

3 ANNEXURE A

3.1 CERTIFICATION REPORT

Design Certificate

Project Title: DA-SSD 8753 ROAD UPGRADE AT 21 RACECOURSE RD, TERALBA

Documentation No: PLAN SET 16015-LD-DR-C - 10000 TO 10700

Designer: LINDSAY DYNAN CONSULTING ENGINEERS

I certify that the documentation noted above represents a design for which the attached design check lists provide a valid record.

I certify that this design conforms to current Australian or International standards, industry guidelines, Council's design specifications, Council's DCP 2012 and specific instructions received with the exception of departures cited in the attached design checklists.

I certify that this design will not significantly impact on the environmental factors of the area as interpreted under Part IV of the NSW Environmental Planning and Assessment Act.

I certify that this Design is in strict compliance with the development consent conditions and where a variance to the consent is found, written confirmation has been received from Council approving of the variance prior to the lodgement of Design Drawings (this includes designs for staged construction).

I certify that all structural/civil/hydraulic elements have been designed by an engineer suitably experienced in the relevant field and who has or is eligible for NPER registration with Engineers Australia

Contact Phone: (02) 4941 9900

NICK LANE
Design Engineer/Surveyor

15/02/22
Date

Contact Postal Address:

SUITE 2, GROUND FLOOR

BENG (CIVIL) (HONS) MIEAust
Qualifications

47 DARRY STREET

NEWCASTLE NSW 2300

46 159 323 743
A.B.N.

3.2 DESIGN CHECKLIST 1 - DOCUMENTATION OF EXISTING SITE FEATURES

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
1.1 Check detail survey by site inspection for existing drainage.	CA/...../.....	<input type="checkbox"/>
1.2 Check detail survey by site inspection for existing property descriptions, boundaries and accesses.	CA/...../.....	<input type="checkbox"/>
1.3 Check detail survey of contours as representative of site terrain.	CA/...../.....	<input type="checkbox"/>
1.4 Document trees and significant environmental features affected by the works./...../.....	<input checked="" type="checkbox"/>
1.5 Document significant features to heritage within the Works boundaries./...../.....	<input checked="" type="checkbox"/>
1.6 Document existing public and private property likely to be affected by the design./...../.....	<input checked="" type="checkbox"/>
1.7 Document survey and bench-marks./...../.....	<input checked="" type="checkbox"/>
1.8 Check LMCC Significant Tree Register. Consulted with Tree Officer and incorporated requirements in the Design Documentation./...../.....	<input checked="" type="checkbox"/>

Certified documents

Include the following certified documents:

SURVEY PREPARED BY CADENCE CONSULTING SURVEYORS (CCS)
 DATED 29/11/2019 ; SURVEYORS REF. CCS-1676

List additional certified documents provided. LDCE ENGINEERING DESIGN
 DRAWINGS, REF: 16015-LD-DR-C-10000 - 10700_P03

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.3 DESIGN CHECKLIST 2 - HORIZONTAL ROAD ALIGNMENT

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
2.1 Check that alignment is compatible with design speeds.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.2 Check that alignment is adequate in relation to clearance of roadside hazards.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.3 Check that there is adequate horizontal sight distance for drivers and pedestrians.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.4 Check that there is minimum conflict with existing services.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.5 Check that road widths and lanes conform to Council and traffic design requirements.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.6 Check that bridge alignment is compatible with the road alignment./.../...	<input checked="" type="checkbox"/>
2.7 Check for adequate pedestrian, pram, bicycle and parking provisions./.../...	<input checked="" type="checkbox"/>
2.8 Check for adequate provision for large vehicles such as buses, garbage trucks and emergency vehicles.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.9 Check that intersections conform to the turning requirements of design traffic, including emergency vehicles.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.10 Check adequate pavement width tapers and merges.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.11 Identify and resolve any conflict with existing public utility services.	... <i>CG</i>/.../...	<input type="checkbox"/>
2.12 Document horizontal road alignment set out data.	... <i>CG</i>/.../...	<input type="checkbox"/>

Certified documents

Include the following certified documents:

PER PREVIOUS

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

SAFETY BARRIER INCLUDED IN WORKS TO SHIELD ROADSIDE HAZARDS

3.4 DESIGN CHECKLIST 3 - VERTICAL ROAD ALIGNMENT

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
3.1 Check that grades conform to maximum and minimum requirements.	CG/...../.....	<input type="checkbox"/>
3.2 Check that vertical clearances to bridges and services conform to standards.	CG/...../.....	<input type="checkbox"/>
3.3 Check that there is adequate vertical sight distance for drivers and pedestrians.	CG/...../.....	<input type="checkbox"/>
3.4 Check that there is adequate cover to drainage structures or services.	CG/...../.....	<input type="checkbox"/>
3.5 Check that there is adequate vertical alignment for disposal of surface drainage from properties and road.	CG/...../.....	<input checked="" type="checkbox"/>
3.6 Check that grades conform to 1:100 year flood levels./...../.....	<input type="checkbox"/>
3.7 Check that vertical alignment is compatible with property access.	CG/...../.....	<input type="checkbox"/>
3.8 Check that gradients on intersecting roads do not exceed the cross slope of the through pavement and no greater than 3% at give way and stop signs./...../.....	<input checked="" type="checkbox"/>
3.9 Check that there is acceptable sight distance for all accesses to roundabouts./...../.....	<input checked="" type="checkbox"/>
3.10 Check that alignment coordination with horizontal alignment is in conformance with the Austroads design guides referenced in the AUS-SPEC specifications.	CG/...../.....	<input type="checkbox"/>
3.11 Identify and resolve conflict with existing public utility services.	CG/...../.....	<input type="checkbox"/>
3.12 Document vertical road alignment set out data on the longitudinal sections.	CG/...../.....	<input type="checkbox"/>

Certified documents

Include the following certified documents:

PER PREVIOUS

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.5 DESIGN CHECKLIST 4 - ROAD CROSS-SECTIONS

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
4.1 Document complete dimensions on typical cross-sections have.	... <i>Clg</i>/.../...	<input type="checkbox"/>
4.2 Document kerb & gutter, road safety barrier and surface drainage on typical cross-sections.	... <i>Clg</i>/.../...	<input type="checkbox"/>
4.3 Document batter slopes and batter treatment where appropriate.	... <i>Clg</i>/.../...	<input type="checkbox"/>
4.4 Document pavement description and surface treatment.	... <i>Clg</i>/.../...	<input type="checkbox"/>
4.5 Document property boundaries, service allocations and location of known existing underground services and pathway treatments./.../...	<input checked="" type="checkbox"/>
4.6 Document cross-sections to define all variations and width transitions.	... <i>Clg</i>/.../...	<input type="checkbox"/>
4.7 Document cross-sections allowing for assessment of impact of road level on adjoining property.	... <i>Clg</i>/.../...	<input type="checkbox"/>
4.8 Verify the stability of embankment slopes, batters and retaining walls as satisfactory.	... <i>Clg</i>/.../...	<input type="checkbox"/>
4.9 Check that cross section reference level conforms with vertical road alignment.	... <i>Clg</i>/.../...	<input type="checkbox"/>

Certified documents

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Non-conformance

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3.6 DESIGN CHECKLIST 5 - ROAD AND INTERALLOTMENT DRAINAGE**Checkpoints**

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
5.1 Document existing surface drainage.	CLS/...../.....	<input type="checkbox"/>
5.2 Check that hydrological data is current./...../.....	<input type="checkbox"/>
5.3 Make hydrologic and hydraulic design calculations available for audit./...../.....	<input checked="" type="checkbox"/>
5.4 Check that underground drainage and structures do not conflict with public utility services.	CG/...../.....	<input checked="" type="checkbox"/>
5.5 Check that the designed drainage lines are compatible with existing incoming lines and outgoing lines.	CG/...../.....	<input type="checkbox"/>
5.6 Document pipeline length, type, size, class and bedding requirements for each drainage line.	CG/...../.....	<input type="checkbox"/>
5.7 Check that height of fill over drainage lines is within allowable limits.	CG/...../.....	<input type="checkbox"/>
5.8 Document drainage provisions for local depressions, e.g. median areas or areas adjacent to fills./...../.....	<input checked="" type="checkbox"/>
5.9 Check that the effect of headwater and back-up water on private property is satisfactory./...../.....	<input checked="" type="checkbox"/>
5.10 Document subsurface drainage by line and level if required./...../.....	<input checked="" type="checkbox"/>
5.11 Document batter drains for fills and cuttings if required./...../.....	<input checked="" type="checkbox"/>
5.12 Consider the height and energy level of downstream drainage./...../.....	<input checked="" type="checkbox"/>
5.13 Locate drainage structures and flowpaths to ensure safe vehicular and pedestrian transit.	CG/...../.....	<input checked="" type="checkbox"/>
5.14 Document drainage structure number, set out, type and pipe on the drainage plans and schedule of drainage elements.	CG/...../.....	<input type="checkbox"/>
5.15 Locate emergency flowpaths to minimise impact on private property./...../.....	<input type="checkbox"/>
5.16 Check that road drainage conforms with Council's drainage design criteria.	CG/...../.....	<input checked="" type="checkbox"/>
5.17 Check that interallotment drains conform with Council's Specification and Australian Rainfall and Runoff (AR&R) rainfall data./...../.....	<input type="checkbox"/>
5.18 Document appropriate land stabilisation and velocity controls to pipe systems, open channels and embankments.	CG/...../.....	<input checked="" type="checkbox"/>
5.19 For flood controlled allotments ensure, the floor height controls are compatible with road and drainage levels./...../.....	<input type="checkbox"/>
/...../.....	<input checked="" type="checkbox"/>

Certified documents

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List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.7 DESIGN CHECKLIST 6 - SIGNS AND MARKINGS

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
6.1 Conform to the documented Traffic Management Plan.	... <i>CB</i>/.../...	
6.2 Document sign types, sizes, locations and support structure details to conform with AS 1742 (All parts).	... <i>CB</i>/.../...	<input type="checkbox"/>
6.3 Document pavement linemarking, pavement marking type and set out to conform to AS 1742.2.	... <i>CB</i>/.../...	<input type="checkbox"/>
6.4 Document signs and linemarking to conform to Council's policies.	... <i>CB</i>/.../...	<input type="checkbox"/>

Certified documents

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PER PREVIOUS

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.8 DESIGN CHECKLIST 7 - PAVEMENT DESIGN

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
7.1 Document pavement design and surface treatment on the typical road and/or pathways and cycleways cross-sections.	CE/...../...	
Document any variations on the specific cross-sections.	<input type="checkbox"/>
7.2 Check that the pavement design conforms to 0042 Pavement design and/or 0044 Pathways and cycleways for adequacy./...../...	<input checked="" type="checkbox"/>
7.3 Assess geotechnical data and keep records of design calculations./...../...	<input checked="" type="checkbox"/>
7.4 Pavement design is in accordance with any conditions of development consent./...../...	<input checked="" type="checkbox"/>

Certified documents

Include the following certified documents:

PER PREVIOUS

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.9 DESIGN CHECKLIST 8 - BRIDGE/MAJOR CULVERT DESIGN

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
8.1 Check that the design engineer is suitably experienced in the relevant field and who has or is eligible for NPER registration with Engineers Australia./...../.....	<input checked="" type="checkbox"/>
8.2 Assess geotechnical data for adequacy and keep records./...../.....	<input checked="" type="checkbox"/>
8.3 Check that the type and functional dimensions of the bridges conform to AS 5100, AS 4100, AS 3600, AS 1684, AS/NZS 1170./...../.....	<input checked="" type="checkbox"/>
8.4 Document the type and class of all materials./...../.....	<input checked="" type="checkbox"/>
8.5 Keep records of all significant design calculations and make available for audit./...../.....	<input checked="" type="checkbox"/>
8.6 <i>Bridge design complies with any conditions of development consent.</i>/...../.....	<input checked="" type="checkbox"/>

Certified documents

Include the following certified documents:

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.10 DESIGN CHECKLIST 9 - EROSION AND SEDIMENTATION CONTROL PLANS

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
9.1 Check that the concept erosion control plan conforms to 0075 <i>Control of erosion and sedimentation (Design)</i>CG...	.../.../...	<input type="checkbox"/>
9.2 Check that the erosion and sedimentation control conforms to development consent conditions and environmental legislations.	...CG...	.../.../...	<input type="checkbox"/>
9.3 Check that the erosion and sedimentation control plan conforms to 0075 <i>Control of erosion and sedimentation (Design)</i> .			
9.3 Check that the soil and water management plan conforms to 1102 <i>Control of erosion and sedimentation (Construction)</i>CG...	.../.../...	<input type="checkbox"/>

Certified documents

Include the following certified documents:

PER PREVIOUS

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.11 DESIGN CHECKLIST 10 - WATER SUPPLY

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
10.1 Check that the design engineer is suitably experienced in the relevant field and who has or is eligible for NPER registration with Engineers Australia./...../...../...../.....	<input checked="" type="checkbox"/>
10.2 Check that a practicing registered Surveyor performed the survey./...../...../...../.....	<input checked="" type="checkbox"/>
10.3 Assess geotechnical data for adequacy and keep records./...../...../...../.....	<input checked="" type="checkbox"/>
10.4 Check that the type and functional dimensions of the reticulation and any pump station meet the State Department of Public Works and Services guidelines and the appropriate Australian Standards, and are compatible with the Water Reticulation Code of Australia WSA 03./...../...../...../.....	<input checked="" type="checkbox"/>
10.5 Document the type and class of all materials, fittings, joints, and plant, pumps special requirements for crossings and protection./...../...../...../.....	<input checked="" type="checkbox"/>
10.6 Keep records of all significant design calculations and make available for audit./...../...../...../.....	<input checked="" type="checkbox"/>
10.7 Check that the design conforms to requirements of all Statutory Authorities./...../...../...../.....	<input checked="" type="checkbox"/>
10.8 Check the design conforms to any development consent conditions./...../...../...../.....	<input checked="" type="checkbox"/>

Certified documents

Include the following certified documents:

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.

3.12 DESIGN CHECKLIST 11 - SEWERAGE SYSTEM

Checkpoints

Initial and date the following checkpoints or tick box if not applicable.

	By	Date	NA
11.1 Check that the design engineer is suitably experienced in the relevant field and who has or is eligible for NPER registration with Engineers Australia. /...../..... /...../.....	<input checked="" type="checkbox"/>
11.2 Check that a practicing registered Surveyor performed the survey. /...../..... /...../.....	<input checked="" type="checkbox"/>
11.3 Assess geotechnical data for adequacy and keep records. /...../..... /...../.....	<input checked="" type="checkbox"/>
11.4 Check that the type and functional dimensions of the reticulation and any pump station meet state Department of Public Works and Services guidelines and the appropriate Australian Standards, and are compatible with the Sewerage Code of Australia WSA 02. /...../..... /...../.....	<input checked="" type="checkbox"/>
11.5 Document the type and class of all materials, fittings, joints, plant, pumps and special requirements for crossings and protection. /...../..... /...../.....	<input checked="" type="checkbox"/>
11.6 Keep records of all significant design calculations and make available for audit. /...../..... /...../.....	<input checked="" type="checkbox"/>
11.7 Check that the design conforms to requirements of all Statutory Authorities. /...../..... /...../.....	<input checked="" type="checkbox"/>
11.8 Check that the design conforms to development consent conditions. /...../..... /...../.....	<input checked="" type="checkbox"/>

Certified documents

Include the following certified documents:

List additional certified documents provided.

Non-conformance

Describe any special features of the project and document any variations from Council or State Road Authority requirements.
