

GOOGONG ANGLICAN SCHOOL STAGE 4

CIVIL PACKAGE

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LOCALITY PLAN

LOT 613 DP 1195842

REFERENCED DRAWINGS

These drawings are based on and are to be read in conjunction with the following drawings. Any conflict to these drawings must be notified immediately to the engineer.

Consultant	Title	No.	Rev	Date
COX ARCHITECTURE	SITE	A-11-01	-	09.08.19
REDBOX DESIGN GROUP	FORUM LANDSCAPE DESIGN	SK18	-	11.09.19
VERIS	GOOGONG ANGLICAN SCHOOL LOTS 613 AND 630 DP 1195842	03074.31A	A	10.01.19

DRAWING SCHEDULE

DWG No.	DWG TITLE
C001	COVER SHEET, LOCALITY PLAN, NOTES & LEGENDS
C020	SITE MANAGEMENT PLAN
C040	SITE WORKS PLAN SHEET 1 OF 3
C041	SITE WORKS PLAN SHEET 2 OF 3
C042	SITE WORKS PLAN SHEET 3 OF 3
C043	SITE WORKS DETAILS
C080	VEHICLE TURNING DEMONSTRATION

SURVEY LEGEND

	Surface level		Electric Light Pole
	Contour		Traffic Light
	Kerb line		Traffic Light Lid
	Batter		Traffic Light Box
	Retaining wall		Telephone Box
	Easement		Parking Meter
	Fence		Permanent Mark
	Tree to be removed/be retained		Bench Mark
	Boundary		Borehole
	Sign		Test Pit
	Hydrant		Fuel Cock
	Manhole		Flood Light
	Gas		Lamp Hole
	Stop Valve		Bubbler
	Water		Letter Box
	Telecommunications		Flag Pole
	Trap		Flag Pole Box
	Gully		Ballard
	Grate		Seat
	Sewer Manhole		Bin
	Electricity		Kerb Outlet

GENERAL NOTES

- Contractor must verify all dimensions and existing levels including the location and depth of underground services on site prior to commencing works. Any discrepancies shall be reported to the Managing Contractor prior to commencing site establishment. Failure to verify such information prior to establishing site shall not be grounds for an extension of time or delay claim.
- All topsoil to be stripped from the area of the works. All topsoil shall be disposed off-site unless directed otherwise.
- The Contractor shall obtain a copy of the geotechnical report from the managing contractor. The contractors methodology for earthworks must be consistent with the recommendations of the Geotechnical Report and relevant Work Health and Safety requirements. It is the Contractors responsibility to develop a methodology that allows all works to be carried out in a safe and coordinated manner. Any guidance provided on the TTW Civil drawings regarding methodology or staging is for information only and it remains to contractors responsibility.
- For recommendations of all temporary batters refer to the Geotechnical report or as directed onsite by the geotechnical engineer.
- Compact subgrade under buildings and pavements to a minimum of 95% MMD. Compaction of the subgrade shall be extended a minimum of 2m past the building footprint or edge of pavement UNO.
- Contractor shall make smooth connections between all new and old works ensuring that no trip hazards are created or ponding of stormwater. Levels given at tie in points are for information only and have been taken from the supplied survey. It is the contractors responsibility to construct the tie in to suit existing levels at the site at the time of construction. If significant discrepancies exist between the survey and the levels encountered on site request direction from the managing contractor.
- Damage to kerbs caused by the contractor or their subcontractors shall not be accepted. Damaged including cracks $\geq$ to 2mm, chips, roller scraping, Asphalt/Bitumen over pour or spray shall be rectified by removing the damaged section of Kerbs + Replacing in accordance with Engineers directions. All costs to be cover by contractor.
- The contractor shall at all times have a copy of the specification on site. Failure to comply with specification requirements will result in works being defective.
- Inspection, remediation, supervision or RFI's on defective works or contractor changes shall be carried out only after an agreed fee arrangement has been signed between TTW & the relevant parties associated with the works.

SURVEY AND SERVICES INFORMATION

SURVEY

Origin of levels : CONTACT SURVEYOR
Datum of levels : AHD
Coordinate system : MGA GDA 94
Survey prepared by : VERIS
Setout Points : CONTACT SURVEYOR

Taylor Thomson Whitting does not guarantee that the survey information shown on these drawings is accurate and will accept no liability for any inaccuracies in the survey information provided to us from any cause whatsoever.

UNDERGROUND SERVICES – WARNING

The locations of underground services shown on Taylor Thomson Whittings drawings have been plotted from diagrams provided by service authorities. This information has been prepared solely for the authorities own use and may not necessarily be updated or accurate.

The position of services as recorded by the authority at the time of installation may not reflect changes in the physical environment subsequent to installation.

Taylor Thomson Whitting does not guarantee that the services information shown on these drawings shows more than the presence or absence of services, and will accept no liability for inaccuracies in the services information shown from any cause whatsoever.

The Contractor must confirm the exact location and extent of services prior to construction and notify any conflict with the drawings immediately to the Engineer/Supintendent.

The contractor is to get approval from the relevant state survey department, to remove/adjust any survey mark. This includes but is not limited to; State Survey Marks (SSM), Permanent Marks (PM), cadastral reference marks or any other survey mark which is to be removed or adjusted in any way.

Taylor Thomson Whitting plans do not indicate the presence of any survey mark. The contractor is to undertake their own search.

BOUNDARY AND EASEMENT NOTE

The property boundary and easement locations shown on Taylor Thomson Whitting drawing's have been based from information received from : VERIS

Taylor Thomson Whitting makes no guarantees that the boundary or easement information shown is correct. Taylor Thomson Whitting will accept no liabilities for boundary inaccuracies. The contractor/builder is advised to check/confirm all boundaries in relation to all proposed work prior to the commencement of construction. Boundary inaccuracies found are to be reported to the superintendent prior to construction starting.

SITWORKS NOTES

- All basecourse material to comply with specification requirements and compacted to minimum 98% modified maximum dry density in accordance with AS 1289 5.2.1.
- All trench backfill material shall be compacted to the same density as the adjacent material.
- All service trenches under vehicular pavements shall be backfilled with DGB20 and compacted to a minimum 98% modified maximum dry density in accordance with AS 1289 5.1.1

BULK EARTHWORKS NOTES

- All bulk earthworks setout from grid lines U.N.O.
- All batters at a slope of 2 (H) : 1 (V) U.N.O.
- Excavated material may be used as structural fill provided,
 - it complies with the specification requirements for fill material,
 - the placement moisture content complies with the Geotechnical Consultants requirements, and allows filling to be placed and proofrolled in accordance with the specification. Where necessary the Contractor must moisture condition the excavated material to meet these requirements.

Location	Standard dry density (AS 1289 5.1.1)	Moisture (OMC)
Under building slabs on ground:	98%	$\pm 2\%$
Under roads and carparks:	98%	$\pm 2\%$
Landscape areas:	95%	$\pm 2\%$

- Before placing fill, proof roll exposed subgrade with a 10 tonne minimum roller to test subgrade and then remove soft spots (areas with more than 3mm movement under roller). Soft spots to be replaced with DGB 20 fill U.N.O.
- Contractor shall place safety barriers around excavations in accordance with relevant safety regulations.
- For interpretation of bulk earthworks foot print line shown on the bulk earthworks drawings refer to the bulk earthworks construction legend.
- Bulk earthwork drawings are not to be used for detailed excavation.
- Refer to Geotechnical Report prepared by – ACT GEOTECHNICAL ENGINEERS REPORT # C6831

STORMWATER DRAINAGE NOTES

- Stormwater Design Criteria :
 - Average recurrence interval – 1:100 years for roof drainage to first external pit 1:20 years for paved and landscaped areas
 - Rainfall intensities – Time of concentration: 6 minutes 1:100 years = 180 mm/hr 1:20 years = 120 mm/hr
 - Runoff coefficients – Roof areas: $C_{wo} = 0.90$ Roads and paved areas: $C_{w} = 0.90$ Landscaped areas: $C_{w} = 0.72$
- Pipes 300 dia and larger to be reinforced concrete Class "2 " approved spigot and socket with rubber ring joints U.N.O.
- Pipes up to 300 dia shall be sewer grade uPVC with solvent welded joints.
- Equivalent strength VCP or FRP pipes may be used subject to approval.
- Precast pits may be used external to the building subject to approval by ENGINEER
- Enlargers, connections and junctions to be manufactured fittings where pipes are less than 300 dia.
- Where subsol drains pass under floor slabs and vehicular pavements, unslotted uPVC sewer grade pipe is to be used.
- Grates and covers shall conform with AS 3996–2006, and AS 1428.1 for access requirements.
- Pipes are to be installed in accordance with AS 3725. All bedding to be Type H2 U.N.O.
- Care is to be taken with levels of stormwater lines. Grades shown are not to be reduced without approval.
- All stormwater pipes to be 150 dia at 1.0% min fall U.N.O.
- Subsoil drains to be slotted flexible uPVC U.N.O.
- Adopt invert levels for pipe installation (grades shown are only nominal).
- Subsoil drains are to be installed at all new kerbs and pavement edges in accordance with details on civil plans.

CONCRETE NOTES

EXPOSURE CLASSIFICATION : External : A2
CONCRETE

Place concrete of the following characteristic compressive strength f'c as defined in AS 1379.

Location	AS 1379 f'c MPa at 28 days	Specified Slump	Nominal Agg. Size
Kerb	S25	80	20
Pits	S25	80	20
Pedestrian Pavement	S25	80	20
Vehicle Pavement	S32	80	20

- Use Type 'GP' cement, unless otherwise specified.
- All concrete shall be subject to project assessment and testing to AS 1379.
- Consolidate by mechanical vibration. Cure all concrete surfaces as directed in the Specification.
- For all falls in slab, drip grooves, reglets, chamfers etc. refer to Architects drawings and specifications.
- Unless shown on the drawings, the location of all construction joints shall be submitted to Engineer for review.
- No holes or chases shall be made in the slab without the approval of the Engineer.
- Conduits and pipes are to be fixed to the underside of the top reinforcement layer.
- Slurry used to lubricate concrete pump lines is not to be used in any structural members.
- All slabs cast on ground require sand blinding with a Concrete Underlay
- Indicates Slab or Band thickness variation.

FORMWORK

- The design, certification, construction and performance of the formwork, falsework and backpropping shall be the responsibility of the contractor. Proposed method of installation and removal of formwork is to be submitted to the superintendent for comment prior to work being carried out.

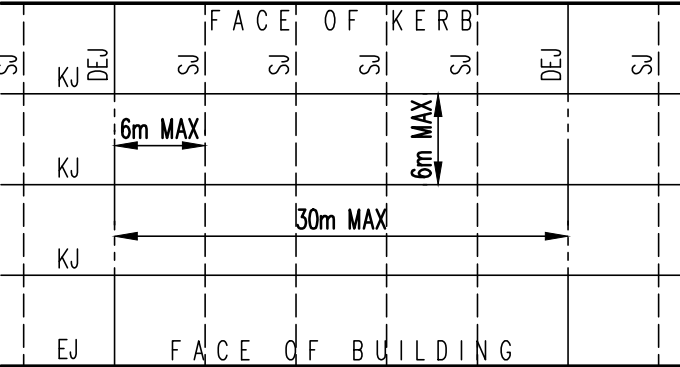
CONCRETE FINISHING NOTES

- All exposed concrete pavements are to be broomed finished.
- All edges of the concrete pavement including keyed and dowelled joints are to be finished with an edging tool.
- Concrete pavements with grades greater than 10 % shall be heavily broomed finished.
- Carborundum to be added to all stair treads and ramped crossings U.N.O.

JOINTING NOTES

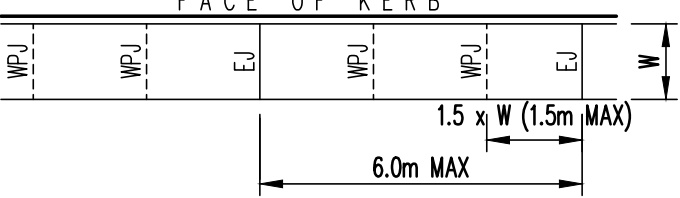
Vehicular Pavement Jointing

- Contractor to provide a concept jointing and pour plan for review and approval by the engineer no less than 3 weeks prior to commencing paving works.
- Keyed construction joints should generally be located at a maximum of 6m centres.
- Sawn joints should generally be located at a maximum of 6m centres or 1.5 x the spacing of keyed joints, where key joint spacing is less than 4m, with dowelled expansion joints at maximum of 30m centres.
- Provide 10mm wide full depth expansion joints between buildings and all concrete or unit pavers.
- Vehicular pavement jointing as follows.
- The timing of the saw cut 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. Refer to the specification for weather conditions and temperatures required.



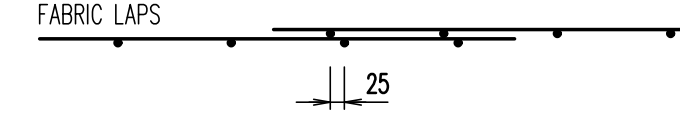
Pedestrian Footpath Jointing

- Expansion joints are to be located where possible at tangent points of curves and elsewhere at max 6.0m centres.
- Weakened plane joints are to be located at a max 1.5 x width of the pavement.
- Where possible joints should be located to match kerbing and / or adjacent pavement joints.
- All pedestrian footpath jointings as follows (uno).



REINFORCEMENT NOTES

- Fix reinforcement as shown on drawings. The type and grade is indicated by a symbol as shown below. On the drawings this is followed by a numeral which indicates the size in millimetres of the reinforcement.
 - N: Hot rolled ribbed bar grade D500N
 - R: Plain round bar grade R250N
 - SL: Square mesh grade 500L
 - RL: Rectangular mesh grade 500L
- Provide bar supports or spacers to give the following concrete cover to all reinforcement unless otherwise noted on drawings.
 - Footings – 30 top, 50 bottom, 50 sides.
 - Slabs – 30 top, 50 bottom, 50 sides.
 - Walls – 30 generally.
 - 50 when cast in forms but later exposed to weather or ground.
 - 50 when cast directly in contact with ground.
- Cover to reinforcement ends to be 50 mm u.n.o.
- Provide N12–450 support bars to top reinforcement as required, Lap 500 U.N.O.
- Maintain cover to all pipes, conduits, reglets, drip grooves etc
- All cogs to be standard cogs unless noted otherwise.
- Fabric end and side laps are to be placed strictly in accordance with the manufacturers requirements to achieve a full tensile lap. Fabric shall be laid so that there is a maximum of 3 layers at any location.



- Laps in reinforcement shall be made only where shown on the drawings unless otherwise approved. Lap lengths as per table below.

TENSION LAPS

BAR SIZE	TOP BARS IN BANDS AND BEAMS	ALL OTHER BARS
N12	570	480
N16	800	700
N20	1150	900
N24	1500	1250
N28	1850	1500
N32	2250	1800
N36	2700	2100

KERBING NOTES

Includes all kerbs, gutters, dish drains, crossings and edges.

- All kerbs, gutters, dish drains and crossings to be constructed on minimum 75mm granular basecourse compacted to minimum 98% modified maximum dry density in accordance with AS 1289 5.2.1.
- 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 12m centres except for integral kerbs where the expansion joints are to match the joint locations in slabs.
- Weakened plane joints to be min 3mm wide and located at 3m centres except for integral kerbs where weakened plane joints are to match the joint locations in slabs.
- Broomed finished to all ramped and vehicular crossings, all other kerbing or dish drains to be steel float finished.
- In the replacement of kerbs – Existing road pavement is to be sawcut 900mm from lip of gutter. Upon completion of new kerbs, new basecourse and surface is to be laid 900mm wide to match existing materials and thicknesses. Existing allotment drainage pipes are to be built into the new kerb with a 100mm dia hole. Existing kerbs are to be completely removed where new kerbs are shown.

SIGNS AND LINE MARKING NOTES

- Pavement marking and sign posting on public roads shall be in accordance with the requirements of the relevant Road Authority. The contractor shall obtain these requirements from the Road Authority.
- Contractor is to provide guide posts, spaced in accordance with AS1742.2. They are to be located near all head walls and pipe outlets.
- Raised pavement markers to be in accordance with AS1742.2
- Where existing pavement marking conflicts with proposed, it is to be removed.
- Lane widths do not include width of gutter.
- Line marking plan does not define boundaries.
- Erect temporary sign 'changed traffic conditions ahead' 120m ahead of new work in both directions.
- Establish the location of existing utility services and locate new signs clear of these installations.
- Bicycle pavement markings and sign posting to be in accordance with Austroads Standards.
- The design of major directional sign posting to be approved by roads ACT.

RETAINING WALLS

- Drainage shall be provided as shown on the drainage drawings.
- Backfilling shall be carried out after grout or concrete has reached a minimum strength of 0.85 f'c. Backfilling shall be approved granular material compacted in layers not exceeding 200mm to 95% Standard compaction unless noted otherwise.
- Provide waterproofing to back of walls as specified by the Architect.
- Where retaining walls rely on connecting structural elements for stability, do not backfill against the wall unless it is adequately propped or the elements have been constructed and have sufficient strength to withstand the loads.
- For all temporary batters obtain geotechnical engineers recommendations.

SAFETY IN DESIGN

Contractor to refer to Appendix B of the Civil Specification for the Civil Risk and Solutions Register.

EXISTING SERVICES

Contractor to be aware existing services are located within the site. Location of all services to be verified by the Contractor prior to commencing works. Contractor to confirm with relevant authority regarding measures to be taken to ensure services are protected or procedures are in place to demolish and/or relocate.

EXISTING STRUCTURES

Contractor to be aware existing structures may exist within the site. To prevent damage to existing structure(s) and/or personnel, site works to be carried out as far as practicably possible from existing structure(s).

EXISTING TREES

Contractor to be aware existing trees exist within the site which need to be protected. To prevent damage to trees and/or personnel, site works to be carried out as far as practicably possible from existing trees. Advice needs to be sought from Arborist and/or Landscape Architect on measures required to protect trees.

GROUNDWATER

Contractor to be aware ground water levels are close to existing surface level. Temporary de-watering may be required during construction works.

EXCAVATIONS

Deep excavations due to stormwater drainage works is required. Contractor to ensure safe working procedures are in place for works. All excavations to be fenced off and batters adequately supported to approval of Geotechnical Engineer.

GROUND CONDITIONS

Contractor to be aware of the site geotechnical conditions. Refer to geotechnical report C6831 by ACT GEOTECHNICAL ENGINEERS for details.

HAZARDOUS MATERIALS

Existing asbestos products & contaminated material may be present on site. Contractor to ensure all hazardous materials are identified prior to commencing works. Safe working practices as per relevant authority to be adopted and appropriate PPE to be used when handling all hazardous materials. Refer to geotechnical report C6831 by ACT GEOTECHNICAL ENGINEERS for details.

CONFINED SPACES

Contractor to be aware of potential hazards due to working in confined spaces such as stormwater pits, trenches and/or tanks. Contractor to provide safe working methods and use appropriate PPE when entering confined spaces.

MANUAL HANDLING

Contractor to be aware manual handling may be required during construction. Contractor to take appropriate measures to ensure manual handling procedures and assessments are in place prior to commencing works.

WATER POLLUTION

Contractor to ensure appropriate measures are taken to prevent pollutants from construction works contaminating the surrounding environment.

SITE ACCESS/EGRESS

Contractor to be aware site works occur in close proximity to footpaths and roadways. Contractor to erect appropriate barriers and signage to protect site personnel and public.

VEHICLE MOVEMENT

Contractor to supply and comply with traffic management plan and provide adequate site traffic control including a certified traffic marshal to supervise vehicle movements where necessary.

SITWORKS LEGEND

	Finished surface level
	Finished contour
	Kerb and gutter
	Kerb only
	Flush kerb
	Dish drain
	Thickened edge
	Integral kerb with edge downturn
	Kerb and toe
	Stormwater pit, flow direction and line with
	Invert level upstream
	Pipe grade
	Flow (Litres per second)
	Invert level downstream
	Intermediate riser with subsol drainage line (100 dia)
	Flushing point with subsol drainage line (100 dia)
	Roding point
	Dowelled expansion joint
	Sawn joint
	Keyed construction joint
	Expansion joint
	Grass catch drain
	Overland flow path

PRELIMINARY

Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date
C	DRAFT DA FOR COORDINATION	CP	EM	20.09.19										
B	DRAFT DA FOR COORDINATION	CP	EM	17.09.19										
A	DRAFT DA FOR COORDINATION	CP	EM	13.09.19										

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COX

TTW

Taylor Thomson Whitting

GOOGONG ANGLICAN SCHOOL STAGE 4

COVER SHEET, LOCALITY PLAN, NOTES & LEGENDS

Scale	A1	Drawn	Authorized
		EM	
Job No	189119	Drawing No	C001
		Revision	C
Plot File Created: Sep 19, 2019 - 12:14pm			