ORION CONSULTING
PO BOX 7936 BAULKHAM HILLS NSW 2153
ABN NO. 25 604 069 981
EMAIL: INFO@ORIONCONSULTING.COM.AU
4.04/12 Century Circuit, NORWEST NSW 2153

813 Wallgrove Road, HORSLEY PARK, NSW
Lot 100 DP1268340

27/06/22
19-0108- Cond A16CC-Cert-01

SSD 5248-MOD-1

Design Certification – A16

I have reviewed the Civil Engineering plans as listed below and hereby certify that designs satisfy the following items of Condition AS16 of SSDA 5248. This certificate does not include any structural or geotechnical engineering elements.

Table 1 – SSDA Condition A16 Compliance Table

Condition	General Description	Orion Comments
A16 (a)	Access for TransGrid's plant and personnel is maintained and unrestricted at all times during construction and operation, for the life of the development and to the satisfaction of TransGrid.	The design prepared by Orion will not inhibit access. This certificate is limited to design only and does not extend to construction or maintenance.
A16 (b)	Any slopes (proposed batters) TransGrid's heavy maintenance vehicles would be required to traverse must not have a grade steeper than 1:6.	The grades/works proposed by Orion are consistent with the approval provided by Transgrid in Annexure 1 of this letter.
A16 (c)	Fill does not impact on safe ground clearances to transmission line conductors.	Orion's design not impact on safe ground clearances to transmission line conductors.
A16 (d)	Cut does not impact on the buried structures.	The grades/works proposed by Orion are consistent with the approval provided by Transgrid in Schedule 2 of this letter.

Refer to Schedule 1 for the certified drawings.

Refer to Annexure 1 for the Transgrid Compliance letter and email correspondence.

This certificate shall not be construed as relieving any other party of their responsibility.

All works within the TransGrid easement will require site setout and field verification to ensure no conflict with any conductors or TransGrid assets, to the satisfaction of TransGrid, prior to construction of any works within the TransGrid easement.

Competent Person Details:

Name:	Philip Byrum
Organisation:	Orion Consulting Pty Ltd
Relevant qualifications:	BEng Civil
Address:	4.04/12 Century Circuit, NORWEST NSW 2153
Ph:	02 8660 0035
Registration / Accreditation:	MIEAust CPEng NER
Details:	IEAust

Yours sincerely,

Philip Byrum
Director
BEng BBus MBA CPEng NER MIEAust

SCHEDULE 1

Certified Orion Drawings
Plan Reference – 19-0108-09-CC

PLAN INDEX		
No.	PLAN	REV
PRELIMINARIES		
CC 000	COVERSHEET & INDEX	C
CC 001	GENERAL LAYOUT PLAN	C
CC 002	GENERAL NOTES	B
CC 003	SERVICES PLAN SHEET 01 OF 02	B
CC 004	SERVICES PLAN SHEET 02 OF 02	B
SEDIMENT & EROSION CONTROL		
CC 100	SEDIMENT & EROSION CONTROL PLAN SHEET 01 OF 02	B
CC 101	SEDIMENT & EROSION CONTROL PLAN SHEET 02 OF 02	C
CC 102	SEDIMENT & EROSION CONTROL NOTES SHEET 01 OF 02	B
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ENGINEERING & ROADWORKS		
CC 200	ENGINEERING PLAN SHEET 01 OF 04	B
CC 201	ENGINEERING PLAN SHEET 02 OF 04	B
CC 202	ENGINEERING PLAN SHEET 03 OF 04	B
CC 203	ENGINEERING PLAN SHEET 04 OF 04	C
CC 204	PAVEMENT PLAN	C
CC 205	CONTROL LINE SETOUT PLAN	B
CC 300	TYPICAL ROAD CROSS SECTIONS	B
CC 301	TYPICAL SERVICES CROSS SECTIONS	B
CC 302	ROAD LONGSECTION SHEET 01 OF 04	B
CC 303	ROAD LONGSECTION SHEET 02 OF 04	B
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PLAN INDEX		
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CC 402	KERB RETURN LAYOUT & LONG SECTION SHEET 03 OF 06	B
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CC 502	OSD CATCHMENT PLAN	A
CC 510	DRAINAGE LONG SECTION SHEET 01 OF 06	B
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CC 520	PIT SCHEDULE & DRAINAGE DETAILS	B
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CC 522	DRAINAGE CALCULATIONS PLAN SHEET 01 OF 06	B
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CC 530	SPLITTER PIT DETAIL PLAN	B
CC 540	PIT GEOMETRY PLAN	A
CC 541	TYPICAL STRUCTURAL PIT DETAILS	A
CC 542	PIT 01/08 STRUCTURAL PLAN	A
CC 543	PIT 01/07 STRUCTURAL PLAN	A
CC 544	PIT 01/04 STRUCTURAL PLAN	A
CC 545	PIT 01/13 STRUCTURAL PLAN	A
CC 546	CULVERT BASE SLAB STRUCTURAL DETAILS	A
SIGNAGE, LINE MARKING & TRAFFIC CONTROL PLAN		
CC 800	SIGNAGE & LINEMARKING PLAN	B

ANNUEXURE 1

TransGrid approval and email correspondence.

ABN 70 250 995 390

Sydney West

200 Old Wallgrove Road
PO Box 87 Horsley Park
NSW 2175 Australia
T (02) 9620 0777
F (02) 9620 0384

11/06/2021

Andrew Szymik
Senior Civil Designer
Orion Consulting
P O BOX 7936
Baulkham Hills NSW 2153

Dear Andrew,

TRANSGRID REFERENCE: **2019-008**

PROPOSAL: **Draft Conditions of Consent - Gazcorp Industrial Estate SSD 5248 - Fairfield LGA**

LOCATION: **813-913 Wallgrove Road Horsley Park LOT5 of DP 24090**

TRANSGRID: **Transmission Lines: 1C/1F Structures 13-16**

Thank you for requesting TransGrid's permission to carry out the **Conditions of Consent - Gazcorp Industrial Estate SSD 5248 - Fairfield LGA** described in **Project No: 19-0108-02-sk-015-01** at 813-913 **Wallgrove Road Horsley Park LOT5 of DP 24090** within TransGrid easement **Transmission Lines: 1C/1F Structures 13-16 (TransGrid ID: 2019-008)**.

Please be advised that after further review of 2019-008 as discussed by TransGrid's Senior High Voltage Engineer and Civil & Structural Design Delivery Manager, both are satisfied with the proposal and offer no further comment.

As such TransGrid **gives its permission** subject to the following conditions:

1. **General Conditions:**

i. All works must be carried out as per in **Project No: 19-0108-02-sk-015-01.**

ii. TransGrid shall be notified of any amendments/ modifications to the proposal which may change proposed distances to TransGrid structures or conductors.

iii. All works must be carried out in accordance with NSW WorkCover ***'Working near overhead powerlines' Code of Practice 2006***.

iv. All fencing (including temporary fencing) must comply with ***TransGrid's Fencing Guidelines***.

v. No mounds of earth or other materials may be left on the easement during and after earthworks, as this creates a hazard by reducing the vertical clearances to transmission lines.

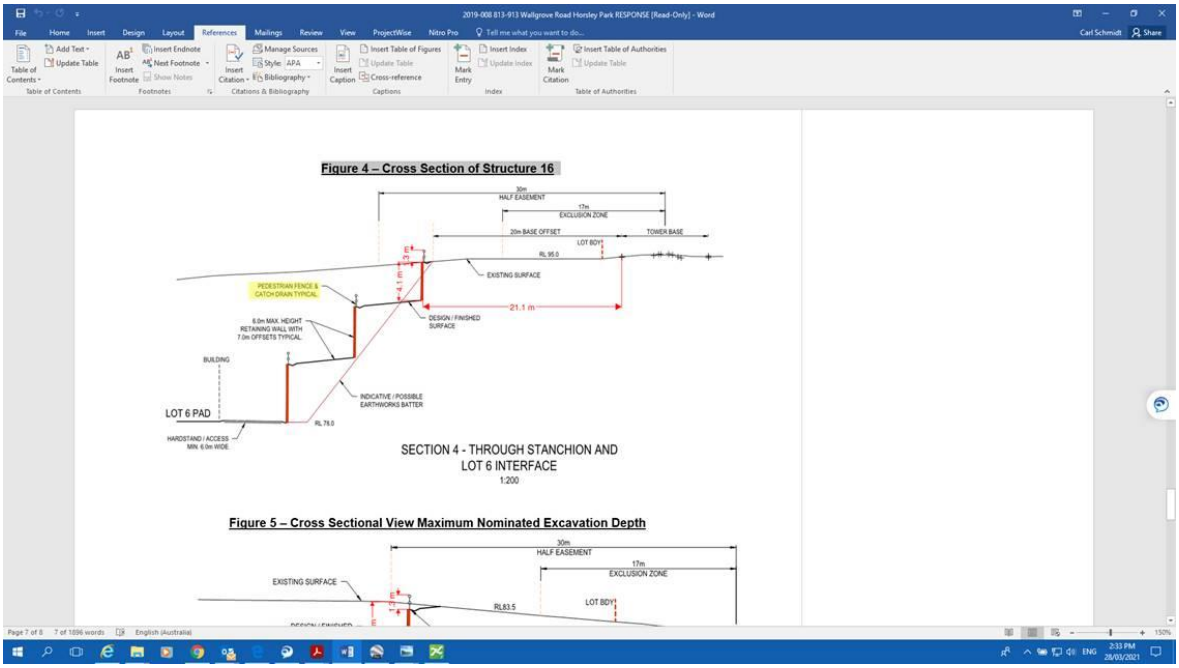
vi. During construction, traffic control measures need to be implemented to prevent vehicles colliding with TransGrid's transmission towers.

2. Technical Conditions:

It is our understanding that the query relates to structure 16 on TL1C/1F. There is a new development proposed located adjacent to TL1C/1F between structures 13 & 16.

Structure 16 is located on top of a hill and the developer's designs indicate that they plan to cut back the hill toward structure 16.

The edge of the excavation appears to be approximately 20m from the base of the tower structure. And the total depth of the excavation is approximately 17m deep and will be achieved with a series of retaining walls (see details below).



From our review, structure 16 is a tension tower and has mass footings as detailed by TL141366. The mass footings extend to approximately 3m below ground level.

i. Based on the details above, the excavation shouldn't adversely impact the tower footing capacity however it is important that the stability of batter/retaining walls are to be maintained.

ii. Measures are to be installed to ensure that there isn't any soil erosion or instability of batter/retaining walls.

iii. Note that the tower base needs to be accessible by vehicle.

iv. The wall height should be reduced to 2.5m or it shall be of a design where people cannot stand on the top of the wall. 2.5m height would be the preference.

3. MARCH 2019 TransGrid Technical Advice FYI:

As discussed at the meeting today please advise the DOP as follows regarding the GazCorp development on Wallgrove Road affecting the easement of TL 1C/1F between structures 13 & 16.

TransGrid has no objection in principle to the proposed industrial estate development provided the following issues are addressed during the detailed design of the development:

i. There is a swale proposed within 20m of structure 14 which has a 1:3 slope on the sides and a depth over 1.0m. The issues regarding access to the structure and excavation near a structure need to be addressed and this may require construction of a section of the swale trafficable by 40-ton mobile plant, relocation of the swale outside the 20m zone and negotiation with property owners on the southern side of the transmission line to secure TransGrid access to the structure.

ii. The plans appear to show significant batters within 20m of structure 15 & 16. The extent and slope of these batters needs to be confirmed to ensure that:

    a. TransGrid access to the structures is not impeded.
    b. Fill does not impact on safe ground clearances to the transmission line conductors.
    c. Cut does not impact on the buried structure earthing.

iii. Note that the easement in this area has been increased from 30m to 60m with the uprating of the transmission line from 132kV to 330kV. We should ensure that the developer is aware of the correct easement width and that they are taking that into account with earthworks and building locations. I would suggest it also might be helpful if they were to mark both the 20m exclusion zone around each tower and the easement edge on future plans so that we can be clear where issues exist and where they don't.

Provided the developer undertakes to resolve these issues TransGrid has no issue with the development as a whole being approved.

4. Access and Maintenance Conditions

With regard to the proposed development at the subject location & TransGrid's access & the carrying out of maintenance activities only, please be advised as follows:

i. With reference to the proponent's provided SKETCH drawing of 'Proposed Works Adjacent to and Within TransGrid Easement' we advise,

ii. The drawing appears to show that the current access means to the easement & travel between Structures 15 & 16 should not be impacted on and will remain unchanged

iii. As it would not be expected that travel will be required by TransGrid maintenance vehicles over the 1:4 fill & cut batters, these slopes would be considered as acceptable

iv. It appears that water flow is to be channelled around Structures 14 & 15 with 'Catch Drain Requirement Pending Detailed Design'

    a. Please note that fill batter & water flow is shown to be partially within the 20m exclusion zone of Structure 14

From an access and maintenance perspective only, we would not expect any issue with the proposal and find the development as acceptable.

All works near/within the easement would need to be carried out in accordance to TransGrid Easement Guidelines, TransGrid Fencing Guidelines and Workcover's Code of Practice 2006 – 'Work Near Overhead Powerlines'.

Please note, this is TransGrid's permission as easement holder only, and it does not constitute planning approval under the Environmental Planning and Assessment Act 1979.

If you have any questions, please do not hesitate to contact TransGrid's Easements & Development Team at Easements&Development@transgrid.com.au.

A. Please find attached TransGrid's easement Guidelines, Fencing Guidelines for your review

B. Please see link to TransGrid online guidelines : https://www.transgrid.com.au/being-responsible/public-safety/Living-and-working-with-electricity-transmission-lines/Pages/default.aspx

C. Please see link to the PDF version: https://www.transgrid.com.au/being-responsible/public-safety/Living-and-working-with-electricity-transmission-lines/Documents/Easement%20Guidelines.pdf

Yours faithfully

Easements & Development Team
TransGrid

From: Easements&Development <Easements&Development@transgrid.com.au>
Sent: Wednesday, 23 June 2021 7:36 AM
To: Andrew Szymik <andrew.szymik@orionconsulting.com.au>
Subject: RE: [#19-0108] 2019-008 Draft Conditions of Consent - Gazcorp Industrial Estate SSD 5248 - Fairfield LGA 813-913 Wallgrove Road Horsley Park LOT5 of DP 24090

Good Morning Andrew,

TRANSGRID REFERENCE: **2019-008**

PROPOSAL: **Draft Conditions of Consent - Gazcorp Industrial Estate SSD 5248 - Fairfield LGA**

LOCATION: **813-913 Wallgrove Road Horsley Park LOT5 of DP 24090**

TRANSGRID: **Transmission Lines: 1C/1F Structures 13-16**

i. The 2.5m height to the retaining is not a requirement however it would be preferred to maintain this maximum height of the walls.

ii. TransGrid will accept retaining wall heights as proposed on the proviso adequate protection is provided along the length of the wall to prevent persons from falling.

Regards

Michael

Michael Platt
Development Assessment and Control Officer/Network Planning and Operations
TransGrid | 200 Old Wallgrove Road, Wallgrove, NSW, 2766
T: (02) 9620 0161 **M:** 0427 529 997
E: Michael.Platt@transgrid.com.au **W:** www.transgrid.com.au

From: Andrew Szymik <andrew.szymik@orionconsulting.com.au>
Sent: Wednesday, 16 June 2021 10:20 AM
To: Easements&Development <Easements&Development@transgrid.com.au>
Subject: RE: [#19-0108] 2019-008 Draft Conditions of Consent - Gazcorp Industrial Estate SSD 5248 - Fairfield LGA 813-913 Wallgrove Road Horsley Park LOT5 of DP 24090

Hi Michael,
Thank you and hope you had a great long weekend mate.

Can your team please confirm (email response is fine) that the 2.5m wall is **preferred** but not a requirement. We can't practically achieve multiple 2.5m walls here.

From our review, structure 16 is a tension tower and has mass footings as detailed by TL141366. The mass footings extend to approximately 3m below ground level.

i. Based on the details above, the excavation shouldn't adversely impact the tower footing capacity however it is important that the stability of batter/retaining walls are to be maintained.

ii. Measures are to be installed to ensure that there isn't any soil erosion or instability of batter/retaining walls.

iii. Note that the tower base needs to be accessible by vehicle.

iv. The wall height should be reduced to 2.5m or it shall be of a design where people cannot stand on the top of the wall. 2.5m height would be the preference.

These walls will likely be 6m each tier and with adequate protection to prevent people falling. We just don't want this to be an issue when certification happens.

Thanks Michael and sorry to pester mate.
Cheers.

Andrew Szymik|**Senior Civil Designer**

Orion Consulting

(02) 8660 0035
0401 068 620
4.04, 12 Century Circuit, Norwest NSW
PO Box 7936 Baulkham Hills, NSW 2153

andrew.szymik@orionconsulting.com.au
orionconsulting.com.au