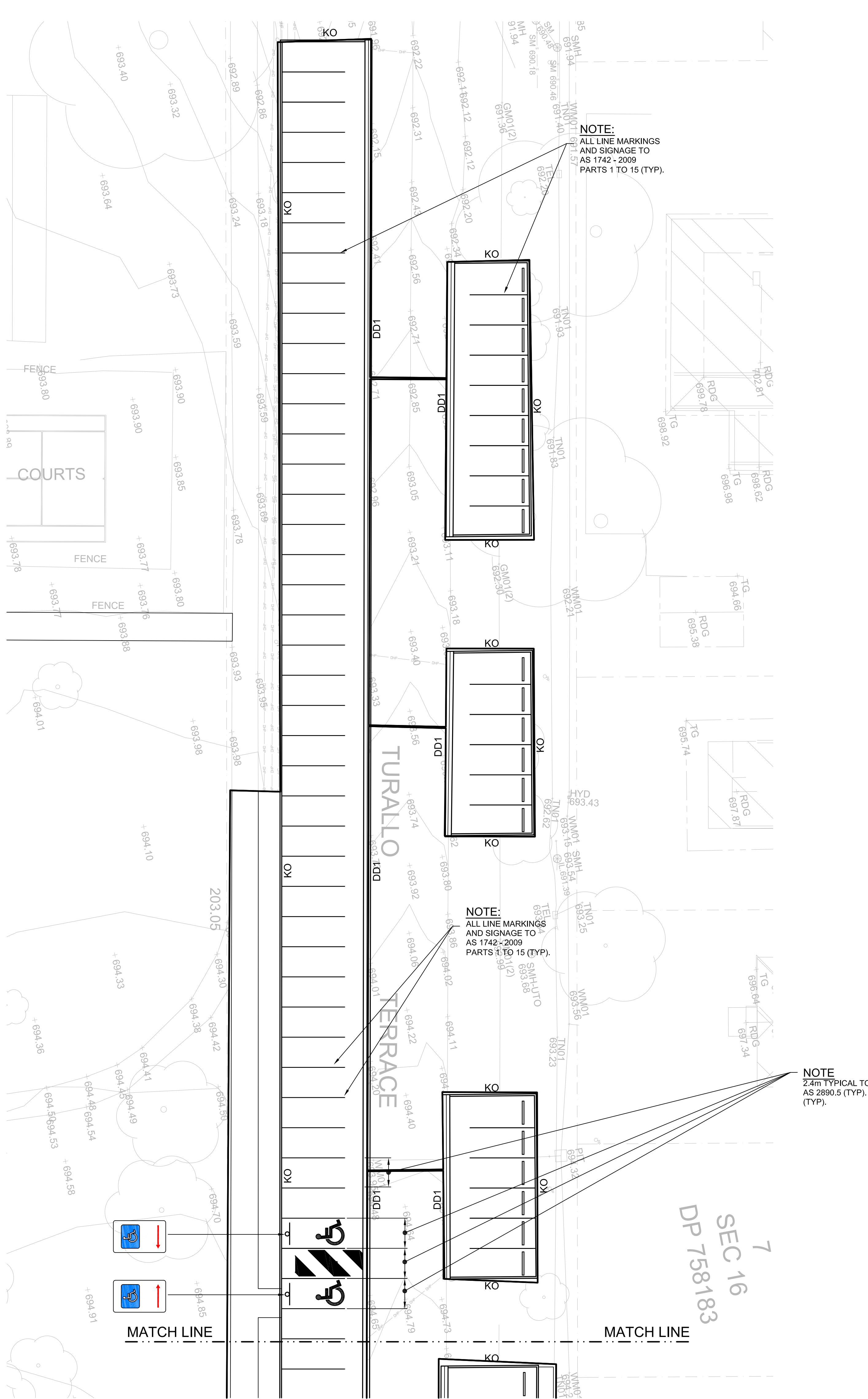
Rev	Date	Description	Chkd	Auth.
A	10.12.21	ISSUED FOR DD		
B	21.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	14.02.22	ISSUED FOR RTS REVISED DESIGN		
E	21.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET
BUNGENDORE NSW 2621
Drawing Title
ROAD CIVIL WORKS
LINEMARKING PART PLAN
SHEET 2

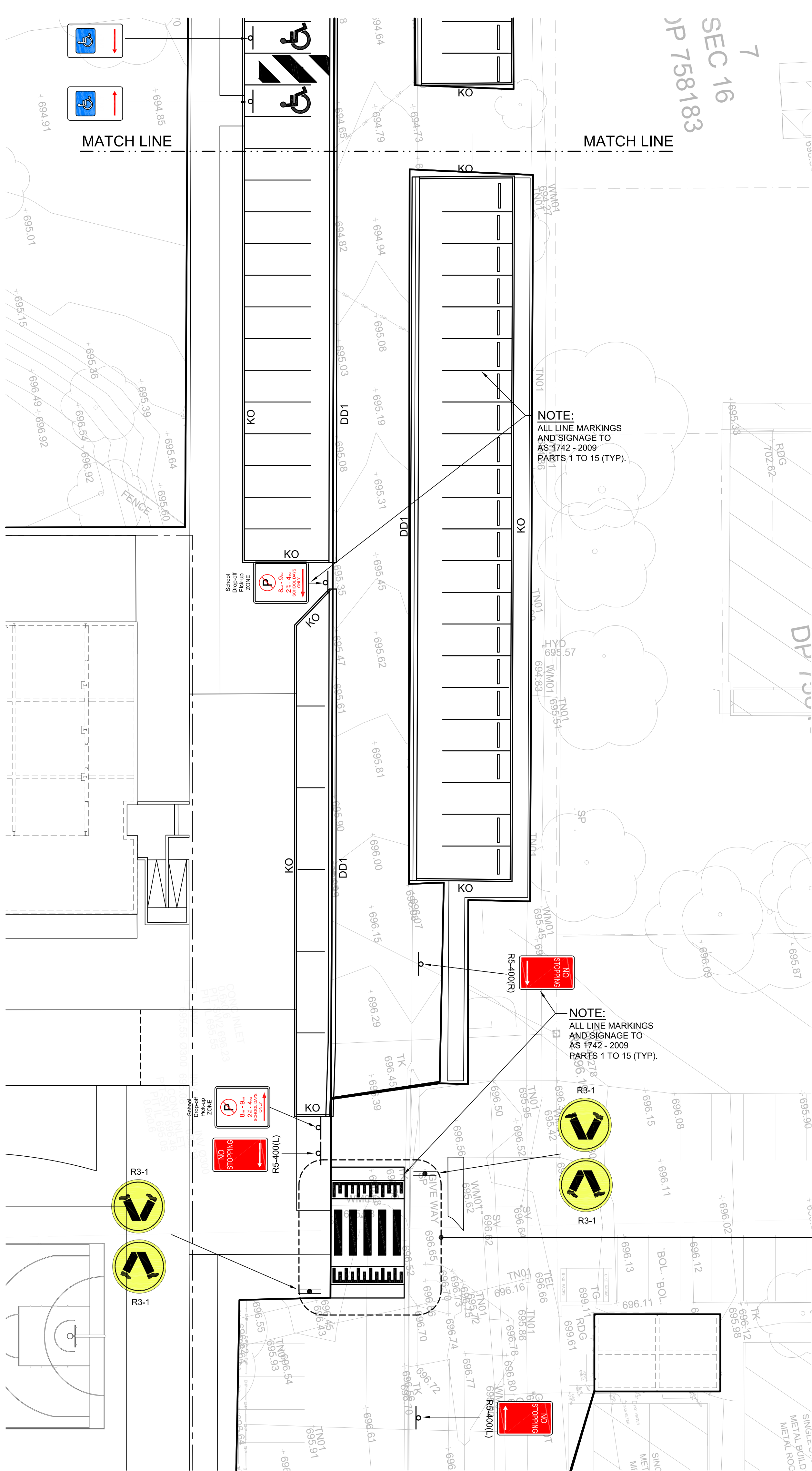
Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:200
Drawing No.	Revision		
BHS-CE-2102	E		

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
ABN 65 094 064 990
CONSULT AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
REGISTERED



ROAD CIVIL WORKS LINEMARKING PART PLAN
SCALE 1:200



ROAD CIVIL WORKS LINEMARKING PART PLAN
SCALE 1:200

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

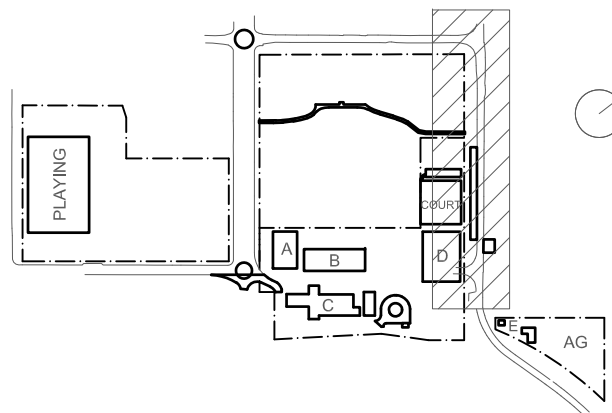
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



Rev	Date	Description	Chkd	Auth.
A	10.12.21	ISSUED FOR DD		
B	21.12.21	ISSUED FOR DD		
C	14.02.22	GENERALLY REVISED		
D	14.02.22	ISSUED FOR RT'S REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET
BUNGENDORE NSW 2621
Drawing Title
ROAD CIVIL WORKS
LINEMARKING PART PLAN
SHEET 3

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:500
Drawing No.	Revision		
BHS-CE-2110	D		

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONCRETE AUSTRALIA
Member Firm
AUTOMATIC STEEL
Member Firm
ACI
Member Firm

REFER DRG.BHS-CE-2121

REFER DRG.BHS-CE-2121

REFER DRG.BHS-CE-2122

ROAD CIVIL WORKSPAVEMENT

LEGEND

PAVEMENT TYPE 1 - REFER
DRG. BHS-CE-2091 FOR DETAILS

PAVEMENT TYPE 3 - REFER
DRG. BHS-CE-2091 FOR DETAILS

PAVEMENT TYPE 6 - REFER
DRG. BHS-CE-2091 FOR DETAILS

DENOTES NEW ROUNDABOUT
PAVEMENT - REFER DRG.
BHS-CE-2201 FOR DETAILS

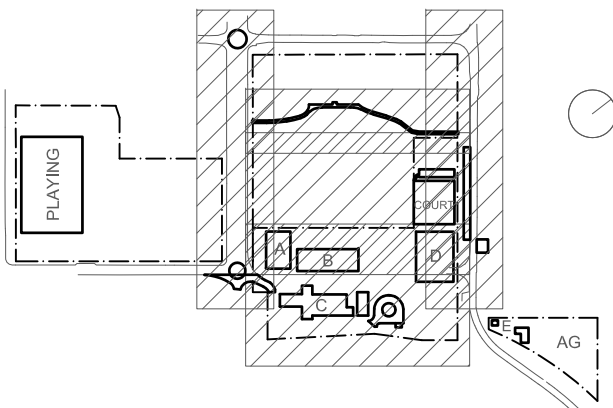
REFER DRG.BHS-CE-2130

REFER DRG.BHS-CE-2130

ROAD CIVIL WORKS PAVING GENERAL ARRANGEMENT PLAN

SCALE 1:500

KEY



Do not scale drawings. Verify all dimensions on site.			
Rev	Date	Description	Chkd Auth.
A	21.12.21	ISSUED FOR DD	
B	14.02.22	GENERALLY REVISED	
C	14.07.22	ISSUED FOR RTIS REVISED DESIGN	
D	21.07.22	ISSUED FOR RTIS REVISED DESIGN	
E	25.07.22	ISSUED FOR RTIS REVISED DESIGN	
F	27.07.22	ISSUED FOR RTIS REVISED DESIGN	

Project
New High School in Bungendore

MAJARA STREET
BUNGENDORE NSW 2621
Drawing Title
ROAD CIVIL WORKS
PAVING GENERAL
ARRANGEMENT PLAN

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:500

Drawing No.
BHS-CE-2120

Revision
F

NOT FOR CONSTRUCTION

M+G Consulting

M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990

Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

CONCRETE AUSTRALIA

MEMBER OF

AUSTRALIAN STEEL INSTITUTE

ACI

BUILDER

HINDMARSH

Hindmarsh Construction Australia Pty Ltd

Level 27, 100 Miller Street
North Sydney NSW 2060

T +61 2 9274 1100
F +61 2 6274 8898

www.hindmarsh.com.au

CLIENT

NSW GOVERNMENT

Education

School Infrastructure

NSW Department of Education |
School Infrastructure NSW

T+ 02 9561 8287

Project Managers

TSA Management

T+ 61 2 9276 1400

Architect

TKD Architects

T+ 61 2 9261 4399

Mechanical, Electrical, Hydraulic, ESD

Norman Disney & Young

T+ 61 2 9928 6800

Landscape Architecture

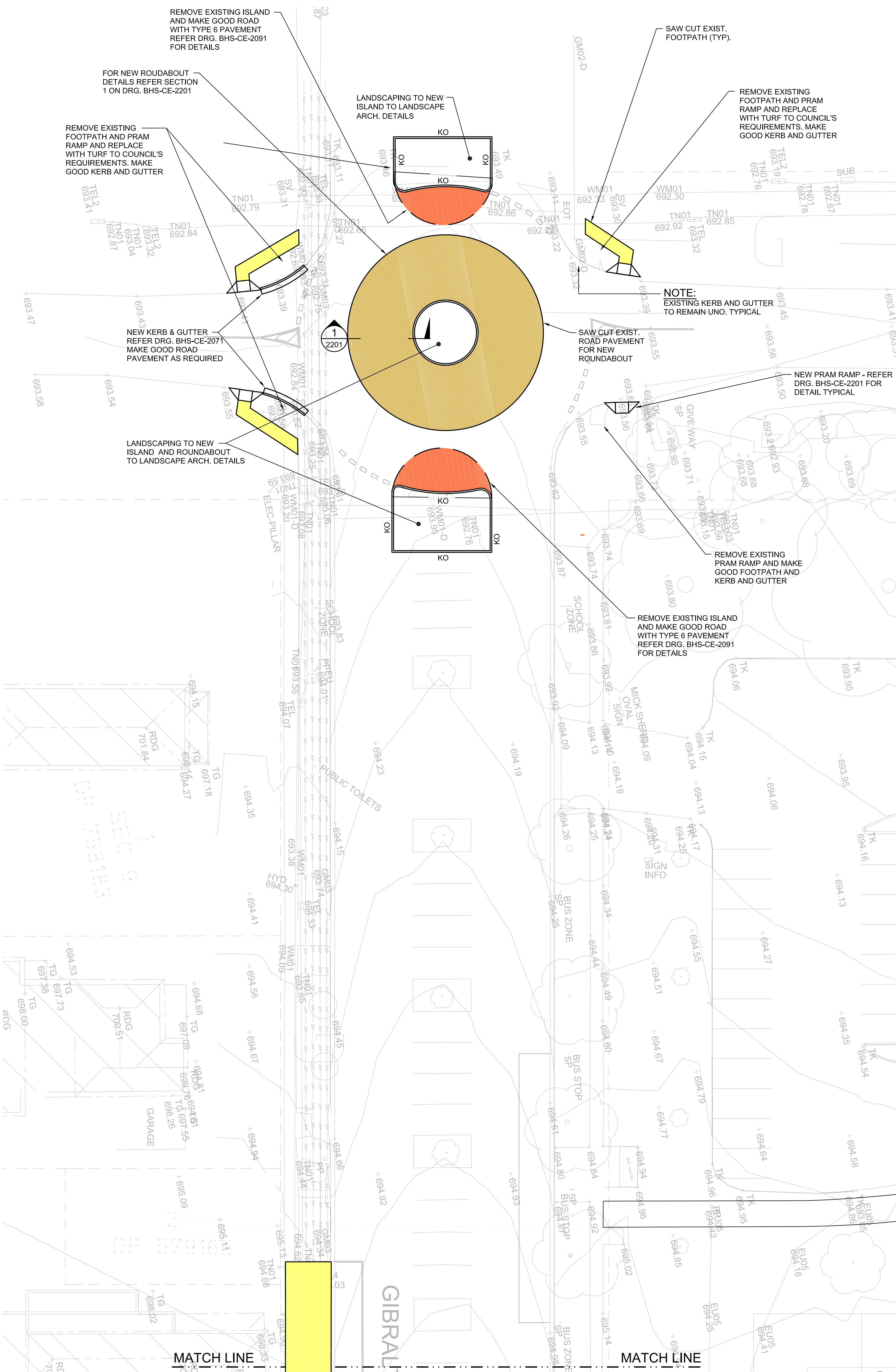
Context

T+ 61 2 8244 8900

Acoustic

Acoustic Logic

T+ 61 2 8339 9000



ROAD CIVIL WORKS PAVING DETAIL PART PLAN

SCALE 1:200

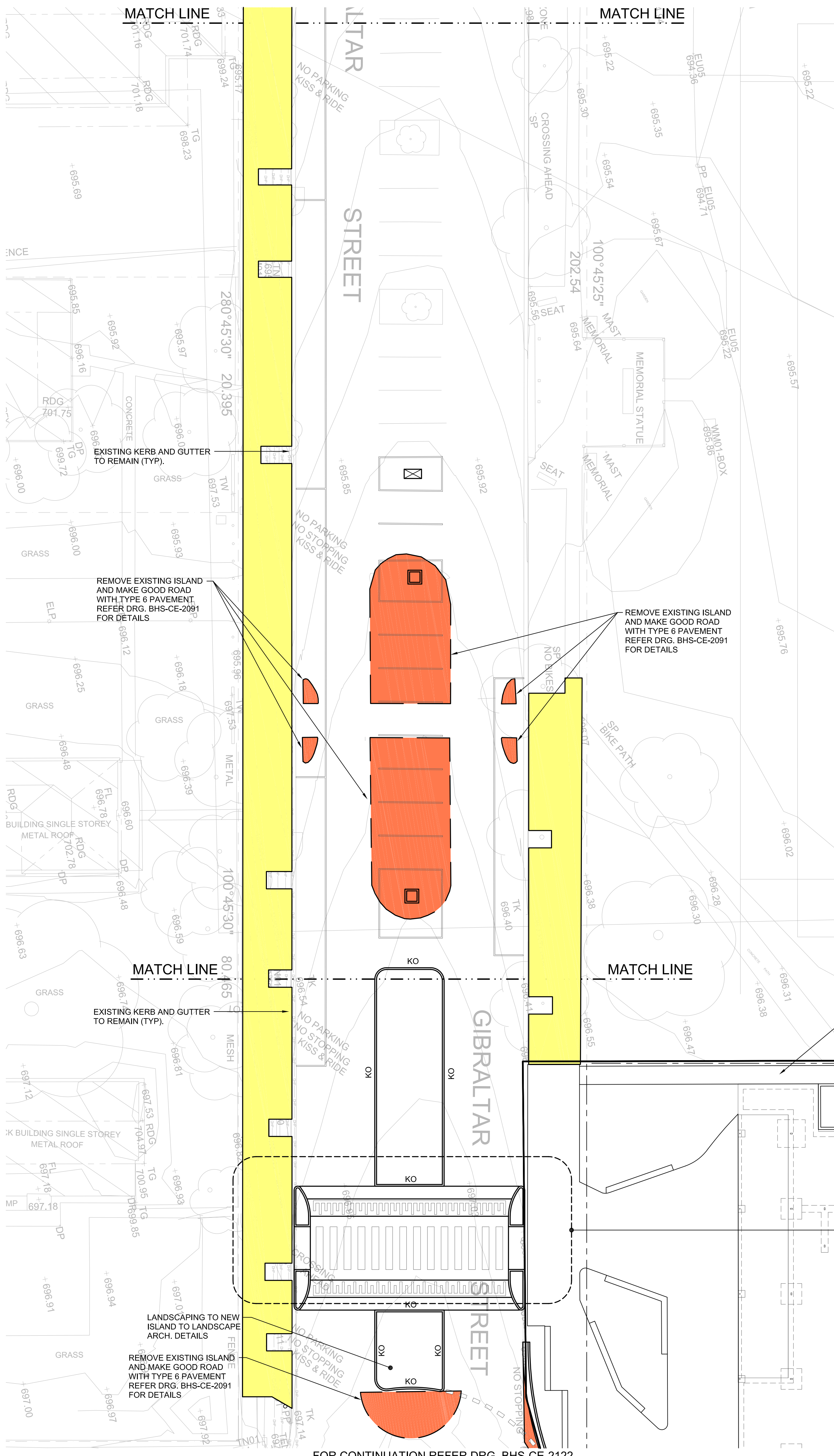
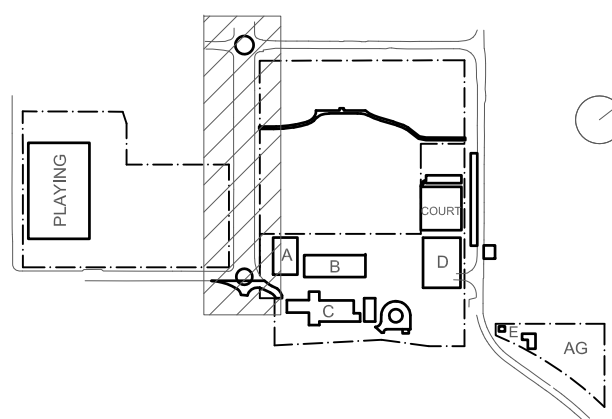
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 8000

KEY



ROAD CIVIL WORKS PAVING DETAIL PART PLAN

SCALE 1:200

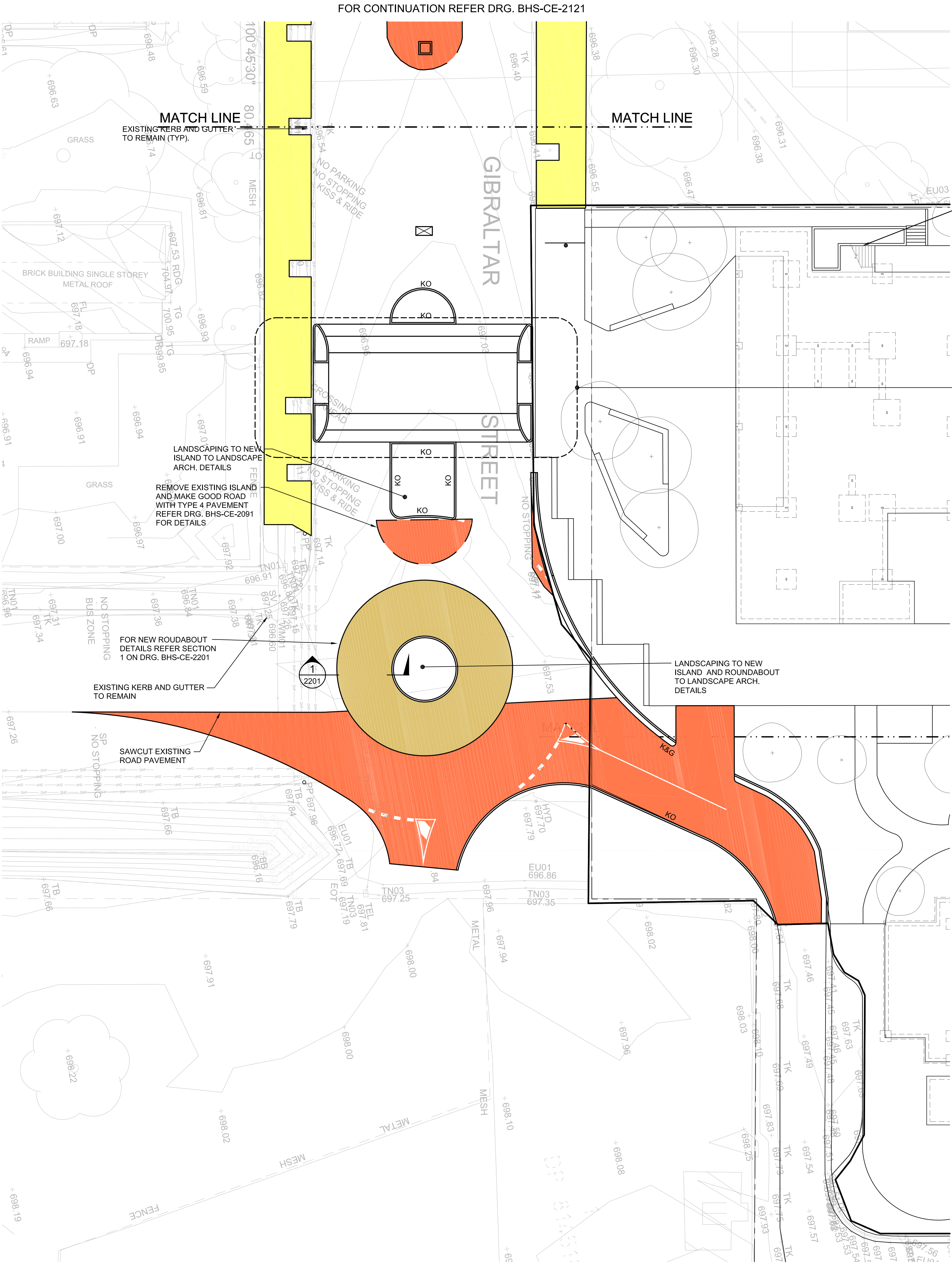
Rev	Date	Description	Chkd	Auth
A	21.12.21	ISSUED FOR DD		
B	14.02.22	GENERALLY REVISED		
C	14.02.22	ISSUED FOR RTS REVISED DESIGN		
D	21.07.22	ISSUED FOR RTS REVISED DESIGN		
E	26.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
ROAD CIVIL WORKS
PAVING DETAIL PLAN
SHEET 1

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:200
Drawing No.	Revision		
BHS-CE-2121	E		

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSULT AUSTRALIA
MEMBER FIRM
AUSTRALIAN STEEL INSTITUTE
MEMBER FIRM
AUSTRALIAN STEEL INSTITUTE



NOTE:
FOR ALL OTHER PAVEMENTS NOT SHOWN ON THIS DRAWING REFER SITEWORKS & PAVEMENT PLANS DRG's. BHS-CE-2059 TO BHS-CE-2063

ROAD CIVIL WORKS PAVEMENT LEGEND

- PAVEMENT TYPE 1 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 3 - REFER DRG. BHS-CE-2091 FOR DETAILS
- PAVEMENT TYPE 6 - REFER DRG. BHS-CE-2091 FOR DETAILS
- DENOTES NEW ROUNDABOUT PAVEMENT - REFER DRG. BHS-CE-2201 FOR DETAILS

ROAD CIVIL WORKS PAVING DETAIL PART PLAN
SCALE 1:200

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER

HINDMARSH

Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT

NSW Education
SCHOOL INFRASTRUCTURE

NSW Department of Education | School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400

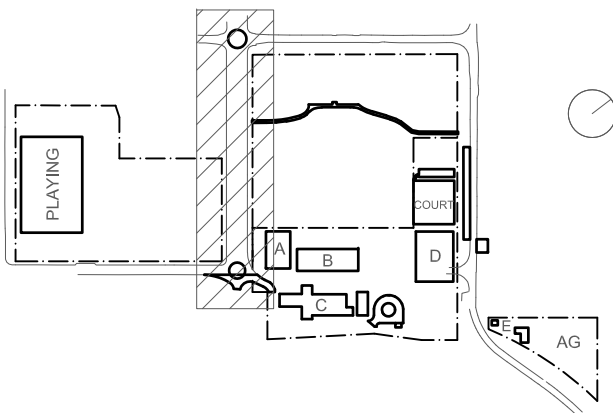
Architect
TKD Architects
T+ 61 2 9281 4399

Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900

Acoustic
Acoustic Logic
T+ 61 2 8339 8000

KEY



Do not scale drawings. Verify all dimensions on site.

Rev	Date	Description	Chkd	Auth.
A	21.12.21	ISSUED FOR DD		
B	14.02.22	GENERALLY REVISED		
C	14.07.22	ISSUED FOR RTS REVISED DESIGN		
D	21.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore

MAJARA STREET
BUNGENDORE NSW 2621

Drawing Title
**ROAD CIVIL WORKS
PAVING DETAIL PLAN
SHEET 2**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:200
Drawing No.	Revision		
BHS-CE-2122	D		

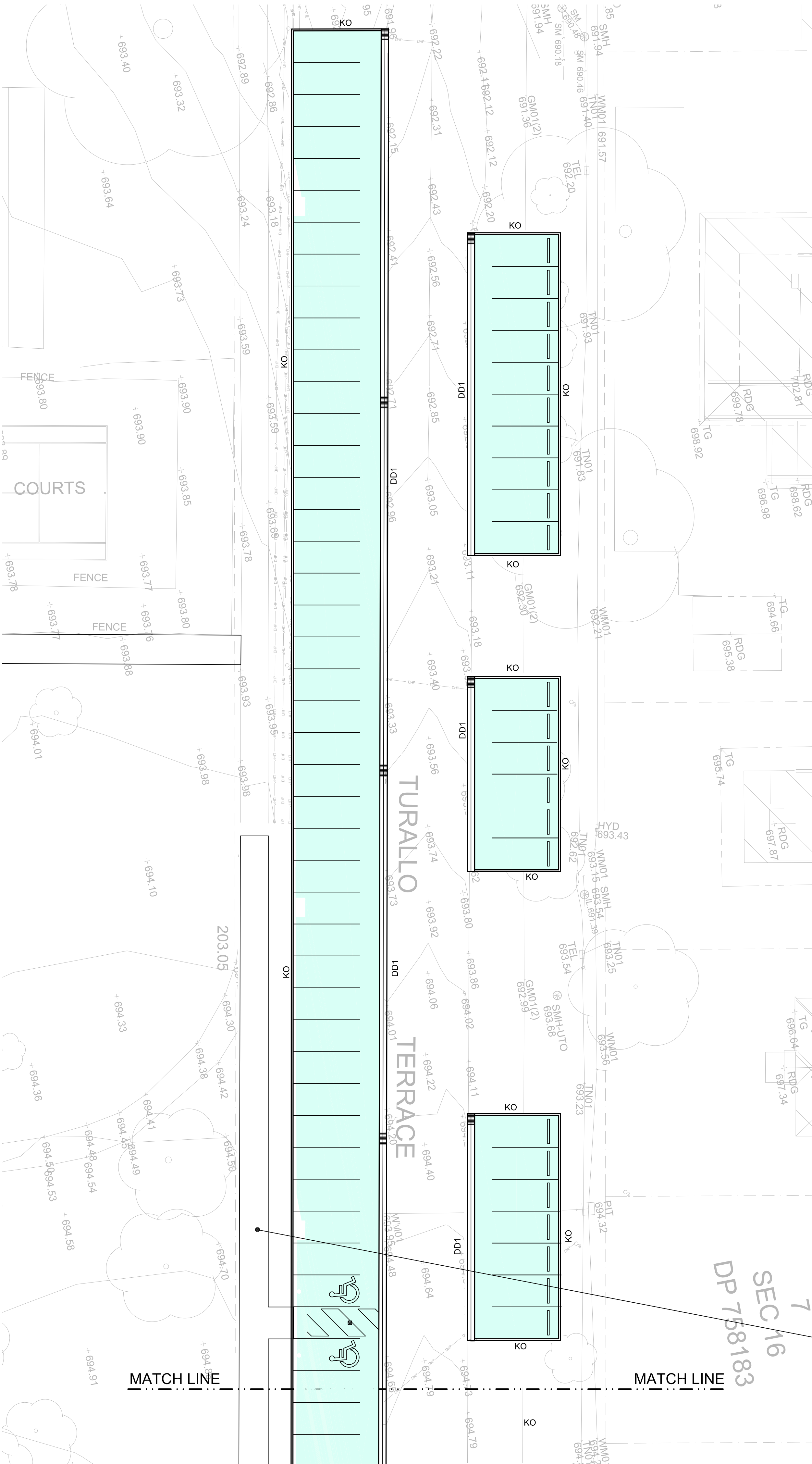
NOT FOR CONSTRUCTION

M+G Consulting

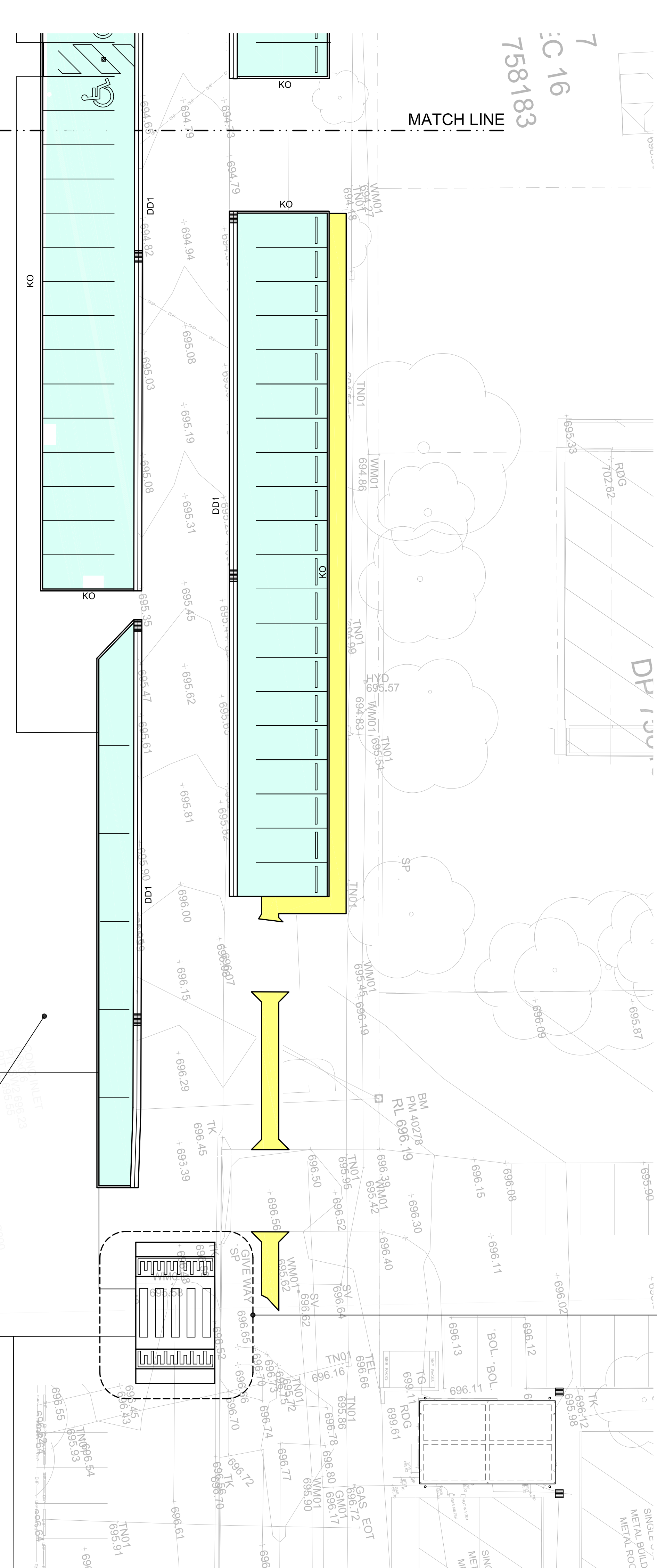
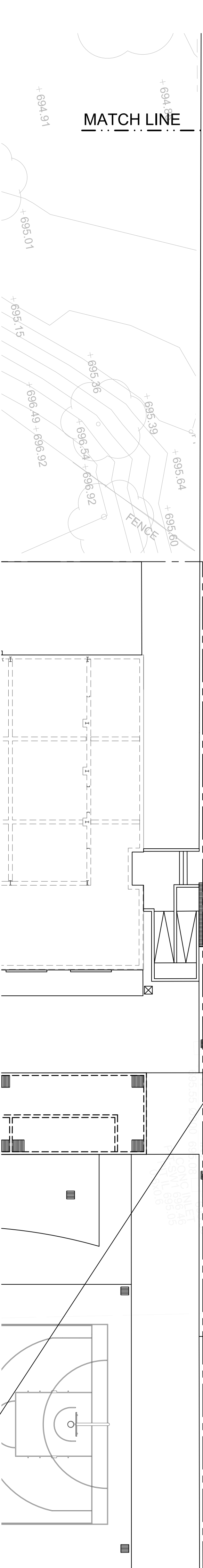
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888

L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)

CONSULT AUSTRALIA
Member Firm
AUSTRALIAN INSTITUTE OF PROFESSIONAL ENGINEERS



NOTE:
FOR ALL OTHER PAVEMENTS NOT SHOWN ON THIS DRAWING REFER SITEWORKS & PAVEMENT PLANS DRG's. BHS-CE-2059 TO BHS-CE-2063



FOR WOMBAT CROSSING DETAILS
REFER DRAWING BHS-CE-2200

ROAD CIVIL WORKSPAVEMENT	
LEGEND	
	PAVEMENT TYPE 1 - REFER DRG. BHS-CE-2091 FOR DETAILS
	PAVEMENT TYPE 3 - REFER DRG. BHS-CE-2091 FOR DETAILS
	PAVEMENT TYPE 6 - REFER DRG. BHS-CE-2091 FOR DETAILS
	DENOTES NEW ROUNDABOUT PAVEMENT - REFER DRG. BHS-CE-2201 FOR DETAILS

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

BUILDER

HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

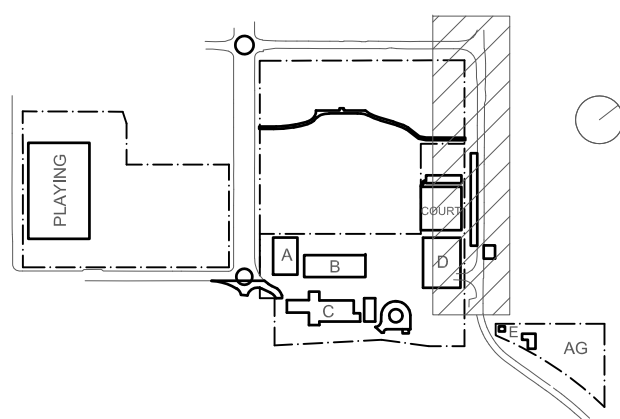
CLIENT

Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 8000

KEY



ROAD CIVIL WORKS PAVING DETAIL PART PLAN
SCALE 1:200

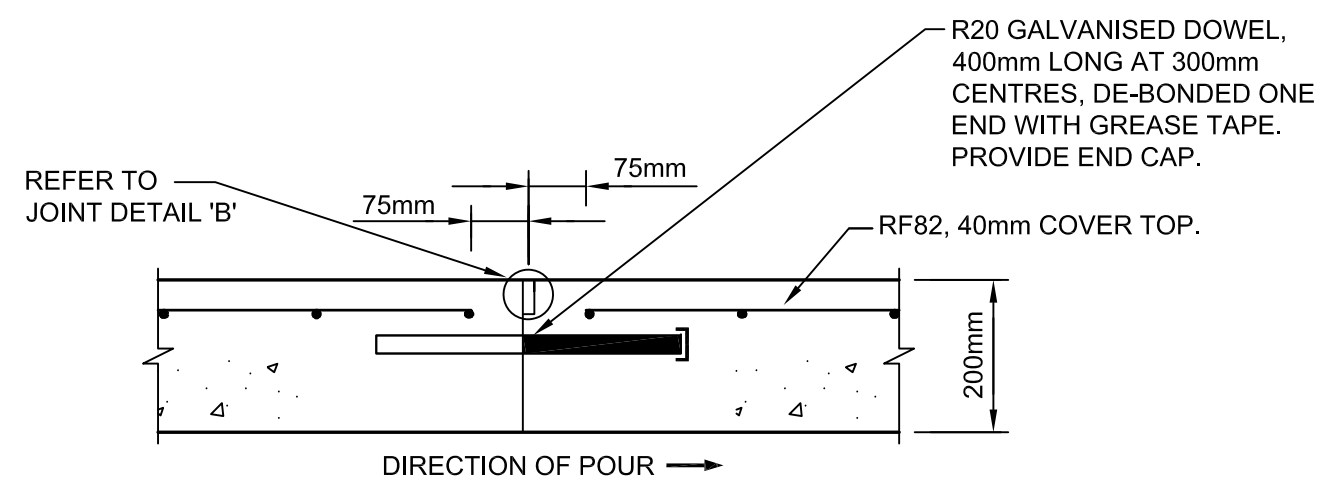
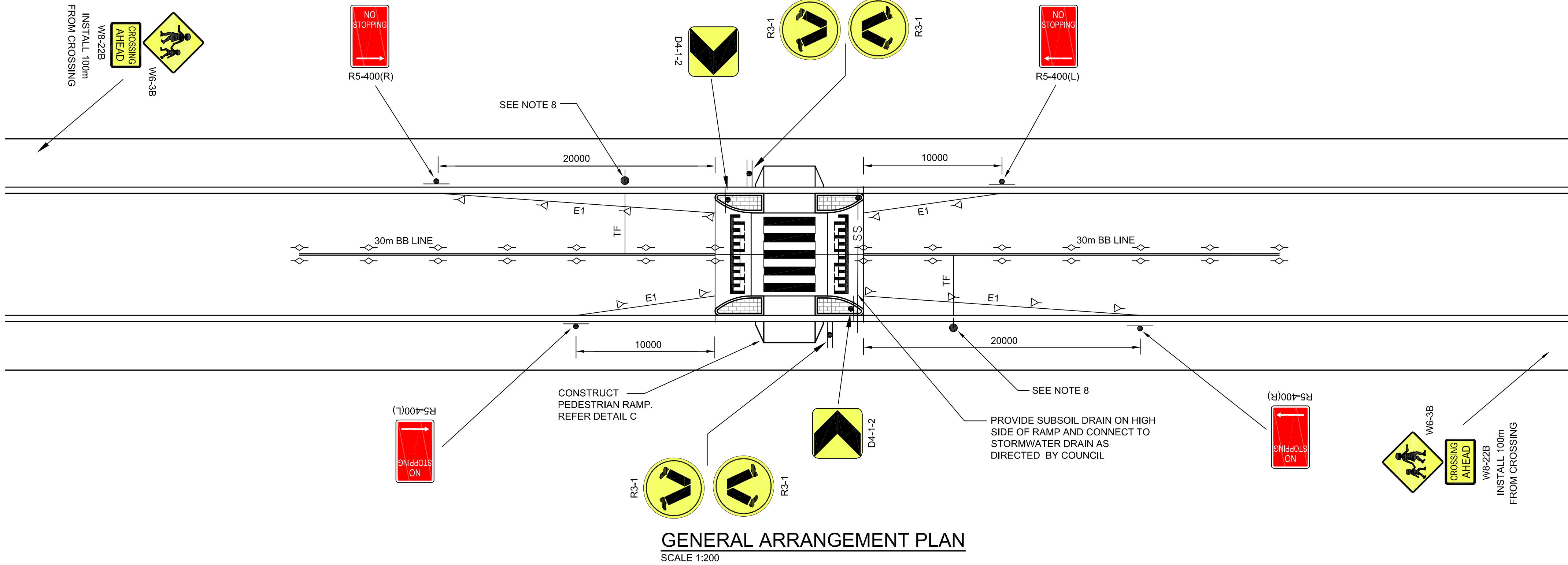
Rev	Date	Description	Chkd	Auth
A	21.12.21	ISSUED FOR DD		
B	14.02.22	GENERALLY REVISED		
C	14.07.22	ISSUED FOR RTIS REVISED DESIGN		
D	27.07.22	ISSUED FOR RTIS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET
BUNGENDORE NSW 2621
Drawing Title
ROAD CIVIL WORKS
PAVING DETAIL PLAN
SHEET 3

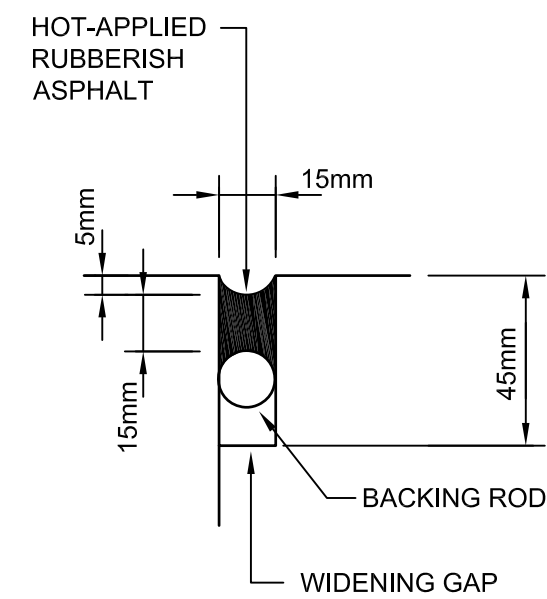
Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:500
Drawing No.		Revision	
BHS-CE-2130		D	

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)



TRANSVERSE CONSTRUCTION JOINT DETAIL
SCALE 1:10



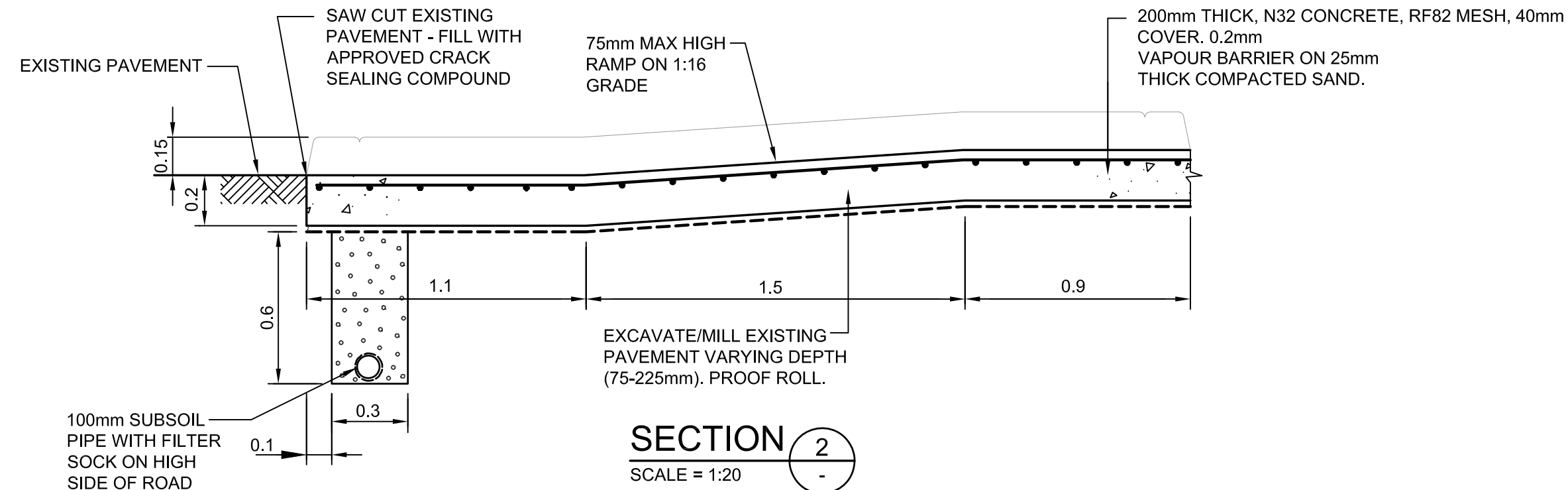
JOINT DETAIL
SCALE 1:2

LEGEND

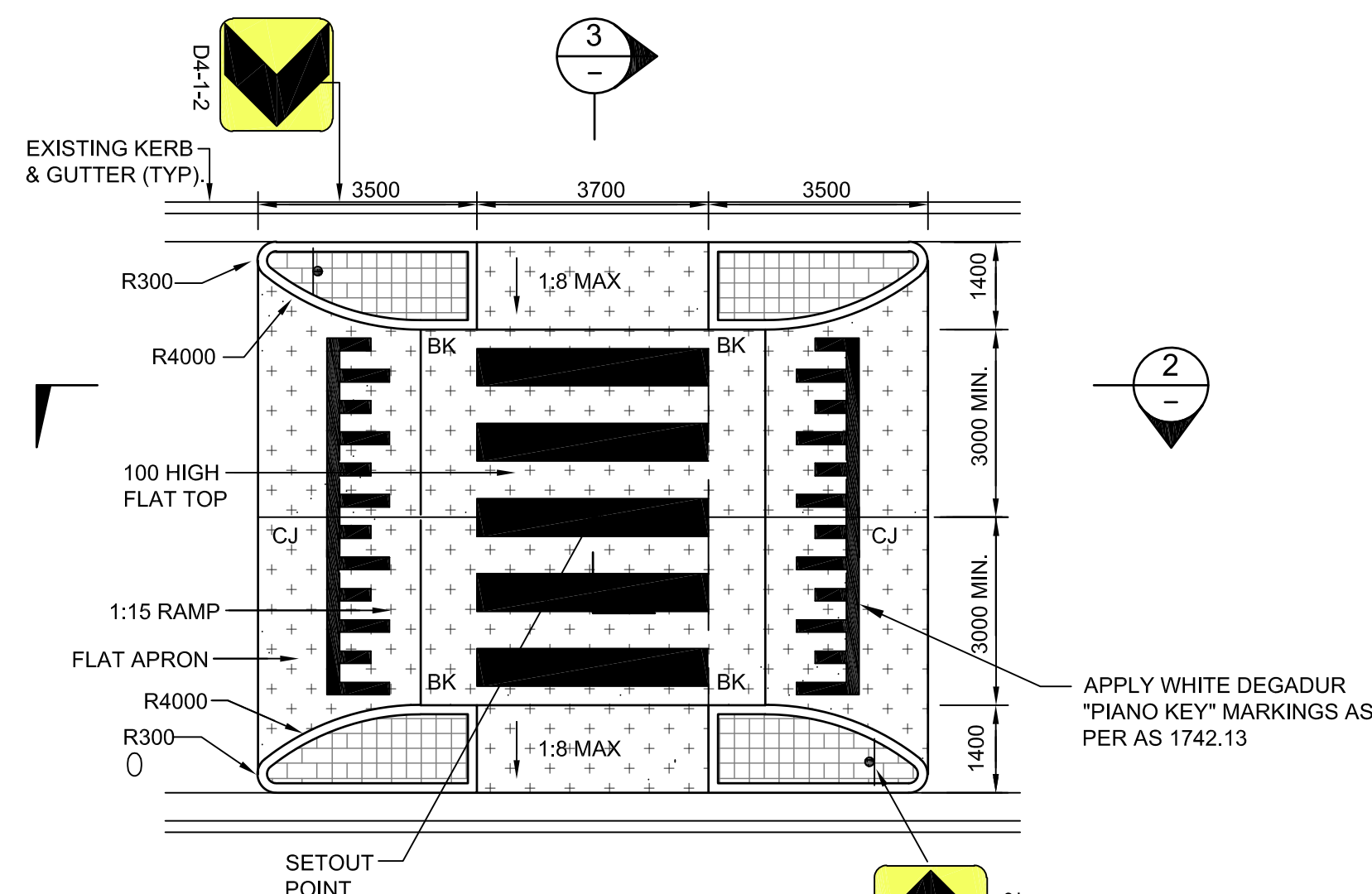
- CONSTRUCT MEDIAN INFILL 150mm THICK STENCIL CONCRETE (CCS POTTERY COLOUR OR EQUIVALENT) 32MPa REINFORCED WITH RF82. 40mm COVER TOP
- CONSTRUCT 200mm THICK, N32 CONCRETE "ONYX" COLOURED CONCRETE TO RAMP AND RAISED PLATFORM. REFER TO NOTE 7.
- CONSTRUCT PEDESTRIAN RAMP IN ACCORDANCE WITH DETAIL C.
- INSTALL SIGN
- INSTALL POST FOR R3-3 FLAG
- APPLY 45° DIAGONAL CHEVRON LINEMARKING.
- APPLY CROSSING MARKING 3.7m LONG 0.6m WIDE, 0.6m GAP USING DEGADUR PAINT. APPLY SEALER PRIOR TO PLACEMENT.
- CONSTRUCT BARRIER KERB TO SD.14
- CONSTRUCTION JOINT
- CONSTRUCT SUBSOIL DRAIN AND FLUSHING POINT TO SD4. BACKFILL SUBSOIL DRAIN WITH NO FINES CONCRETE. SEE ALSO SECTION 2.
- PROVIDE "Y" RAISED PAVEMENT MARKERS
- PROVIDE "YY" RAISED PAVEMENT MARKERS
- PROVIDE "R" RAISED PAVEMENT MARKERS

NOTES

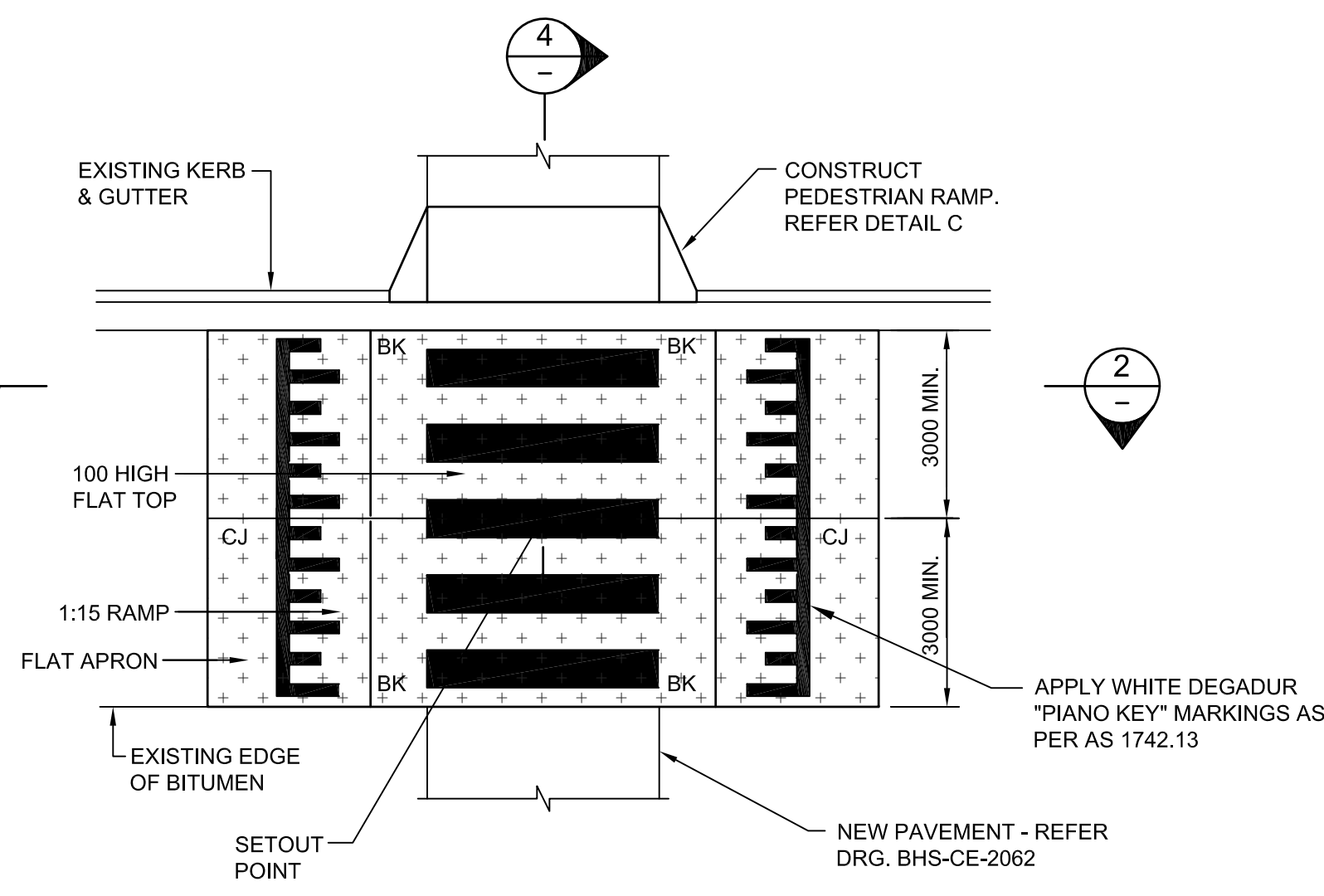
- DIMENSIONS ARE IN METRES, UNLESS OTHERWISE.
- TAKE EXTREME CARE WHEN WORKING ABOVE EXISTING SERVICES TO AVOID DAMAGE TO SERVICES DUE TO VIBRATION AND LOADING.
- CONTRACTORS SHALL OBTAIN THEIR OWN 'DIAL BEFORE YOU DIG' INFORMATION, AND ASCERTAIN THE DEPTH OF ALL SERVICES, PRIOR TO WORK COMMENCING.
- ENSURE STREET LIGHTING MEETS THE REQUIREMENTS OF AS 1158.4.
- 45° DIAGONAL PAINTED MARKING TO BE 1.0m WIDE, 2.0m GAP.
- PAINT ALL PROPOSED BARRIER KERBS WHITE.
- GREY COLOURED CONCRETE SHALL BE OBTAINED BY ADDING 'ONYX' OXIDE, SUPPLIED BY CSR READYMIX. MIX PROPORTION SHALL BE 18kg OF 'ONYX' PER CUBIC METRE OF CONCRETE, MIXED AT BATCH PLANT. ALTERNATE SUPPLIERS WILL BE ALLOWED WHICH MATCH THIS COLOUR.
- INSTALL POST FOR R3-3 FLAG, AND STOP LINE (TF), AT DESIGNATED CHILDREN'S CROSSINGS, IN ACCORDANCE WITH AS1742.10



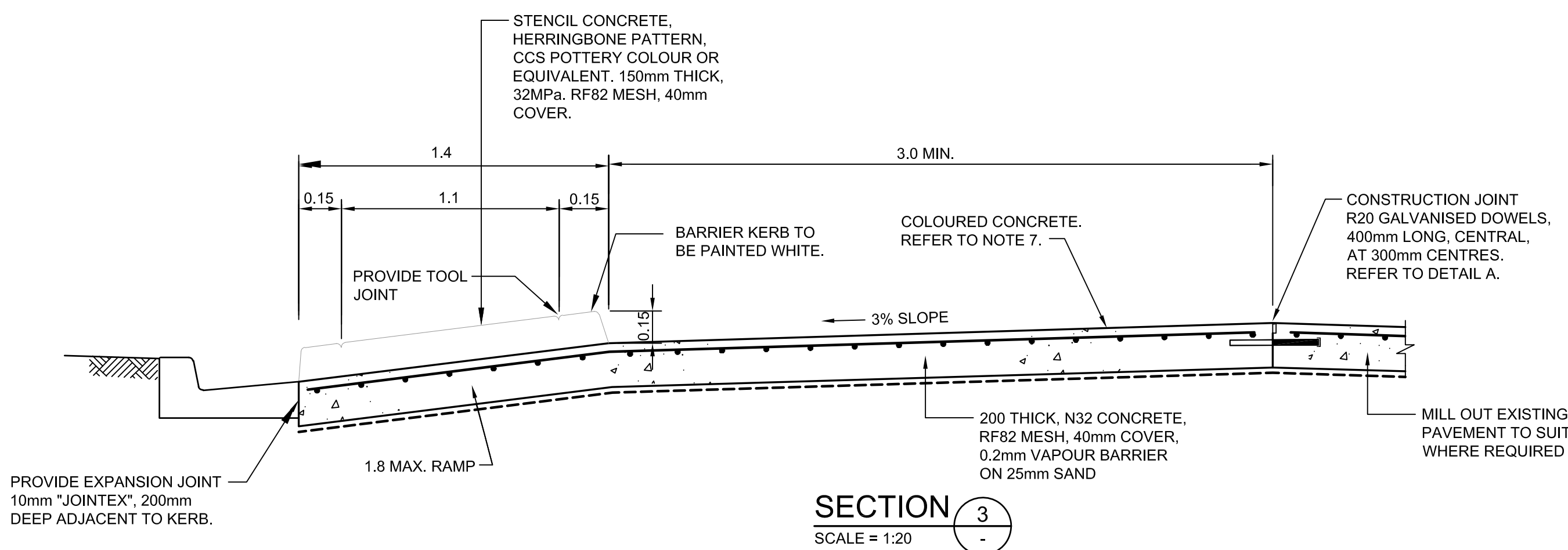
SECTION 2
SCALE 1:20



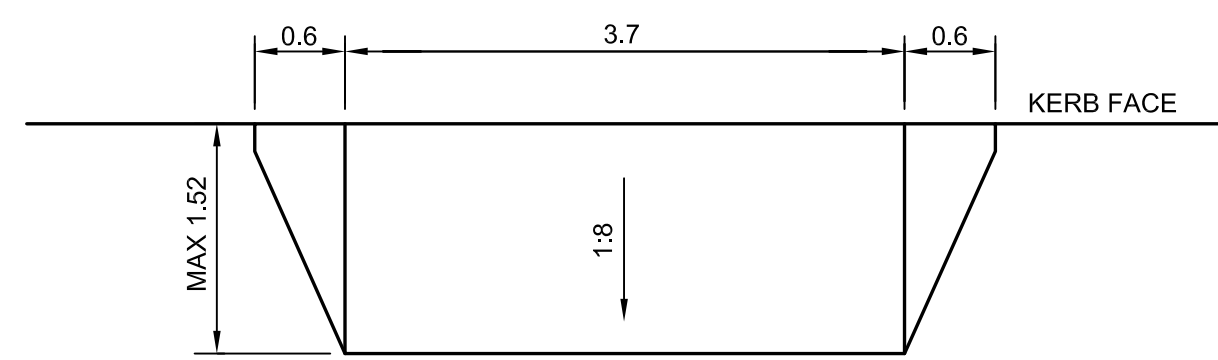
DETAILED PLAN
GIBRALTAR STREET WOMBAT CROSSING
SCALE 1:100



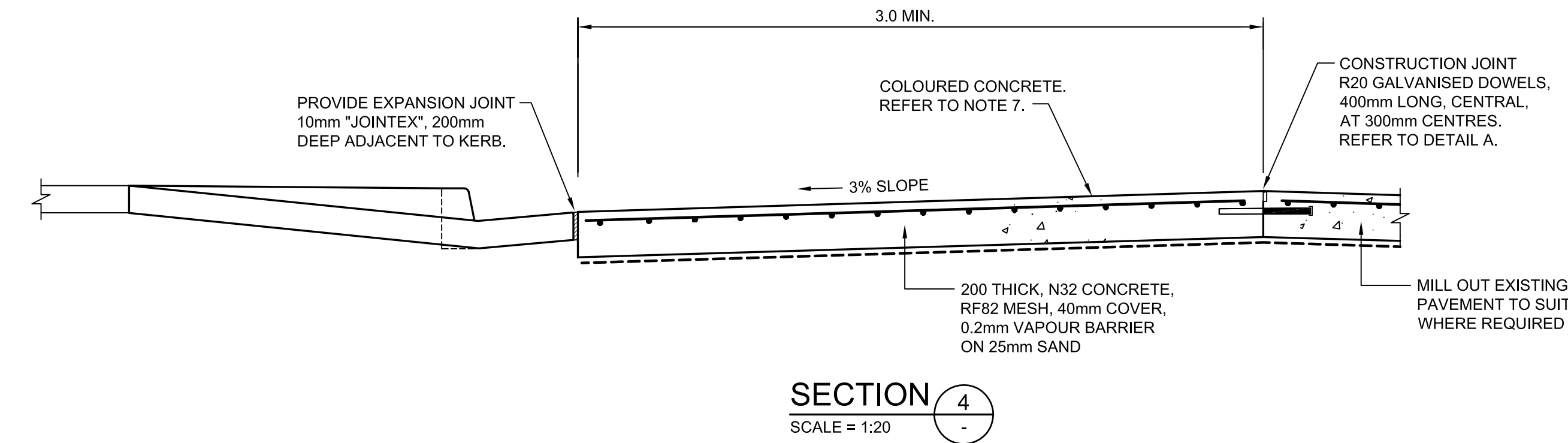
DETAILED PLAN
TURALLO TERRACE WOMBAT CROSSING
SCALE 1:100



SECTION 3
SCALE 1:20



PEDESTRIAN RAMP DETAIL
SCALE 1:50



SECTION 4
SCALE 1:20

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

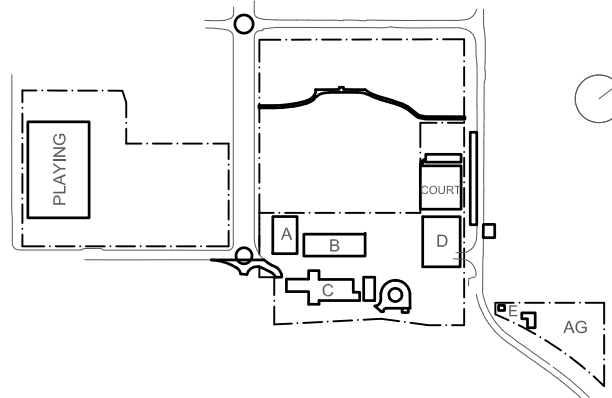
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW Education
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 9000

KEY



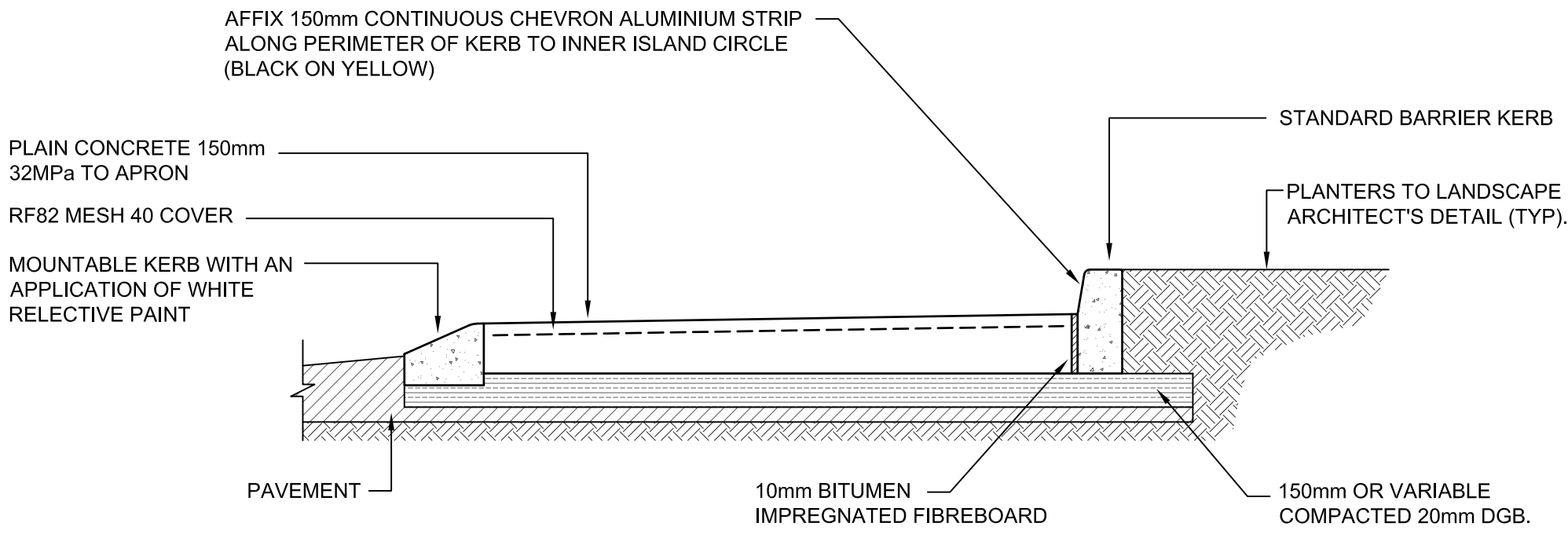
Rev	Date	Description	Chkd	Auth.
A	21.12.21	ISSUED FOR DD		
B	14.02.22	GENERALLY REVISED		
C	14.07.22	ISSUED FOR RTIS REVISED DESIGN		

Project
New High School in Bungendore
MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title **WOMBAT CROSSING**
PLAN AND DETAILS

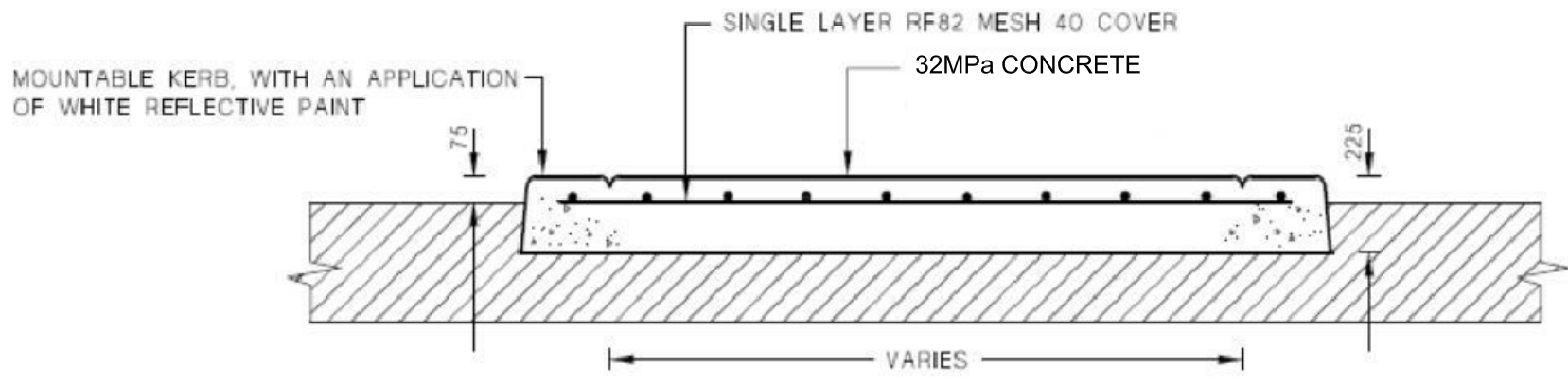
Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	1:500
Drawing No.	Revision		
BHS-CE-2200	C		

NOT FOR CONSTRUCTION

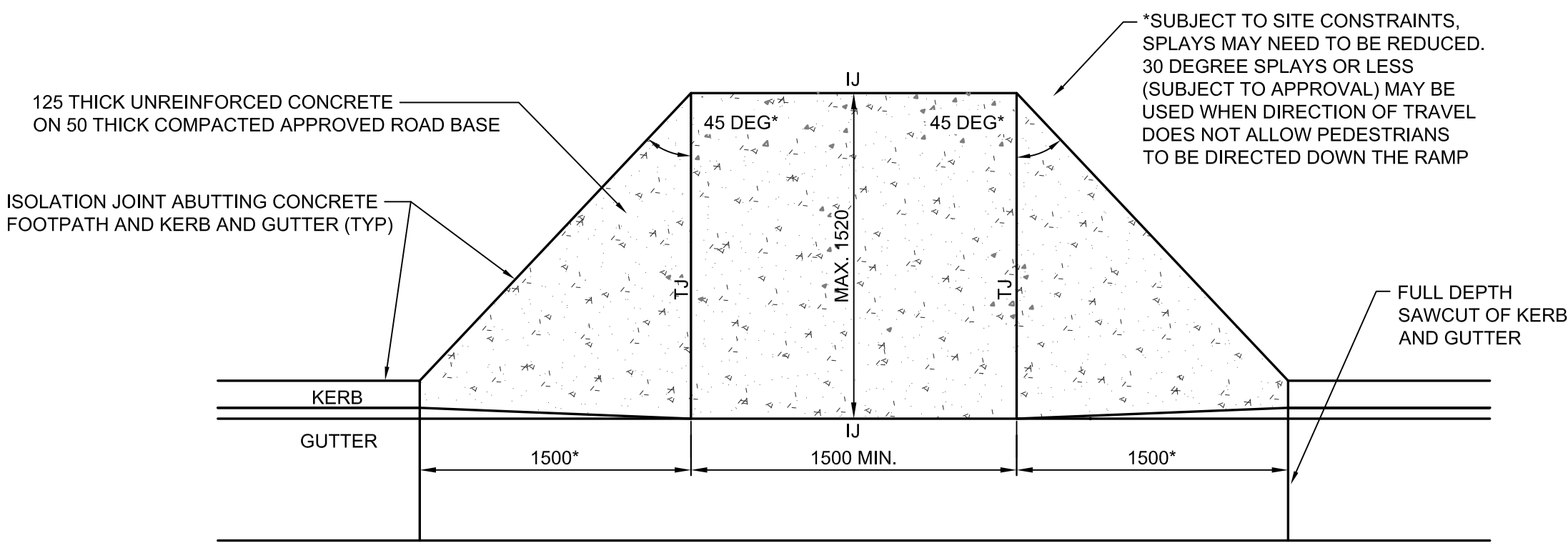
M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (02) 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSULT AUSTRALIA
Member Firm
AUSTRALIAN INSTITUTE OF
STRUCTURAL ENGINEERS



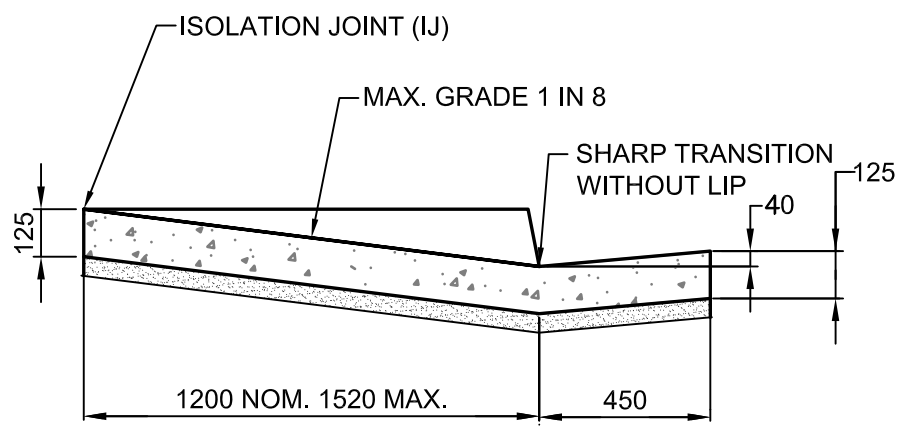
CENTRE ISLAND SECTION A-A NON TRAFFICABLE ANNULUS
N.T.S



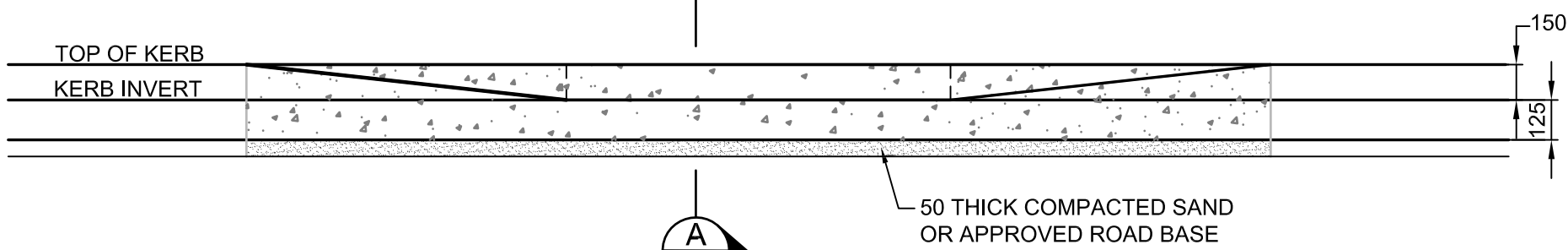
MOUNTABLE SPLITTER ISLAND SECTION B - B DETAIL
NOT TO SCALE



PRAM RAMP PLAN
N.T.S
*NOTE: ANGLED SPLAYS (<45 DEG) AND WINGS MAY NEED TO BE REDUCED DUE TO SITE CONSTRAINTS BUT SHOULD NOT BE LESS THAN 500 WHERE PRACTICAL



PRAM RAMP SECTION A-A
N.T.S



PRAM RAMP ELEVATION
N.T.S

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

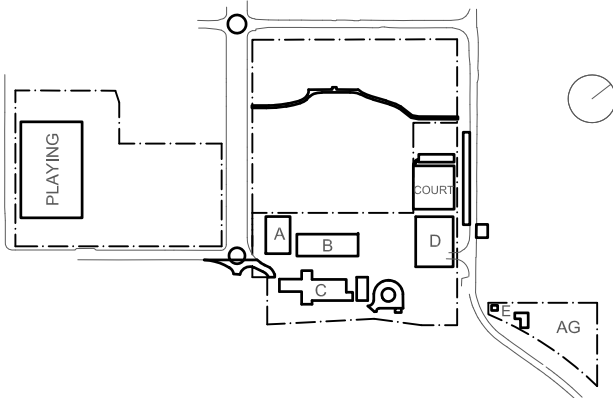
BUILDER
HINDMARSH
Hindmarsh Construction Australia Pty Ltd
Level 27, 100 Miller Street
North Sydney NSW 2060
T +61 2 9274 1100
F +61 2 6274 8898
www.hindmarsh.com.au

CLIENT
NSW GOVERNMENT
Education
School Infrastructure
NSW Department of Education |
School Infrastructure NSW
T+ 02 9561 8287

Project Managers
TSA Management
T+ 61 2 9276 1400
Architect
TKD Architects
T+ 61 2 9281 4399
Mechanical, Electrical, Hydraulic, ESD
Norman Disney & Young
T+ 61 2 9928 6800

Landscape Architecture
Context
T+ 61 2 8244 8900
Acoustic
Acoustic Logic
T+ 61 2 8339 8000

KEY



Rev	Date	Description	Chkd	Auth.
A	21.12.21	ISSUED FOR DD		
B	14.02.22	GENERALLY REVISED		
C	14.07.22	ISSUED FOR RTS REVISED DESIGN		

Project
New High School in Bungendore

MAJARA STREET,
BUNGENDORE NSW 2621
Drawing Title
**ROUNDAABOUT AND
MISCELLANEOUS CIVIL
ROAD DETAILS**

Designed	Reviewed	Drawn	Sheet
MW	SCM	MW	B1
Job No.	Status	Date	Scale
5555	SSDA	OCT '21	NTS

Drawing No.
BHS-CE-2201

Revision
C

NOT FOR CONSTRUCTION

M+G Consulting
M & G CONSULTING ENGINEERS PTY LTD ABN 65 094 064 990
Tel: +61 (0)2 8666 7888
L3, 50 Berry Street
North Sydney NSW 2060
(PO Box 1656, NSW 2059)
CONSULT AUSTRALIA
Member Firm
AUSTRALIAN STEEL INSTITUTE
REGISTERED
AUSTRALIAN
ENGINEERING
COUNCIL