

STOCKYARD HILL WIND FARM

Electric Line Clearance Management Plan

(Electricity Safety (Electric Line Clearance) Regulations 2020)

1 July 2021 to 30 June 2022

April 2022

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|  | SH-PM-PLN-0013 Rev 4 ELECTRIC LINE CLEARANCE MANAGEMENT PLAN | Version 4 | Review Date: Jan 23 |
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| 2 | 8/12/21 | Plan amended to reflect ESV's comments and includes span clearance distance |  General Manager SHWF Pty Ltd |
| 3 | 15/2/2022 | Plan amended to reflect ESV's 2 nd round of comments |  General Manager SHWF Pty Ltd |
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1 Introduction

This Line Clearance Management Plan has been prepared in response to the Electricity Safety (Electric line clearance) Regulations 2020, Regulation 9 Preparation of a Management Plan, Part 2 Prescribed Code of Practice And Related Provisions. It covers all aspects of the regulations.

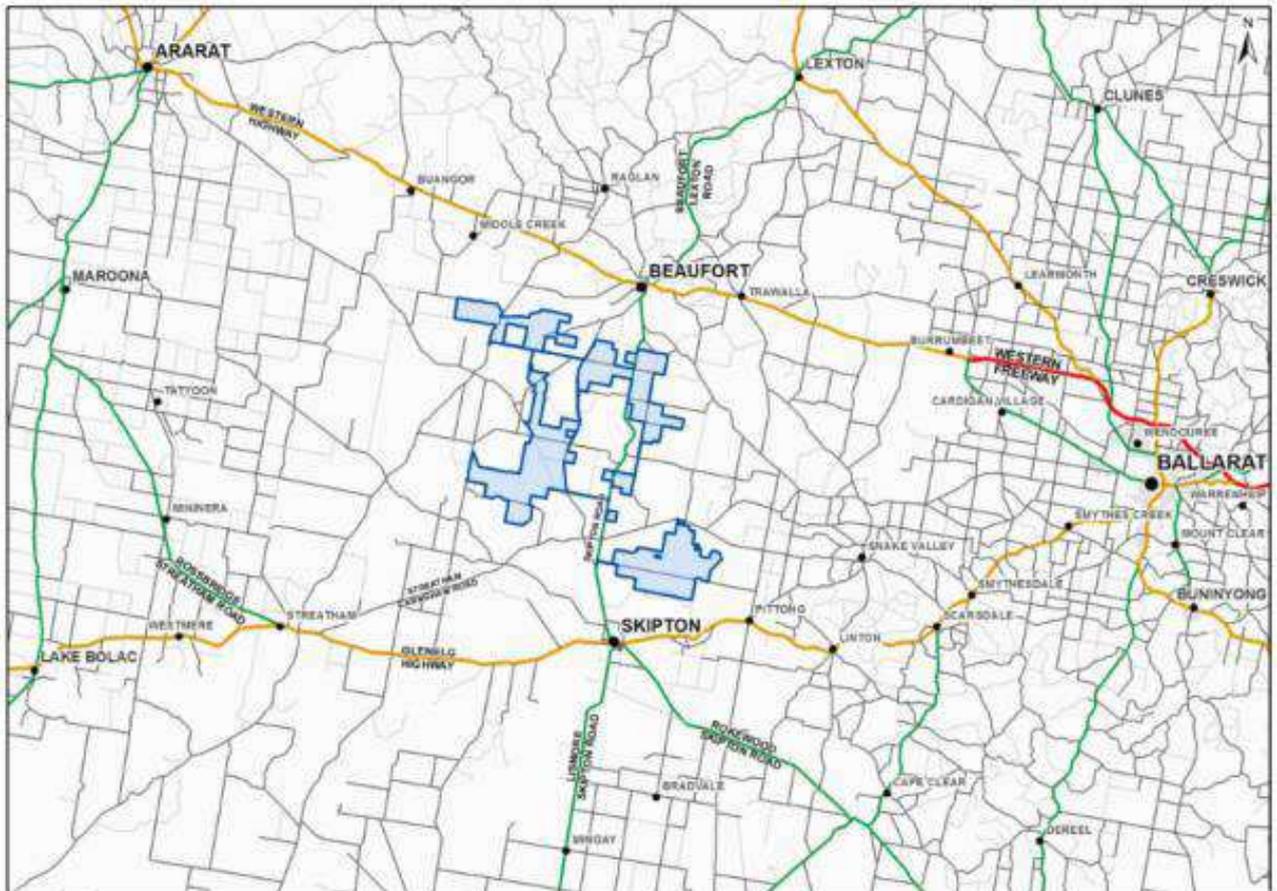


Figure 1-1 Site locality map of the Wind Farm

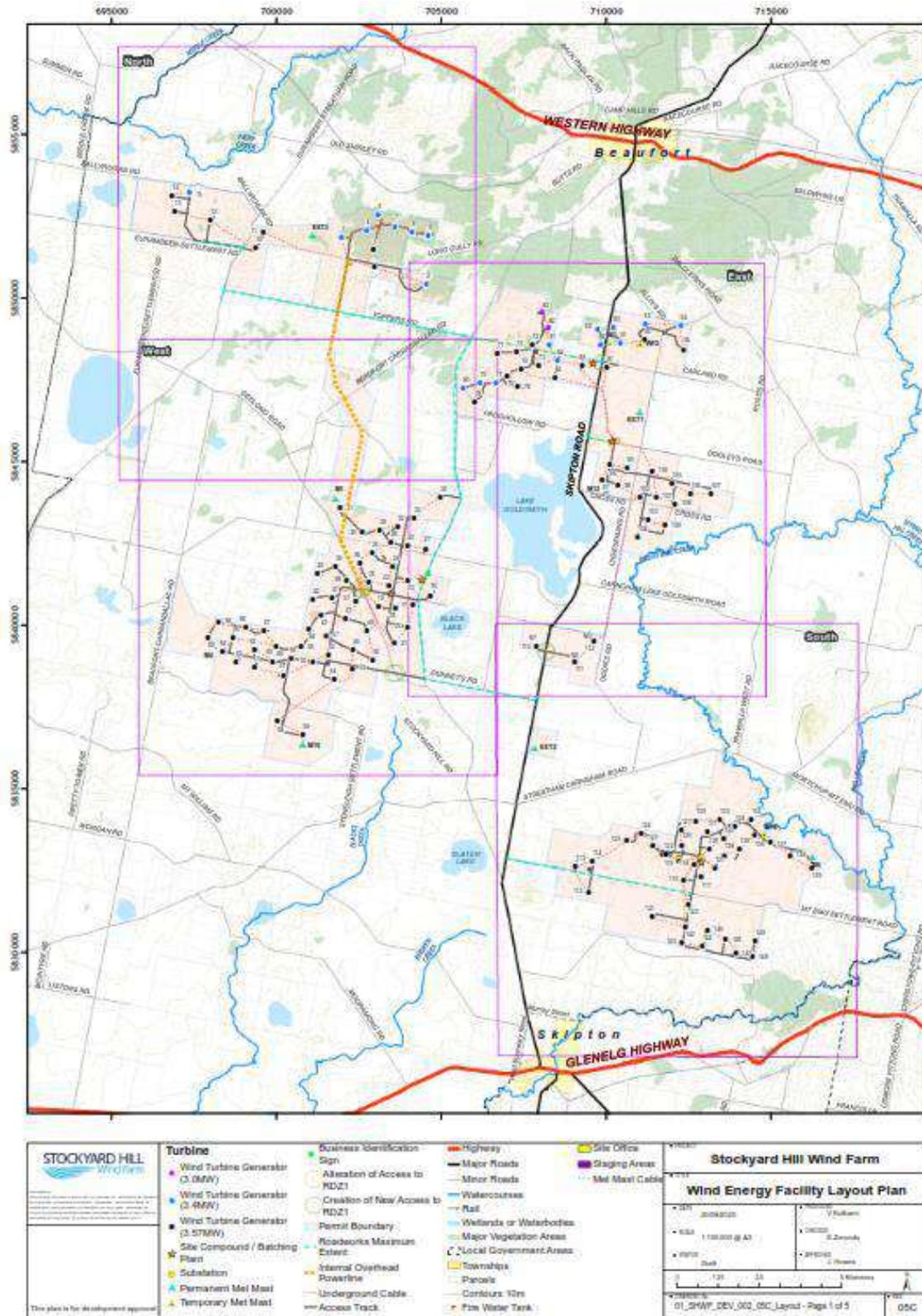


Figure 1-2 Wind Farm and 33kV OHL at risk line

2 At risk electric lines

The at risk line consists of 22 metre high galvanized steel poles attached to guy wires, containing an earth wire, a single 3 phase circuit of 33kV overhead line and a fibre ADSS cable at the lowest point. measuring approximately 10.7km in length. There are 3 types of pole structure applied in the OHL (these are shown in Appendix A). This Plan applies to all land across the OHL within a High Bushfire Rated Area (HBRA). The locations of these poles and stakes are shown in Appendix B.

The line is constructed to achieve a vertical ground clearance of 7m for the conductor at its maximum operating temperature of 75°C. The blowout of the conductors are kept within the 30m OHL corridor. The plan and sections of the OHL are shown in drawings found in section 4.8.

The swung insulator condition will consider a continuous range of conductor positions in an arc swept by the conductor.

Table-4: Total clearance required

| Clearance Item | Minimum 33kV Vertical Clearances (m) | Clearances Tolerances (m) | Total Clearances Requirement (m) | PLS-CADD Method |
|---|--------------------------------------|---------------------------|----------------------------------|-----------------|
| Over roads | 6.70 | 0.65 | 7.35 | Vertical |
| Over land other than roads | 6.70 | 0.65 | 7.35 | Vertical |
| Over land which due to its steepness or swampiness is not traversable by vehicles more than 3 m in height | 5.50 | 0.65 | 6.15 | Vertical |

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3 Regulation requirements

This Plan has been prepared to ensure that the management plan addresses each requirement of the Electricity Safety (Electric Line) Clearance Regulation 2020 under Part 2 Regulation 9 (subclause 4) listed in Table 3.1. Subclause 2 requires a responsible person that is not a major electricity company, before 31 March in each year, must prepare a management plan relating to compliance with the Code for the next financial year. In this case the responsible person is Stockyard Hill Wind Farm Pty Ltd (SHWFPL) (or its agent under the WOM contract).

Table 3-1 Prescribed particulars for the bushfire mitigation plans – specified operator

| Regulation 9 | Requirement | Section found in this plan |
|--------------|--|----------------------------|
| 4a | the name, address and telephone number of the responsible person; | Section 4.2 |
| 4b | the name, position, address and telephone number of the individual who was responsible for the preparation of the management plan | Section 4.2 |
| 4c | the name, position, address and telephone number of the persons who are responsible for carrying out the management plan | Section 4.2 |
| 4d | the telephone number of a person who can be contacted in an emergency that requires clearance of a tree from an electric line that | Section 4.2 |

| | | |
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| | the responsible person is required to keep clear of trees | |
| 4e | the objectives of the management plan | Section 4.3 |
| 4f | the land to which the management plan applies (as indicated on a map); | Section 4.4 |
| 4g | any hazardous bushfire risk areas and low bushfire risk areas in the land referred to in paragraph (f) (as indicated on the map); | Section 4.5 |
| 4h | each area that the responsible person knows contains a tree that the responsible person may need to cut or remove to ensure compliance with the Code and that is— <ul style="list-style-type: none"> (i) indigenous to Victoria; or (ii) listed in a planning scheme to be of ecological, historical or aesthetic significance; or <ul style="list-style-type: none"> (iii) a tree of cultural or environmental significance; | Section 4.6 |
| 4i | the means which the responsible person is required to use to identify a tree of a kind | Section 4.7 |

| | | |
|-------|---|-------------|
| | specified in paragraph (h)(i), (ii) or (iii); | |
| 4 (j) | <p>the management procedures that the responsible person is required to adopt to ensure compliance with the Code, which must:</p> <p>(i) include details of the methods to be adopted for managing trees and maintaining a minimum clearance space as required by the Code; and</p> <p>(ii) for the purposes of determining a minimum clearance space in accordance with Division 1 of Part 3 of the Code—</p> <p>must specify the method for determining an additional distance that allows for conductor sag and sway; and</p> <p>(B) may provide for different additional distances to be determined for different parts of an electric line span;</p> | Section 4.8 |
| 4k | the procedures to be adopted if it is not practicable to comply with the requirements of AS 4373 while cutting a tree in accordance with the Code; | Section 4.9 |

| | | |
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| 4l | a description of each alternative compliance mechanism in respect of which the responsible person has applied, or proposes to apply, for approval under clause 31 of the Code; | Section 4.10 |
| 4m | the details of each approval for an alternative compliance mechanism that— (i) the responsible person holds; and (ii) is in effect; | Section 4.11 |
| 4n | a description of the measures that must be used to assess the performance of the responsible person under the management plan; | Section 4.12 |
| 4o | details of the audit processes that must be used to determine the responsible person's compliance with the Code; | Section 4.13 |
| 4p | the qualifications and experience that the responsible person must require of the persons who are to carry out the inspection, cutting or removal of trees in accordance with the Code and the Electricity Safety (General) | Section 4.14 |

| | | |
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| | Regulations 2019; | |
| 4p | notification and consultation procedures, including the form of the notice to be given in accordance with Division 3 of Part 2 of the Code | Section 4.15 |
| 4r | a procedure for the independent resolution of disputes relating to electric line clearance; | Section 4.16 |
| 4s | if Energy Safe Victoria has granted an exemption under regulation 11 relating to a requirement of the Code, details of the exemption or a copy of the exemption. | Section 4.17 |
| 10 (6) | Obligations relating to management plan to be published on Project's Internet Site | Section 4.18 |

4 Mitigation Response

The following information is provided in response to the provision requirements of Part 2 Regulations 9 of the Electricity Safety (Electric Line Clearance) Regulations 2020.

4.1 Reg 9 (2) Preparation of management plan

Before the 31st of March of each year, this plan will be reviewed and prepared for the next financial year to comply with the Code during the Project's operational life and be submitted to ESV within 14 days of a request as per Regulation 10(2). The review process will be conducted annually by the Site Manager and will consider the currency of all relevant regulations and standards and any deficiencies in the plan or its processes. A copy of the current management plan will be published on the Project's internet website.

4.2 Reg 9 (4 a-d) A responsible person must ensure that a management plan specifies

- (a) the name, address and telephone number of the responsible person;

| |
|--|
| Name: Jackson Hill, General Manager -Stockyard Hill Wind Farm Pty Ltd |
|--|

| |
|--|
| Address: Level 4 North Tower Building 485 La Trobe Street, MELBOURNE Vic 3000 |
|--|

| |
|--------------------------------|
| Telephone Number: 0409 545 494 |
|--------------------------------|

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(b) the name, position, address and telephone number of the individual who was responsible for the preparation of the management plan;

| |
|--|
| Name: Anthony Polidano |
| Position: HSEQ Manager - Service |
| Address: Level 4 North Tower Building 485 La Trobe Street, MELBOURNE Vic 3000 |
| Mobile: 0436 802 247 |

(c) the name, position, address and telephone number of the persons who are responsible for carrying out the management plan;

| |
|--|
| Name: Justin Brumley |
| Position: Operations and Technical Manager (Stockyard Hill Wind Farm Pty Ltd) |
| Address: Level 4 North Tower Building 485 La Trobe Street, MELBOURNE Vic 3000 |
| Mobile: 0427 390 003 |

(d) the telephone number of a person who can be contacted in an emergency that requires clearance of a tree from an electric line that the responsible person is required to keep clear of trees;

In case of an emergency the following person should be contacted in the first instance.

This contact phone number is accessible 24 hours 7 days a week.

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| |
|---|
| Name: Jason Marnell |
| Position: Site Manager |
| Address: 1474 Stockyard Hill Road, Stockyard Hill, 3373 |
| Telephone Number: 03 8527 0769 Mobile: 0455 668 496 |

4.3 Reg 9 (4e) Management plan objectives

The objectives of this management plan is to demonstrate:

- Compliance with the current regulations and Code of Practice;
- Electrical Safety;
- Reliability of supply;
- Public safety;
- Workplace safety;
- Reduced risk to the environment and its amenity.

The Plan will identify roles and procedures to ensure the electric line maintains a suitable vegetation clearance distances to avoid creating a fire risk to the site, the public, and the environment in compliance with the Regulation and Code of Practice.

To this end the plan will allow for vegetation inspections, a program for the removal or cutting of vegetation, notification procedures and an auditing program in accordance within Part 2 of the Code under clause 3.

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4.4 Reg 9 (4f) the land to which the management plan applies (as indicated on a map);

This Management Plan is applicable to land parcels indicated in the plan below:

- Lot 21A\PP2605
- 21B\PP2605
- 20A\PP2605
- 20B\PP2605
- 4\TP671365
- 5\TP67136
- 1\TP671365
- 3\TP671365
- UNUSED ROAD No: 0500549
- 2\LP87819
- 2\LP145218
- UNUSED ROAD No: 2001828
- 1\TP663543
- 2\TP663543
- 3\TP663543
- 4\TP663543
- UNUSED ROAD No: 0500740
- 9\TP366294
- 10\TP366294
- 11\TP366294
- 12\TP366294
- 2\PS604561

| | | | |
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- 1\TP571312
- UNUSED ROAD No: 2015074
- Toppers Lane
- Stockyard-Wangatta Road

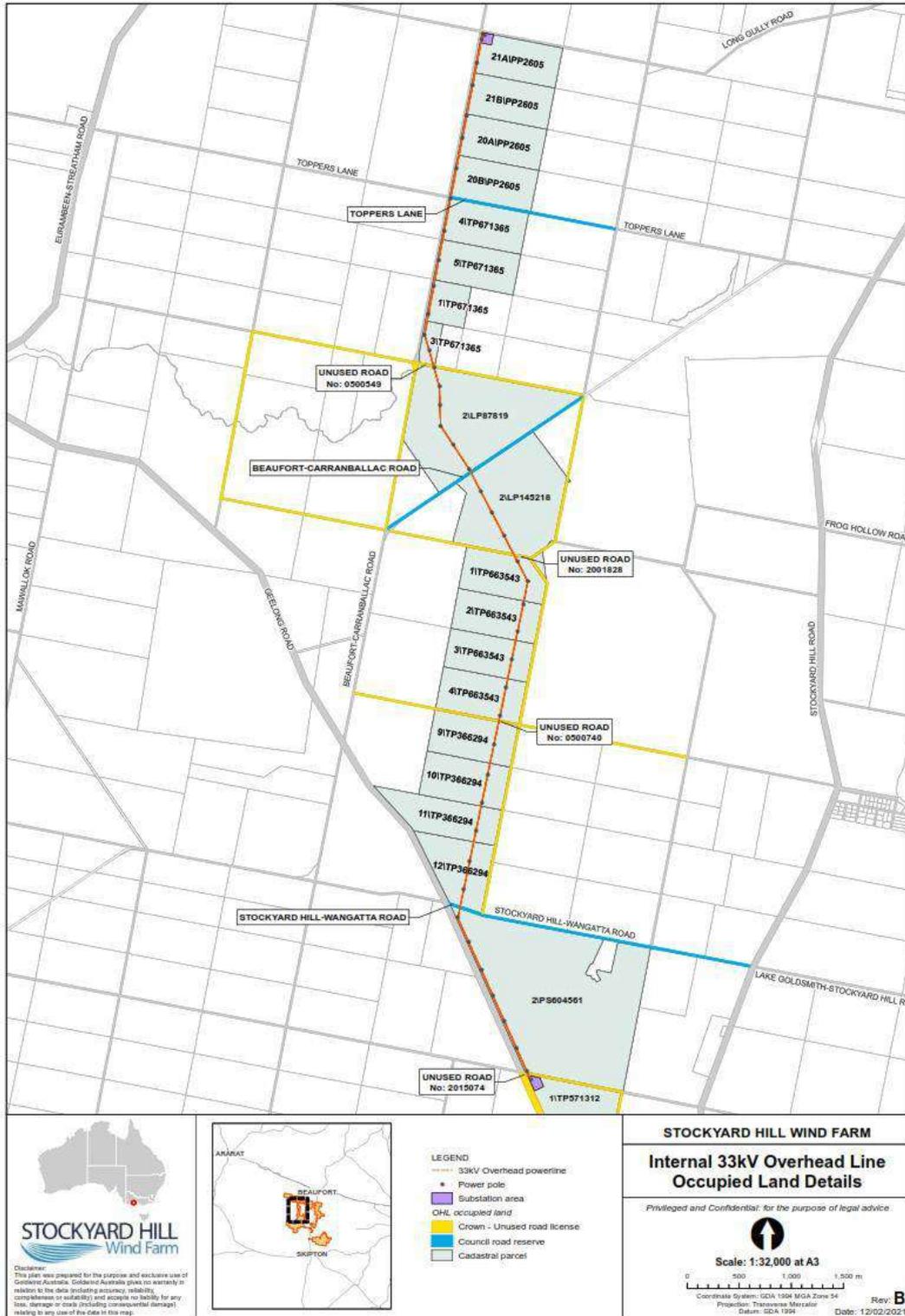


Figure 4-1. Site locality of the line from the North Transition Station to West Substation

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4.5 Reg 9 (4g) any hazardous bushfire risk areas and low bushfire risk areas in the land referred to in paragraph (f) (as indicated on the map);

All land referred to in paragraph (f) (as indicated on the map above) has been assigned by the fire authority as a "high" fire hazard rating under section 80 of the Act. Annual consultation with the CFA will be required during the Plan's review process to ensure HBRA/LBRA boundary information is accurate.

4.6 Reg 9 (4h) area containing specified tree that the responsible person may need to cut or remove to ensure compliance mentioned in paragraph (h)(i), (ii) or (iii);

To ensure compliance with the Code of Practice the Site Manager will ensure vegetation inspections are carried out by a qualified and experienced person at least annually to identify a tree as specified in paragraph 4(h)(i), (ii) or (iii) of the regulations which may need to be cut or removed to ensure compliance. Appendix E provides a recent vegetation assessment of the line as a baseline. SHWFPL will work with its sub-contractor to aligning the language and terminology between the Plan and future vegetation assessment of the Line so that the terminology is consistent and fully understood. The current assessment describes the risk rating of any trees encroaching on the minimum clearance space as being either low, medium or high. This terminology has the following meaning:

- high risk: where vegetation was found within the minimum clearance space and requires immediate inspection and/or trimming by suitably qualified personnel.
- medium risk: where vegetation is found outside of the minimum clearance space, however there is close proximity to the minimum clearance space requiring an

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inspection and/or trimming by suitably qualified personnel within 6 months.

- low risk: where vegetation is not within the minimum clearance space and does not require immediate attention but will require future inspection within 12 months.

Appendix D provides minimum vertical (column 6) and horizontal (column 9) clearance space required for each span of the line, these calculations include the applicable distance.

The inspections will be filed on site and produced during annual audits to ensure compliance with the Code. This includes a specified tree that has been assessed by a suitably qualified arborist as likely to fall or contact with the electric line. *A person cutting or removing a specified tree as far as is practicable, must not cut the tree more than is necessary to either—*

(a) ensure compliance with Division 1; or

(b) make an unsafe situation safe.

The following kinds of tree are considered specified trees:

- (i) trees that are indigenous to Victoria;
- (ii) trees listed in a planning scheme to be of ecological, historical or aesthetic significance;
- (iii) trees of cultural or environmental significance.

Schedule 1 Part 2 Division 1 of the Code- 9 Responsible person may cut or remove hazard tree

Urgent cutting is defined as works required:

(a) as a result of encroachment or growth of trees that was not anticipated in the management plan; or

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(b) as a result of a tree falling or becoming damaged so that it is required to be cut or removed to maintain the minimum clearance space; or

(c) because a suitably qualified arborist has—

(i) assessed the tree having regard to foreseeable local conditions; and

(ii) advised the responsible person that the tree, or any part of the tree, is likely to imminently fall onto or otherwise come into contact with an electric line; or

(d) during the fire danger period declared under the Country Fire Authority Act 1958.

The Site Manager must ensure urgent work detailed within a vegetation report are carried out in the following manner:

1- Trees are not cut further than 1 meter from the minimum clearance space for a span of an electric line, or

2- Trees are not removed unless;

a. The tree has fallen or become damaged and is to be removed to keep the minimum clearance space for a span of an electric line free of trees; or

b. a suitably qualified arborist has

i. assessed the tree having regard to foreseeable local conditions; and

ii. advised the responsible person that the tree is likely to imminently fall onto or otherwise come into contact with an electric line.

The Site Manager may engage ELC personnel to cut or remove a tree (including a hazard tree as defined under Part 2, Division 3, 8 (2) of the Code) if a suitably qualified arborist has:

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(a) assessed the tree having regard to foreseeable local conditions; and

(b) advised the responsible person that the tree, or any part of the tree, is likely to fall onto or otherwise come into contact with an electric line, and

(c) Considered significant vegetation, protected fauna & flora, or habitat.

This is irrelevant that the tree is not within, and is not likely to grow into, the minimum clearance space for an electric line span.

Cutting a tree under Division 1 requires, as far as practicable, the tree to be cut in accordance with AS 4373 as published or amended from time to time.

The services of a suitably qualified arborist will be requested through the specialized service provider to establish the above. Under the Code a *suitably qualified arborist means an arborist who has—*

(a) as a minimum, the qualification of National Certificate III in Arboriculture including the "Perform a ground-based tree defect evaluation" unit of competency, or an equivalent qualification; and

(b) at least 3 years of field experience in assessing trees;

Notification is required to cut or remove a tree that is—

(a) on private property that the responsible person neither owns nor occupies; or

(b) on public land; or

(c) a tree of cultural or environmental significance; or

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(d) listed in a planning scheme to be of ecological, historical or aesthetic significance.

The giving or publication of a written notice, or the undertaking of consultation by the Site Manager or his/her Delegate, is not required before the cutting or removal of urgent works. A tree must not be removed unless—

(a) the tree has fallen or has become damaged and is to be removed to keep the minimum clearance space for an electric line span free of trees; or

(b) a suitably qualified arborist has—

(i) assessed the tree having regard to foreseeable local conditions; and

(ii) advised the responsible person that the tree is likely to imminently fall onto or otherwise come into contact with an electric line.

Furthermore, the Site Manager or his/her delegate must publish a notice on the Project's website before engaging ELC personnel to cut or remove trees that is on public land unless the cutting or removal is urgent. The written notice must describe the cutting or removal works, and specify one or more days on which, or a period during which, the intended cutting or removal will commence.

Cutting or removal works must not commence outside the period specified in the notice being either:

(a) earlier than 14 days after the date of the notice; or

(b) later than 60 days after the date of the notice.

The Site Manager or his/her delegate must consult with occupiers or owners of private property before cutting or removing a tree that is within the boundary of a private property

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which SHWFPL neither occupies nor owns. The Site Manager or his/her delegate must consult with an occupier of the property if the tree is to be cut within the boundary of private property; or an owner of the property of the tree to be removed before cutting or removing the tree unless the cutting or removal is urgently required.

Similar to cutting/removal works written notification to affected persons in the form provided within Appendix F will be given by the Site Manager, depending on the location of the tree (s), as soon as practicable after completing the cutting or removal of urgent tree.

Records will be kept on site or within the Project's document control management system for a period of five years.

4.7 Reg 9 (4i) the means which the responsible person is required to use to identify a tree of a kind specified in paragraph (h)(i), (ii) or (iii);

The Site Manager will be responsible for conducting a review of council planning scheme overlays for historical, cultural, environmental or aesthetic significance at least annually to comply with the Code when carrying out a vegetation inspection of the line. This will include:

- A review of significant trees Register (<https://trusttrees.org.au>).
- A review of Heritage Register (<http://vhd.heritagecouncil.vic.gov.au>) within the meaning of the Heritage Act 1995;
- A review of Aboriginal Cultural Heritage Register and Information System (ACHRIS - <https://achris.vic.gov.au/#/onlinemap>) established under section 144 of the Aboriginal Heritage Act 2006;
- A review of Threatened Flora List in accordance with section 10 of the Flora and Fauna Guarantee Act 1988 (<https://www.environment.vic.gov.au/conserving-threatened-species/threatened-list>);

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Spatial data of any trees of a kind specified in paragraph (h)(i), (ii) or (iii) will be provided to the ELC personnel to be made aware of the location of those trees.

A tree that is considered habitat for threatened fauna must not be cut or remove during the breeding season for the threatened fauna unless:

- (a) *it is necessary to cut or remove the tree to make an unsafe situation safe; or*
- (b) *it is not practicable to undertake cutting or removal of that tree outside the breeding season.*

If it is not practicable to undertake cutting or removal of that tree outside the breeding season, the fauna must be translocated before the cutting or removal is undertaken, if practicable to do so. An ecologist will be engaged to identifying the threatened invertebrate/vertebrate fauna and the breeding season for the threatened species.

Schedule 1 Part 2 Division 2 of the Code- 11 Cutting or removal of indigenous trees

The responsible person cutting, under Division 1, a tree of a kind specified in subclause (3), must as far as is practicable, not cut the tree more than is necessary to either:

- (a) *ensure compliance with Division 1; or*
- (b) *make an unsafe situation safe.*

(2) *A responsible person must not remove, under Division 1, a tree of a kind specified in subclause (3) unless—*

- (a) *it is necessary to remove the tree to either—*
 - (i) *ensure compliance with Division 1; or*
 - (ii) *make an unsafe situation safe; or*

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(b) a suitably qualified arborist has—

(i) inspected the tree; and

(ii) advised the responsible person that cutting the tree in accordance with subclause (1) would make the tree unhealthy or unviable.

Therefore, the cutting or removal of the following trees must be minimized:

- indigenous trees; or
- trees listed in a planning scheme to be of ecological, historical or aesthetic significance; or
- trees of cultural or environmental significance.

4.8 Reg 9.(4 j (i-ii)) Management procedures to ensure compliance with the code

The following methods will be adopted for managing trees and maintaining a minimum clearance space as required by the Code.

1. The Wind Farm's site team is to ensure a vegetation inspection of the line occurs each year before the declared fire danger period (DFDP) commences to ensure the minimum vegetation clearance distance is maintained. Any cutting or removal work is to be carried out prior to 1st December or DFDP, whichever is earlier, by suitability qualified personnel so that vegetation is kept outside the **minimum clearance space of the overhead lines as shown in Appendix C and D when considering the applicable distance.**
2. for the purposes of determining a minimum clearance space in accordance with Division 1 of Part 3 of the Code the following method must apply for determining an additional distance that allows for conductor sag and sway. Since the span distance is

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greater than 45 metres and less than or equal to 500 metres, the applicable clearance distance for the middle two thirds of the span is calculated in accordance with the following formula as described in Schedule 2 Clauses 3 and 28.

The formula by which the applicable distance for the middle 2 thirds of an electric line span to which clause 28 applies is calculated as follows:

For $0 < SD \leq 45$, $AD = 1500 \text{ mm}$

For $45 < SD \leq 500$, $AD = 1500 + ((SD - 45) \times (500 \div 303))$

For $500 < SD$, $AD = 2250 \text{ mm}$

Where:

SD = Span Distance

AD = Applicable Distance

Figure 4-1 Graph 5 formulae as provided by Electricity Safety (Electric Line Clearance) Regulations 2020 – Schedule 2

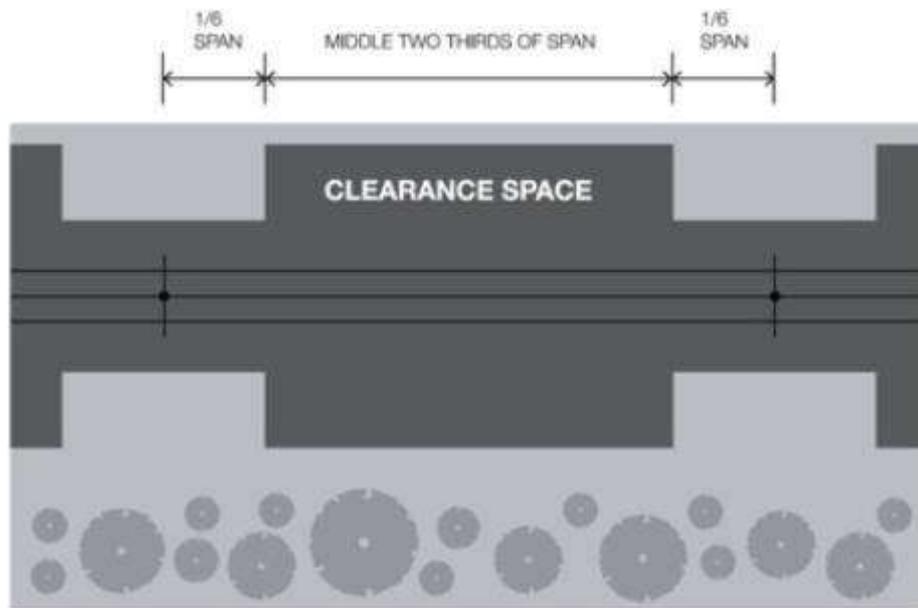


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Figure 4-2. Applicable drawing for the uninsulated electric line in a hazardous bushfire risk area vegetation clearance space- (not to scale)

- The minimum elevation (conductor sag from the conductor connection at the pole) and maximum sway as shown on the plan and elevation drawings in Appendix C will be used to determine the vertical and horizontal clearance..

The maximum sag and sway together with the Applicable Distance for 2/3 of the span is tabulated in Appendix D. The distance from each structure representing 1/6 of the span is also listed in Appendix D. Appendix C provides the information on the span drawings.



NOT TO SCALE

Figure 4.3 Plan View of the middle 2/3 and 1/6 of a span (Source Figure 1 Plan View of Electric Lines In All Areas –from the Electricity Safety (Electric Line Clearance) Regulations 2020).

To calculate the minimum horizontal clearance distance required to avoid vegetation impacting the line due to sway in the field:

- Appendix C shows in red, the maximum sway (m) of each string,
- Column 8 of the Table provided in Appendix D shows the maximum sway (m) taken from the centerline and
- Column 9 of the Table provides the minimum horizontal clearance distance (m) required considering the AD.

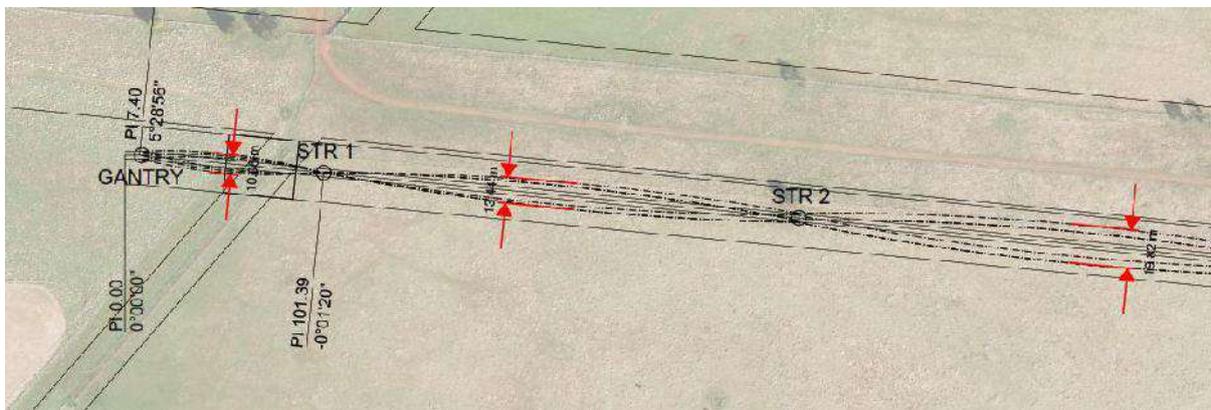


Figure 4.4 Extract of Appendix C indicating in red the maximum sway (m) of each string

| Structure No. | Span Distance (SD) (m) | 1/6 of SD (Distance from structure) (m) | AD (m) | Sag at 75deg C from structure (m) | 2/3 of Line Span | | | |
|---------------|------------------------|---|--------|-----------------------------------|--------------------------------|---------------------------|-----------------------------|----------------------------------|
| | | | | | Minimum Vertical Clearance (m) | Max Sway edge to edge (m) | Max. sway fr centreline (m) | Minimum Horizontal Clearance (m) |
| GANTRY | 92.88 | 15.5 | 1.58 | 2.1 | 3.7 | 10.1 | 5.1 | 6.6 |
| P1 | 242.77 | 40.5 | 1.83 | 9.9 | 11.7 | 13.4 | 6.7 | 8.5 |
| P2 | 287.22 | 47.9 | 1.90 | 14.0 | 15.9 | 19.8 | 9.9 | 11.8 |
| P3 | 272.40 | 45.4 | 1.88 | 12.6 | 14.5 | 18.3 | 9.2 | 11.0 |

Figure 4.5 Extract of Appendix D showing the relevant information needed to consider the minimum horizontal clearance distance of each pole and string when considering AD.

The extract in this case is highlighting the minimum horizontal clearance distance required for the first three strings.

To calculate the minimum vertical clearance distance (required to avoid vegetation making

contact with the lines sag) in the field (provided in Appendix D):

- The Minimum Vertical Clearance is to be taken from the lowest conductor connection on the pole conductor connection point, as indicated by the higher of the two horizontal red lines drawn in Appendix C;
- where a span of wires has two poles which may be at different heights the plans in Appendix C show the location of the pole taken before it where the measurement is taken from.
- Appendix C does not include the AD measurement as provided in Appendix D

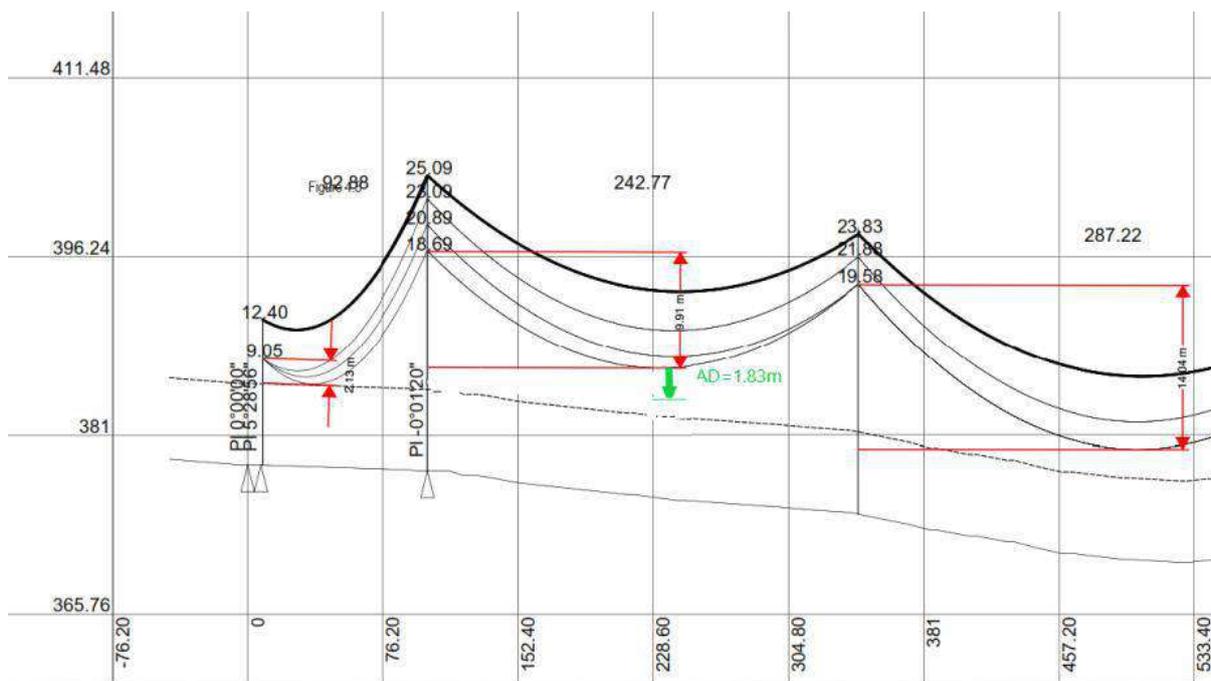


Figure 4.6 Appendix C shows in red Sag (m) at 75 degrees without considering AD

The AD (column 4 in green text box) provided in Appendix D is to be added to the lowest point of the line's sag as shown in the image above.

Appendix D shows the minimum vertical clearance distance (m) (column 6 in orange text box) required when considering the AD (column 4 in green text box).

| Structure No. | Span Distance (SD) (m) | 1/6 of SD (Distance from structure) (m) | 2/3 of Line Span | | | | | |
|---------------|------------------------|---|------------------|-----------------------------------|--------------------------------|---------------------------|-----------------------------|----------------------------------|
| | | | AD (m) | Sag at 75deg C from structure (m) | Minimum Vertical Clearance (m) | Max Sway edge to edge (m) | Max. sway fr centreline (m) | Minimum Horizontal Clearance (m) |
| GANTRY | 92.88 | 15.5 | 1.58 | 2.1 | 3.7 | 10.1 | 5.1 | 6.6 |
| P1 | 242.77 | 40.5 | 1.83 | 9.9 | 11.7 | 13.4 | 6.7 | 8.5 |
| P2 | 287.22 | 47.9 | 1.90 | 14.0 | 15.9 | 19.8 | 9.9 | 11.8 |
| P3 | 272.40 | 45.4 | 1.88 | 12.6 | 14.5 | 18.3 | 9.2 | 11.0 |

Figure 4.7 Extract of Appendix D showing the relevant information needed to consider the minimum vertical clearance distance of each pole and string when considering AD

To ensure the minimum clearance space is maintained at all times work crews are to cut or clear an extent greater than the minimum clearance space to prevent regrowth between works and annual inspection cycles as instructed by a suitably qualified arborist.

4.9 Reg 9 (4k) the procedures to be adopted if it is not practicable to comply with the requirements of AS 4373 while cutting a tree in accordance with the Code;

Electric line clearance will be made aware of the obligations under the Code to comply with the requirements of AS 4373 while cutting a tree where reasonably practicable. *Reasonably practicable means that which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account and weighing up all relevant matters including:*

- i) the likelihood of the hazard or the risk concerned occurring; and
- ii) the degree of harm that might result from the hazard of the risk; and
- iii) what the person concerned knows, or ought reasonably to know, about the hazard or risk, and about the ways of eliminating or minimising the risk; and
- iv) the availability and suitability of ways to eliminate or minimise the risk; and

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- v) after assessing the extent of the risk and the available ways of eliminating or minimising the risk, the cost associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk,

To ensure compliance with the AS 4373 for any tree works a suitably qualified arborist familiar with the AS 4373 and the use of appropriate plant and equipment will be engaged by the Site Manager under the GWA-HSE-PRC-0021 Contractors and Consultants Prequalification Procedure to undertake the works. If post cutting works are found to be non-compliant with AS4373, recommendations on what needs to be done to rectify the issue will provided and corrective works carried out as soon as practicable.

Prior to works being undertaken the following documentation will be reviewed to ensure the correct selection of plant and equipment is used:

- Line vegetation inspection report;
- AS 4373 Pruning of Amenity Trees;
- Affected stakeholders;
- Cultural Heritage Management Plans and shapefiles;
- Safe Work Method Statement.

4.10 Reg 9 (4l) a description of each alternative compliance mechanism

Not Applicable

4.11 Regulation 9 (4m) the details of each approval for an alternative compliance mechanism

Not Applicable.

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4.12 Regulation 9 (4n) a description of the measures that must be used to assess the performance of the responsible person under the management plan;

The following measure will be used to assess performance by SHWFPL:

- Annual electric line inspection in accordance with the Act and applicable regulations;
- Annual vegetation inspection prior to DFDP by a suitability qualified and experience person, where vegetation removal is required, or any follow up action is required, the works be managed in accordance with the measures found within this Plan;
- Annual audit of the Plan’s implementation and inspections by an individual who has the necessary competence and ability and access to information on the operations of the Project, the audit should include performance findings against the measures reviewed and elevated for continual improvement.
- Annual audits should include any compliance trends in historical work;
- Corrective works will involve:
 - monitoring of audit recommendations.
 - corrective action in accordance with requirements.
 - vegetation assessment and inspection.
 - documentation of procedures.
 - follow up audit performance.

Site Manager is responsible for overseeing contractor engagement and work performed. Results of audits will be provided to contractor’s undertaking work to make aware of the performance outcomes. Details of works will be recorded and stored within the Project’s document management system.

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4.13 Reg 9 (4o) details of the audit processes that must be used to determine the responsible person's compliance with the Code;

The Site Manager will ensure that a competent person familiar with AS 4373 and Electricity Safety (Electric Line Clearance) Regulations will conduct annual audits of the total span of the OHL to determine compliance with the code, to this effect the audit will consider:

- the qualifications and experience of personnel performing the vegetations inspection and clearance works;
- the content, recommendations and timing of the vegetation inspections;
- the content, recommendation, timing and follow up works for the line inspection;
- any works carried out in accordance with the vegetation inspection report;
- details of any corrective action, reinspection of the corrective action, and record keeping of the works and reinspection of corrective works carried out;
- Any deficiencies or recommendations required for the Plan's ongoing performance and implementation.

The Site Manager will keep a record of audits conducted within the Project's document control management system.

4.14 Reg 9(4p) the qualifications and experience that the responsible person must require of the persons who are to carry out the inspection, cutting or removal of trees in accordance with the Code;

The Site Manager will ensure only suitably trained and qualified persons carry out any vegetation management works by seeking evidence of qualifications and training delivered by a Registered Training Organisation prior to engagement from any service providers. Only candidates that meet the requirements specified in subsections 2 and 3 of the Electricity Safety

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(General) Regulation 616 and hold all appropriate training and certification will be considered by the hiring manager. All persons attending site must first undertake a site induction, with attendance recorded. Site inductions attendees' records will be kept on file along with details of training, qualifications and certificates. These will be provided during audits to demonstrate compliance. Evidence of refresher training will be sought during the induction process and include the following yearly refreshers.

A suitably qualified arborist will be selected to inspect trees around the overhead line annually.

To comply with section 616 of the Electricity Safety (General) Regs:

(2) A qualified person carrying out vegetation management work in the vicinity of a protected aerial line must comply with—

- a) the vegetation management rules; and
- b) the Blue Book when working on or near high voltage electrical equipment.

Section 616 of the Electricity Safety (General) Regulations 2019 stipulate:

(3) "qualified person" means a person who holds a current certificate that is approved by Energy Safe Victoria being a Certificate II ESI Powerline Vegetation Control specifying satisfactory completion of a training course in tree clearing and follow requirements of The Blue Book (The Code of Practice on Electrical Safety for Work On or Near High Voltage Electrical Apparatus), and hold all appropriate training and certification specified below:

- UET20319 - Certificate II ESI Powerline Vegetation Control; and
- Core Competency Standard Units such as:
 - 1) UEENEEE101A- Apply Occupational Health Safety regulations, codes and practices in the workplace; and
 - 2) UETTDREL13 - Comply with sustainability. Environmental and incidental

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response policies and procedures; and

- 3) Working safely near live electrical apparatus as a non-electrical works; and
- 4) AHCMOM213 - Operate and maintain chainsaws; and
- 5) UETTDRVC23 - Plan the removal of vegetation up to vegetation exclusion zone near live electrical apparatus; and
- 6) UETTDRVC27 - Monitor safety compliance of vegetation control work in an ESI environment.

An EWP worker must also hold a High-Risk Work License - Boom-Type Elevating Work Platform (WP).

The elective units for Certificate II ESI Powerline Vegetation Control that are mandatory for ELC work roles of elevating work platform (EWP) operator and Tree climber are listed below.

EWP Operator and EWP Safety Observer:

- UETTDRVC33 - Apply pruning techniques to vegetation control near live electrical apparatus;
- UETTDRVC25 – Use the elevated platform to cut vegetation above ground level near live electrical apparatus;
- TLILIC0005 – License to operate a boom-type elevating work platform (EWP license).

Tree Climber and Climber Safety Observer:

- UETTDRVC21 - Use climbing techniques to cut vegetation above ground near live electrical apparatus;
- UETTDRVC33 - Apply pruning techniques to vegetation control near live electrical apparatus;
- UETTDRVC34 - Undertake release and rescue from a tree near live electrical apparatus;

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- AHCARB204 - Undertake standard climbing techniques.

These requirements will be reviewed each year by the Site Manager to ensure no additional mandatory units apply.

For a Cutter working from EWP Operator:

- HLTAID009-Provide cardiopulmonary resuscitation; and
- UETTDRRF10-Provide First Aid in an ESI environment; and
- UETTDRRF08-Perform EWP controlled descent escape; and
- UETTDRRF03- Perform EWP rescue
- UETTDRRF10-Provide First Aid in an ESI environment
- Safe approach distances – Vegetation Work

For a Tree Climber:

- HLTAID009-Provide cardiopulmonary resuscitation; and
- UETTDRRF10-Provide First Aid in an ESI environment; and
- Safe approach distances – Vegetation Work; and
- UETTDRVC34- Undertake release and rescue from a tree near live electrical apparatus.

Both roles are required to undertake the following refresher unit every three years:

- Manual handling.

Non-compliance with these requirements is considered a breach of the Regulation and attracts a penalty.

All persons attending site must sign in and out of the Site attendance Register each day in accordance with Site management procedures.

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A breach of employment conditions will occur as a result of any staff/contractors found on site without appropriate training or qualification. Where this occurs the service contract will be terminated immediately by the Site Manager.

The vegetation management rules state:

Vegetation management work means the pruning, cutting, trimming or felling of, or application of herbicides to, vegetation and assisting to prune, cut, trim or fell, or apply herbicides to, vegetation, where:

- *any part of the vegetation being pruned or cleared may come within 2 metres of live overhead powerlines, or*
- the work requires any person, tool, equipment or vehicle to come closer to live overhead powerlines than the following relevant minimum distances:
 - a) 100 mm for insulated low voltage conductors
 - b) 1500 mm for bare or covered low voltage conductors
 - c) 2000 mm for high voltage conductor with a nominal voltage not exceeding 66kV.

Vegetation management worker means a person:

- *whose qualifications, experience and training and assessment ensure competency in the performance of vegetation management work; and*
- *who has completed a training course approved by ESV; and*
- *who has technical knowledge or sufficient experience to perform the duty concerned; and*
- *who has been endorsed in writing by an organisation (e.g. the employer) to perform the work.*

A qualified person carrying out vegetation management work must comply with the safe

approach distances set out in the *Vegetation Management Rules*. Tables 1 and 2 of the Rules is included below for Non-Electrical Workers.

Table 1: Safe Approach Distances (mm) for Vegetation Management Work Near OH lines when working from an insulated EWP

| | Insulated LV | Bare or covered LV | | | HV up to, and including, 22kV | | | Greater than 22kV up to, and including, 66kV | | |
|----------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------|-------------------------------|------------------|--------------------|--|------------------|--------------------|
| | All directions | Under conductor | Beside conductor | Over conductor | Under conductor | Beside conductor | Over conductor | Under conductor | Beside conductor | Over conductor |
| Worker's Body Clearance | No Contact | 300 | 300 | 300 | 1000 | 1000 | Work not permitted | 2000 | 2000 | Work not permitted |
| Uninsulated tool/Equipment | 200 | 300 | 300 | 300 | 1000 | 1000 | Work not permitted | 2000 | 2000 | Work not permitted |
| Insulated tool & Equipment | 200 | 300 | 300 | 300 | 1000 | 1000 | Work not permitted | 2000 | 2000 | Work not permitted |
| Uninsulated Part of EWP | 200 | 1000 | 1000 | 1000 | 2000 | 2000 | Work not permitted | 3000 | 3000 | Work not permitted |
| Insulated Part of EWP | No Contact | No Contact | No Contact | No Contact | 1000 | 1000 | Work not permitted | 2000 | 2000 | Work not permitted |
| Vegetation Clearances | No clearance required ^a | No clearance required ^a | No clearance required ^a | 1000 ¹ | 300 | 700 | Work not permitted | 400 | 900 | Work not permitted |

Note:

1. Vegetation which is located at least 1000mm above bare LV conductor can be cleared subject to the following conditions: (a) A risk assessment is carried out with appropriate control measure put in place and; (b) Effective control measures are used to prevent the cut vegetation from contacting the conductor or encroaching into the vegetation clearance space. (c) a safety observer is posted.
2. Conductor sag and sway exclusion: The safe approach distances and vegetation clearances detailed in the Electrical Safety Rules make no provision for conductor movement due to wind or change in conductor temperature. Unexpected conductor movement may occur under moderate wind, network faults or changes in conductor heating or cooling factors. Conductor movement of several metres may result in long spans/ of electric lines. Appropriate allowance for sway and sag changes must be applied in accordance with advice sought from the electrical asset owner.
3. Where the safe approach distances cannot be maintained, an access authority must be obtained from: the owner of the electrical asset.
4. Vegetation contacting live LV conductors may be cut only after a risk assessment has been performed and precautionary actions are taken to control hazards to ensure that the work can be performed safely.

Source: *Electrical Safety Rules for Vegetation Management Work Near Overhead Powerlines*

Table 2: Safe Approach Distances (mm) for Vegetation Management Work by Ground Worker and Climber working near Overhead Powerlines

| | Insulated LV | Bare or covered LV | | | HV up to, and including, 22kV | | | Greater than 22kV up to, and including, 66kV | | |
|----------------------------|------------------------------------|------------------------------------|------------------------------------|--------------------|-------------------------------|------------------|--------------------|--|------------------|--------------------|
| | All directions | Under conductor | Beside conductor | Over conductor | Under conductor | Beside conductor | Over conductor | Under conductor | Beside conductor | Over conductor |
| Worker's Body Clearance | 200 | 1000 | 1000 | Work not permitted | 1200 | 1200 | Work not permitted | 2000 | 2000 | Work not permitted |
| Uninsulated tool/Equipment | 200 | 300 | 300 | Work not permitted | 1000 | 1000 | Work not permitted | 2000 | 2000 | Work not permitted |
| Insulated tool & Equipment | 200 | 300 | 300 | Work not permitted | 1000 | 1000 | Work not permitted | 2000 | 2000 | Work not permitted |
| Vegetation Clearances | No clearance required ^a | No clearance required ^a | No clearance required ^a | 3000 ¹ | 700 | 700 | Work not permitted | 900 | 900 | Work not permitted |

Note:

1. Vegetation which is located at least 3000mm above bare LV conductor, can be cleared subject to the following conditions: (a) A risk assessment is carried out with appropriate control measure put in place and; (b) Effective control measures are used to prevent the cut vegetation from contacting the conductor or encroaching into the vegetation clearance space (c) a safety observer is posted.
2. Conductor sag and sway exclusion: The safe approach distances and vegetation clearances detailed in the Electrical Safety Rules make no provision for conductor movement due to wind or change in conductor temperature. Unexpected conductor movement may occur under moderate wind, network faults or changes in conductor heating or cooling factors. Conductor movement of several metres may result in long spans/ of electric lines. Appropriate allowance for sway and sag changes must be applied in accordance with advice sought from the electrical asset owner.
3. Where the safe approach distances cannot be maintained, an access authority must be obtained from the owner of the electrical asset.
4. Vegetation contacting live LV conductors may be cut only after a risk assessment has been performed and precautionary actions are taken to control hazards to ensure that the work can be performed safely.

Source: *Electrical Safety Rules for Vegetation Management Work Near Overhead Powerlines*

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The Site Manager will ensure a safe distance is maintained by providing and signing off on a 'Vicinity Access Permit' to perform the works prior to works been undertaken in accordance with the Rules.

The Vicinity Access Permit will clearly state the required safe distance to be maintained.

The Permit will be filed and kept for auditing purposes.

Before undertaking vegetation management work, a risk assessment will be conducted to assist in the identification and control of hazards to ensure that the work can be performed safely in accordance with the Vegetation Management Rules.

Only insulated mobile plant (insulated elevating work platforms) shall be used when working in accordance with the Vegetation Management Rules. Uninsulated mobile plant (uninsulated elevating work platforms) must comply with No Go Zone Rules. No Go Zone rules are available at:

ESV www.esv.vic.gov.au/no-go-zones

Worksafe www.worksafe.vic.gov.au/resources/no-go-zones-overhead-electrical-power-lines

Mobile plant must only be used in the vicinity of live conductors and/or electrical apparatus after precautions appropriate to the particular circumstances have been considered and action taken to control the associated hazards and risks.

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4.15 Reg 9 (4q) notification and consultation procedures, including the form of the notice to be given in accordance with Division 3 of Part 2 of the Code;

In accordance with Division 3 Part 2 of the Code, the site Manager will provide written notification to affected landowners and publish a notice on the Projects website before cutting or removing certain trees as detailed in clause 16 and 17 of the Code if the works are on public land (as per the template letter found in Appendix F). The notice will in adhere to the timing specified under the code and include:

- (a) a description of the cutting or removal that the responsible person intends to undertake;*
- and*
- (b) specify one or more days on which, or a period during which, the responsible person intends that the intended cutting or removal will commence.*

The SHWFPL will consult with occupier or owner of private property before cutting or removing certain trees in accordance with the Clause 18 of the Code and will keep records of any urgent cutting or removals as described under clause 19 of the Code and will give notice of the completed works to owner or occupier of the property or Council/DELWP if applicable. The written notice will specify:

- (a) where and when the cutting or removal was undertaken; and*
- (b) why the cutting or removal was required; and*
- (c) the date of the last inspection of the span of the electric line in relation to which the cutting or removal was required before it was identified that the urgent cutting or removal was required.*

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The completion of works must occur within 14-60 day from the date of notice. If the works fall outside of the 14–60-day period for any reason other than it becoming ‘Urgent’ or a ‘Hazard’ then renotification will be issued and the clearance works re-scheduled. Follow up discussion in relation to the delay will be sought by the Site Manager.

SHWFPL will keep a record of the written notice for at least 5 years.

4.16 Reg 9 (4r) a procedure for the independent resolution of disputes relating to electric line clearance;

Any complaints will be handled in accordance with the Project’s Complaint handling Management Plan. All complaints are registered, investigated and considered closed when a complainant advises that they consider the complaint resolved. Alternatively, if no response is received from the complainant within ten working days, the complaint will be considered closed. We aim to communicate the results of investigations and proposed resolution measures within 5 working days. In the event that agreement cannot be reached between the project team and complainant, as to resolution of a specific complaint, then it may be necessary to seek involvement of an independent impartial third party to facilitate mediation of the matter, such as the Energy and Water Ombudsman Victoria on 1800 500 509, or ESV on (03) 9203 9700 or email complaints@energysafe.vic.gov.au. The details of the process and facilitator will depend on the scope of the complaint, issues involved and appropriateness of the facilitator for the matter to be resolved. MWF will aim to constructively participate in any required mediation process.

The complaint handling process is available on the Project’s website.

<https://www.stockyardhillwindfarm.com.au/complaints-plan>

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4.17 Reg 9 (4s) if Energy Safe Victoria has granted an exemption under regulation 11 .

This is not applicable.

4.18 Reg 10 (6) The responsible person must ensure that a copy of the current management plan is published on the responsible person's Internet site.

A copy of the current Management Plan will be published on the Project's website.

<https://www.stockyardhillwindfarm.com.au/compliance>

The Site Manager will be responsible for publishing the new ELCMP on the Project's internet site (link above) by 1 July each year and remove the superseded ELCMP from the internet site.

Appendices

Appendix A - 33kV OHL pole structure drawings

SHWF-000-E11-0324 (3942-921-0200),

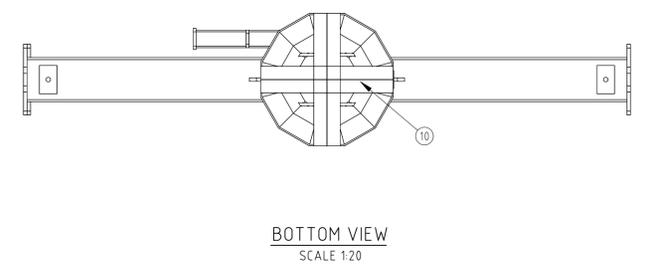
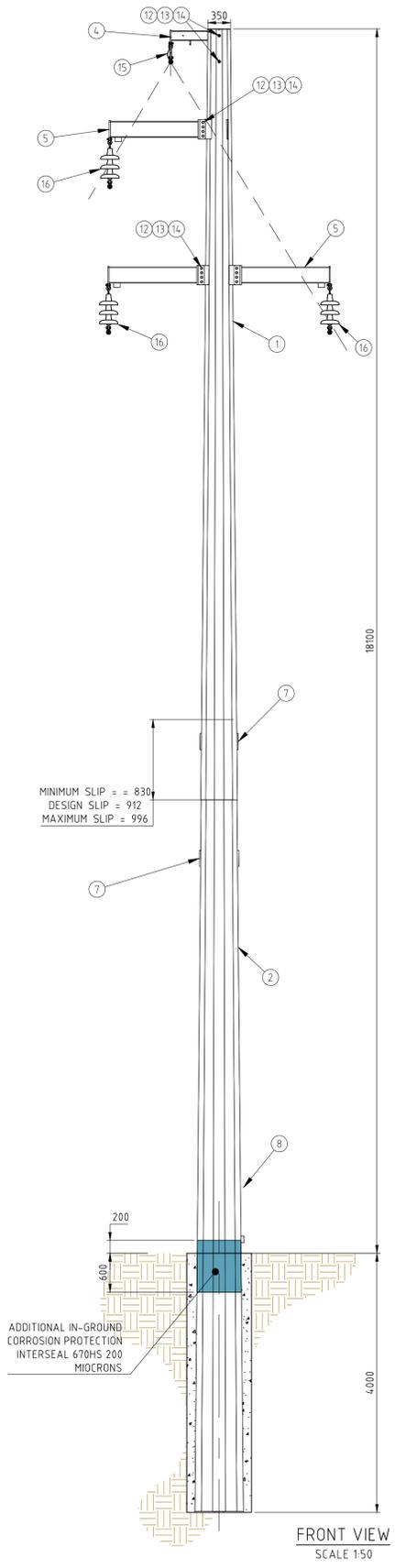
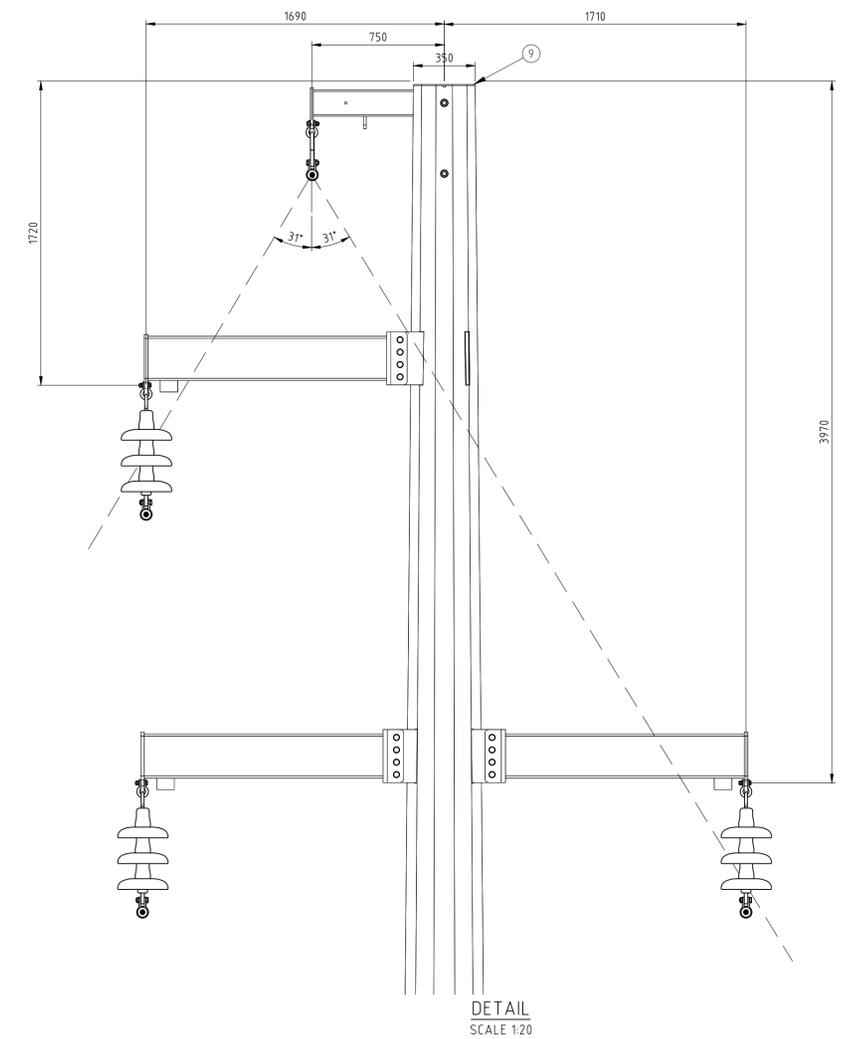
SHWF-000-E11-0325 (3942-921-0210) and

SHWF-000-E11- 0326 (3942-921-0300)

- NOTES:
1. ALL BOLTS TO BE GRADE 8.8 TO AS 1252.1 HOT DIP GALVANISED IN ACCORDANCE WITH AS 1214. FLAT WASHERS TO AS 1237.
 2. STRUCTURAL MEMBERS TO BE HOT DIPPED GALVANISED IN ACCORDANCE WITH AS/NZS 4680. WITH MINIMUM GALVANISATION THICKNESS OF 100um.
 3. BEFORE GALVANISING, ALL ITEMS AND POLE SEGMENTS TO BE CLEARLY STAMPED WITH THE RELEVANT MARKS.
 4. ALL WELDS SHALL BE CONTINUOUS FILLET WELDS CATEGORY SP E48XX/W50X TO AS/NZS 1554.1. ALL BUT WELDS SHALL BE FULL PENETRATION.
 5. STRUCTURE EARTHING REFER TO 1678-926-0001
 6. POLE SHAFT STEEL SHALL CONFORM TO A CHAPPY V NOTCH TEST OF 27 JOULES AT 0°C

TOTAL POLE WEIGHT APPROX. 2815 kg EXCLUDING CROSSARMS.

| STRUCTURE LOCATIONS | |
|---------------------|--|
| STR 30 | |
| STR 31 | |



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RJE Drawing No: 3942-921-0200

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL **GOLDWIND**
Wind Farm

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
STRUCTURE - 0200 (LINE TYPE 1)
GENERAL ARRANGEMENT

| | |
|-----------|------|
| DSGN | D.W. |
| INDEP CHK | P.H. |
| DFTG | D.W. |
| DFTG CHK | D.W. |
| INSP | |
| REV | |
| ACPT | D.W. |

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 1 | AS BUILT | 19.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 27.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

DWG NO: SHWF-000-E11-0324

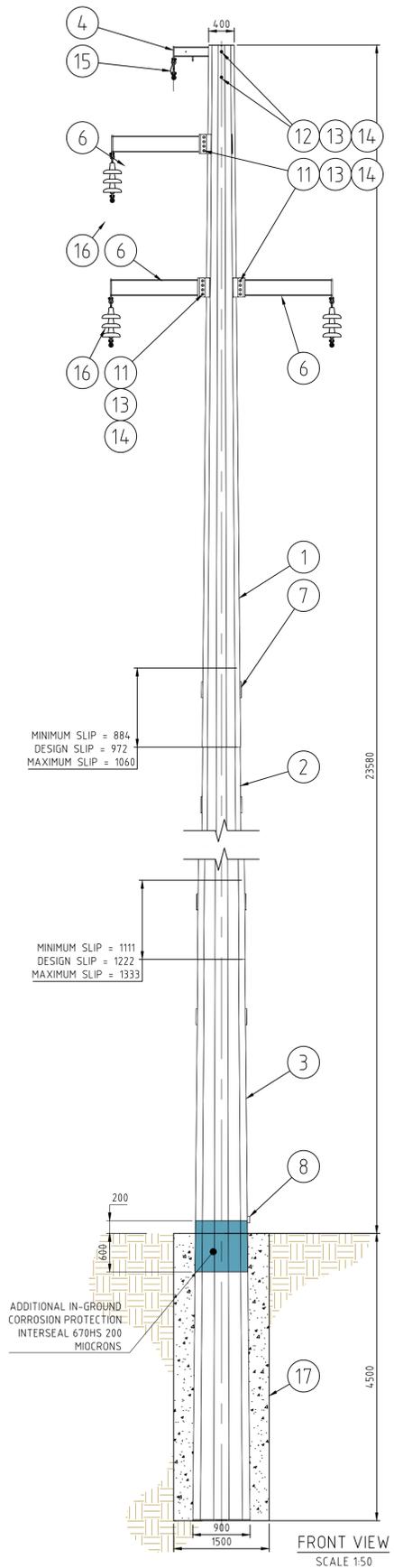
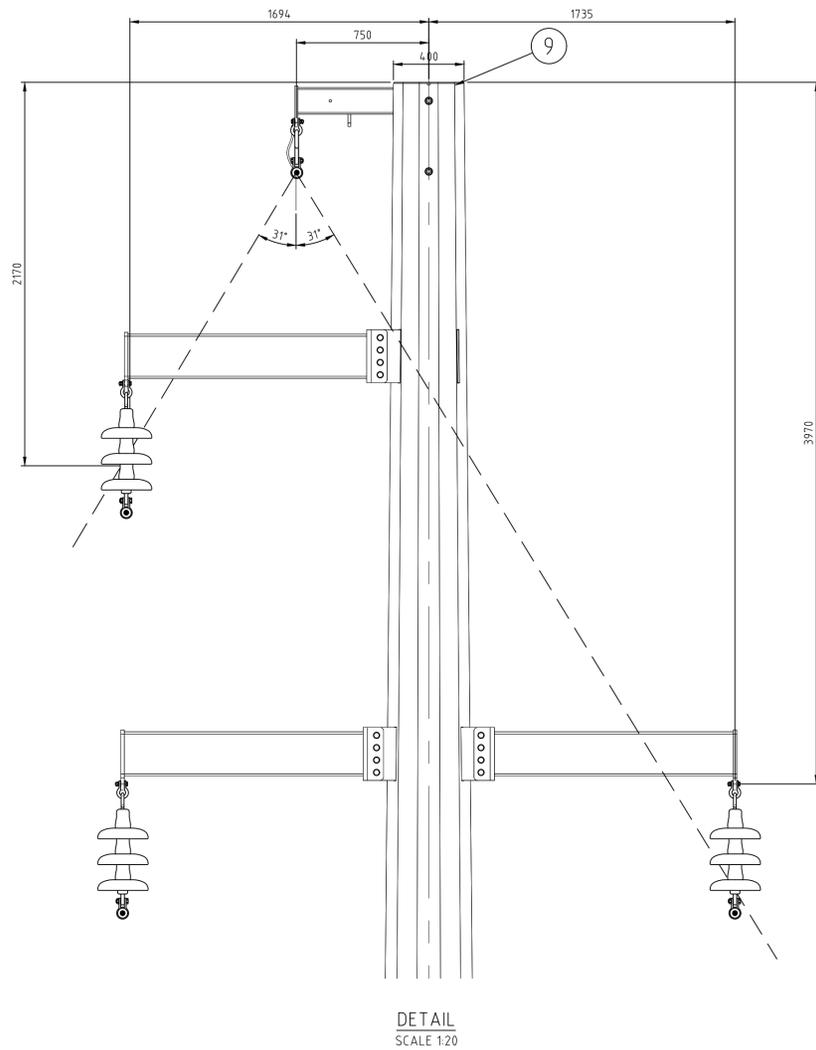
SIZE: A1 R 1

| POLE SHAFT & CROSSARM DETAILS | | | | | | | | | |
|-------------------------------|-----|----------------------|---------|------------------|-------------------|----------|--------------------|-------------|--------|
| ITEM | QTY | DESCRIPTION | # SIDES | TOP DIM DAF (mm) | BOT DIM. OAF (mm) | THK (mm) | MATERIAL | WEIGHT (kg) | MARK |
| 1 | 1 | 11000mm TOP SHAFT | 12 | 400 | 601 | 6 | 450L0, AS/NZS 3678 | 872 | 0210-T |
| 2 | 1 | 10000mm MIDDLE SHAFT | 12 | 570 | 753 | 6 | 450L0, AS/NZS 3678 | 1050 | 0210-M |
| 3 | 1 | 10000mm BOTTOM SHAFT | 12 | 717 | 900 | 8 | 450L0, AS/NZS 3678 | 1710 | 0210-B |

| POLE ADDITIONAL ITEMS | | | | | | |
|-----------------------|-----|-------------------------------------|-------------------|----------|---------------------------------|-------------|
| ITEM | QTY | DESCRIPTION | DRAWING REFERENCE | THK (mm) | MATERIAL / GRADE | WEIGHT (kg) |
| 4 | 1 | EARTH CROSSARM ASSEMBLY | 3942-925-0220 | 4 | 150x100x4 RHS (C350L0, AS 1163) | 23 |
| 5 | 3 | HEAVY PHASE CROSSARM UPPER ASSEMBLY | 3942-925-0221 | 6 | 150x100x6 RHS (C350L0, AS 1163) | 116 |
| 7 | 8 | JACKING LUGS | 3942-925-9000 | 20 | 250, AS/NZS 3678 | 2.7 |
| 8 | 1 | EARTHING PLATE | - | - | 75 PFC (300, AS/NZS 3679.1) | 1 |
| 9 | 1 | POLE TOP PLATE | - | 16 | 250, AS/NZS 3678 | 9.3 |
| 10 | 2 | POLE BOTTOM PLATES | - | 16 | 250, AS/NZS 3678 | 18 |

| BOLT SCHEDULE | | | | |
|---------------|-----|-------------------|-------------|------------------|
| ITEM | QTY | DESCRIPTION | LENGTH (mm) | MATERIAL / GRADE |
| 11 | 1 | M24 BOLT | 160 | 8.8 (AS1252.1) |
| 12 | 4 | M24 BOLT | 650 | 8.8 (AS1252.1) |
| 13 | 10 | M24 SQUARE WASHER | - | 8.8 (AS1252.1) |
| 14 | 5 | M24 NUT | - | 8.8 (AS1252.1) |

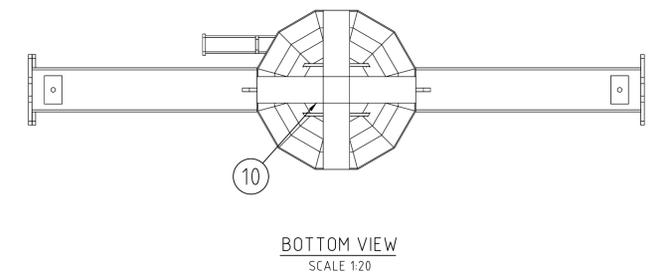
| HARDWARE SCHEDULE | | | | |
|-------------------|-----|---------------------------|-------------------|-------------|
| ITEM | QTY | DESCRIPTION | DRAWING REFERENCE | RATING (kN) |
| 15 | 1 | OPGW SUSPENSION ASSEMBLY | 3942-922-0021 | 70 |
| 16 | 3 | PHASE SUSPENSION ASSEMBLY | 3942-922-0003 | 70 |
| 17 | 1 | FOUNDATION ARRANGEMENT | 3942-923-0001 | |



| STRUCTURE LOCATIONS | |
|---------------------|--|
| STR 2 | |
| STR 3 | |
| STR 4 | |
| STR 5 | |
| STR 6 | |
| STR 8 | |
| STR 9 | |
| STR 10 | |
| STR 11 | |
| STR 12 | |
| STR 14 | |
| STR 15 | |
| STR 16 | |
| STR 17 | |
| STR 18 | |
| STR 20 | |
| STR 21 | |
| STR 22 | |
| STR 25 | |
| STR 27 | |
| STR 32 | |
| STR 33 | |
| STR 35 | |
| STR 36 | |
| STR 37 | |
| STR 38 | |
| STR 39 | |
| STR 40 | |
| STR 41 | |

- NOTES:
- ALL BOLTS TO BE GRADE 8.8 TO AS 1252.1 HOT DIP GALVANISED IN ACCORDANCE WITH AS 1214. FLAT WASHERS TO AS 1237.
 - STRUCTURAL MEMBERS TO BE HOT DIPPED GALVANISED IN ACCORDANCE WITH AS/NZS 4680. WITH MINIMUM GALVANISATION THICKNESS OF 100um.
 - BEFORE GALVANISING, ALL ITEMS AND POLE SEGMENTS TO BE CLEARLY STAMPED WITH THE RELEVANT MARKS.
 - ALL WELDS SHALL BE CONTINUOUS FILLET WELDS CATEGORY SP E48XX/W50X TO AS/NZS 1554.1. ALL BUT WELDS SHALL BE FULL PENETRATION.
 - STRUCTURE EARTHING REFER TO 1678-926-0001
 - POLE SHAFT STEEL SHALL CONFORM TO A CHAPPY V NOTCH TEST OF 27 JOULES AT 0°C

TOTAL POLE WEIGHT APPROX. 3720 kg EXCLUDING CROSSARMS.



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RJE Drawing No:
3942-921-0210

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL **GOLDWIND**
Wind Farm

STOCKYARD HILL WIND FARM, BOP

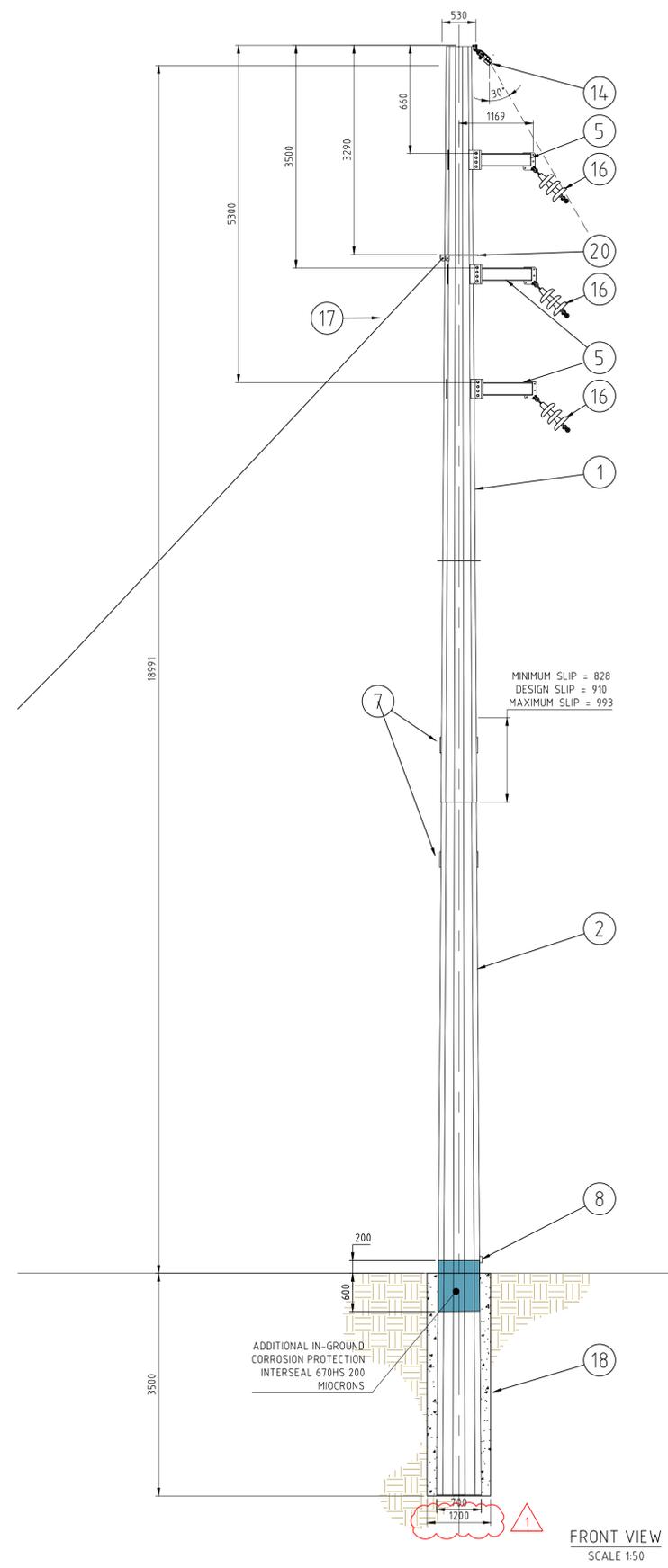
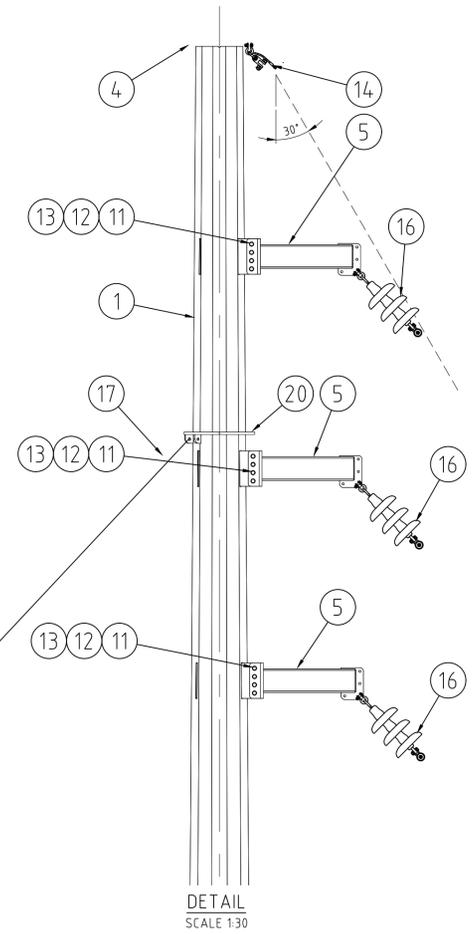
33kV OVERHEAD LINE
STRUCTURE - 0200 (LINE TYPE 2)
GENERAL ARRANGEMENT

| | |
|-----------|------|
| DSGN | D.W. |
| INDEP CHK | P.H. |
| DFTG | D.W. |
| DFTG CHK | D.W. |
| INSP | |
| REV | |
| ACPT | D.W. |

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|------|----------|------|-----|------|
| 1 | AS BUILT | 19.12.19 | D.W. | | R.Y. | D.W. | | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 27.11.19 | D.W. | | R.Y. | D.W. | | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

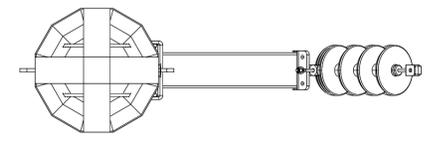
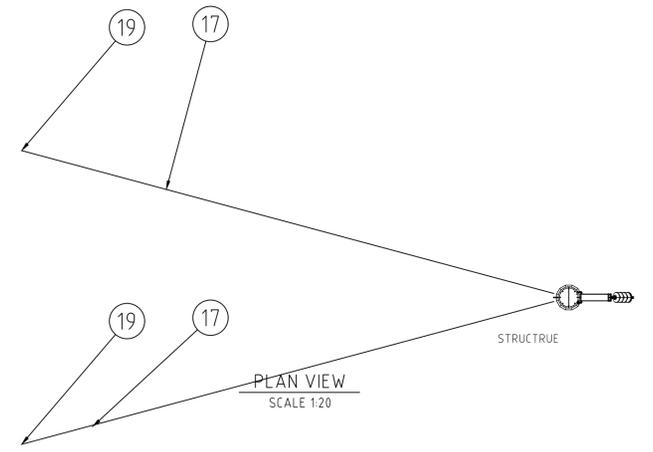
| POLE SHAFT & CROSSARM DETAILS | | | | | | | | | |
|-------------------------------|-----|-------------------------|-------------------|------------------|-----------------------------|-------------|--------------------|-------------|--------|
| ITEM | QTY | DESCRIPTION | # SIDES | TOP DIM DAF (mm) | BOT DIM. OAF (mm) | THK (mm) | MATERIAL | WEIGHT (kg) | MARK |
| 1 | 1 | 11900mm TOP SHAFT | 12 | 400.0 | 563.7 | 6 | 450L0, AS/NZS 3678 | 943 | 0300-T |
| 2 | 1 | 11816mm BOTTOM SHAFT | 12 | 537.7 | 700.0 | 6 | 450L0, AS/NZS 3678 | 1204 | 0300-B |
| POLE ADDITIONAL ITEMS | | | | | | | | | |
| ITEM | QTY | DESCRIPTION | DRAWING REFERENCE | THK (mm) | MATERIAL / GRADE | WEIGHT (kg) | | | |
| 4 | 1 | EARTH STRAIN PLATE | | 16 | 350, AS/NZS 3678 | 28 | | | |
| 5 | 3 | PHASE CROSSARM INTERNAL | 3942-925-0320 | 6 | 200x5 SHS (C250, AS 1163) | 54 | 0300-PI | | |
| 7 | 4 | JACKING LUGS | 3942-925-9000 | 20 | 250, AS/NZS 3678 | 2.7 | | | |
| 8 | 1 | EARTHING PLATE | | - | 75 PFC (300, AS/NZS 3679.1) | 0.6 | | | |
| 9 | 1 | POLE TOP PLATE | | 6 | 250, AS/NZS 3678 | 13.5 | | | |
| 10 | 2 | POLE BOTTOM PLATES | | 16 | 250, AS/NZS 3678 | 15 | | | |
| 20 | 2 | STAYWIRE PLATE | | 20 | 250, AS/NZS 3678 | 28 | | | |
| BOLT SCHEDULE | | | | | | | | | |
| ITEM | QTY | DESCRIPTION | LENGTH (mm) | MATERIAL / GRADE | | | | | |
| 11 | 64 | M24 BOLT | 75 | 8.8 (AS1252.1) | | | | | |
| 12 | 128 | M24 WASHER | | 8.8 (AS1252.1) | | | | | |
| 13 | 64 | M24 NUT | | 8.8 (AS1252.1) | | | | | |
| HARDWARE SCHEDULE | | | | | | | | | |
| ITEM | QTY | DESCRIPTION | DRAWING REFERENCE | RATING (kN) | | | | | |
| 14 | 1 | OPGW ANGLE ASSEMBLY | 3942-922-0022 | 70 | | | | | |
| 16 | 3 | PHASE ANGLE ASSEMBLY | 3942-922-0005 | 70 | | | | | |
| 17 | 2 | STAY WIRE ASSEMBLY | 3942-922-0010 | 160 | | | | | |
| 18 | 1 | FOUNDATION ARRANGEMENT | 3942-923-0001 | | | | | | |
| 19 | 2 | STAY ANCHOR ARRANGEMENT | 3942-923-0010 | | | | | | |



| STRUCTURE LOCATIONS | |
|---------------------|--|
| STR 19 | |
| STR 26 | |
| STR 28 | |
| STR 31 | |

- NOTES:
- ALL BOLTS TO BE GRADE 8.8 TO AS 1252.1 HOT DIP GALVANISED IN ACCORDANCE WITH AS 1214. FLAT WASHERS TO AS 1237.
 - STRUCTURAL MEMBERS TO BE HOT DIPPED GALVANISED IN ACCORDANCE WITH AS/NZS 4680. WITH MINIMUM GALVANISATION THICKNESS OF 100um.
 - BEFORE GALVANISING, ALL ITEMS AND POLE SEGMENTS TO BE CLEARLY STAMPED WITH THE RELEVANT MARKS.
 - ALL WELDS SHALL BE CONTINUOUS FILLET WELDS CATEGORY SP E48XX/W50X TO AS/NZS 1554.1. ALL BUT WELDS SHALL BE FULL PENETRATION.
 - STRUCTURE EARTHING REFER TO 3942-926-0001
 - POLE SHAFT STEEL SHALL CONFORM TO A CHARPY V NOTCH TEST OF 27 JOULES AT 0°C
 - REFER TO 3942-902-0001 FOR THE CONSTRUCTION SCHEDULE AND STAYWIRE COORDINATES.

TOTAL POLE WEIGHT APPROX. 2300 kg.



RJE *Smarter Engineering*

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RJE Drawing No: 3942-921-0300

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP
33KV OVERHEAD LINE
STRUCTURE - 0300 (FLYING ANGLE)
GENERAL ARRANGEMENT

| NO | REVISIONS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|------------------------------|----------|----------|-----------|----------|------|-----|------|
| 2 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | REVISED FOUNDATION DIMENSION | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 27.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

Appendix B – Pole Layout & Locations Drawings

SHWF-000-E11-0300 (3942-902-0001)

SHWF-000-E11-0314 (3942-920-0022)

SHWF-000-E11-0315 (3942-920-0023)

SHWF-000-E11-0316 (3942-920-0024)

SHWF-000-E11-0317 (3942-920-0025)

SHWF-000-E11-0318 (3942-920-0026)

SHWF-000-E11-0319 (3942-920-0027)

SHWF-000-E11-0320 (3942-920-0028)

SHWF-000-E11-0321 (3942-920-0029)

SHWF-000-E11-0322 (3942-920-0030)



33 kV OVERHEAD LINE
 STOCKYARD HILL WINDFARM
 CONSTRUCTION SCHEDULE
 CLIENT #: SHWF-000-E11-0300

RJE Doc No: 3942-902-0001

Revision: 4 (AS-BUILT)

DATE: 23/06/20

| Structure Name | Run Dist (m) | Grd Elev (m) | Act For. Span (m) | Wind Span (m) | Wt Span @ T15 | Deviation Angle (Degrees) | Butt Ø (m) | Pole Height Above Ground (m) | Footing | | | | Pole Top Arrangement | | Conductor | | OPGW | | Staywire | | Phasing | # Dampers per structure / conductor (Damper Type) | | | | Remarks | | | | | | | |
|----------------|--------------|--------------|-------------------|---------------|---------------|---------------------------|------------|------------------------------|---------------|---------------|--------|--------------------------------------|----------------------|----------------|---------------|-----|---------------|----------|---------------|-----|--------------------------------|---|-----|-------------|-----|-------------|------|--|--|--|--|--|---|
| | | | | | | | | | Drawing | Earthing | Pile Ø | Setting Depth / Depth in footing (m) | Volume Concrete (m³) | Structure Type | GA Drawing | Qty | Arrangement | Qty | Arrangement | Qty | Arrangement | Viewed away from SUB | Qty | Cond | Qty | | OPGW | | | | | | |
| GANTRY | 8.5 | 378.5 | 92.878 | 47 | 22 | 0.0 | | 12.40 | | | | | | CUSTOMER | CUSTOMER | | | CUSTOMER | | | | | | | | | | | | | | | |
| P1 | 101.4 | 378 | 242.774 | 168 | 214 | 0.0 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 3 | 3942-922-0001 | 1 | 3942-922-0020 | 2 | 3942-922-0010 3942-923-0010 | OPGW A B C | 6 | STOCKBRIDGE | 4 | STOCKBRIDGE | | | | | | | |
| P2 | 344.2 | 374.3 | 287.221 | 265 | 264 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P3 | 631.4 | 369.8 | 272.402 | 280 | 278 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P4 | 903.8 | 366 | 264.084 | 268 | 255 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P5 | 1167.9 | 365.6 | 305.486 | 271 | 283 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P6 | 1473.4 | 362.5 | 248.384 | 277 | 269 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P7 | 1721.7 | 361 | 279.683 | 277 | 272 | 35.8 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 6 | 3942-922-0001 | 2 | 3942-922-0020 | 4 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P8 | 2001.4 | 362 | 279.962 | 280 | 287 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P9 | 2281.4 | 360.9 | 296.595 | 288 | 307 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P10 | 2578.0 | 355 | 283.172 | 290 | 280 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P11 | 2861.2 | 352.1 | 277.131 | 280 | 301 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P12 | 3138.3 | 344.4 | 301.063 | 289 | 266 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P13 | 3439.3 | 341.8 | 278.533 | 290 | 278 | 0.0 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 6 | 3942-922-0001 | 2 | 3942-922-0020 | 4 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P14 | 3717.9 | 343.4 | 276.839 | 278 | 285 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P15 | 3994.7 | 343 | 285.791 | 281 | 283 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P16 | 4280.5 | 342.4 | 271.854 | 279 | 288 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | |
| P17 | 4552.4 | 339.9 | 270.886 | 271 | 264 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P18 | 4823.2 | 339.3 | 222.522 | 247 | 278 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P19 | 5045.8 | 338.8 | 219.873 | 221 | 160 | -39.2 | 0.7 | 19.29 | 3942-923-0001 | 3942-926-0001 | 1.0 | 3.5 | 1.0 | 0300 | 3942-925-0300 | 3 | 3942-922-0005 | 1 | 3942-922-0022 | 2 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P20 | 5265.6 | 338.3 | 274.466 | 247 | 279 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P21 | 5540.1 | 337.7 | 261.507 | 268 | 281 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P22 | 5801.6 | 334.2 | 233.76 | 248 | 270 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P23 | 6035.4 | 326.1 | 238.037 | 236 | 197 | 0.0 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 6 | 3942-922-0001 | 2 | 3942-922-0020 | 4 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P24 | 6273.4 | 326.8 | 276.289 | 257 | 268 | 0.0 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 6 | 3942-922-0001 | 2 | 3942-922-0020 | 4 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P25 | 6549.7 | 325.5 | 226.065 | 251 | 275 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |
| P26 | 6775.8 | 325.5 | 197.927 | 212 | 159 | 31.8 | 0.7 | 19.29 | 3942-923-0001 | 3942-926-0001 | 1.0 | 3.5 | 1.0 | 0300 | 3942-925-0300 | 3 | 3942-922-0005 | 1 | 3942-922-0022 | 2 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | | | | | Bird Diverters installed on OPGW each 10m |



33 kV OVERHEAD LINE
 STOCKYARD HILL WINDFARM
 CONSTRUCTION SCHEDULE
 CLIENT #: SHWF-000-E11-0300

RJE Doc No: 3942-902-0001

Revision: 4 (AS-BUILT)

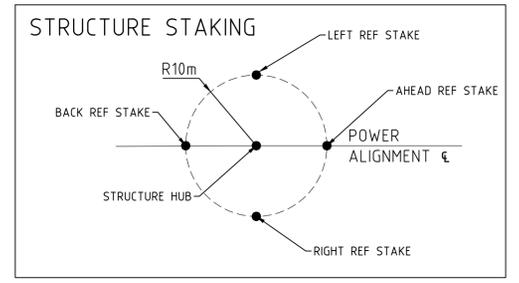
DATE: 23/06/20

| Structure Name | Run Dist (m) | Grd Elev (m) | Act For. Span (m) | Wind Span (m) | Wt Span @ T15 | Deviation Angle (Degrees) | Butt Ø (m) | Pole Height Above Ground (m) | Footing | | | Pole Top Arrangement | | Conductor | | OPGW | | Staywire | | Phasing | # Dampers per structure / conductor (Damper Type) | | | Remarks | | | | | |
|----------------|--------------|--------------|-------------------|---------------|---------------|---------------------------|------------|------------------------------|---------------|---------------|--------|--------------------------------------|----------------------|----------------|---------------|------|---------------|----------|---------------|---------|---|----------------------|-----|-------------|------|-------------|---|--|--|
| | | | | | | | | | Drawing | Earthing | Pile Ø | Setting Depth / Depth in footing (m) | Volume Concrete (m³) | Structure Type | GA Drawing | Qty | Arrangement | Qty | Arrangement | Qty | Arrangement | Viewed away from SUB | Qty | | Cond | Qty | OPGW | | |
| P27 | 6973.7 | 323.5 | 180.223 | 189 | 251 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | Bird Diverters installed on OPGW each 10m | | |
| P28 | 7153.9 | 323.5 | 192.001 | 186 | 147 | -14.6 | 0.7 | 19.29 | 3942-923-0001 | 3942-926-0001 | 1.0 | 3.5 | 1.0 | 0300 | 3942-925-0300 | 3 | 3942-922-0005 | 1 | 3942-922-0022 | 2 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | Bird Diverters installed on OPGW each 10m | | |
| P29 | 7345.9 | 323.4 | 170.188 | 181 | 168 | 0.0 | 0.75 | 18.89 | 3942-923-0001 | 3942-926-0001 | 1.0 | 4.0 | 1.1 | 0200 | 3942-925-0200 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | Bird Diverters installed on OPGW each 10m | | |
| P30 | 7516.1 | 325.5 | 159.806 | 165 | 194 | 0.0 | 0.75 | 18.89 | 3942-923-0001 | 3942-926-0001 | 1.0 | 4.0 | 1.1 | 0200 | 3942-925-0200 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | Bird Diverters installed on OPGW each 10m | | |
| P31 | 7675.9 | 323.8 | 200.759 | 180 | 127 | 26.7 | 0.7 | 19.29 | 3942-923-0001 | 3942-926-0001 | 1.0 | 3.5 | 1.0 | 0300 | 3942-925-0300 | 3 | 3942-922-0005 | 1 | 3942-922-0022 | 2 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | Bird Diverters installed on OPGW each 10m | | |
| P32 | 7876.7 | 324.5 | 275.365 | 238 | 268 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | Bird Diverters installed on OPGW each 10m | | |
| P33 | 8152.0 | 326.6 | 262.486 | 269 | 264 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | Bird Diverters installed on OPGW each 10m | | |
| P34 | 8414.5 | 329.3 | 281.098 | 272 | 280 | 0.0 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 6 | 3942-922-0001 | 2 | 3942-922-0020 | 4 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P35 | 8695.6 | 331.5 | 318.212 | 300 | 304 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P36 | 9013.8 | 332.5 | 300.366 | 309 | 296 | 0.2 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P37 | 9314.2 | 337.2 | 304.522 | 303 | 287 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P38 | 9618.7 | 346.4 | 213.797 | 259 | 254 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P39 | 9832.5 | 354 | 305.31 | 260 | 347 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P40 | 10137.8 | 341.8 | 216.665 | 261 | 164 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P41 | 10354.5 | 351.7 | 227.73 | 222 | 251 | 0.0 | 0.9 | 24.31 | 3942-923-0001 | 3942-926-0001 | 1.2 | 4.5 | 1.6 | 0210 | 3942-925-0210 | 3 | 3942-922-0003 | 1 | 3942-922-0021 | - | - | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P42 | 10582.2 | 355.9 | 53.118 | 140 | 167 | 0.0 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 6 | 3942-922-0001 | 2 | 3942-922-0020 | 4 | 3942-922-0010 3942-923-0010 | OPGW A B C | 12 | STOCKBRIDGE | 8 | STOCKBRIDGE | | | |
| P43 | 10635.3 | 355 | 19.151 | 38 | 131 | 87.6 | 1.2 | 25.09 | 3942-923-0001 | 3942-926-0001 | 1.5 | 4.5 | 2.0 | 0100 | 3942-925-0100 | 3 | 3942-922-0001 | 1 | 3942-922-0020 | 2 | | OPGW A B C | 6 | STOCKBRIDGE | 2 | STOCKBRIDGE | | | |
| GANTRY | 10654.5 | 353.5 | 0 | 12 | -83 | 0.0 | | 12.40 | | | | | | CUSTOMER | CUSTOMER | | CUSTOMER | | CUSTOMER | | | | | | | | | | |



LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT



- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM

RJE
Smarter Engineering

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RJE Drawing No: 3942-920-0021

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 01 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | | D.W. | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | | D.W. | P.H. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | | D.W. | R.Y. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | | D.W. | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | | D.W. | |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
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| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

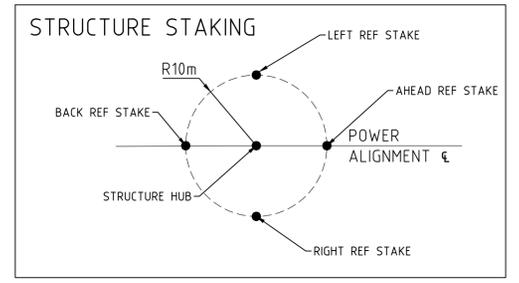
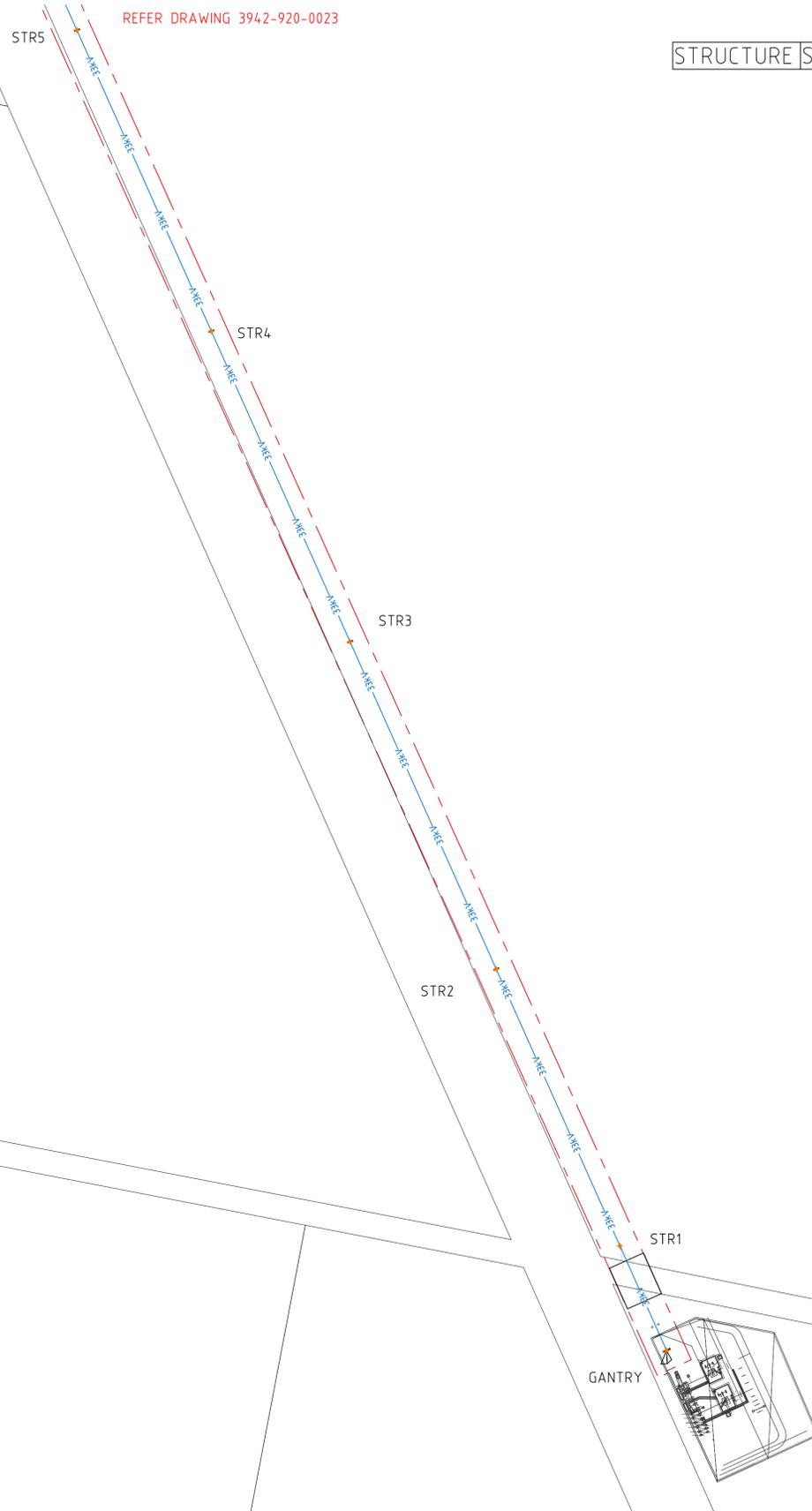


REFER DRAWING 3942-920-0023

STRUCTURE STAKE EASTING NORTHING

LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT



- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM

RJE Smarter Engineering

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RJE Drawing No: 3942-920-0022

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 02 OF 10)

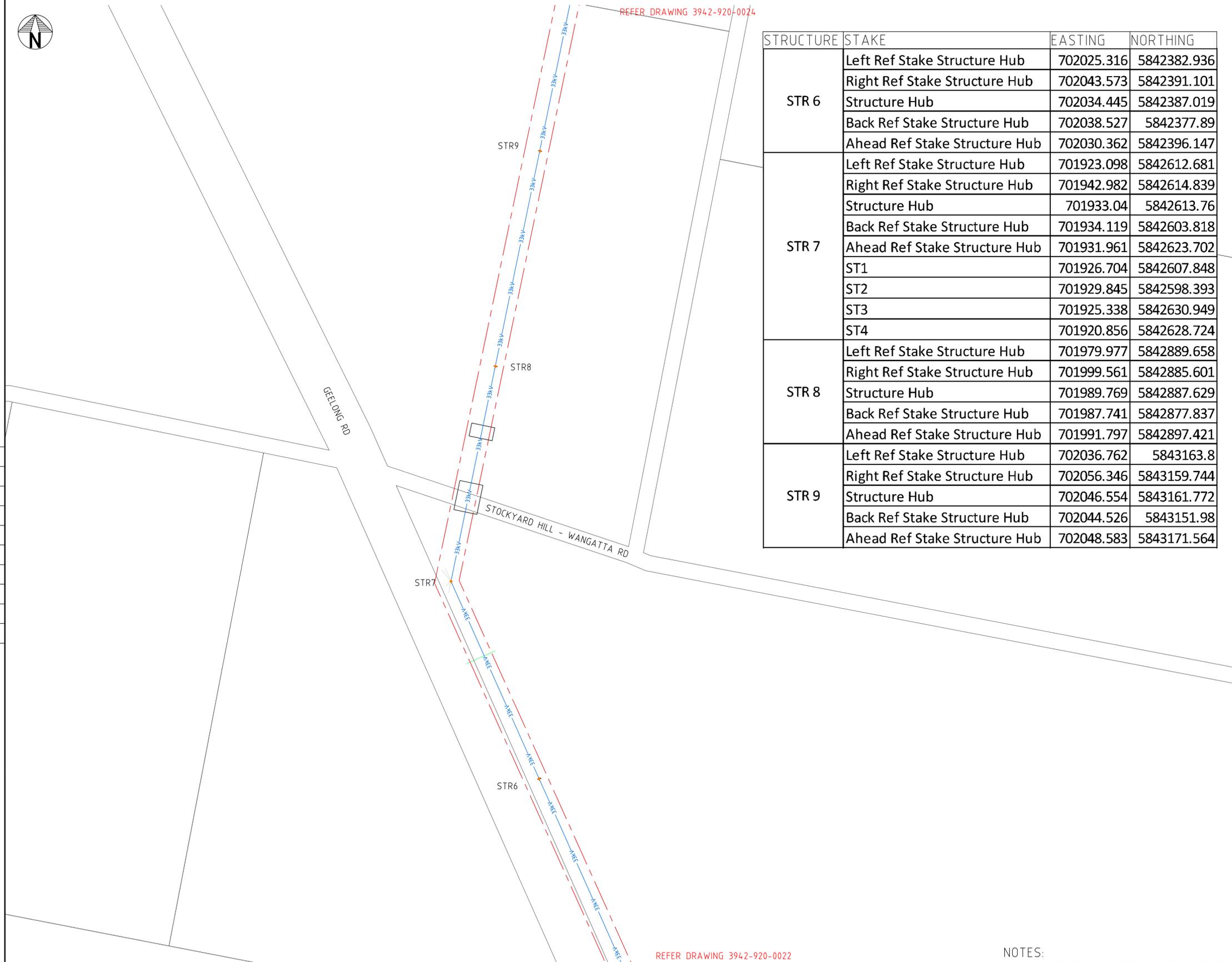
| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|------|-----------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | | D.W. | D.SGN |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | | D.W. | INDEP CHK |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | | D.W. | DFTG CHK |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | | D.W. | DFTG CHK |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | | D.W. | INSP |
| | | | | | | | | | | REV |
| | | | | | | | | | | ACPT |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
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DATE: DIST: -

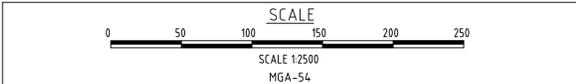
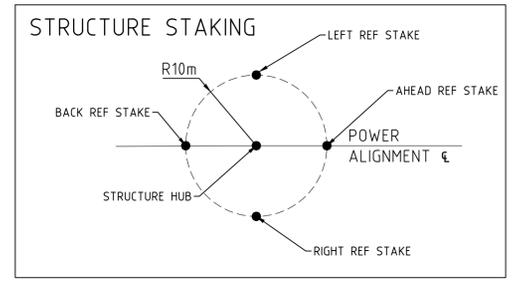
SIZE: A1 R 4



| STRUCTURE | STAKE | EASTING | NORTHING |
|-----------|-------------------------------|------------|-------------|
| STR 6 | Left Ref Stake Structure Hub | 702025.316 | 5842382.936 |
| | Right Ref Stake Structure Hub | 702043.573 | 5842391.101 |
| | Structure Hub | 702034.445 | 5842387.019 |
| | Back Ref Stake Structure Hub | 702038.527 | 5842377.89 |
| STR 7 | Ahead Ref Stake Structure Hub | 702030.362 | 5842396.147 |
| | Left Ref Stake Structure Hub | 701923.098 | 5842612.681 |
| | Right Ref Stake Structure Hub | 701942.982 | 5842614.839 |
| | Structure Hub | 701933.04 | 5842613.76 |
| | Back Ref Stake Structure Hub | 701934.119 | 5842603.818 |
| | Ahead Ref Stake Structure Hub | 701931.961 | 5842623.702 |
| | ST1 | 701926.704 | 5842607.848 |
| STR 8 | ST2 | 701929.845 | 5842598.393 |
| | ST3 | 701925.338 | 5842630.949 |
| | ST4 | 701920.856 | 5842628.724 |
| | Left Ref Stake Structure Hub | 701979.977 | 5842889.658 |
| | Right Ref Stake Structure Hub | 701999.561 | 5842885.601 |
| STR 9 | Structure Hub | 701989.769 | 5842887.629 |
| | Back Ref Stake Structure Hub | 701987.741 | 5842877.837 |
| | Ahead Ref Stake Structure Hub | 701991.797 | 5842897.421 |
| | Left Ref Stake Structure Hub | 702036.762 | 5843163.8 |
| STR 9 | Right Ref Stake Structure Hub | 702056.346 | 5843159.744 |
| | Structure Hub | 702046.554 | 5843161.772 |
| | Back Ref Stake Structure Hub | 702044.526 | 5843151.98 |
| STR 9 | Ahead Ref Stake Structure Hub | 702048.583 | 5843171.564 |

LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT



REFER DRAWING 3942-920-0022

- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM

RJE Smarter Engineering
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 EMAIL enquiries@rjeglobal.com

RJE Drawing No: 3942-920-0023

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
 Joint venture STOCKYARD HILL WIND FARM
 BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP
 33kV OVERHEAD LINE
 EQUIPMENT LAYOUT
 (SHEET 03 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | | D.W. | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | | D.W. | P.H. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | | D.W. | M.C. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | | D.W. | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | | D.W. | |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
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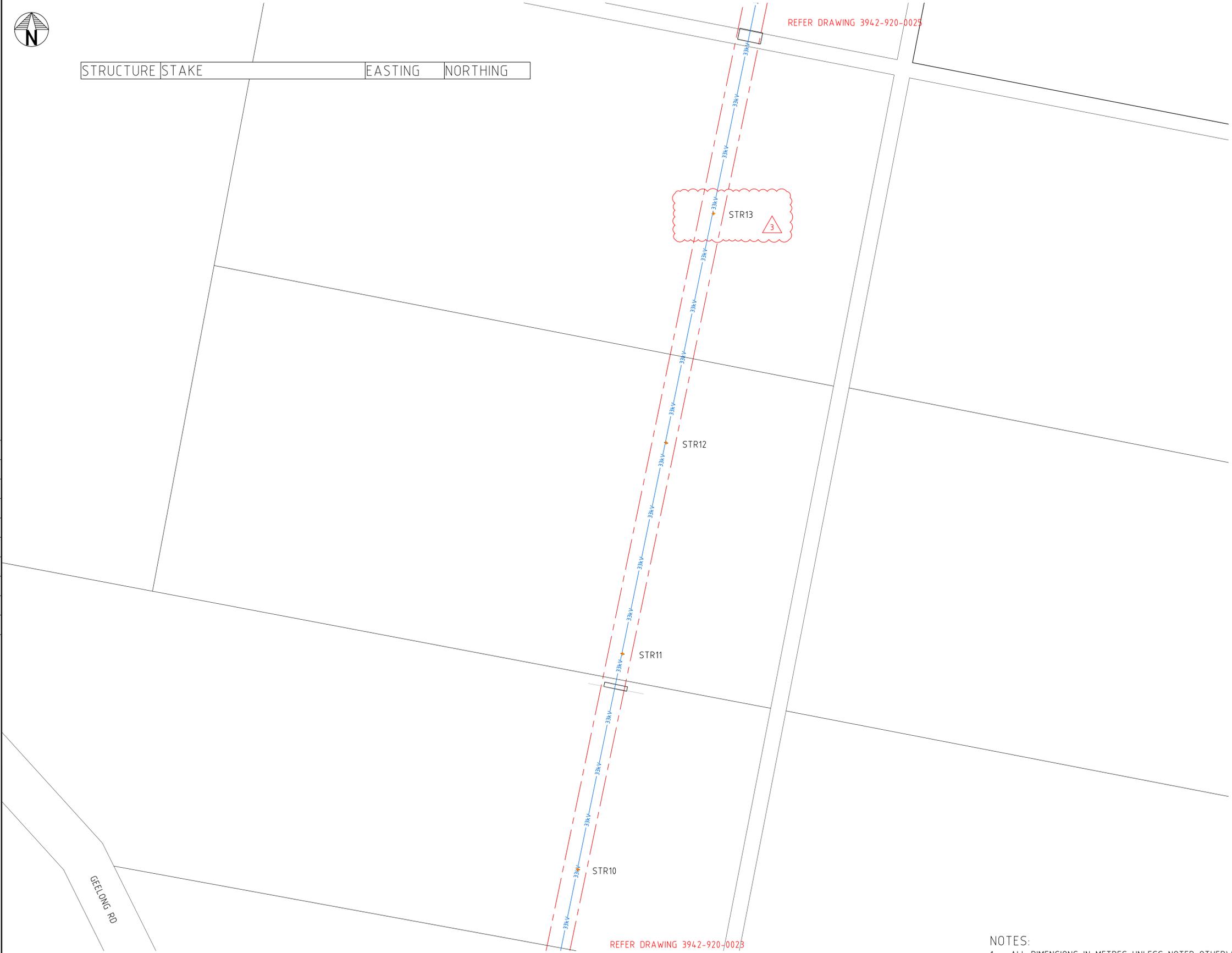
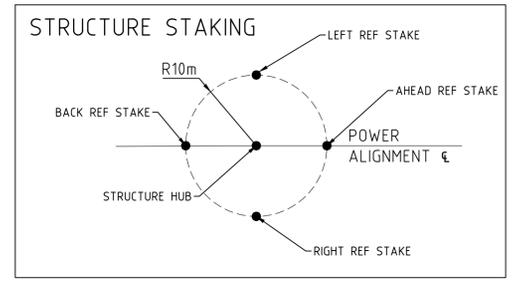


| | | |
|-----------------|---------|----------|
| STRUCTURE STAKE | EASTING | NORTHING |
|-----------------|---------|----------|

REFER DRAWING 3942-920-0023

LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT



- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM

RJE Smarter Engineering

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RJE Drawing No: 3942-920-0024

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 04 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|-----------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. | DSGN | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | D.W. | INDEP CHK | P.H. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | D.W. | DFTG CHK | M.C. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | D.W. | DFTG CHK | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | D.W. | INSP | |
| | | | | | | | | | REV | |
| | | | | | | | | | ACPT | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
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DATE: DIST: -

SIZE: A1 R 4

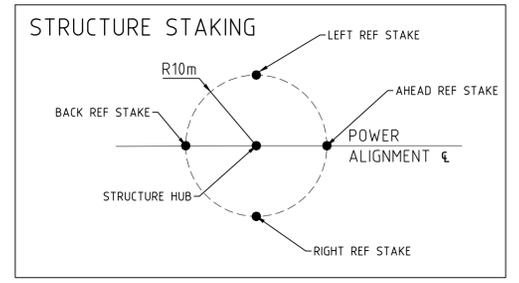
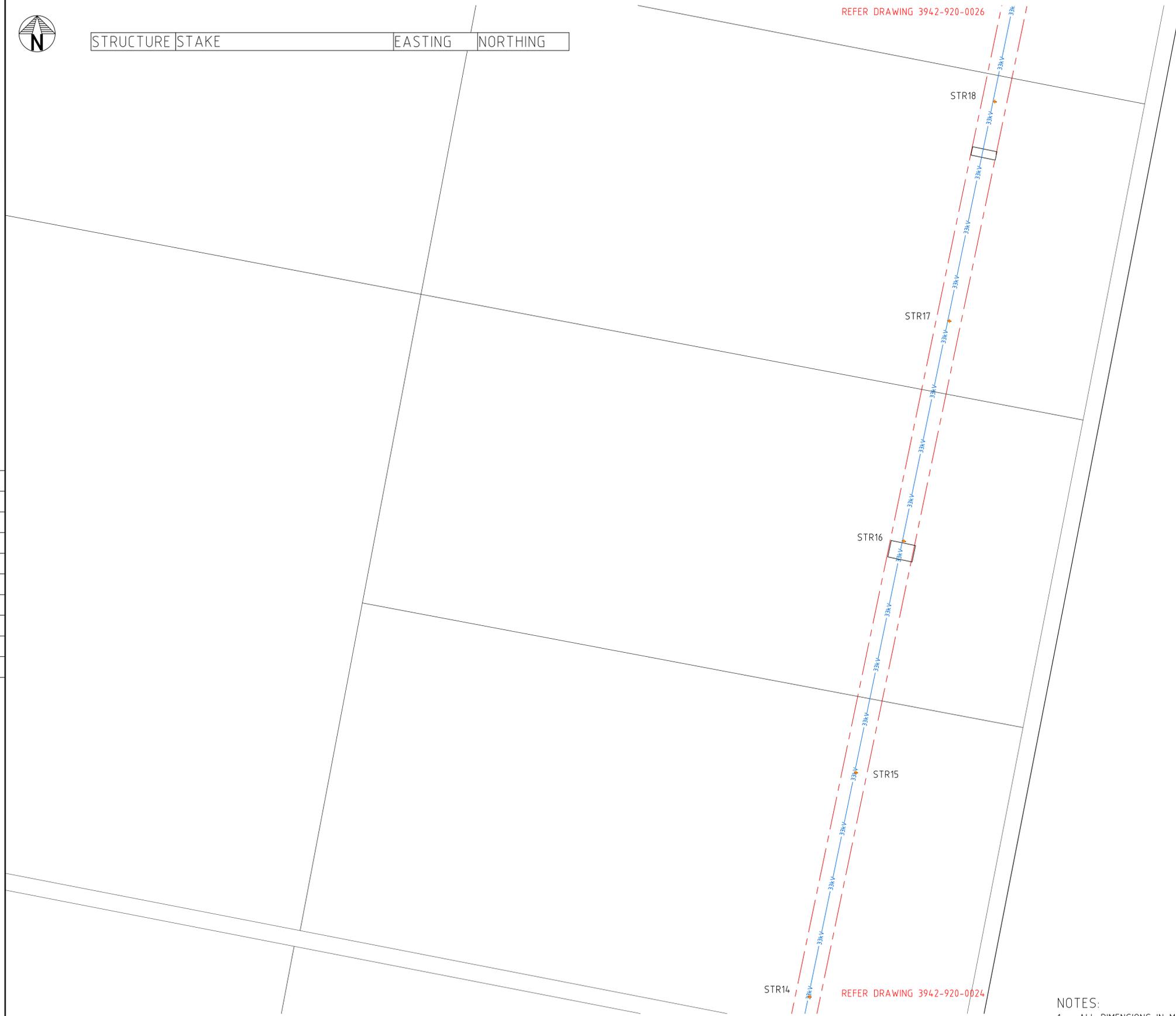


| | | |
|-----------------|---------|----------|
| STRUCTURE STAKE | EASTING | NORTHING |
|-----------------|---------|----------|

REFER DRAWING 3942-920-0026

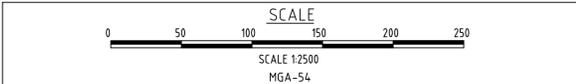
LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT



REFER DRAWING 3942-920-0024

- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM



RJE Smarter Engineering

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RJE Drawing No: 3942-920-0025

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 05 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | | D.W. | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | | D.W. | P.H. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | | D.W. | M.C. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | | D.W. | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | | D.W. | |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

DWG NO: SHWF-000-E11-0317

SIZE: A1 R 4



REFER DRAWING 3942-920-0027

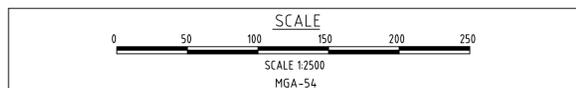
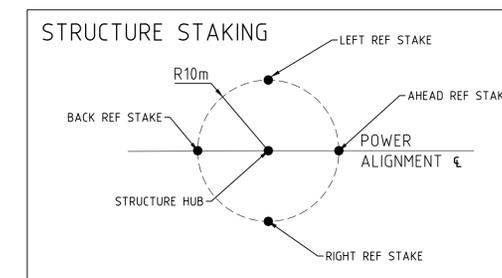


REFER DRAWING 3942-920-0025

| STRUCTURE | STAKE | EASTING | NORTHING |
|-----------|-------------------------------|------------|-------------|
| STR 19 | Left Ref Stake Structure Hub | 702597.356 | 5845867.325 |
| | Right Ref Stake Structure Hub | 702617.168 | 5845870.067 |
| | Structure Hub | 702607.262 | 5845868.696 |
| | Back Ref Stake Structure Hub | 702608.633 | 5845858.79 |
| | Ahead Ref Stake Structure Hub | 702605.891 | 5845878.602 |
| | ST1 | 702624.007 | 5845865.967 |
| | ST2 | 702622.635 | 5845875.872 |
| STR 20 | Left Ref Stake Structure Hub | 702496.974 | 5846059.171 |
| | Right Ref Stake Structure Hub | 702514.719 | 5846068.395 |
| | Structure Hub | 702505.847 | 5846063.783 |
| | Back Ref Stake Structure Hub | 702510.459 | 5846054.91 |
| | Ahead Ref Stake Structure Hub | 702501.234 | 5846072.656 |
| STR 21 | Left Ref Stake Structure Hub | 702370.378 | 5846302.697 |
| | Right Ref Stake Structure Hub | 702388.123 | 5846311.922 |
| | Structure Hub | 702379.25 | 5846307.309 |
| | Back Ref Stake Structure Hub | 702383.863 | 5846298.436 |
| STR 22 | Left Ref Stake Structure Hub | 702249.759 | 5846534.725 |
| | Right Ref Stake Structure Hub | 702267.504 | 5846543.95 |
| | Structure Hub | 702258.631 | 5846539.337 |
| | Back Ref Stake Structure Hub | 702263.244 | 5846530.464 |
| | Ahead Ref Stake Structure Hub | 702254.019 | 5846548.21 |
| STR 23 | Left Ref Stake Structure Hub | 702141.938 | 5846742.133 |
| | Right Ref Stake Structure Hub | 702159.683 | 5846751.358 |
| | Structure Hub | 702150.811 | 5846746.746 |
| | Back Ref Stake Structure Hub | 702155.423 | 5846737.873 |
| | Ahead Ref Stake Structure Hub | 702146.198 | 5846755.619 |
| | ST1 | 702155.059 | 5846727.734 |
| | ST2 | 702163.931 | 5846732.346 |
| | ST3 | 702146.562 | 5846765.758 |
| STR 24 | Left Ref Stake Structure Hub | 702032.144 | 5846953.337 |
| | Right Ref Stake Structure Hub | 702049.89 | 5846962.562 |
| | Structure Hub | 702041.017 | 5846957.95 |
| | Back Ref Stake Structure Hub | 702045.629 | 5846949.077 |
| | Ahead Ref Stake Structure Hub | 702036.405 | 5846966.822 |
| | ST1 | 702045.265 | 5846938.938 |
| | ST2 | 702054.138 | 5846943.55 |
| | ST3 | 702036.769 | 5846976.962 |
| STR 24 | ST4 | 702027.896 | 5846972.349 |

LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT



NOTES:

- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
- COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. | | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | D.W. | | D.W. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | D.W. | | D.W. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | D.W. | | D.W. |

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RJE Drawing No: 3942-920-0026

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 06 OF 10)

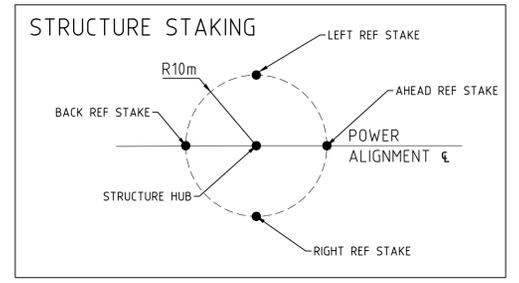
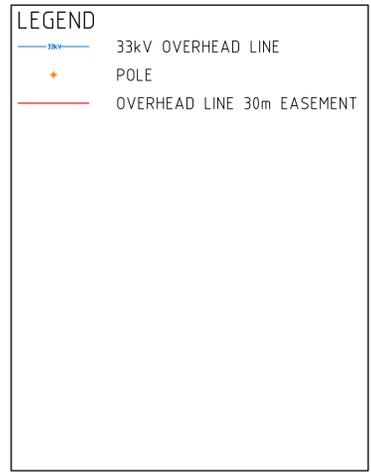
DWG NO: SHWF-000-E11-0318

SIZE: A1

R: 4



| STRUCTURE | STAKE | EASTING | NORTHING |
|-----------|-------------------------------|------------|-------------|
| STR 25 | Left Ref Stake Structure Hub | 701881.53 | 5847183.781 |
| | Right Ref Stake Structure Hub | 701898.273 | 5847194.72 |
| | Structure Hub | 701889.902 | 5847189.25 |
| | Back Ref Stake Structure Hub | 701895.372 | 5847180.879 |
| | Ahead Ref Stake Structure Hub | 701884.432 | 5847197.622 |
| STR 26 | Left Ref Stake Structure Hub | 701756.701 | 5847375.531 |
| | Right Ref Stake Structure Hub | 701775.799 | 5847381.469 |
| | Structure Hub | 701766.25 | 5847378.5 |
| | Back Ref Stake Structure Hub | 701769.219 | 5847368.951 |
| | Ahead Ref Stake Structure Hub | 701763.281 | 5847388.049 |
| | ST1 | 701749.284 | 5847378.461 |
| | ST2 | 701752.253 | 5847368.912 |
| STR 27 | Left Ref Stake Structure Hub | 701751.469 | 5847576.128 |
| | Right Ref Stake Structure Hub | 701771.463 | 5847576.611 |
| | Structure Hub | 701761.466 | 5847576.37 |
| | Back Ref Stake Structure Hub | 701761.708 | 5847566.373 |
| | Ahead Ref Stake Structure Hub | 701761.224 | 5847586.367 |
| STR 28 | Left Ref Stake Structure Hub | 701747.225 | 5847755.03 |
| | Right Ref Stake Structure Hub | 701766.995 | 5847758.05 |
| | Structure Hub | 701757.11 | 5847756.54 |
| | Back Ref Stake Structure Hub | 701758.62 | 5847746.655 |
| | Ahead Ref Stake Structure Hub | 701755.6 | 5847766.425 |
| | ST1 | 701773.892 | 5847754.046 |
| | ST2 | 701772.381 | 5847763.931 |
| STR 29 | Left Ref Stake Structure Hub | 701694.611 | 5847938.359 |
| | Right Ref Stake Structure Hub | 701713.837 | 5847943.868 |
| | Structure Hub | 701704.224 | 5847941.114 |
| | Back Ref Stake Structure Hub | 701706.978 | 5847931.5 |
| | Ahead Ref Stake Structure Hub | 701701.469 | 5847950.727 |
| STR 30 | Left Ref Stake Structure Hub | 701647.733 | 5848101.964 |
| | Right Ref Stake Structure Hub | 701666.959 | 5848107.473 |
| | Structure Hub | 701657.346 | 5848104.718 |
| | Back Ref Stake Structure Hub | 701660.1 | 5848095.105 |
| | Ahead Ref Stake Structure Hub | 701654.591 | 5848114.331 |



- NOTES:
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM

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RJE Drawing No: 3942-920-0027

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
 Joint venture STOCKYARD HILL WIND FARM
 BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP
 33kV OVERHEAD LINE
 EQUIPMENT LAYOUT
 (SHEET 07 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | | D.W. | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | | D.W. | P.H. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | | D.W. | M.C. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | | D.W. | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | | D.W. | |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |



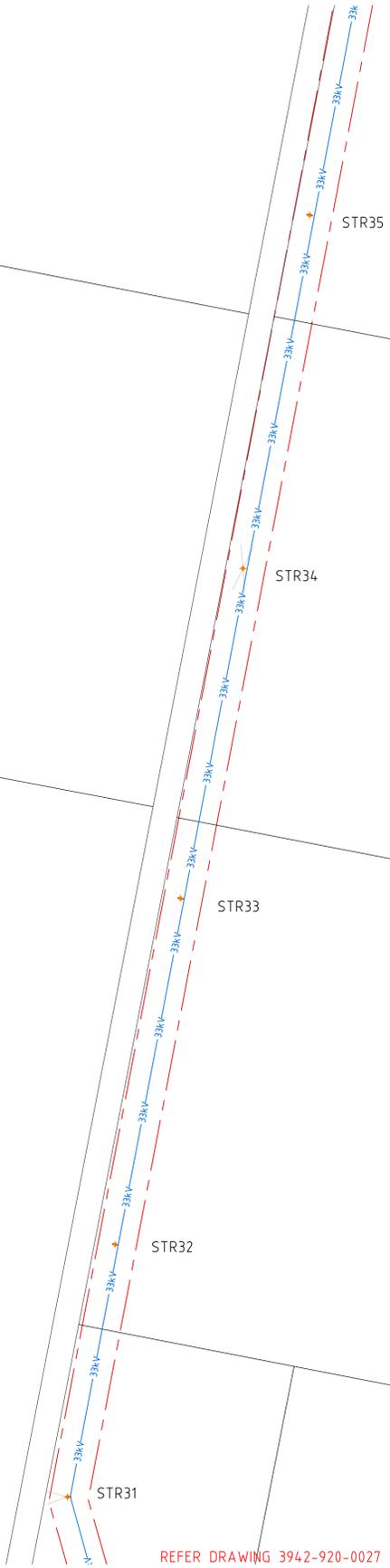
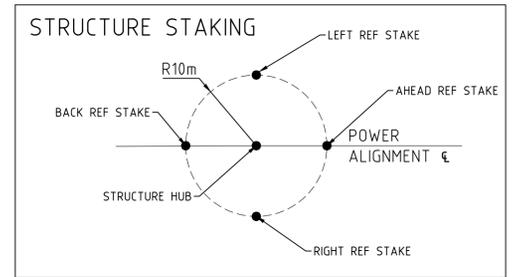
REFER DRAWING 3942-920-0029

TOPPERS LN

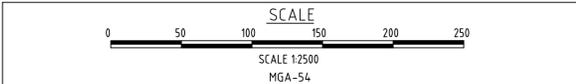
LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT

| STRUCTURE | STAKE | EASTING | NORTHING |
|-----------|-------------------------------|------------|-------------|
| STR 31 | Left Ref Stake Structure Hub | 701603.338 | 5848257.882 |
| | Right Ref Stake Structure Hub | 701623.317 | 5848258.802 |
| | Structure Hub | 701613.328 | 5848258.342 |
| | Back Ref Stake Structure Hub | 701613.787 | 5848248.352 |
| | Ahead Ref Stake Structure Hub | 701612.868 | 5848268.331 |
| | ST1 | 701596.903 | 5848262.591 |
| | ST2 | 701597.362 | 5848252.602 |
| STR 32 | Left Ref Stake Structure Hub | 701640.84 | 5848457.458 |
| | Right Ref Stake Structure Hub | 701660.491 | 5848453.739 |
| | Structure Hub | 701650.666 | 5848455.598 |
| | Back Ref Stake Structure Hub | 701648.806 | 5848445.773 |
| | Ahead Ref Stake Structure Hub | 701652.525 | 5848465.424 |
| STR 33 | Left Ref Stake Structure Hub | 701692.053 | 5848728.019 |
| | Right Ref Stake Structure Hub | 701711.705 | 5848724.299 |
| | Structure Hub | 701701.879 | 5848726.159 |
| | Back Ref Stake Structure Hub | 701700.019 | 5848716.334 |
| | Ahead Ref Stake Structure Hub | 701703.739 | 5848735.985 |
| STR 34 | Left Ref Stake Structure Hub | 701740.872 | 5848985.925 |
| | Right Ref Stake Structure Hub | 701760.523 | 5848982.206 |
| | Structure Hub | 701750.697 | 5848984.065 |
| | Back Ref Stake Structure Hub | 701748.837 | 5848974.24 |
| | Ahead Ref Stake Structure Hub | 701752.557 | 5848993.891 |
| | ST1 | 701742.283 | 5848966.496 |
| | ST2 | 701752.108 | 5848964.636 |
| | ST3 | 701759.112 | 5849001.635 |
| STR 35 | Left Ref Stake Structure Hub | 701793.151 | 5849262.119 |
| | Right Ref Stake Structure Hub | 701812.802 | 5849258.399 |
| | Structure Hub | 701802.977 | 5849260.259 |
| | Back Ref Stake Structure Hub | 701801.117 | 5849250.434 |
| | Ahead Ref Stake Structure Hub | 701804.837 | 5849270.085 |



REFER DRAWING 3942-920-0027



- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM

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R/E Drawing No: 3942-920-0028

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 08 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | | D.W. | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | | D.W. | P.H. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | | D.W. | M.C. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | | D.W. | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | | D.W. | INSP |
| | | | | | | | | | | REV |
| | | | | | | | | | | ACPT |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |



REFER DRAWING 3942-920-0030

STRUCTURE STAKE EASTING NORTHING

LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT

STR39

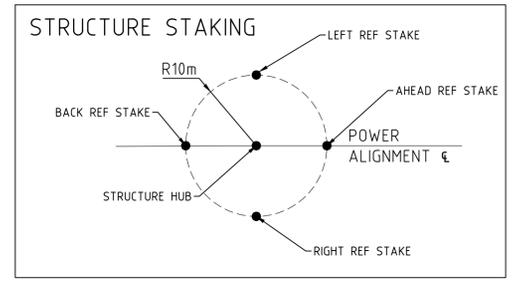
STR38

STR37

STR36

TOPPERS LN

REFER DRAWING 3942-920-0028



- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM



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RJE Drawing No: 3942-920-0029

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 09 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT |
|----|---------------------------|----------|----------|--------------|-------------|------|-----|------|--------------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. | D.SGN |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | D.W. | INDEP CHK |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | D.W. | DFTG CHK |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | D.W. | DFTG CHK |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | D.W. | INSP |
| | | | | | | | | | REV |
| | | | | | | | | | ACPT |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

DWG NO: SHWF-000-E11-0321

DATE: DIST: -

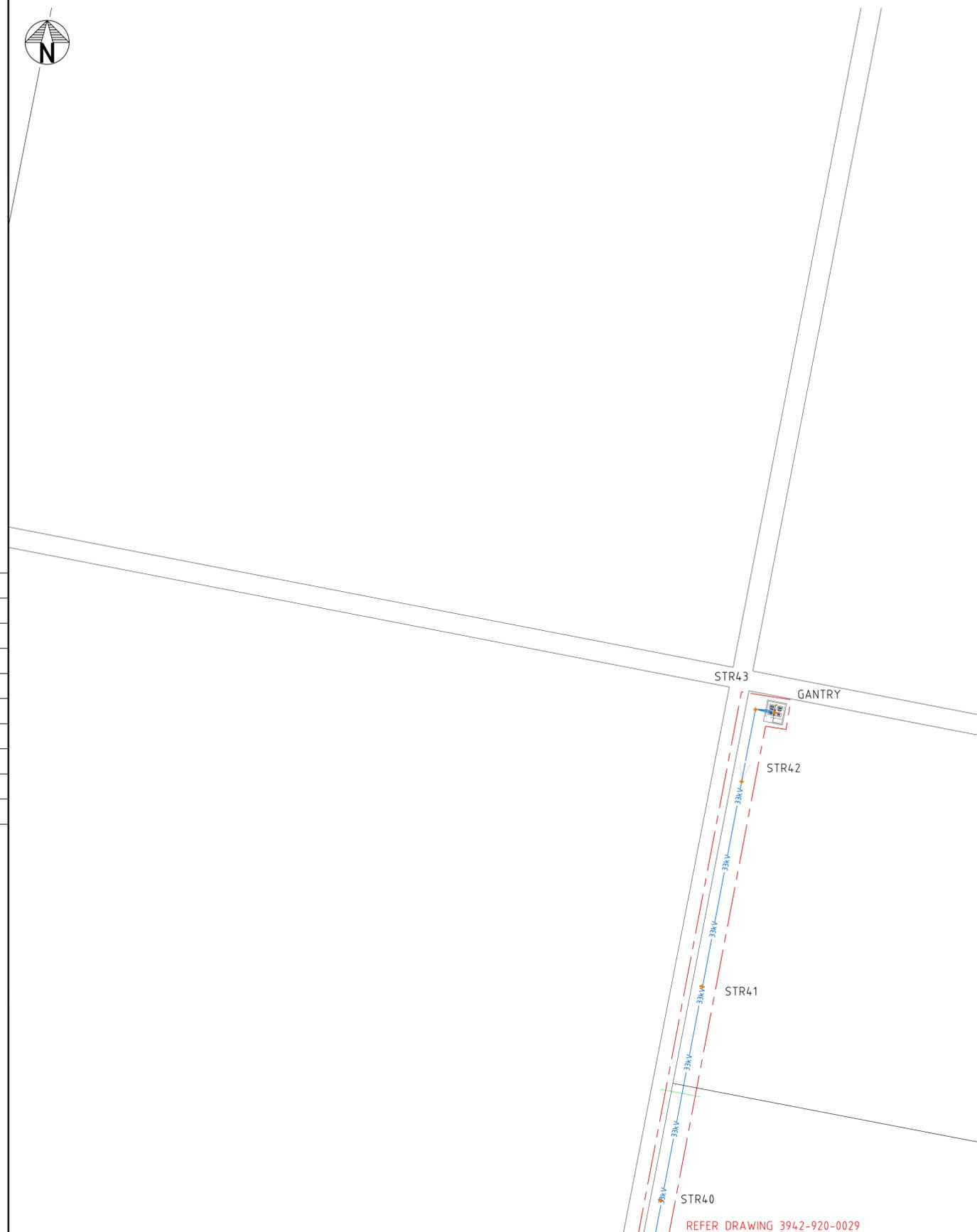
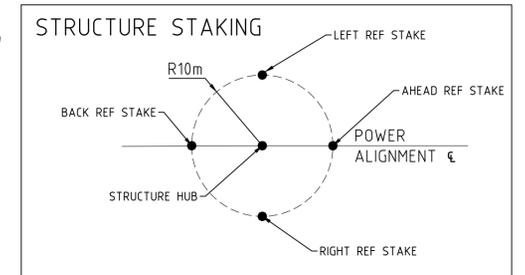
SIZE: A1 R 4



| STRUCTURE | STAKE | EASTING | NORTHING |
|-----------|-------------------------------|------------|-------------|
| STR 40 | Left Ref Stake Structure Hub | 702066.162 | 5850678.291 |
| | Right Ref Stake Structure Hub | 702085.796 | 5850674.487 |
| | Structure Hub | 702075.979 | 5850676.389 |
| | Back Ref Stake Structure Hub | 702074.077 | 5850666.572 |
| | Ahead Ref Stake Structure Hub | 702077.881 | 5850686.206 |
| STR 41 | Left Ref Stake Structure Hub | 702107.378 | 5850891 |
| | Right Ref Stake Structure Hub | 702127.013 | 5850887.195 |
| | Structure Hub | 702117.196 | 5850889.098 |
| | Back Ref Stake Structure Hub | 702115.293 | 5850879.28 |
| | Ahead Ref Stake Structure Hub | 702119.098 | 5850898.915 |
| STR 42 | Left Ref Stake Structure Hub | 702146.895 | 5851094.937 |
| | Right Ref Stake Structure Hub | 702166.53 | 5851091.132 |
| | Structure Hub | 702156.713 | 5851093.034 |
| | Back Ref Stake Structure Hub | 702154.81 | 5851083.217 |
| | Ahead Ref Stake Structure Hub | 702158.615 | 5851102.852 |
| | ST3 | 702161.57 | 5851108.142 |
| STR 43 | Left Ref Stake Structure Hub | 702164.856 | 5851172.987 |
| | Right Ref Stake Structure Hub | 702176.388 | 5851156.647 |
| | Structure Hub | 702170.622 | 5851164.817 |
| | Back Ref Stake Structure Hub | 702162.452 | 5851159.051 |
| | Ahead Ref Stake Structure Hub | 702178.792 | 5851170.583 |
| GANTRY | Left Ref Stake Structure Hub | 702191.054 | 5851171.838 |
| | Right Ref Stake Structure Hub | 702188.06 | 5851152.063 |
| | Structure Hub | 702189.557 | 5851161.95 |
| | Back Ref Stake Structure Hub | 702179.67 | 5851163.447 |
| | Ahead Ref Stake Structure Hub | 702199.445 | 5851160.454 |

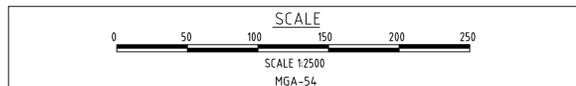
LEGEND

- 33kV OVERHEAD LINE
- POLE
- OVERHEAD LINE 30m EASEMENT



REFER DRAWING 3942-920-0029

- NOTES:**
- ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 - COORDINATE SYSTEM IS MAP GRID OF AUSTRALIA ZONE 54 USING GDA 94 DATUM



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R/E Drawing No:
3942-920-0030

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
EQUIPMENT LAYOUT
(SHEET 10 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|-----------|------|
| 4 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. | D.SGN | D.W. |
| 3 | STAYS REMOVED STR 13 | 20.02.20 | D.W. | | M.C. | D.W. | | D.W. | INDEP CHK | P.H. |
| 2 | POLE 42 MOVED | 31.01.20 | D.W. | | M.C. | D.W. | | D.W. | DFTG CHK | M.C. |
| 1 | POLE 6 MOVED | 03.12.19 | D.W. | | M.C. | D.W. | | D.W. | DFTG CHK | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | M.C. | D.W. | | D.W. | INSP | |
| | | | | | | | | | REV | |
| | | | | | | | | | ACPT | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE | NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT | ACPT | D.W. | DATE | DIST | DWG NO | SIZE | R |
|------|----------------|--------------------|------|----------------|--------------------|----|---------|------|----------|-----------|----------|------|-----|------|------|------|------|------|-------------------|------|---|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS | | | | | | | | | | | | | | SHWF-000-E11-0322 | A1 | 4 |

Appendix C – Plan & Profile Drawings

SHWF-000-E11-0303 (3942-920-0001)

SHWF-000-E11-0304 (3942-920-0002)

SHWF-000-E11-0305 (3942-920-0003)

SHWF-000-E11-0306 (3942-920-0004)

SHWF-000-E11-0307 (3942-920-0005)

SHWF-000-E11-0308 (3942-920-0006)

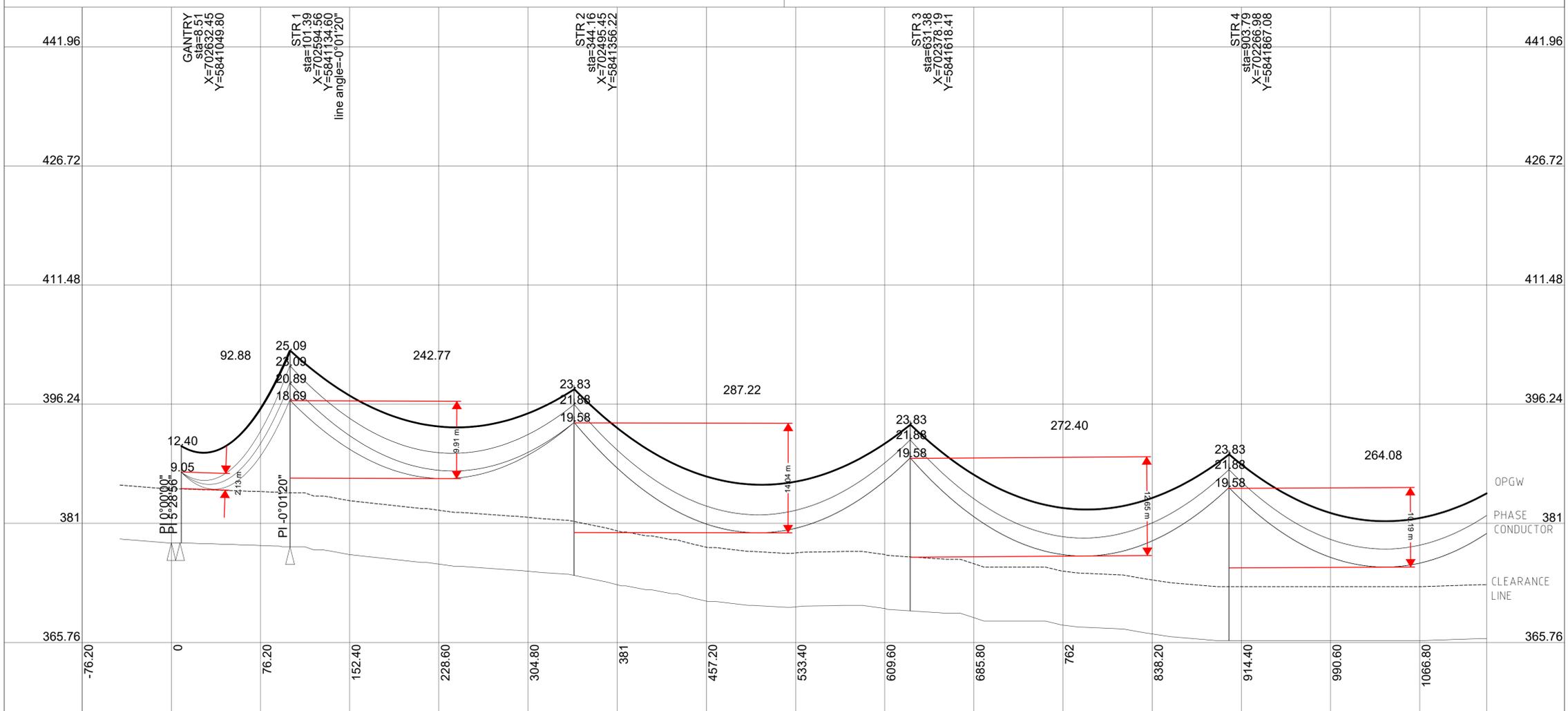
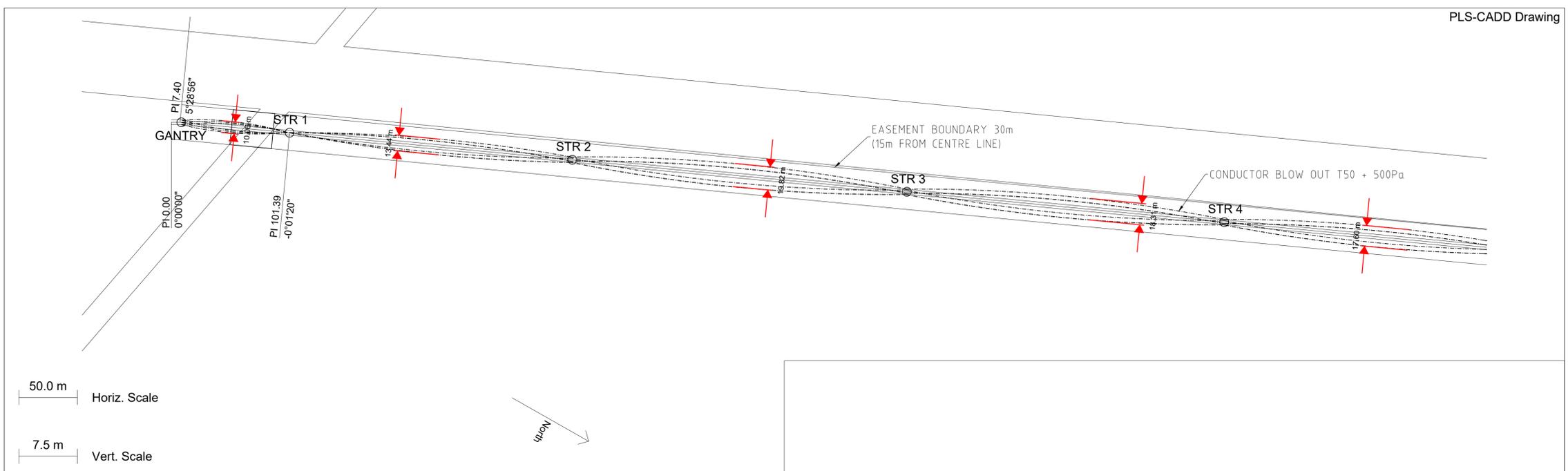
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SHWF-000-E11-0310 (3942-920-0008)

SHWF-000-E11-0311 (3942-920-0009)

SHWF-000-E11-0312 (3942-920-0010)

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C.
 2. EARTHWIRE IS DISPLAYED AT 50°C.
 3. ADSS IS DISPLAYED AT 50°C.
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



RJE *Smart Engineering*

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RJE Drawing No: **3942-920-0001**

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

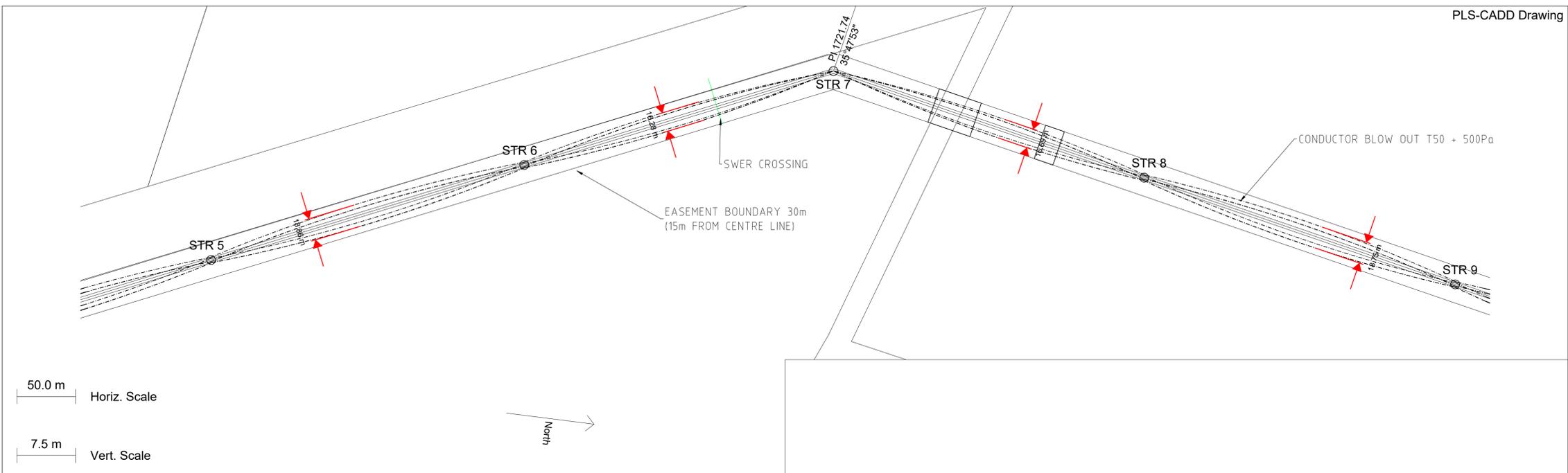
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 1 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

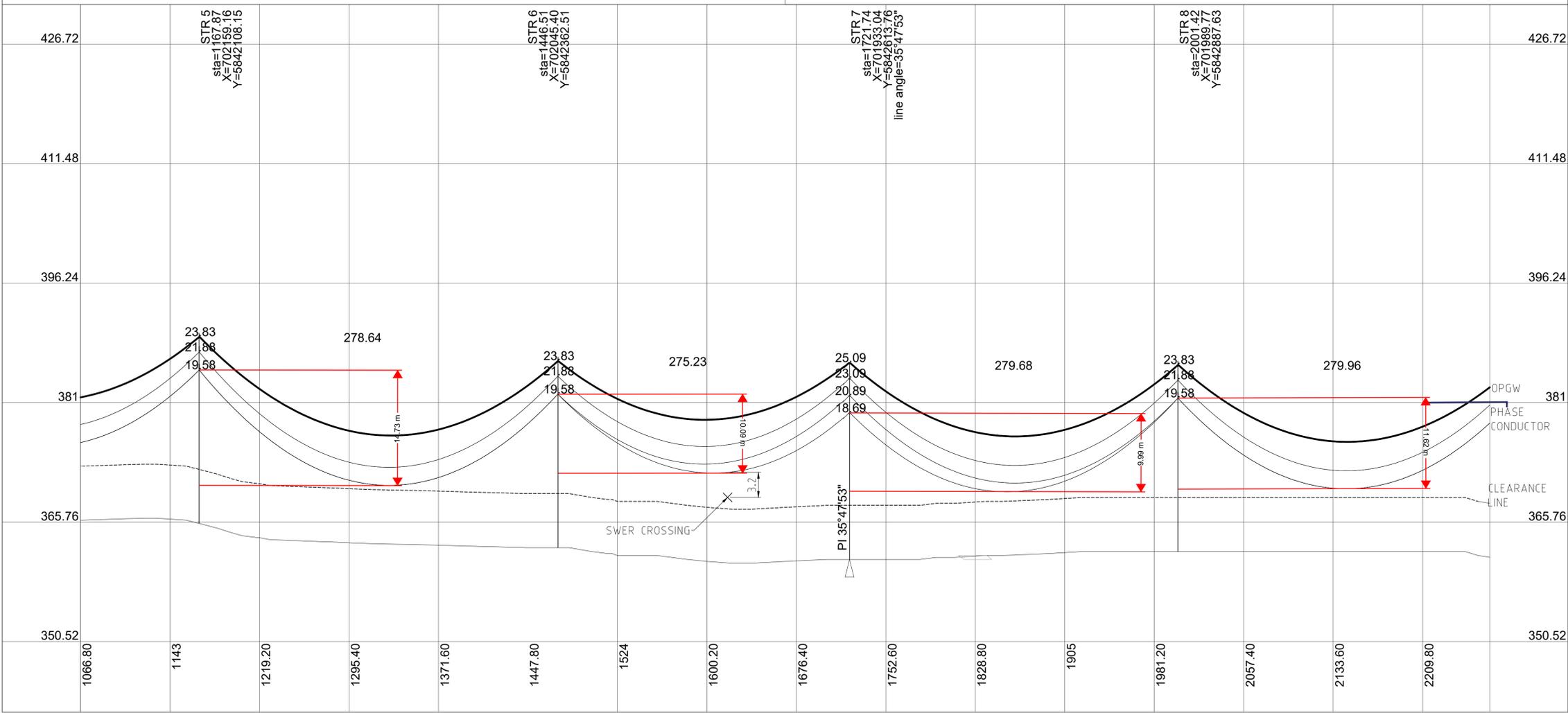
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|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| | | | | | | | | |
|-----------|------|--|--|--|--|--|--|--|
| DSGN | D.W. | | | | | | | |
| INDEP CHK | P.H. | | | | | | | |
| DFTG | R.Y. | | | | | | | |
| DFTG CHK | D.W. | | | | | | | |
| INSP | | | | | | | | |
| REV | | | | | | | | |
| ACPT | D.W. | | | | | | | |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale
7.5 m Vert. Scale



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RJE Drawing No: 3942-920-0002
LEVEL B DOCUMENT ID: B-98/100/102
SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

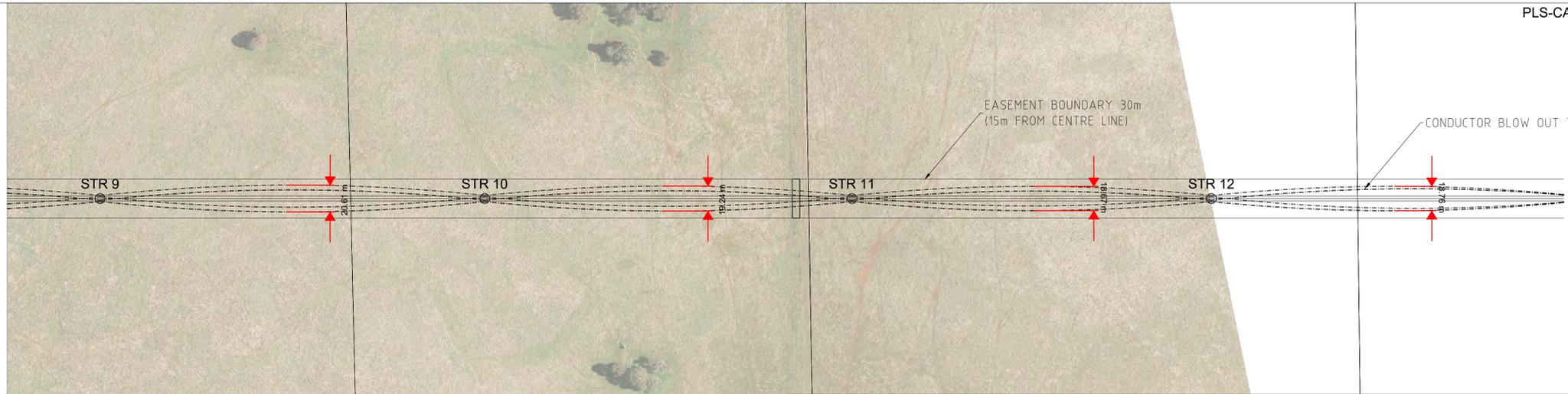
STOCKYARD HILL WIND FARM, BOP
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 2 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

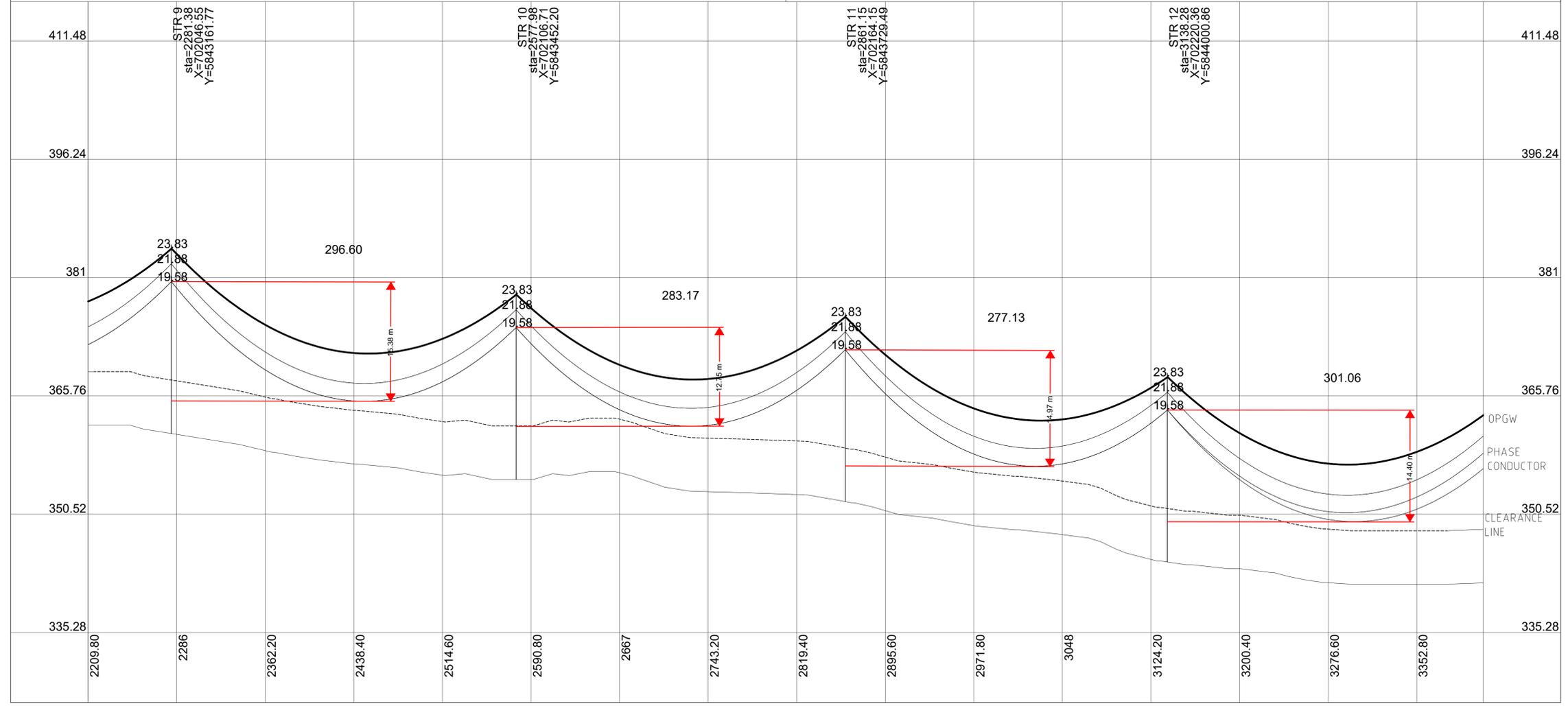
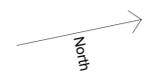
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|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT | DATE | DIST | DWG NO | SIZE | R |
|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | | | | | | | | | SHWF-000-E11-0304 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale
7.5 m Vert. Scale



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RJE Drawing No: 3942-920-0003

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

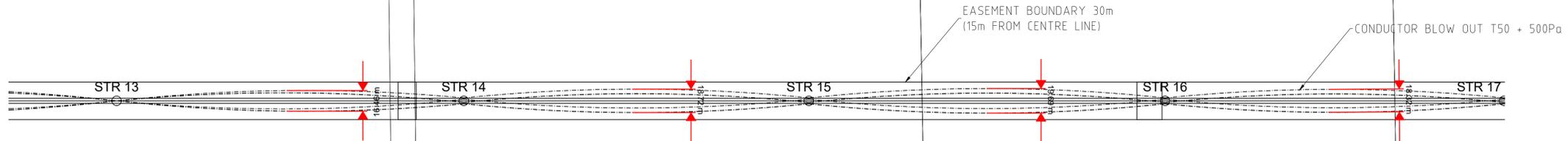
STOCKYARD HILL WIND FARM, BOP
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 3 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

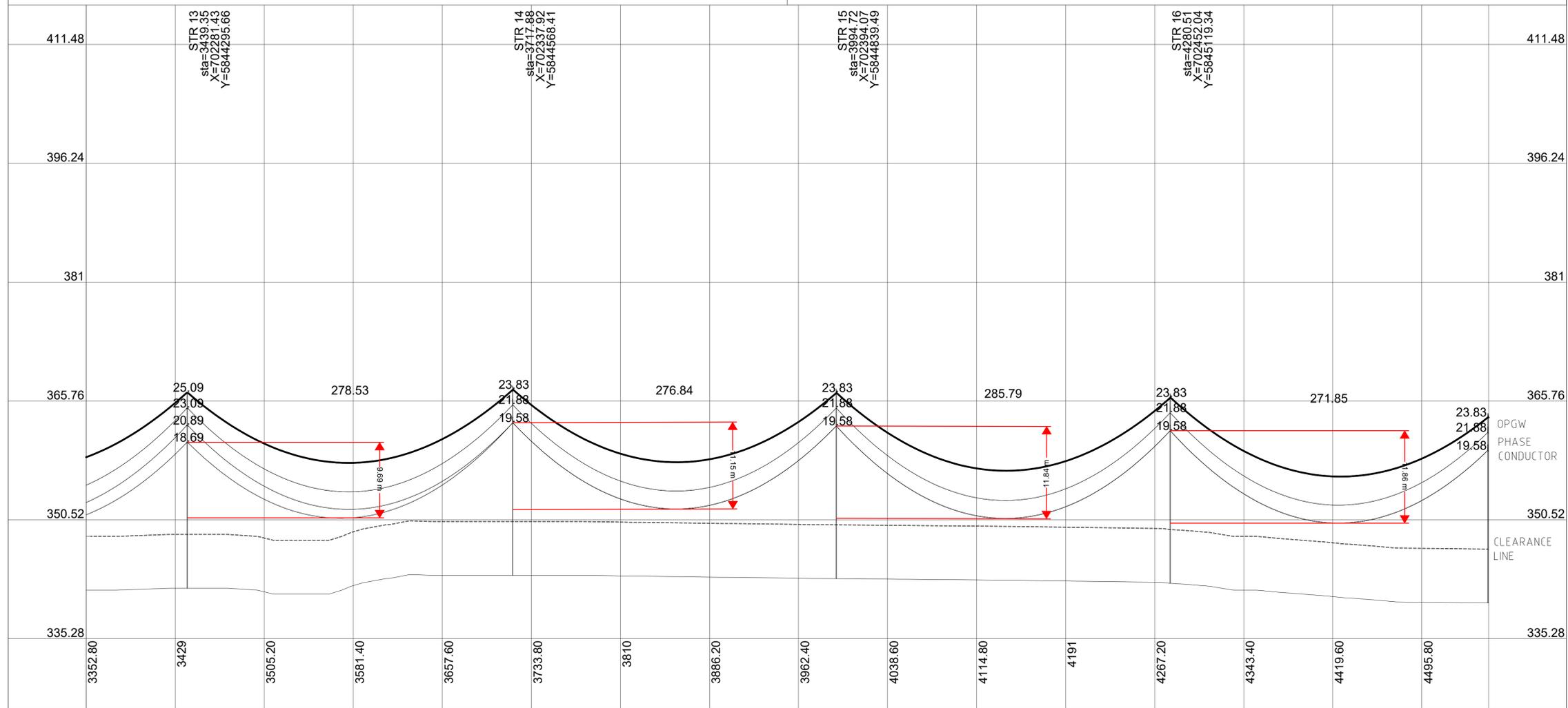
| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT | DATE | DIST | DWG NO | SIZE | R |
|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | | | | | | | | | SHWF-000-E11-0305 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale

7.5 m Vert. Scale



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RJE Drawing No: 3942-920-0004

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
 Joint venture STOCKYARD HILL WIND FARM
 BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

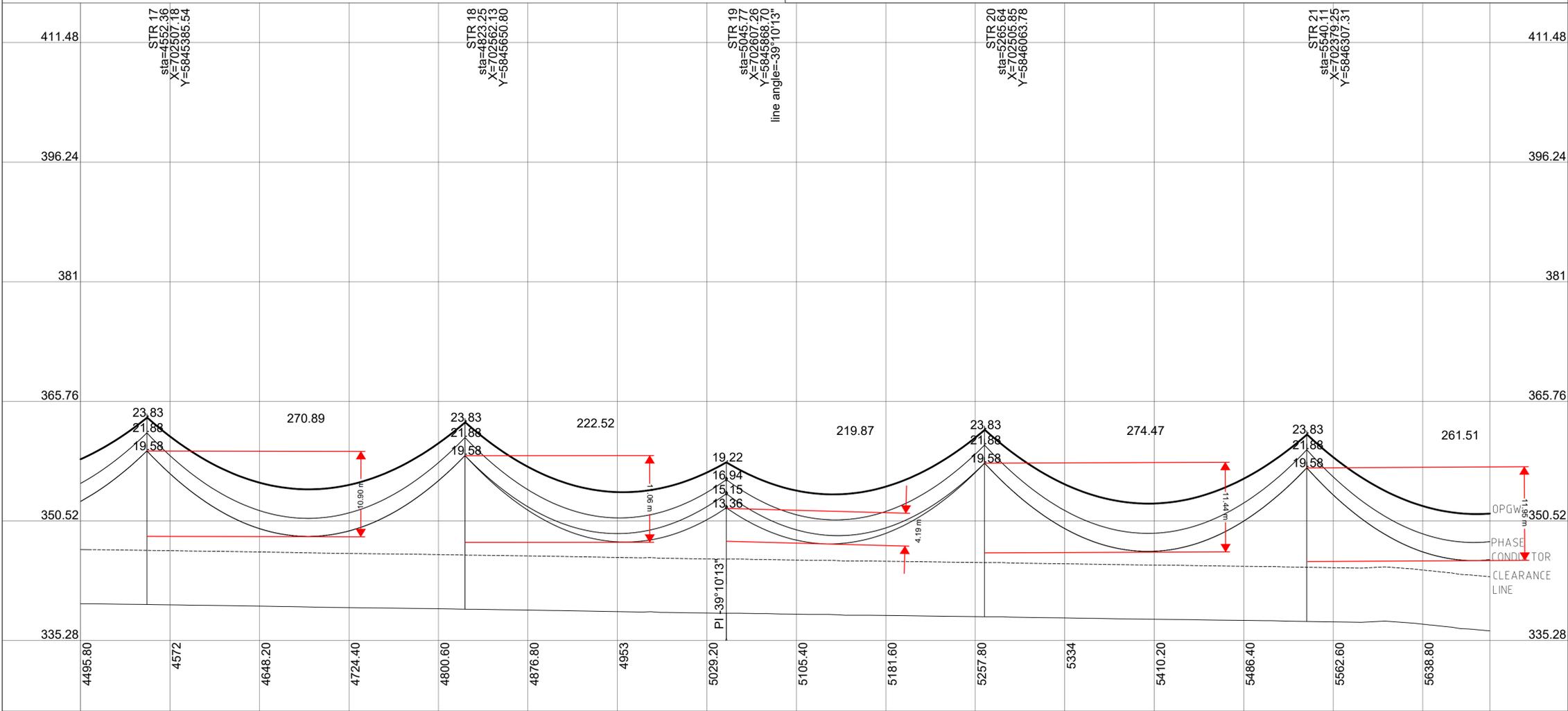
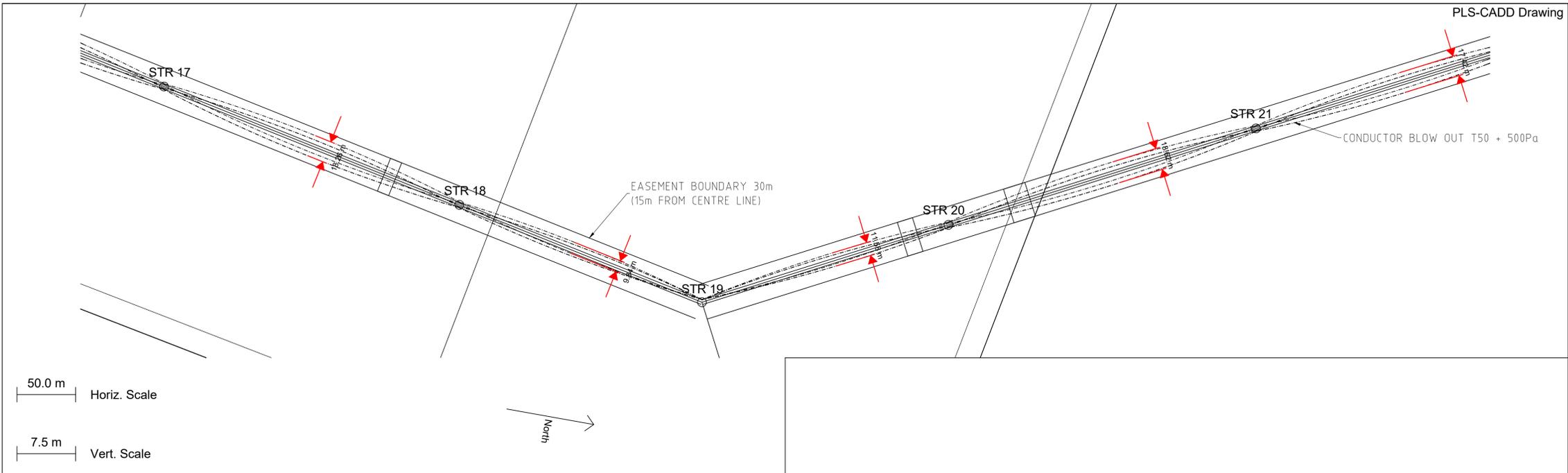
STOCKYARD HILL WIND FARM, BOP
 33kV OVERHEAD LINE
 PLAN AND PROFILE
 (SHEET 4 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT | DATE | DIST | DWG NO | SIZE | R |
|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | P.H. | | R.Y. | | | D.W. | | | SHWF-000-E11-0306 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C.
 2. EARTHWIRE IS DISPLAYED AT 50°C.
 3. ADSS IS DISPLAYED AT 50°C.
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



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RJE Drawing No: 3942-920-0005

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

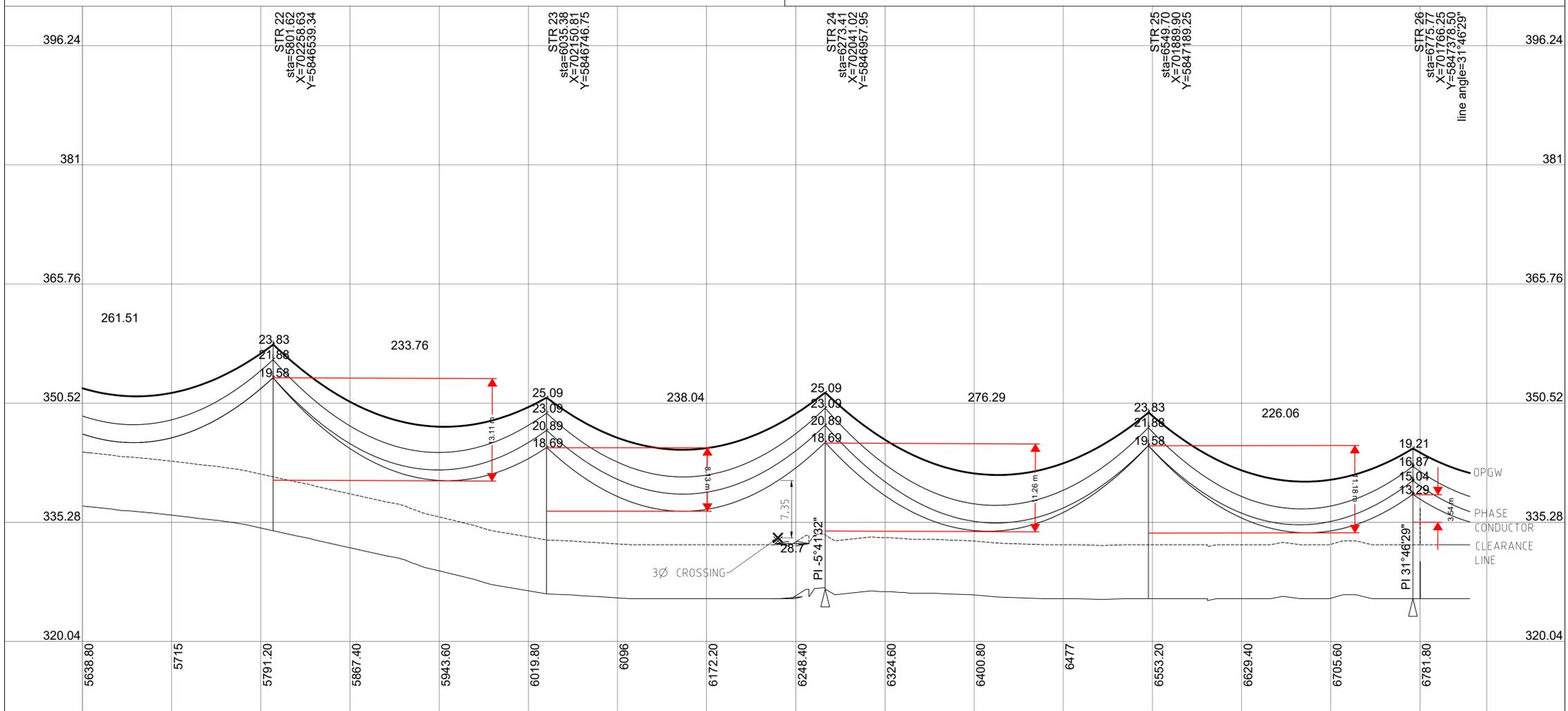
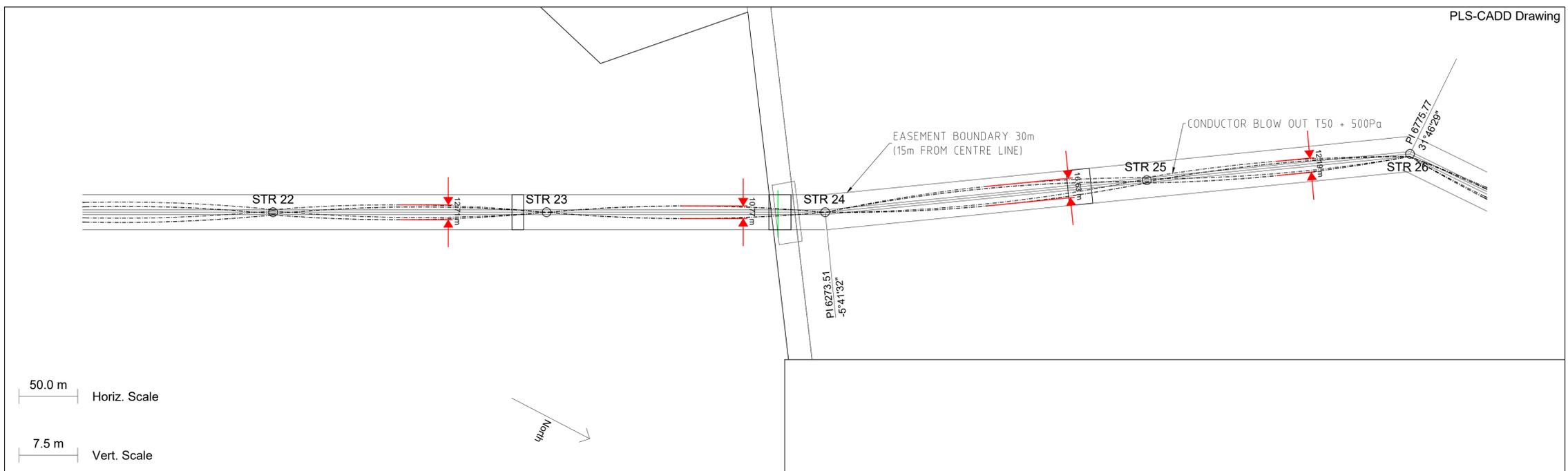
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 5 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT | DATE | DIST | DWG NO | SIZE | R |
|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | | | | | | | | | SHWF-000-E11-0307 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



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RJE Drawing No: 3942-920-0006

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL **GOLDWIND**
Wind Farm

STOCKYARD HILL WIND FARM, BOP

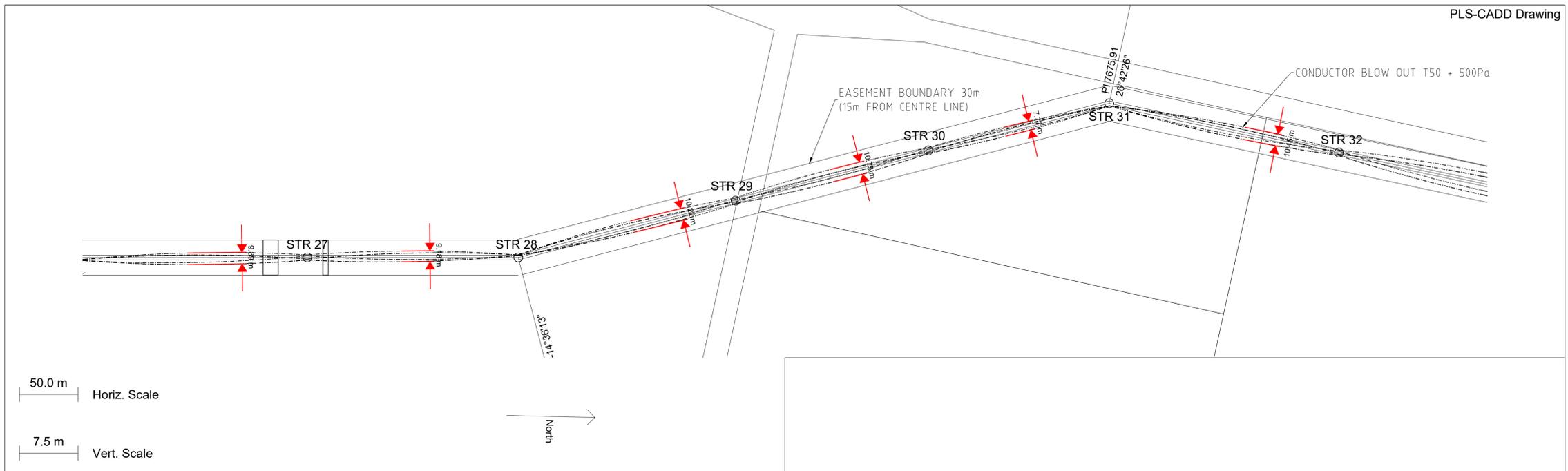
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 6 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

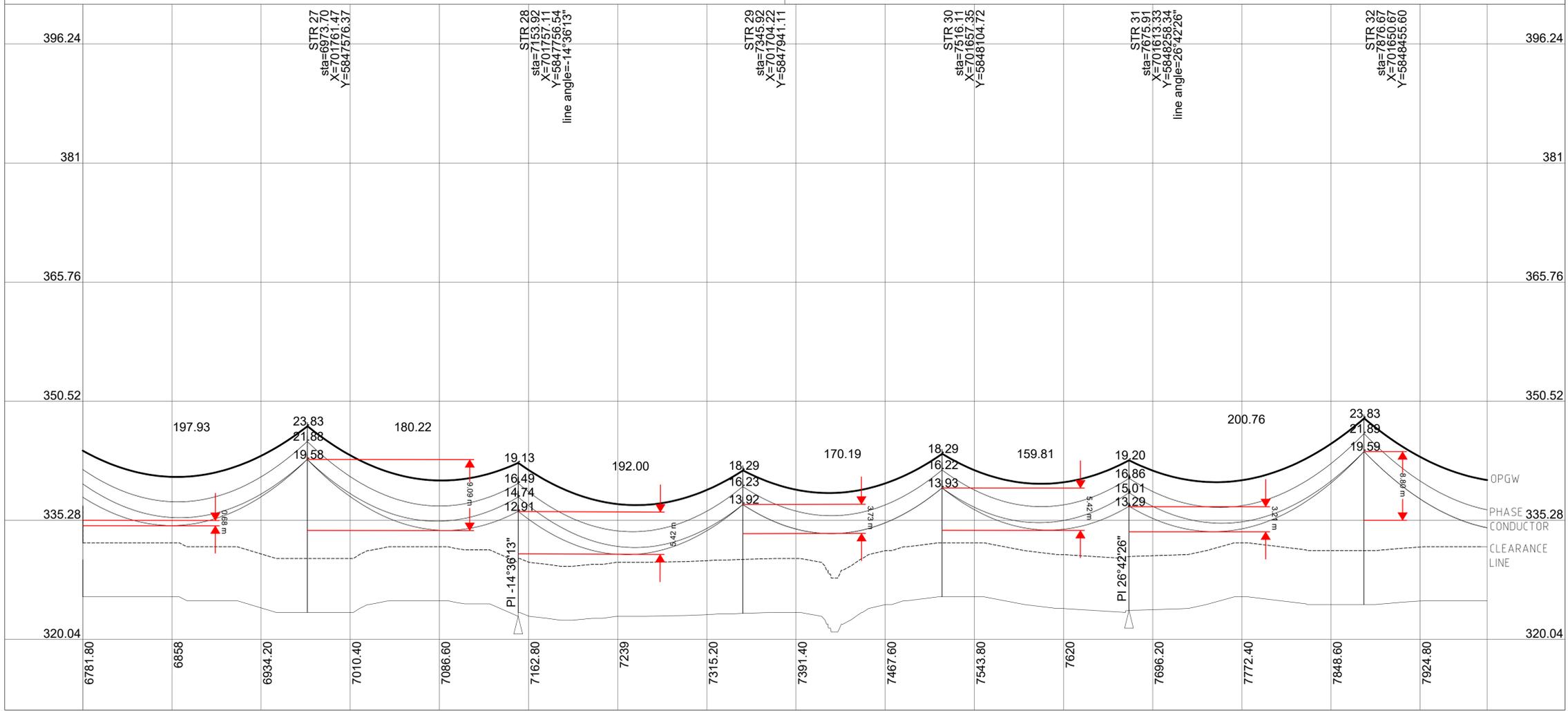
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|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT | DATE | DIST | DWG NO | SIZE | R |
|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | | | | | | | | | SHWF-000-E11-0308 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale
7.5 m Vert. Scale



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RJE Drawing No: 3942-920-0007

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

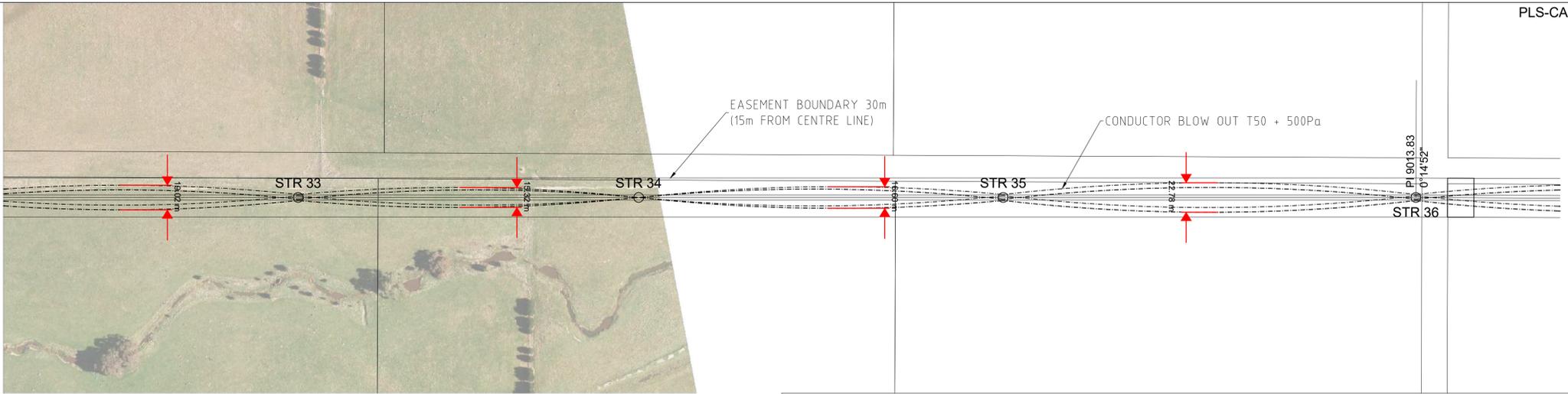
STOCKYARD HILL WIND FARM, BOP
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 7 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
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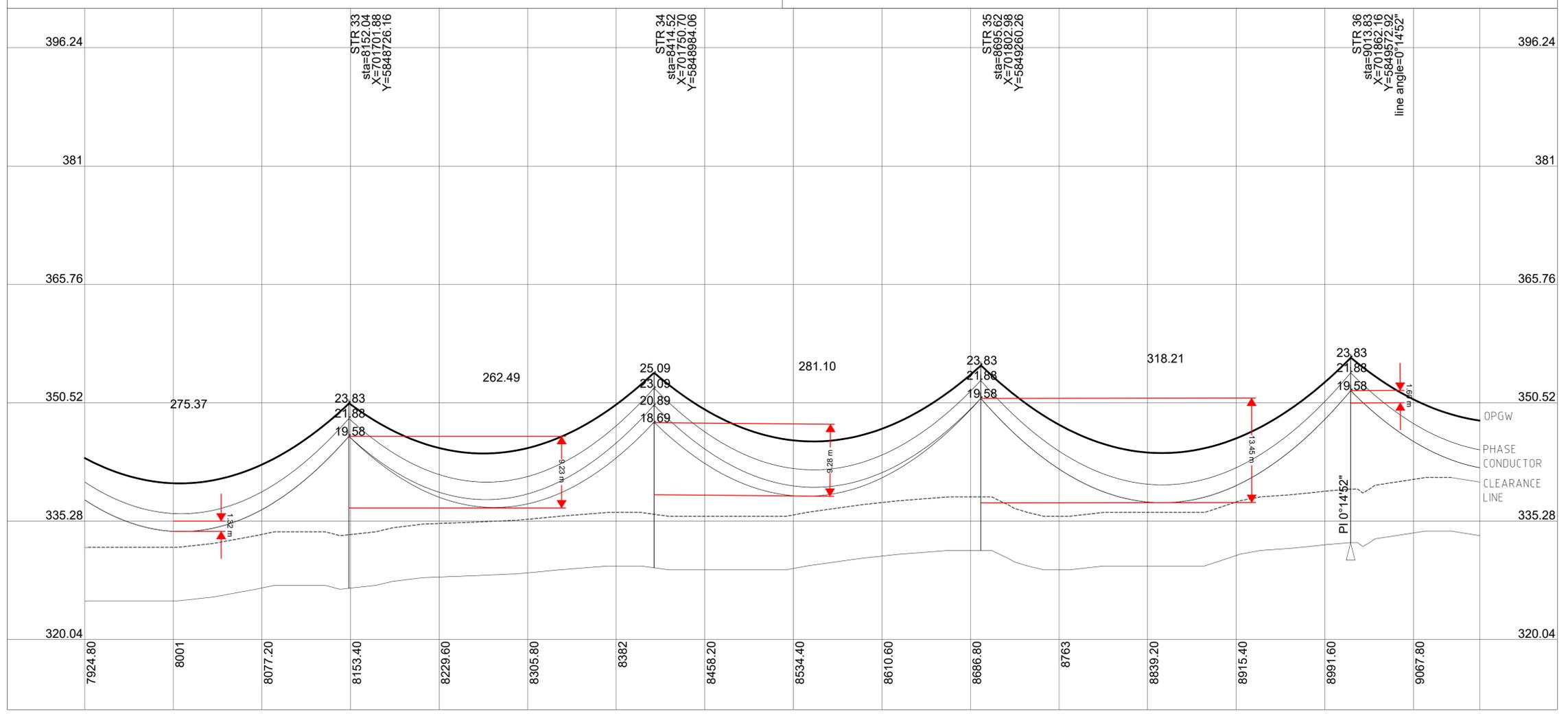
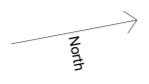
| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT | DATE | DIST | DWG NO | SIZE | R |
|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | P.H. | | R.Y. | | | | | | SHWF-000-E11-0309 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale

7.5 m Vert. Scale



RJE *Smart Engineering*

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RJE Drawing No: 3942-920-0008

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

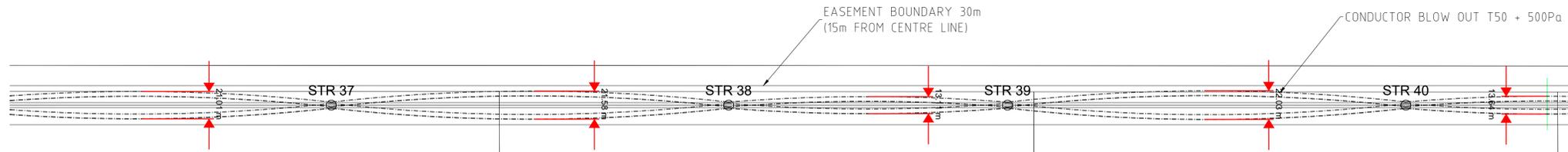
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 8 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

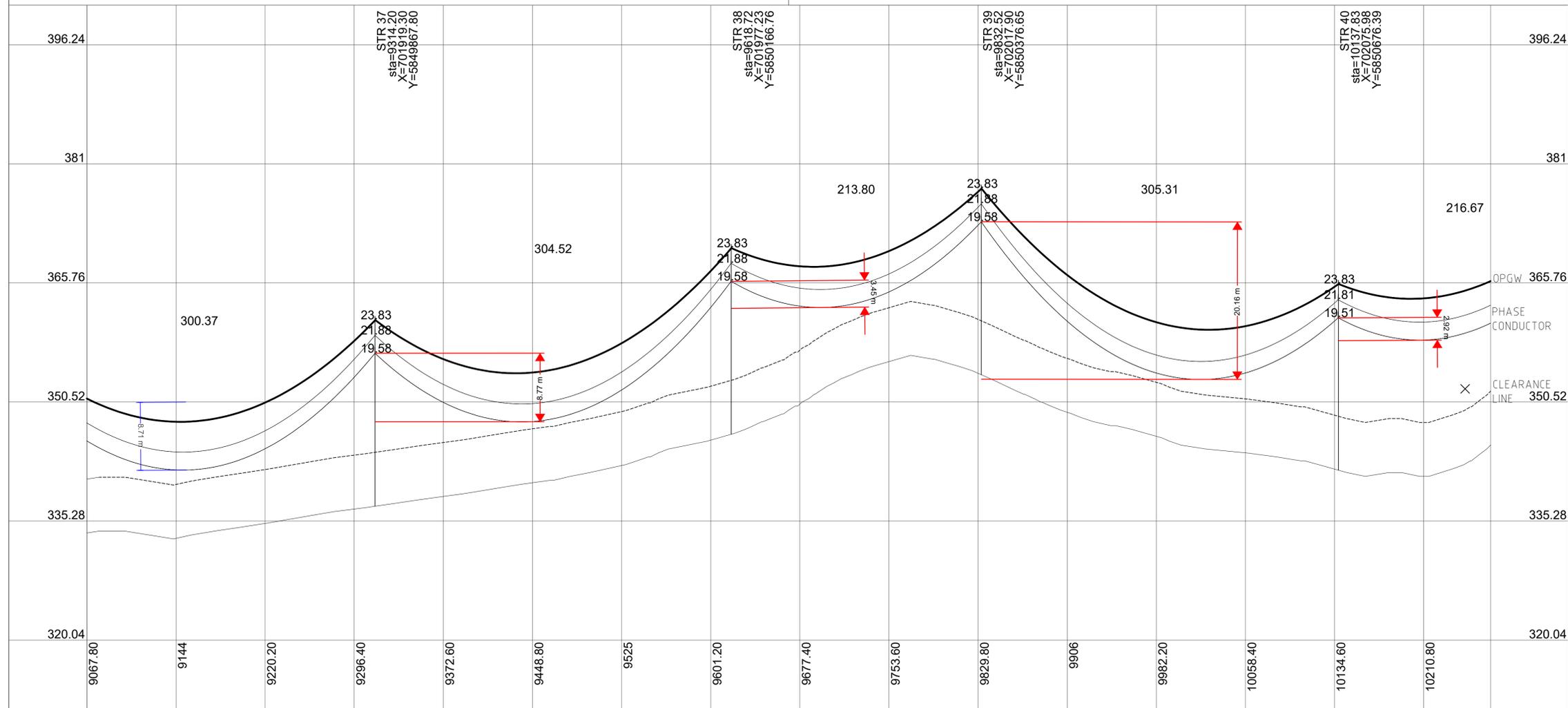
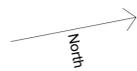
| DSGN | D.W. | DATE | DIST | DWG NO | SIZE | R |
|-----------|------|------|------|-------------------|------|---|
| INDEP CHK | P.H. | | | SHWF-000-E11-0310 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale

7.5 m Vert. Scale



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RJE Drawing No: 3942-920-0009

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
 Joint venture STOCKYARD HILL WIND FARM
 BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

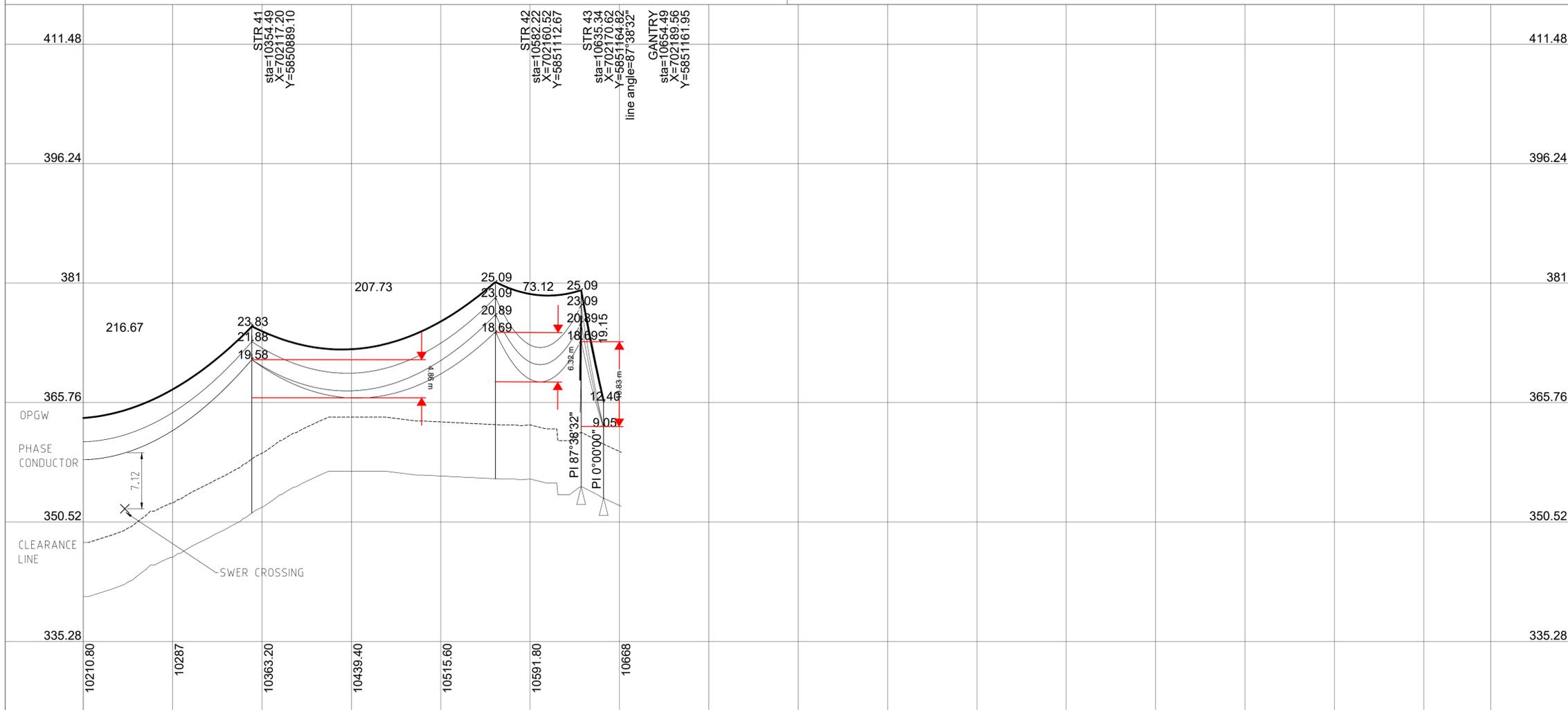
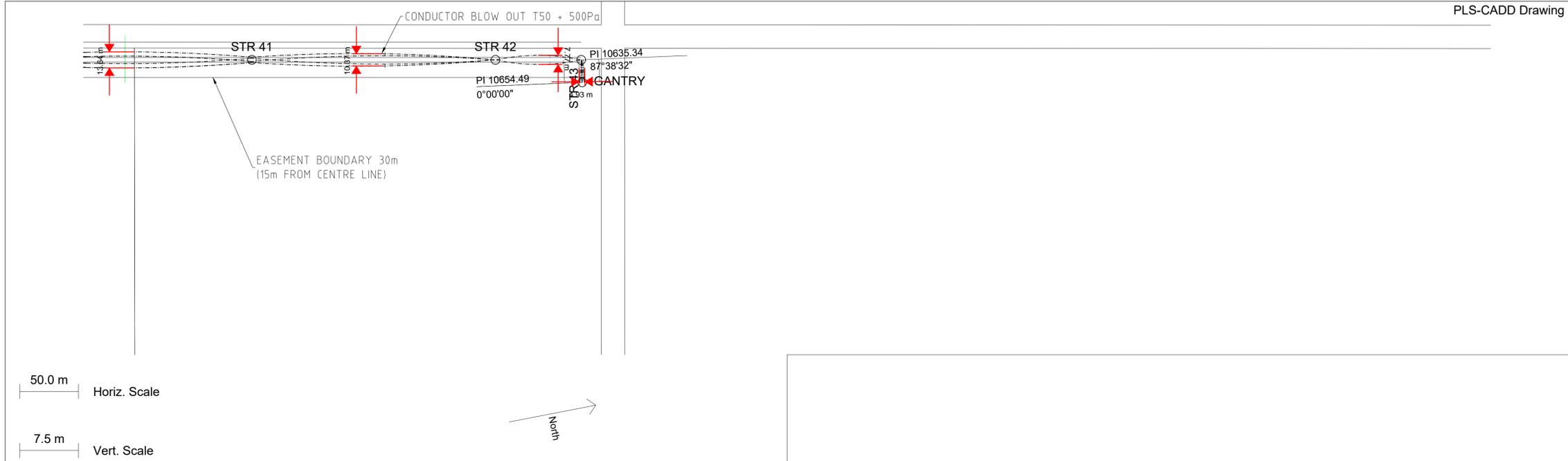
STOCKYARD HILL WIND FARM, BOP
 33kV OVERHEAD LINE
 PLAN AND PROFILE
 (SHEET 9 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | DATE | DIST | DWG NO | SIZE | R |
|-----------|------|------|------|-------------------|------|---|
| INDEP CHK | P.H. | | | SHWF-000-E11-0311 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 3. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



RJE
Smart
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RJE Drawing No:
3942-920-0010

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 10 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|--------------|-------------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
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| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | DATE | DIST | DWG NO | SIZE | R |
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| DFTG CHK | R.Y. | | | | | |
| INSP | D.W. | | | | | |
| REV | | | | | | |
| ACPT | D.W. | | | | | |

Appendix D – Minimum Horizontal and Vertical Clearances with AD included in the calculations

| Structure No. | Span Distance (SD) (m) | 1/6 of SD (Distance from structure) (m) | 2/3 of Line Span | | | | | |
|---------------|------------------------|---|------------------|-----------------------------------|--------------------------------|---------------------------|-----------------------------|----------------------------------|
| | | | AD (m) | Sag at 75deg C from structure (m) | Minimum Vertical Clearance (m) | Max Sway edge to edge (m) | Max. sway fr centreline (m) | Minimum Horizontal Clearance (m) |
| GANTRY | 92.88 | 15.5 | 1.58 | 2.1 | 3.7 | 10.1 | 5.1 | 6.6 |
| P1 | 242.77 | 40.5 | 1.83 | 9.9 | 11.7 | 13.4 | 6.7 | 8.5 |
| P2 | 287.22 | 47.9 | 1.90 | 14.0 | 15.9 | 19.8 | 9.9 | 11.8 |
| P3 | 272.40 | 45.4 | 1.88 | 12.6 | 14.5 | 18.3 | 9.2 | 11.0 |
| P4 | 264.08 | 44.0 | 1.86 | 10.2 | 12.1 | 17.6 | 8.8 | 10.7 |
| P5 | 305.49 | 50.9 | 1.93 | 14.7 | 16.6 | 18.9 | 9.5 | 11.4 |
| P6 | 248.38 | 41.4 | 1.84 | 10.1 | 11.9 | 16.3 | 8.2 | 10.0 |
| P7 | 279.68 | 46.6 | 1.89 | 10.0 | 11.9 | 16.7 | 8.4 | 10.2 |
| P8 | 279.96 | 46.7 | 1.89 | 11.6 | 13.5 | 18.8 | 9.4 | 11.3 |
| P9 | 296.60 | 49.4 | 1.92 | 15.4 | 17.3 | 20.6 | 10.3 | 12.2 |
| P10 | 283.17 | 47.2 | 1.89 | 12.8 | 14.7 | 19.2 | 9.6 | 11.5 |
| P11 | 277.13 | 46.2 | 1.88 | 15.0 | 16.9 | 18.7 | 9.4 | 11.2 |
| P12 | 301.06 | 50.2 | 1.92 | 14.4 | 16.3 | 18.8 | 9.4 | 11.3 |
| P13 | 278.53 | 46.4 | 1.89 | 9.7 | 11.6 | 16.5 | 8.3 | 10.1 |
| P14 | 276.84 | 46.1 | 1.88 | 11.2 | 13.1 | 18.7 | 9.4 | 11.2 |
| P15 | 285.79 | 47.6 | 1.90 | 11.8 | 13.7 | 19.7 | 9.9 | 11.7 |
| P16 | 271.85 | 45.3 | 1.87 | 11.9 | 13.8 | 18.3 | 9.2 | 11.0 |
| P17 | 270.89 | 45.1 | 1.87 | 11.0 | 12.9 | 18.3 | 9.2 | 11.0 |
| P18 | 222.52 | 37.1 | 1.79 | 11.1 | 12.9 | 9.8 | 4.9 | 6.7 |
| P19 | 219.87 | 36.6 | 1.79 | 4.2 | 6.0 | 11.6 | 5.8 | 7.6 |
| P20 | 274.47 | 45.7 | 1.88 | 11.4 | 13.3 | 18.6 | 9.3 | 11.2 |
| P21 | 261.51 | 43.6 | 1.86 | 12.0 | 13.9 | 17.4 | 8.7 | 10.6 |
| P22 | 233.76 | 39.0 | 1.81 | 13.1 | 14.9 | 12.7 | 6.4 | 8.2 |
| P23 | 238.04 | 39.7 | 1.82 | 8.1 | 9.9 | 10.8 | 5.4 | 7.2 |
| P24 | 276.29 | 46.0 | 1.88 | 11.3 | 13.2 | 16.6 | 8.3 | 10.2 |
| P25 | 226.07 | 37.7 | 1.80 | 11.2 | 13.0 | 12.2 | 6.1 | 7.9 |
| P26 | 197.93 | 33.0 | 1.75 | 4.2 | 6.0 | 9.9 | 5.0 | 6.7 |
| P27 | 180.22 | 30.0 | 1.72 | 9.1 | 10.8 | 9.2 | 4.6 | 6.3 |
| P28 | 192.00 | 32.0 | 1.74 | 5.4 | 7.1 | 10.2 | 5.1 | 6.8 |
| P29 | 170.19 | 28.4 | 1.71 | 3.7 | 5.4 | 10.8 | 5.4 | 7.1 |
| P30 | 159.81 | 26.6 | 1.69 | 5.4 | 7.1 | 7.8 | 3.9 | 5.6 |
| P31 | 200.76 | 33.5 | 1.76 | 3.2 | 5.0 | 10.5 | 5.3 | 7.0 |
| P32 | 275.37 | 45.9 | 1.88 | 8.8 | 10.7 | 19.0 | 9.5 | 11.4 |
| P33 | 262.49 | 43.7 | 1.86 | 9.2 | 11.1 | 15.3 | 7.7 | 9.5 |
| P34 | 281.10 | 46.8 | 1.89 | 9.3 | 11.2 | 16.6 | 8.3 | 10.2 |
| P35 | 318.21 | 53.0 | 1.95 | 13.5 | 15.5 | 22.8 | 11.4 | 13.4 |
| P36 | 300.37 | 50.1 | 1.92 | 10.3 | 12.2 | 21.0 | 10.5 | 12.4 |
| P37 | 304.52 | 50.8 | 1.93 | 8.8 | 10.7 | 21.6 | 10.8 | 12.7 |
| P38 | 213.80 | 35.6 | 1.78 | 3.5 | 5.3 | 13.1 | 6.6 | 8.3 |
| P39 | 305.31 | 50.9 | 1.93 | 20.2 | 22.1 | 22.0 | 11.0 | 12.9 |
| P40 | 216.67 | 36.1 | 1.78 | 3.0 | 4.8 | 13.6 | 6.8 | 8.6 |
| P41 | 227.73 | 38.0 | 1.80 | 4.9 | 6.7 | 10.4 | 5.2 | 7.0 |
| P42 | 53.12 | 8.9 | 1.51 | 6.3 | 7.8 | 7.8 | 3.9 | 5.4 |
| P43 | 19.15 | 3.2 | 1.50 | 10.8 | 12.3 | 5.0 | 2.5 | 4.0 |
| GANTRY | | | | | | | | |

Appendix E – SMEC, Vegetation Assessment for OHL

SMEC No. 30043078N

6 July 2021

Elizabeth Zorondo
Senior Environmental Planner
Goldwind Australia Pty Ltd
485 La Trobe Street
Melbourne, VIC 3000

Dear Elizabeth,

RE: Stockyard Hill Wind Farm – Native Vegetation Impact Assessment for the internal 33kV OHL

Thank you for engaging SMEC Australia Pty Ltd (SMEC) to undertake a Native Vegetation Impact Assessment for the internal 33kV overhead powerline (OHL) located within the Stockyard Hill Wind Energy Facility (SHWEF), Stockyard Hill, Victoria.

It is understood the internal 33kV OHL extends approximately 10.5 km in length connecting the west sub-station in the south to a transitional station in the north (Figure 1). The Native Vegetation Impact Assessment is required to determine any vegetation in proximity to the OHL within the clearance space.

This assessment is required to inform preparation of a Bushfire Mitigation Plan and Line Clearance Management Plan. The internal 33kV OHL will need to satisfy the requirements of Regulation 6 of the *Electricity Safety (Bushfire Mitigation) Regulations 2013* and Regulation 9 of the *Electricity Safety (Electric Line) Clearance Regulations 2020*. One of the requirements is for the specified operator to know which native or significant trees will be required to be removed to ensure compliance with the regulations.

Identification of any vegetation within the clearance space that is likely to require direct removal or lopping was undertaken to check compliance with the *Electricity Safety (Electric Line Clearance) Regulations 2020*. The assessment included native or planted native vegetation listed in a planning scheme in addition to vegetation that is of ecological, historical or aesthetic significance, or is of cultural or environmental significance.

This report contains the details of all vegetation currently within or adjoining the clearance space of the internal 33kV OHL at the SHWEF (and vegetation that may enter the clearance space in the future and/or may require annual monitoring).

Methods

The internal 33kV OHL was assessed on foot and by vehicle on the 18 December 2020 by a SMEC ecologist to record vegetation underneath and in proximity to the infrastructure. The location of vegetation noted during the assessment was recorded using ArcGIS Collector along with photographs to accompany the field data. The location of vegetation was then compared and referenced to indicative metre chainages and strand numbers (STR) provided within the '*Stockyard Hill Wind Farm – 33kV Overhead Line Plan and Profile*' (Appendix A). Tree height was estimated on site and maximum expected tree heights for the tree species observed to be present were obtained from the Royal Botanic Gardens Victoria's online resource, Flora of Victoria (VicFlora 2021).



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SMEC Australia Pty Ltd ABN 47 065 475 149
SMEC International Pty Ltd ABN 32 065 440 619
SMEC Services Pty Ltd ABN 79 066 504 792
SMEC Holdings Pty Ltd ABN 84 057 274 049

The minimum elevation and maximum sway as shown on the plan and elevation drawings in Appendix A was used to determine the relevant vertical and horizontal clearance spaces as follows. The longest span is 318.21 m (between string 35 and 36) with a maximum total horizontal blow-out or sway of 22.76 m or 11.38 m from centreline of the OHL (maximum conductor operating temperature of 75°C). The vertical sway at this section of the OHL was measured as 12.61 m (and approximately 8.17 m from ground level).

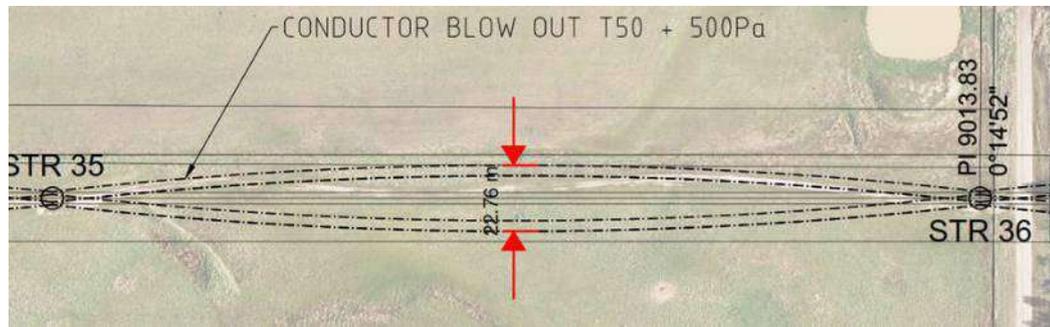


Figure 1. Minimum horizontal clearance space required across the OHL

To determine the Applicable Distance in accordance with Schedule 2 Clauses 3 and 28 of the *Electricity Safety (Electric Line Clearance) Regulations 2020*, a further adjustment value of 1.95 m was calculated and added to horizontal and vertical distances using the following formula:

- Applicable Distance (AD) = $1500 + ((SD - 45) \times (500/303))$, where SD is the span distance.
 - For the worst case scenario, this is:
 - $1500 + ((318.21 - 45) \times (500/303)) = 1950 \text{ mm or } 1.95 \text{ m}$

Based on these assumptions, the final Applicable Distance for horizontal and vertical blow-out or sway has been applied to calculate vegetation currently within or adjoining the clearance space, as follows:

- The minimum horizontal clearance space required from the centreline of the OHL is 13.3 m (11.38 m + 1.95 m) (Figure 1); and
- The minimum vertical clearance space required from the OHL is 15.8 m. This is 6.3 m from ground level (using a measurement of 8.17 m taken from natural ground level to the max OHL sag at 75 degrees – AD [1.95 m]).

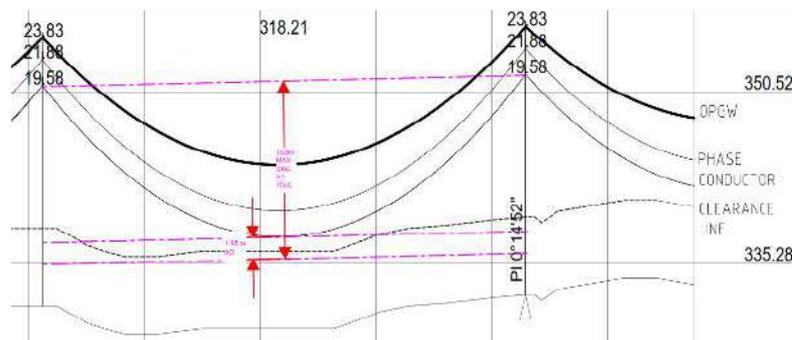


Figure 2. Worst case scenario at Pole and string 35 to 36 calculations showing max sag at 75 degrees with AD of 1.95m

Based on the field assessments and results of vegetation under or adjoining the OHL, a risk rating (HIGH, MEDIUM or LOW) was assigned to each observation. The following assumptions apply to each risk rating:

- HIGH: Vegetation is currently within the clearance space and immediate inspection and/or trimming by a suitably qualified personnel will be required.
- MEDIUM: Vegetation is near the clearance space and inspection and/or trimming by a suitably qualified personnel in recommended within 3-6 months.
- LOW: Vegetation is not within the clearance space and does not require immediate attention but will require future inspection within 6-12 months.

Results

Several planted windrows and scattered native trees were noted in proximity to the internal 33kV OHL. However, the majority of vegetation observed underneath and in proximity to the OHL was identified as introduced pasture grasses or areas associated with cropping (Appendix B). A summary of all vegetation in proximity to the OHL clearance space is provided in Table 1 below.

Table 1: Native vegetation recorded during Native Vegetation Impact Assessment.

| OHPL chainage (m) / OHL Strand(s) no. | Species | Height(s) | Risk rating and recommendation |
|---|--|-----------|--|
| 80 m Western sub-station to Strand 1 | Planted natives (<i>Acacia</i> sp. and <i>Eucalyptus</i> sp.) | ≤4-6 m | LOW: Vegetation located under OHL. Check height in early 2022, assess and consider direct removal to avoid future trimming of vegetation that will exceed >6.2 m height. |
| 690 - 1040 m Strands 3, 4 and 5 | Blackwood (<i>Acacia melanoxylon</i>) | ≤10-12 m | MEDIUM: A row of Blackwood occur to the west of the OHL. Trees are currently 8-10 m west of centreline and require further inspection in which trimming may be required. |
| 3440 m Strand 13 | River Red-gum (<i>Eucalyptus camaldulensis</i>) | 7 m | MEDIUM: River Red-gum (albeit dead) under OHL approximately 7 m in height. Further inspection in which trimming may be required. <u>Tree height will not increase.</u> |

| OHPL chainage (m) / OHL Strand(s) no. | Species | Height(s) | Risk rating and recommendation |
|--|--|-----------|--|
| 4250 m (southern windrow) Strand 15 | Planted natives (<i>Allocasuarina</i> sp. and River Red-gum). | ≤3-5 m | LOW: Vegetation located under OHL. Check height in early 2022, assess and consider direct removal to avoid future trimming of vegetation that will exceed >6.2 m height. |
| 5300 m (northern windrow) Strands 20-21 | Planted natives (<i>Allocasuarina</i> sp., <i>Eucalyptus</i> sp. and <i>Callistemon</i> sp.). | ≤1-5 m | LOW: Vegetation located under OHL. Check height in early 2022, assess and consider direct removal to avoid future trimming of vegetation that will exceed >6.2 m height. |
| 7430 m Strands 29-30 | River Red-gums along creekline | ≤10-15 m | MEDIUM: River Red-gum along the creekline to the east and west of the OHL. Trees to the east are currently 8-10 m from the centreline and require further inspection in which trimming may be required. Trees to the west are >30 m and will not require any trimming. |

Recommendations

Currently, several scattered native trees (both alive and dead) are located within the internal 33kV OHL limit of vertical or horizontal clearance space and further inspection is recommended at the following locations:

- MEDIUM (3-6 months): Chainages: 690-1040 m for Blackwood trees occurring 8 to 10 m west of the OHL centreline;
- MEDIUM (3-6 months): Chainage: 3440 m for the dead River Red-gum tree occurring underneath the OHL at a height of 7 m. The tree will not increase in size, but minor trimming may be required; and
- MEDIUM (3-6 months): Chainage: 7430 m for River Red-gums occurring 8 to 10 m east of the OHL centreline.

Remaining locations and noted vegetation are not within the 13.3 m horizontal clearance space, although species recorded have the potential to exceed this height and may require direct removal to avoid annual trimming. These trees should be inspected in early 2022 to determine revised heights and any corrective actions.

It is a requirement that any inspections of trees be carried out by suitably qualified personnel approved by Energy Safe Victoria. Inspections must be undertaken annually and recorded, with records to be kept for 5 years. Any vegetation identified within the relevant horizontal and vertical clearance parameters during annual inspections must be lopped or removed accordingly by a suitably qualified arborist. Any removal of native vegetation, unless an exemption applies, will require a permit under the Victorian '*Guidelines for the removal, destruction or lopping of native vegetation*' (the Guidelines) (DELWP 2017). No trees within areas surveyed by SMEC ecologists as part of this site assessment were listed in the Pyrenees Planning Scheme to be of ecological, historical or aesthetic significance, or cultural or environmental significance.

The capture and relocation of native fauna may also be required if suitable habitat is identified prior to vegetation lopping or removal. This must be undertaken by a suitably qualified ecologist with relevant permits endorsed by the Department of Environment, Land, Water and Planning (DELWP) under the *Wildlife Act 1975*.

Photographs of the vegetation in the assessment area are provided in Appendix B.

If you have any questions regarding the assessment, please do not hesitate to contact me.

Yours sincerely,



Andrew Taylor
Associate Scientist – Ecology
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References

DELWP 2017. *Guidelines for the removal, destruction or lopping of native vegetation*. Victorian Department of Environment, Land, Water and Planning, East Melbourne, Victoria.

Powercor 2021. Vegetation Clearing Requirements for New Powerlines. Available at: <https://www.powercor.com.au/customers/electricity-connections/upgrade-or-extend-the-network-with-mysupply/vegetation-clearing-requirements-for-new-powerlines/>

VicFlora 2021. Flora of Victoria. Royal Botanic Gardens Victoria. Available at: <https://www.rbg.vic.gov.au/>

Appendix A – Stockyard Hill Wind Farm, Overhead Line Plan and Profile

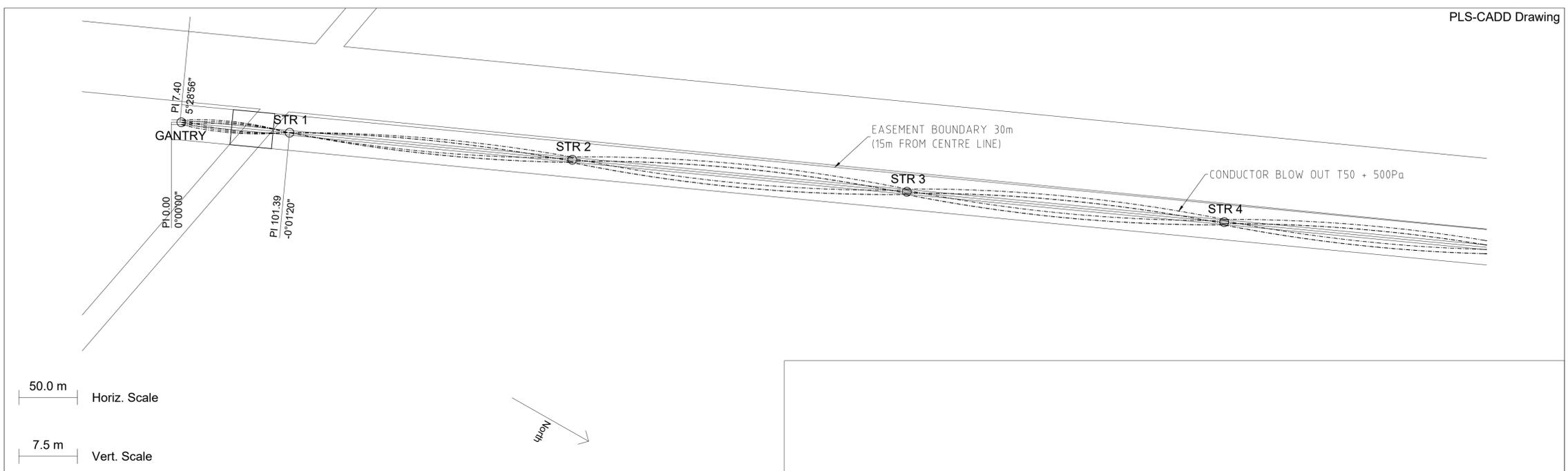
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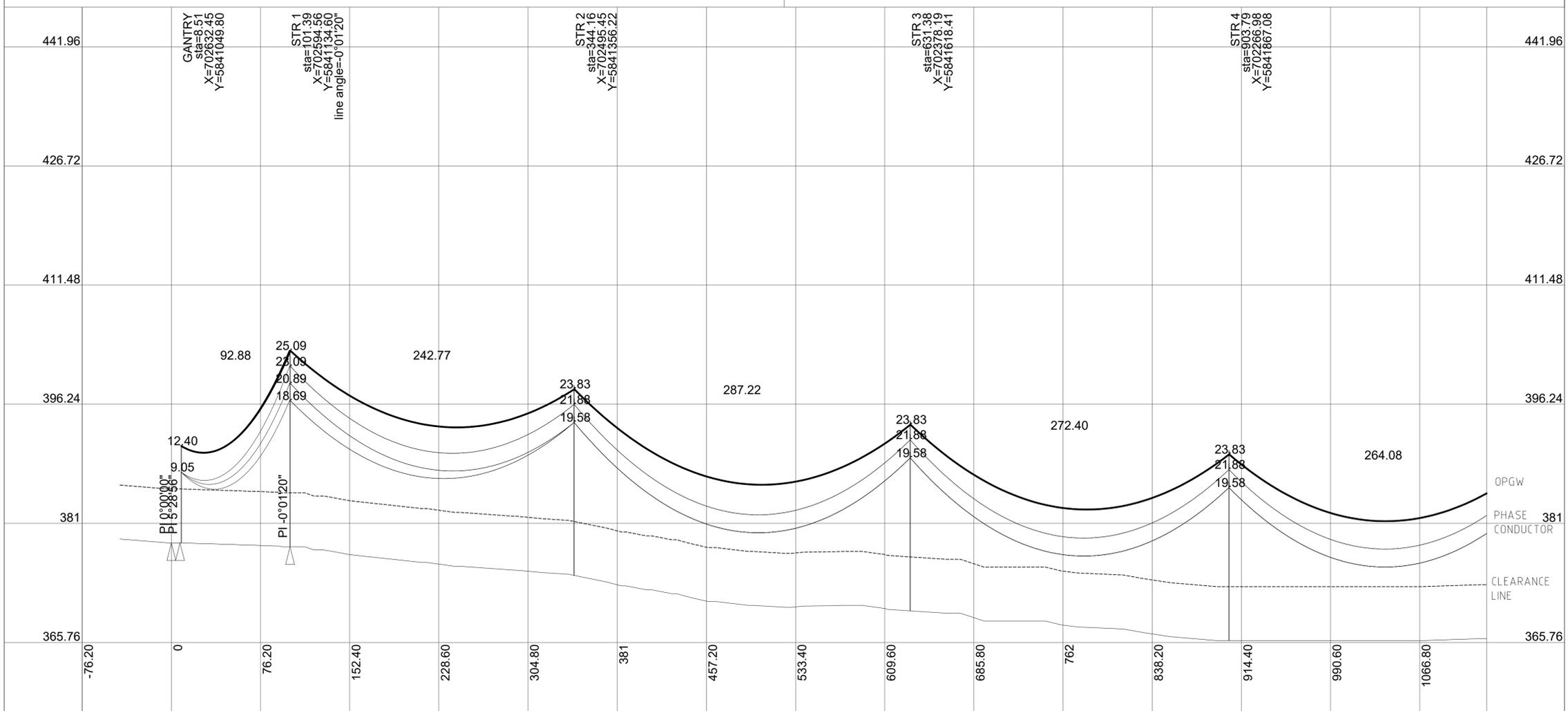


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- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C.
 2. EARTHWIRE IS DISPLAYED AT 50°C.
 3. ADSS IS DISPLAYED AT 50°C.
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale
7.5 m Vert. Scale



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RJE Drawing No: 3942-920-0001

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

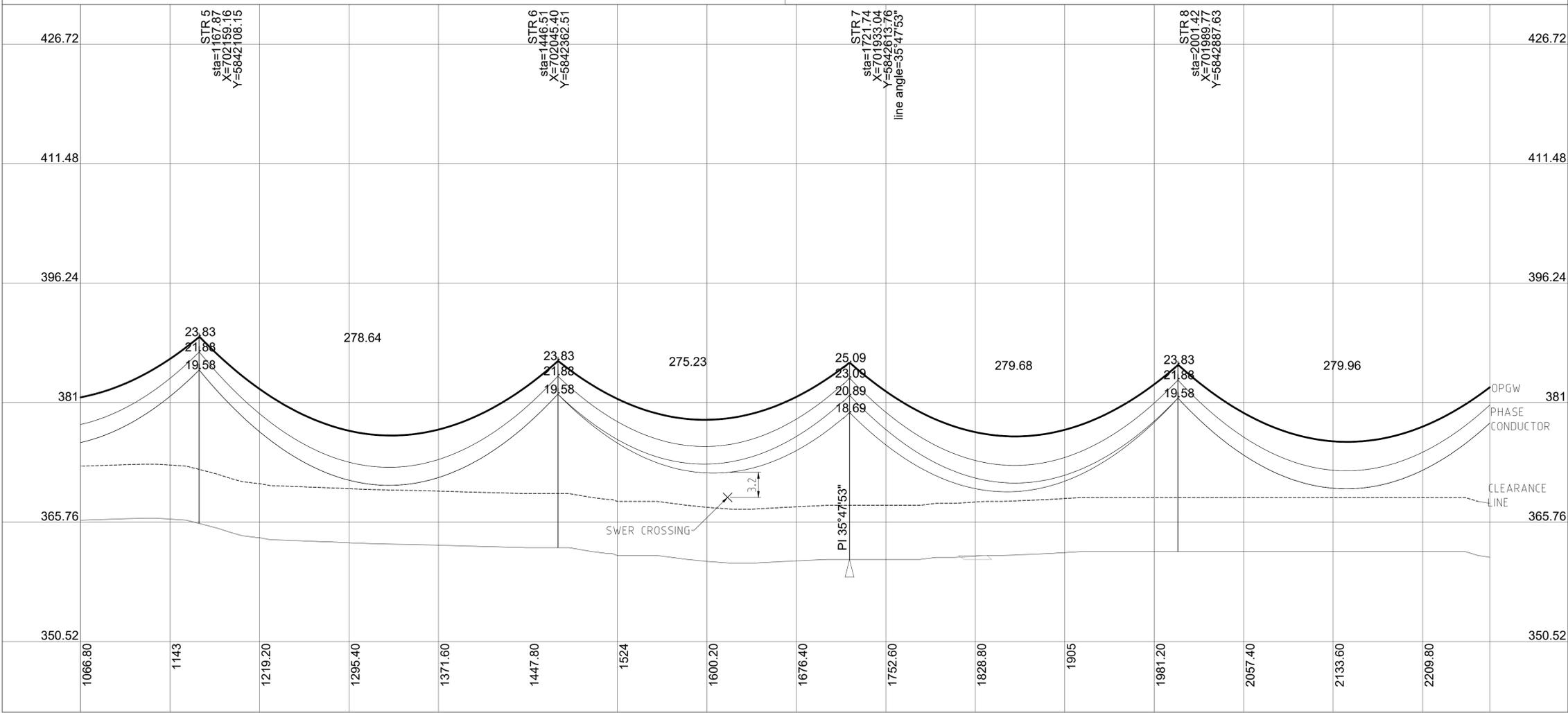
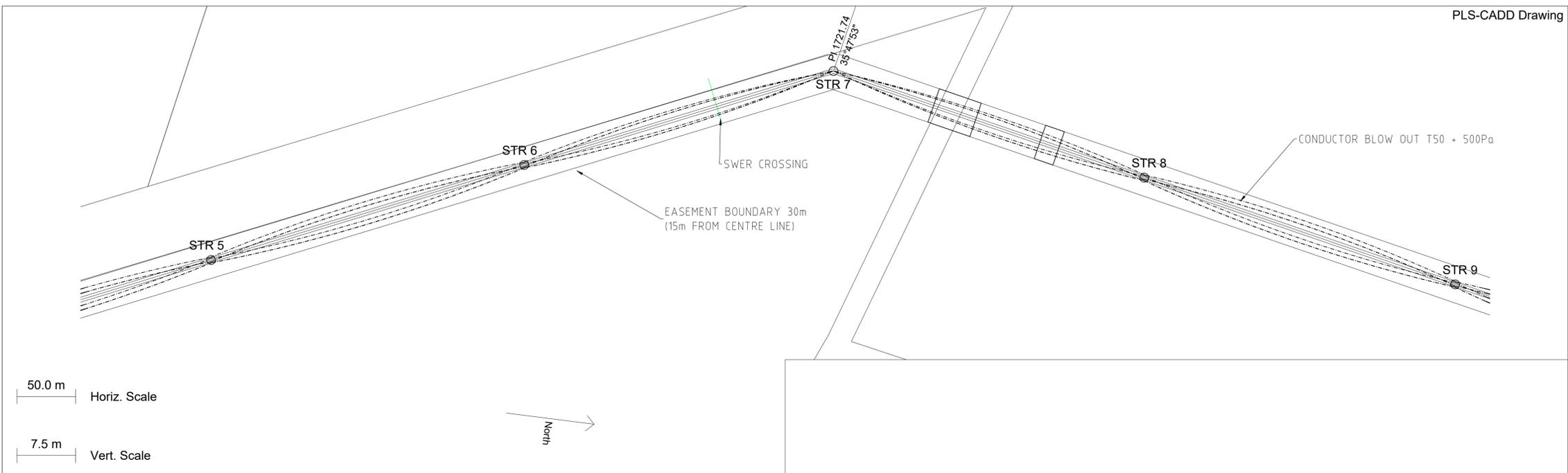
STOCKYARD HILL WIND FARM, BOP
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 1 OF 10)

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| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
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| DFTG | R.Y. | | | | |
| DFTG CHK | D.W. | | | | |
| INSP | | | | | |
| REV | | | | | |
| ACPT | D.W. | | | | |

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LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

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BALANCE OF PLANT WORKS

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 2 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
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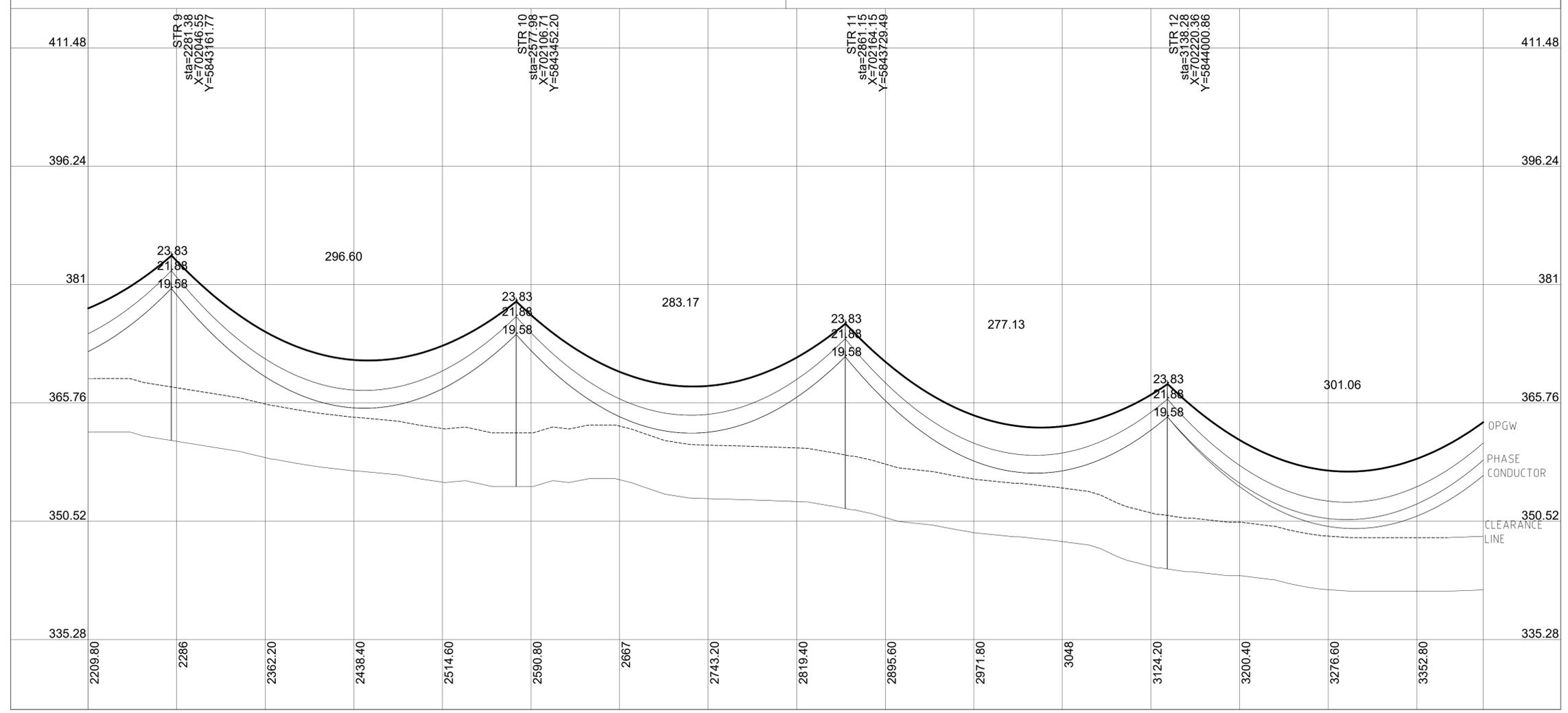
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50.0 m Horiz. Scale

7.5 m Vert. Scale



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 BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP
 33kV OVERHEAD LINE
 PLAN AND PROFILE
 (SHEET 3 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
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| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
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| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
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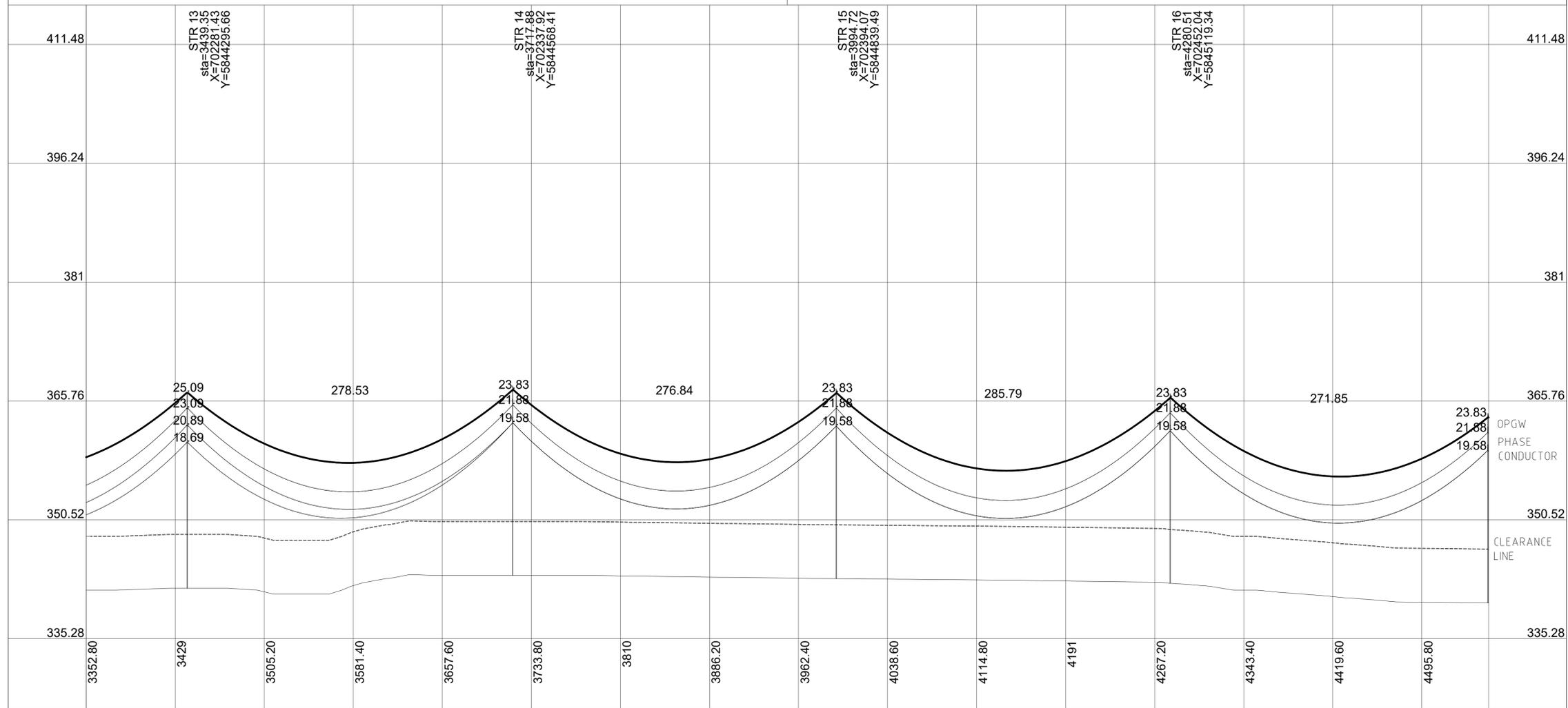
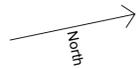
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50.0 m Horiz. Scale

7.5 m Vert. Scale



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X=702281.43
Y=5844295.66

STR 14
sta=3717.86
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STR 15
sta=3994.72
X=702394.07
Y=5844439.49

STR 16
sta=4280.51
X=702452.04
Y=58445119.34

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RJE Drawing No: 3942-920-0004

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

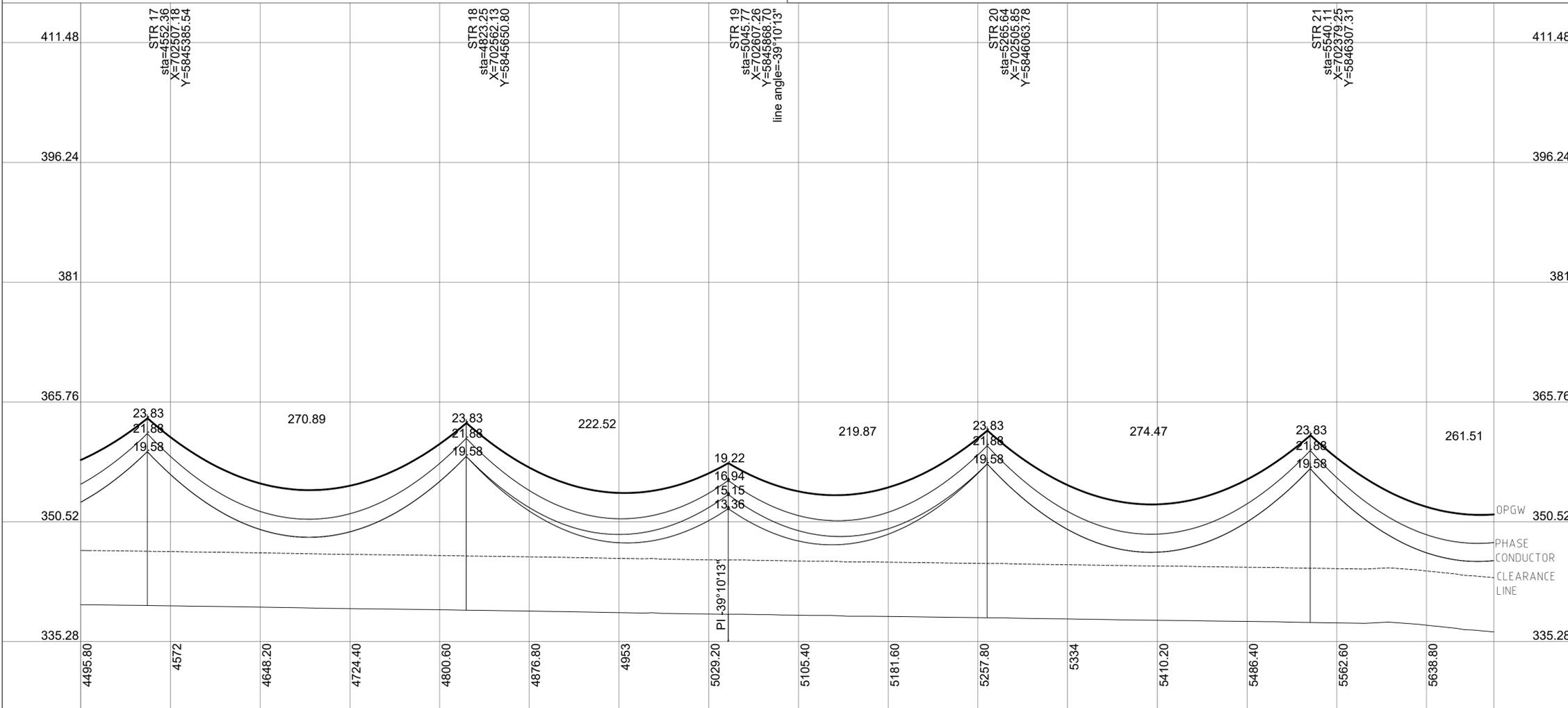
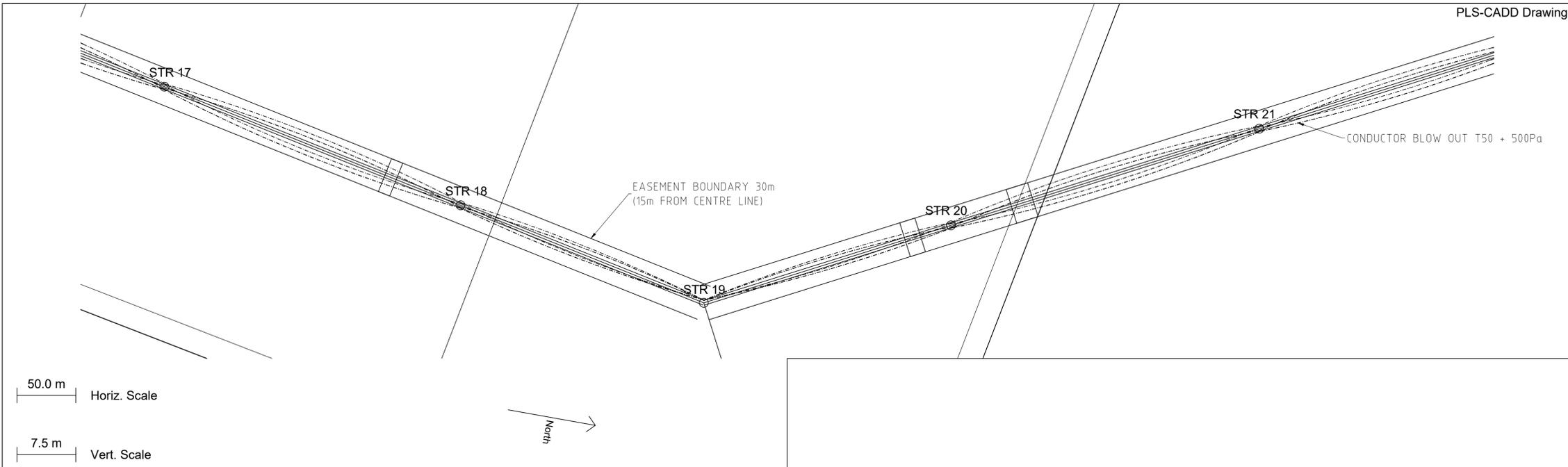
STOCKYARD HILL WIND FARM, BOP
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 4 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT | DATE | DIST | DWG NO | SIZE | R |
|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | P.H. | | R.Y. | | | D.W. | | | SHWF-000-E11-0306 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



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RJE Drawing No: 3942-920-0005

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

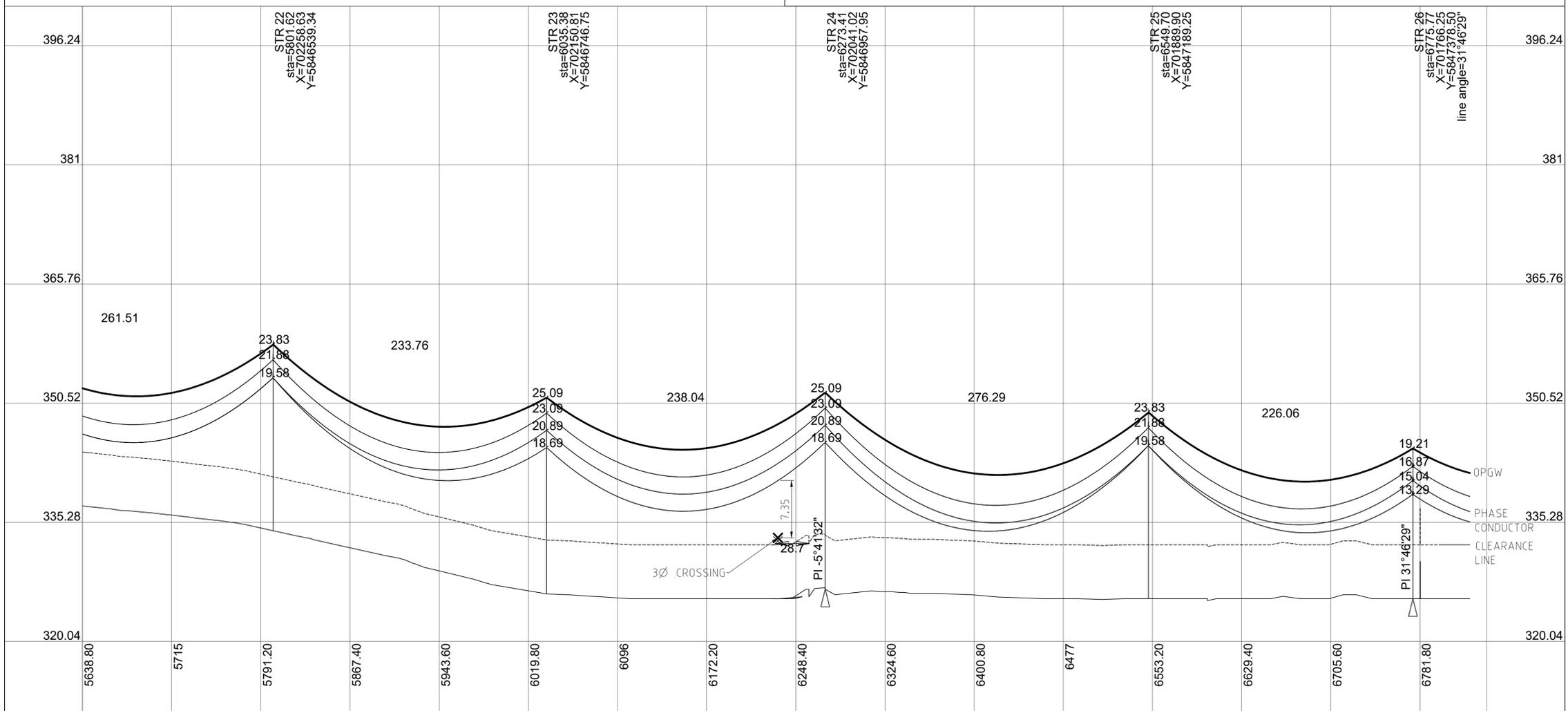
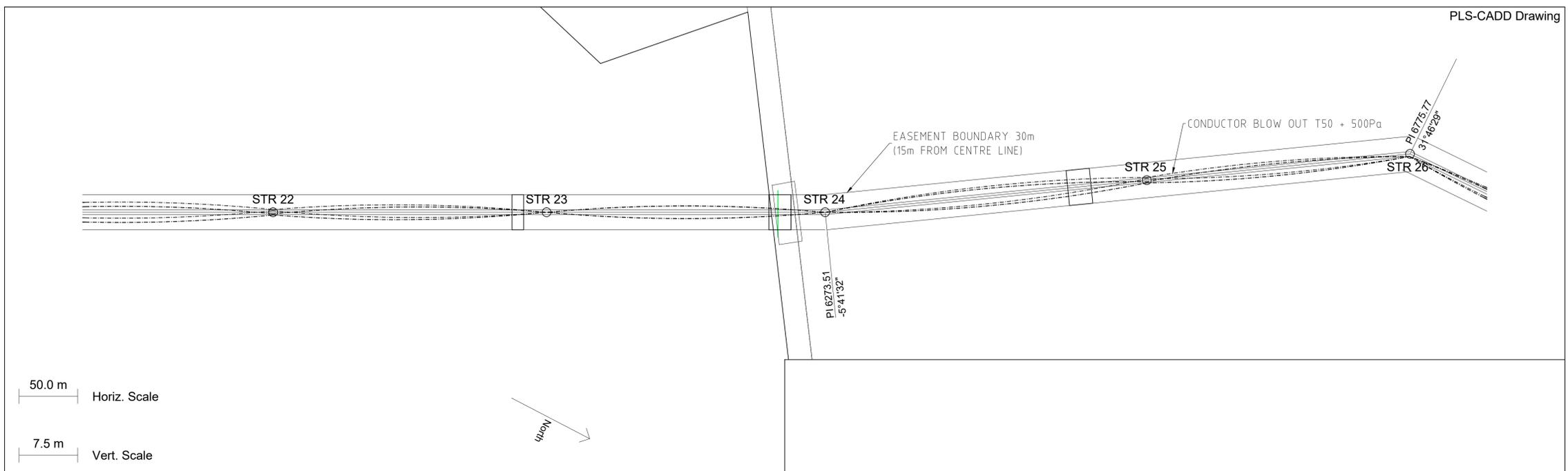
Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL WIND FARM, BOP
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 5 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
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| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



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RJE Drawing No: 3942-920-0006

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**
 Joint venture STOCKYARD HILL WIND FARM
 BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP
 33kV OVERHEAD LINE
 PLAN AND PROFILE
 (SHEET 6 OF 10)

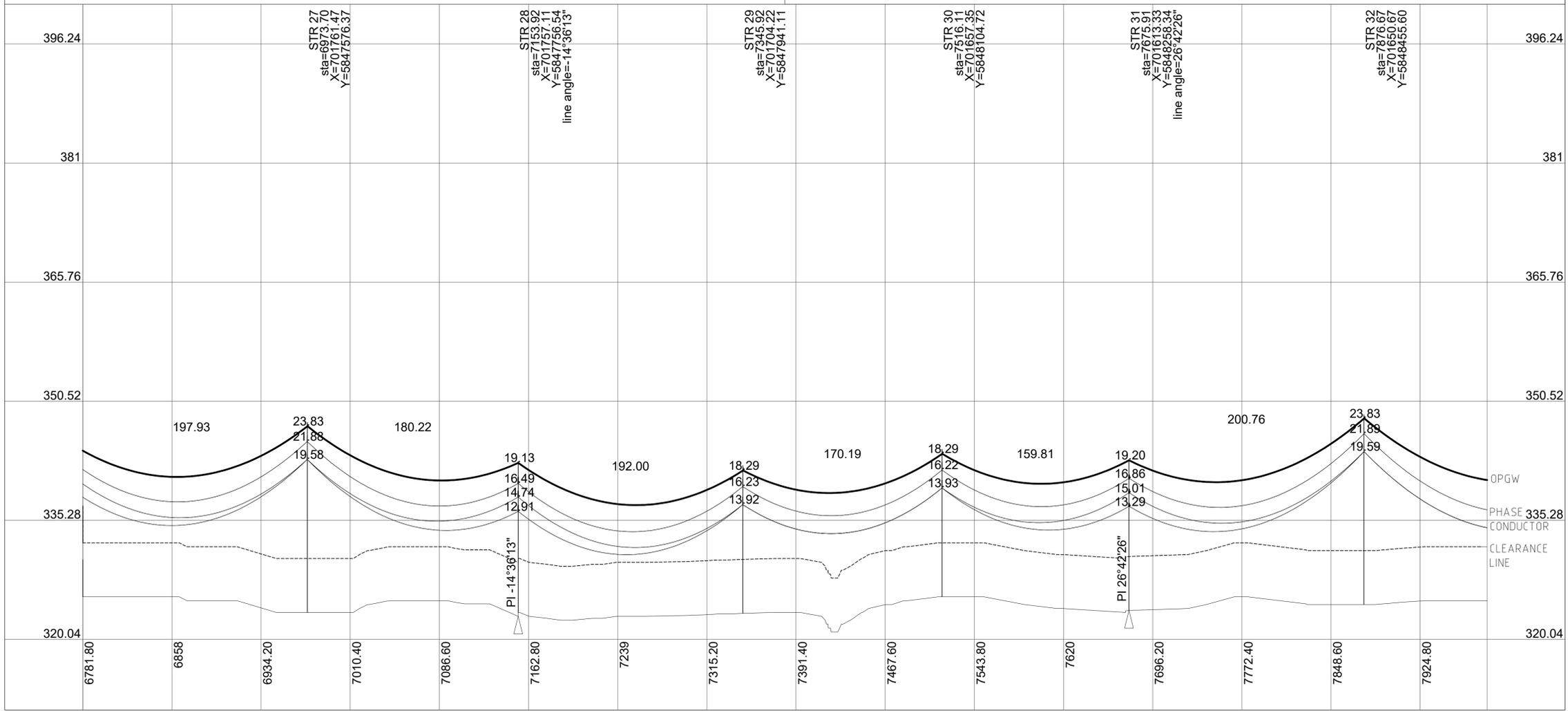
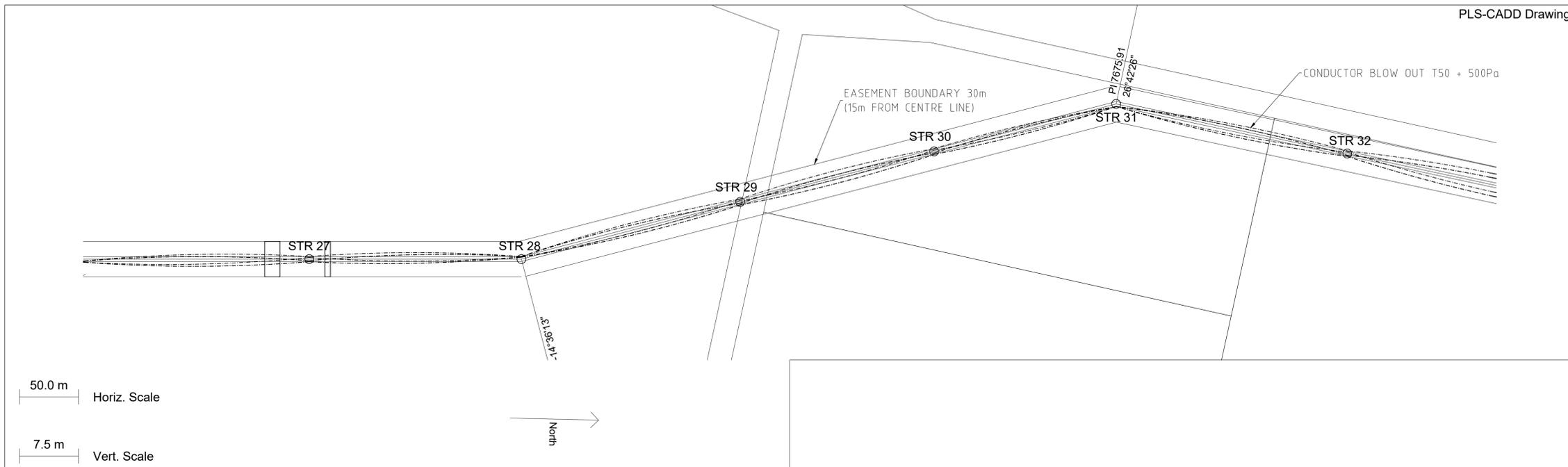
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| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | INDEP CHK | P.H. | DFTG | R.Y. | INSP | REV | ACPT |
|------|------|-----------|------|------|------|------|-----|------|
| | D.W. | | P.H. | | R.Y. | | | D.W. |

DATE: _____ DIST: - DWG NO: SHWF-000-E11-0308 SIZE: A1 R 3

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



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RJE Drawing No: 3942-920-0007

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL **GOLDWIND**
Wind Farm

STOCKYARD HILL WIND FARM, BOP

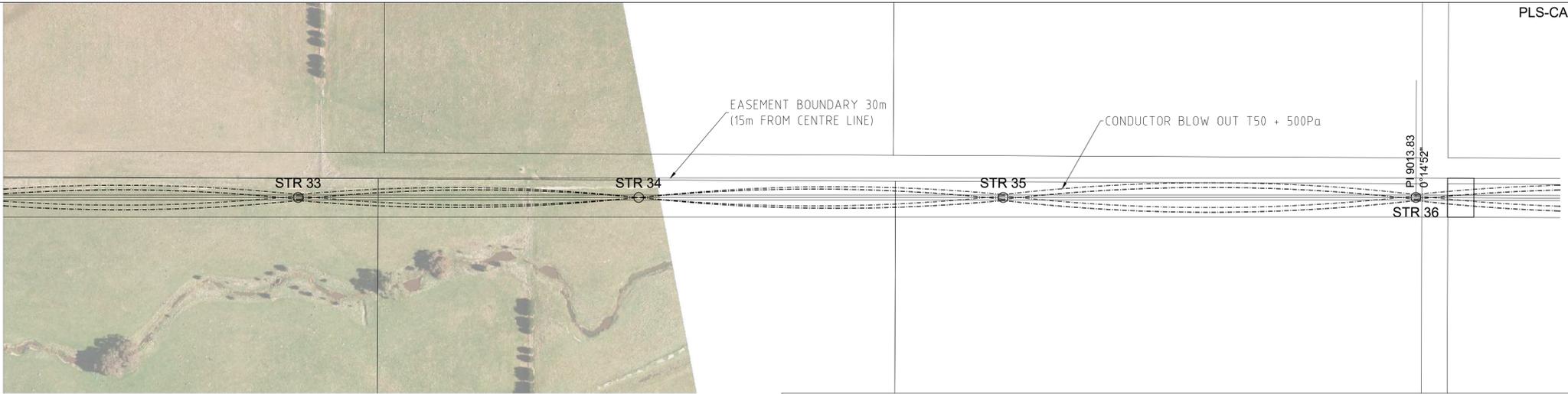
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 7 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
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| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
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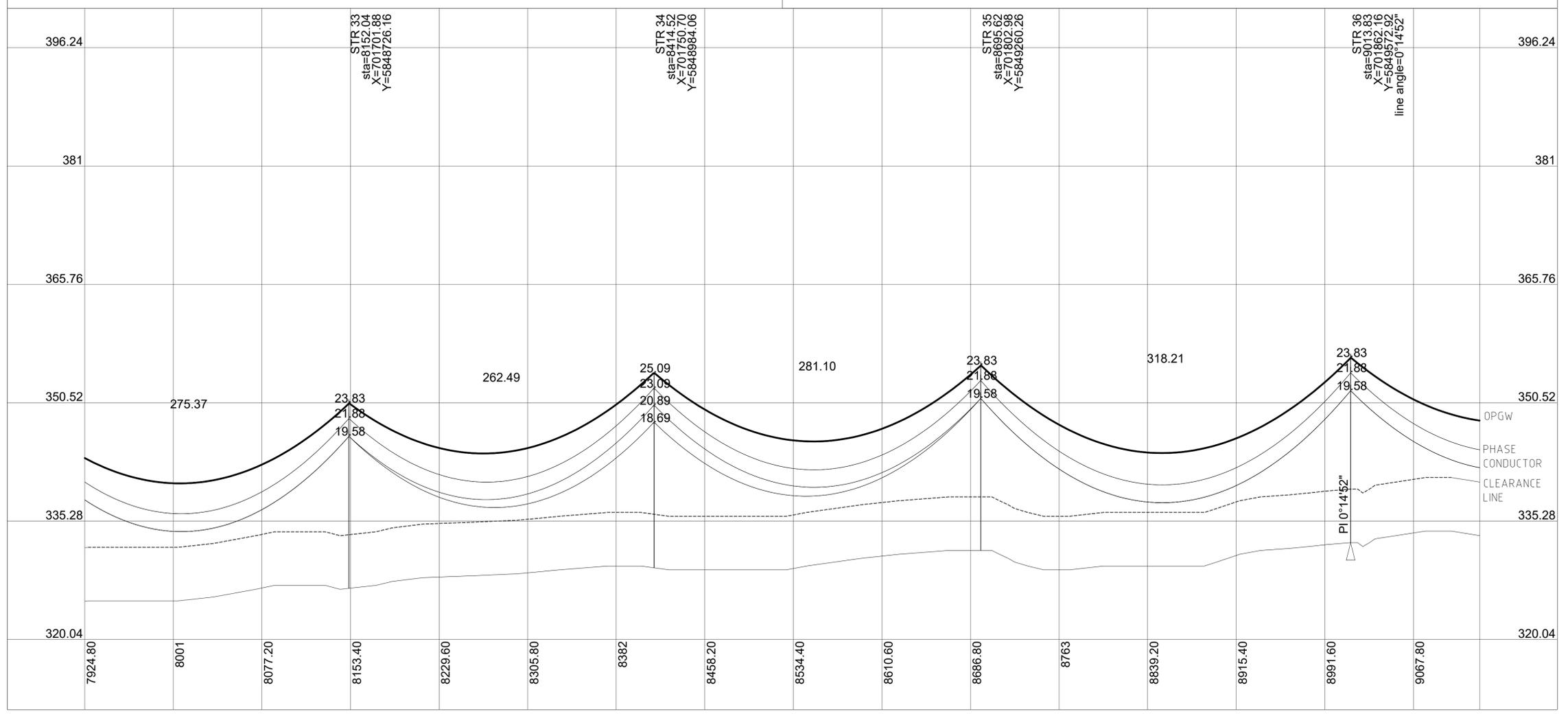
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|------|------|-----------|------|------|------|------|-----|------|------|------|-------------------|------|---|
| | D.W. | | P.H. | | R.Y. | | | | | | SHWF-000-E11-0309 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale

7.5 m Vert. Scale



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RJE Drawing No:
3942-920-0008

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

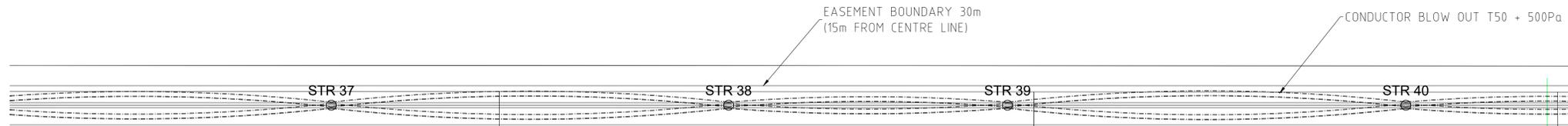
STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 8 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

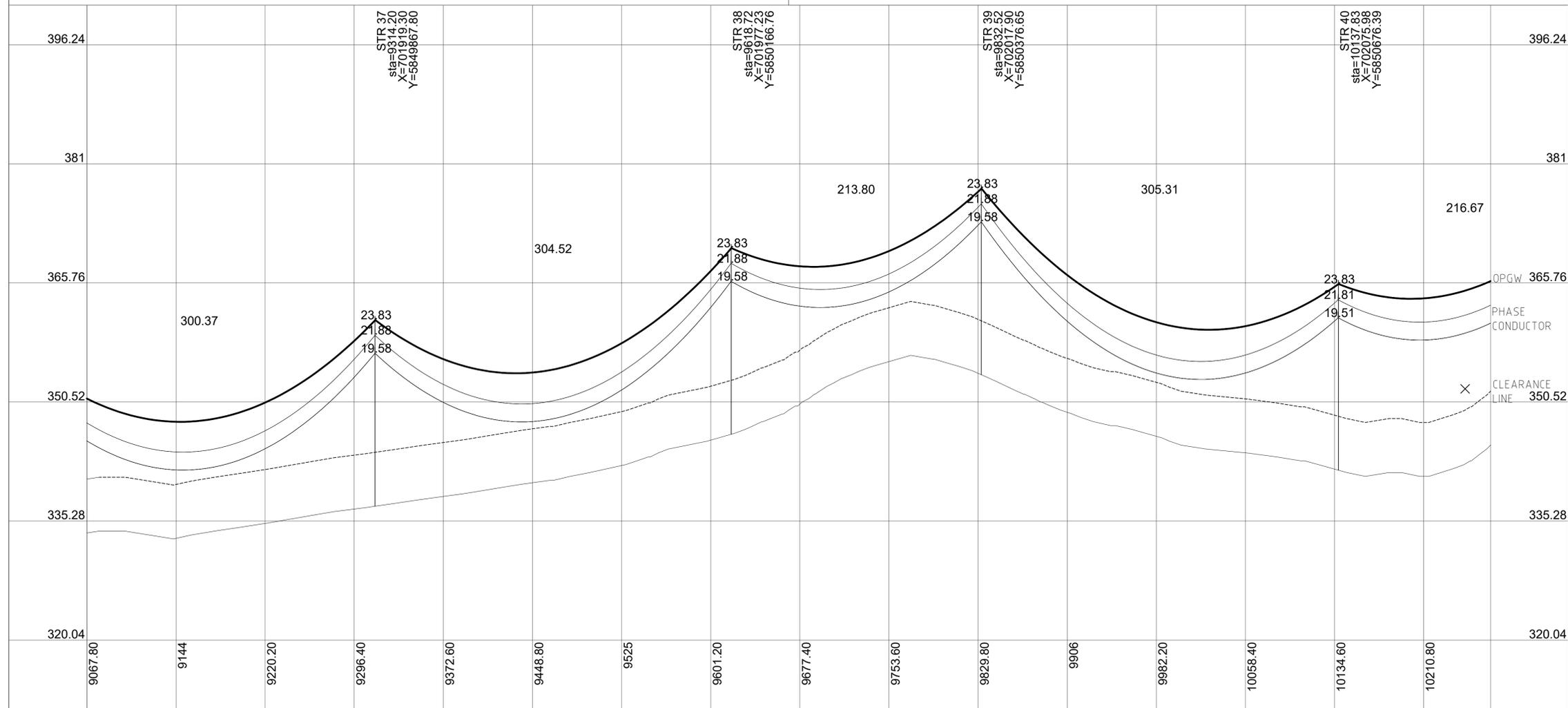
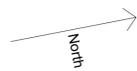
| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C
 2. EARTHWIRE IS DISPLAYED AT 50°C
 3. ADSS IS DISPLAYED AT 50°C
 4. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



50.0 m Horiz. Scale

7.5 m Vert. Scale



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LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

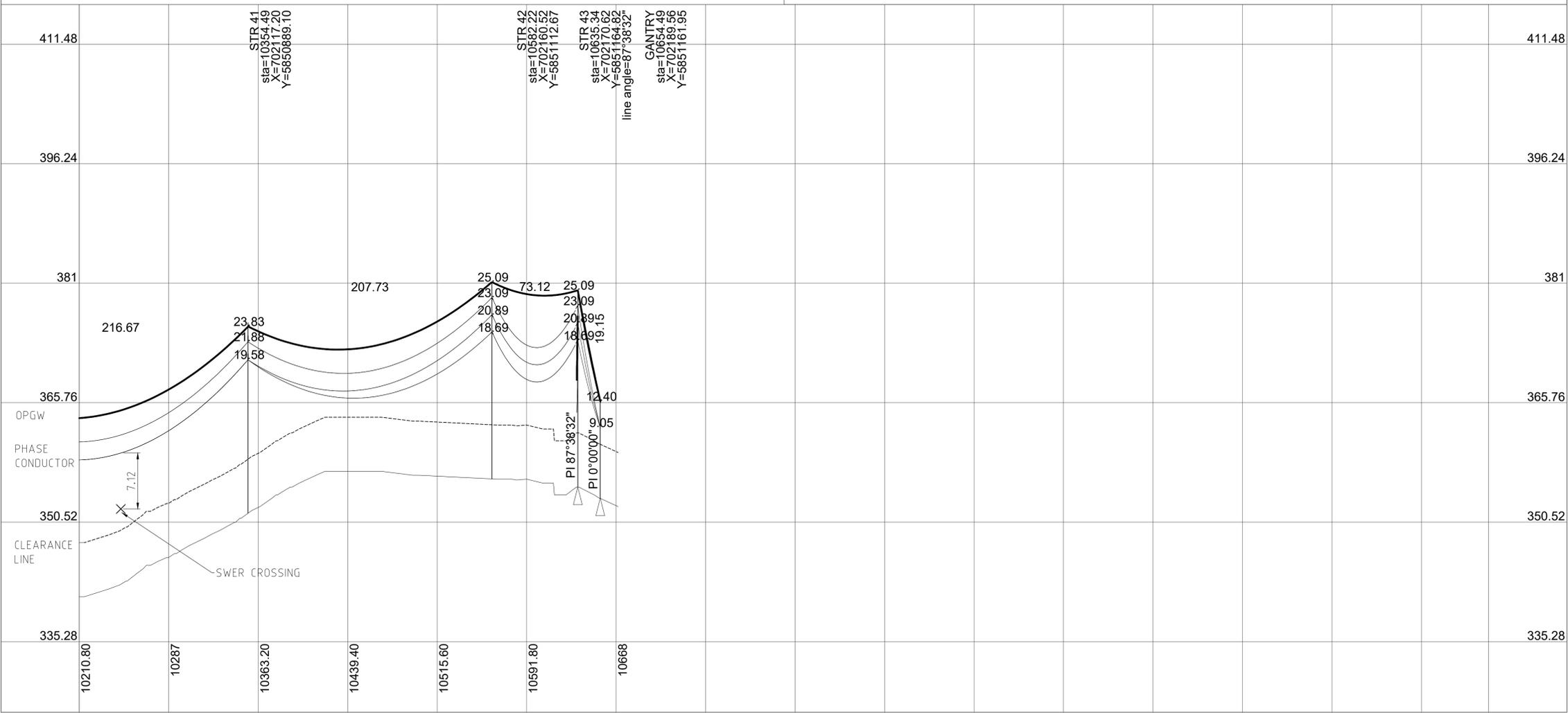
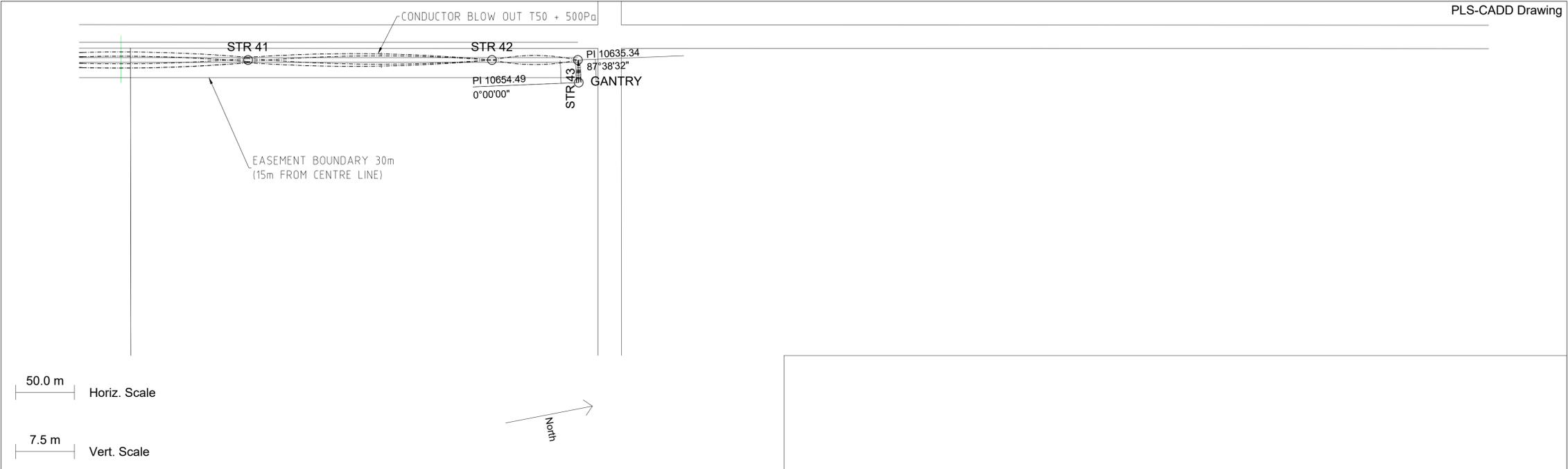
33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 9 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | DATE | DIST | DWG NO | SIZE | R |
|-----------|------|------|------|-------------------|------|---|
| INDEP CHK | P.H. | | | SHWF-000-E11-0311 | A1 | 3 |

- NOTES:
1. CONDUCTORS DISPLAYED AT MAXIMUM OPERATING TEMPERATURE 75°C.
 2. EARTHWIRE IS DISPLAYED AT 50°C.
 3. ADSS IS DISPLAYED AT 50°C.
 3. GROUND CLEARANCE LINE IS SHOWN AT 7.0m.



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RJE Drawing No: **3942-920-0010**

LEVEL B DOCUMENT ID: B-98/100/102

SNCWBHO NO: 652383-SHWF-

SNC-LAVALIN **WBHO**

Joint venture STOCKYARD HILL WIND FARM
BALANCE OF PLANT WORKS

STOCKYARD HILL Wind Farm **GOLDWIND**

STOCKYARD HILL WIND FARM, BOP

33kV OVERHEAD LINE
PLAN AND PROFILE
(SHEET 10 OF 10)

| NO | REMARKS | DATE | DESIGNED | INDEP CHK | DFTG CHK | INSP | REV | ACPT |
|----|---------------------------|----------|----------|-----------|----------|------|-----|------|
| 3 | AS BUILT | 15.06.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 2 | STR 42 LOCATION UPDATED | 31.01.20 | D.W. | | R.Y. | D.W. | | D.W. |
| 1 | STR 6 LOCATION UPDATED | 03.12.19 | D.W. | | R.Y. | D.W. | | D.W. |
| 0 | APPROVED FOR CONSTRUCTION | 25.11.19 | D.W. | | R.Y. | D.W. | | D.W. |

| REF# | DRAWING NUMBER | TITLE | REF# | DRAWING NUMBER | TITLE |
|------|----------------|--------------------|------|----------------|--------------------|
| | | REFERENCE DRAWINGS | | | REFERENCE DRAWINGS |

| DSGN | D.W. | DATE | DIST | DWG NO | SIZE | R |
|-----------|------|------|------|-------------------|------|---|
| INDEP CHK | P.H. | | | SHWF-000-E11-0312 | A1 | 3 |

Appendix B – Photographs of vegetation



Photograph 1: Modified vegetation underneath OHL (18-12-2020).



Photograph 2: Modified vegetation underneath OHL (18-12-2020).



Photograph 3: Planted native vegetation CH: 80m (18-12-2020).



Photograph 4: Planted native vegetation CH: 80m (18-12-2020).



Photograph 5: Blackwood trees between CH: 690-1040m (18-12-2020).



Photograph 6: Blackwoods between CH: 690-1040m (18-12-2020).



Photograph 7: River Red-gum (dead) at CH: 3440m (18-12-2020).



Photograph 8: Planted native vegetation CH: 4250m (18-12-2020).



Photograph 9: Planted native vegetation CH: 5300m – looking north (18-12-2020).



Photograph 10: Planted native vegetation CH: 5300m – looking south (18-12-2020).



Photograph 11: River Red-gums at CH: 7430m – east of OHL (18-12-2020).



Photograph 12: River Red-gums at CH: 7430m – west of OHL (18-12-2020).



Appendix F – Copy of Notice to landowner of tree pruning/removal works

Date

Landowner address

Subject: Notice to landowner of tree pruning/removal works

Dear landowner,

Regular inspection of the Stockyard Hill Wind Farm high voltage powerline is required to ensure compliance with the Electric Safety (Electric Line Clearance) Regulations 2020 and our approved plan under the Regulation. As a result of these inspection a tree/s within your property will need to be pruned or removed as it does not meet the clearances space required from the line.

The work is scheduled to occur at the location no earlier than 14 days and no later than 60 days from the date of this notice. If, for any reason, the cutting and/or removal works becomes 'Urgent' (as defined in the Code) during the first 14 days then the schedule will be brought forward and affected persons notified as soon as practicable.

Any complaints will be handled in accordance with the Project's Complaint handling Management Plan. All complaints are registered, investigated and considered closed when a complainant advises that they consider the complaint resolved.

The complaint handling process is available on the Project's website.

[Stockyard Hill Wind Farm](#)

Please feel free to contact me should you require any further clarity on this matter.

Sincerely,

Jason Marnell Site Manager
Stockyard Hill Wind Farm Pty Ltd
Mobile: +61 455 668 496

Email: jasonmarnell@goldwindaustralia.com