

COUNCIL ASSESSMENT PANEL MEETING

10 March 2021

AGENDA – 9.2

Applicant: Lloyd Building Solutions Pty Ltd	Landowner: B S Lloyd & J Bala
Agent: N/A	Originating Officer: Ashleigh Gade
Development Application:	20/1049/473
Application Description: Single storey split level detached dwelling, deck (maximum height 2.6m), retaining walls (maximum height 1m), domestic outbuilding - garage & associated earthworks	
Subject Land: Lot:391 Sec: P81 DP:123071 CT:6234/308	General Location: 34 Fern Hill Road Bridgewater Attachment – Locality Plan
Development Plan Consolidated : 8 August 2019 Map AdHi/31 & 75	Zone/Policy Area: Country Living Zone - Country Living (Bridgewater) Policy Area
Form of Development: Merit	Site Area: 964m ²
Public Notice Category: Category 2 Merit	Representations Received: 2 Representations to be Heard: 2

1. EXECUTIVE SUMMARY

The purpose of this application is to construct a single storey split level dwelling, deck, freestanding garage and associated retaining walls. The dwelling contains three bedrooms and two living areas across two floor levels. The split level design responds to the site topography, with a 24% grade from the road up to the rear of the block reflecting a height difference of some 13.5 metres. The deck wraps around the northern and eastern elevations of the dwelling with the garage located forward of the main building line addressing Fern Hill Road.

The subject land is located within the Country Living Zone and the Country Living (Bridgewater) Policy Area. The proposal is a merit form of development and pursuant to the procedural matters for the Zone was subject to Category 2 public notification. The application received two (2) representations during the public notification period and both parties wish to be heard in support of their representations.

As per the CAP delegations, the CAP is the relevant authority for Category 2 applications where representors wish to be heard.

The main issues relating to the proposal are vegetation clearance, overlooking, stormwater management and impact on the character and amenity of the locality.

In consideration of all the information presented, and following an assessment against the relevant Policy Area, Zone and Council Wide provisions within the Development Plan, staff are recommending that the proposal be **GRANTED** Development Plan Consent, subject to conditions.

2. DESCRIPTION OF THE PROPOSAL

The proposal is for the following:

- A single storey split level dwelling centrally located on the subject land with Colorbond wall and roof cladding in 'Night Sky', comprising three bedrooms and a study, two bathrooms and two living areas.
- An elevated wrap around deck (attached to the main dwelling) on the northern and eastern elevations with a maximum height of 2.6m above natural ground level.
- Freestanding double garage located forward of the main building line toward Fern Tree Hill Road, with access to be established through the north-west corner of the allotment
- Retaining walls located along the east boundary and adjacent to the east and south walls of the proposed garage with a maximum height of 1m.

The proposed plans are included as **Attachment – Proposal Plans** with other information included as **Attachment – Application Information** and **Attachment – Applicant's Professional Reports**.

3. BACKGROUND AND HISTORY

APPROVAL DATE	APPLICATION NUMBER	DESCRIPTION OF PROPOSAL
15 July 2020	18/401/473 (18/D23/473)	The creation of on additional allotment of 964m ² (subject land) and retention of the existing dwelling and associated structures on a reduced allotment of 1.312 Hectares (25 Fern Hill Road).

The subject site at 34 Fern Hill Road was created through land division 18/401 which sought the creation of an additional allotment fronting Fern Hill Road on what was at the time land comprising part of 25 Fern Hill Road. The intention of the land division was to separate the subject land within the Country Living Zone from the remainder of the land then forming part of 25 Fern Hill Road, which is within the Watershed (Primary Production) Zone. The land division was a Non-Complying proposal subject to Category 3 public notification which received four representations in opposition at the time. These representors included the two representors against the current dwelling proposal.

Land division 18/401 was determined by the Council Assessment Panel (CAP) on 10 April 2019. The proposal was granted Development Plan Consent and Land Division Consent. It was further determined that the Land Management Agreement (LMA) which applied to the land at the time be rescinded, primarily as the wording which was applied under the *Planning Act 1982* had been determined as invalid in case law. The LMA has since been rescinded.

4. REFERRAL RESPONSES

- **AHC Engineering**

There is currently no formal crossover established for vehicle access to the site. A crossover to the north-west of the allotment frontage is proposed and a condition regarding the creation of this to Council's reasonable satisfaction is recommended (Refer to Recommended Condition 11). Council's Engineering Department support the crossover location.

Council's Engineer has reviewed the proposed stormwater disposal method and determined that controlled stormwater flows can be directed to the street. A Stormwater Management Plan and associated calculations were submitted to Council on 21 January 2021. Engineering are satisfied with the proposed stormwater management plan, with no further information required. Recommended condition 2 reinforces the need for the stormwater management plan to be implemented as part of the construction.

The above responses are included as ***Attachment – Referral Responses***.

5. CONSULTATION

The application was categorised as a Category 2 form of development in accordance with the procedural matters for the Country Living Zone, pursuant to the height of the deck above natural ground level. Two representations in opposition to the proposed development were received during the notification period. Both parties have indicated that they wish to be heard. The CAP is the relevant authority for Category 2 applications where representors wish to be heard and the hearing of representations is at the discretion of the CAP.

The following representors wish to be heard:

Name of Representor	Representor's Property Address	Nominated Speaker
Paul Angas & Nicola Barnes	23 Fern Hill Road, Bridgewater	Self
Darrell & Bianca Stanbridge	32 Fern Hill Road, Bridgewater	Self

The issues contained in the representations can briefly be summarised as follows:

- Removal of native vegetation, specifically along the western boundary and removal of vegetation beyond the building envelope plan shown in the original land division.
- Overlooking of the dwelling at 32 Fern Hill Road.
- The building height of the proposed dwelling
- The impact on views from neighbouring properties.

These issues are discussed in detail in the following sections of the report.

A copy of the submissions is included as ***Attachment – Representations*** and the response is provided in ***Attachment – Applicant's Response to Representations***. A copy of the plans which were provided for notification are included as ***Attachment – Publically Notified Plans***.

The applicant and the owner may be in attendance.

6. PLANNING & TECHNICAL CONSIDERATIONS

This application has been evaluated in accordance with the following matters:

i. The Site's Physical Characteristics

The subject land is a rectangular shaped allotment of approximately 946m² located on the high side of Fern Hill Road. The site slopes from the south-west corner of the allotment toward the north-east and the Fern Hill Road boundary. The property is serviced by SA Water mains water and sewer. The site is currently vacant of buildings and contains a number of native trees in varying condition.

ii. The Surrounding Area

The subject site is on the interface of the Country Living and Watershed (Primary Production) Zone. As such the locality has two distinct characters. To the North, South and West of the subject site the character is comprised of predominantly low density residential development on uniform rectangular allotments, ranging from 950m² to 1100m² in size. To the East of the subject site the character could be considered rural residential, with larger holdings ranging from 0.4047ha up to 3ha interspersed with generous dwellings and surrounding gardens, with large tracts of native vegetation common. Despite the two distinctive residential characteristics the entire locality has a coherent natural wooded character with substantial landscaping along Fern Hill Road mixing visually with the larger stands of native vegetation found in the adjacent Watershed (Primary Production Zone). The vegetation along Fern Hill Road creates a private setting where views of buildings from the public realm are limited, though it is not uncommon for some garages and newer dwellings to be visible from the road where vegetation is yet to be established. This private setting is also contributed to by varying front setbacks, with some dwellings having deep setbacks from the road.

The land in the locality is steep and there is a crest in Fern Hill Road to the West of the subject site that limits views within the locality. Many of the surrounding dwellings within the Country Living Zone locality share similar characteristics to the proposed dwelling, being located higher on the allotments with split level or two-storey designs built to respond to the slope of the land. There are a number of instances of garages and parking areas forward of dwellings in the locality, generally due to access issues arising from the slope of the land.

iii. Development Plan Policy considerations

a) *Policy Area/Zone Provisions*

The subject land lies within the Country Living Zone - Country Living (Bridgewater) Policy Area and these provisions seek:

- Development that contributes to the desired character of the policy area and zone; and
- Residential development sensitive to the particular topography of the area and which has minimal visual and environment impacts.

The following are considered to be the relevant Policy Area provisions:

Objectives: 1

PDCs: 1 & 2

Objective 1 and PDC 1 of the Policy Area seek for development to be consistent with the desired character of the Policy Area. The desired character statement for the Bridgewater Policy Area envisages that the design of buildings will vary considerably within the Policy Area and that the built form in residential areas will be characterised by relatively modest one or two storey dwellings. This statement also seeks that dwellings generally be of brick veneer construction with front verandahs and tiled or pre-coated metal pitched roofs. The proposed development is considered to be sufficiently consistent with the desired character statement in that it is one storey (split over two levels) and whilst the walls of the dwelling and garage are not of brick veneer, they will be of pre-coated dark tone metal finish and highlighted by timber features which will blend into, and complement the locality.

PDC 2 of the Policy Area refers to the setbacks of the dwelling from property boundaries. With respect to the front setback it is noted that the quantitative guide of 6 metres is easily met by the proposed dwelling which is to be setback 18.5 metres from Fern Hill Road. Similarly the proposed side and rear setbacks are considered consistent with the minimum quantitative provisions of 1 and 4 metres respectively. The Policy Area does not identify setbacks sought for elements such as attached decking and it is noted that the proposal includes an attached deck sited directly on the eastern side boundary. This is considered in more detail below. It is considered that the dwelling footprint satisfies the intent of the setback requirements and the dwelling is therefore consistent with PDC 2. With respect to the garage location, this is discussed further below.

The following are considered to be the relevant Zone provisions:

Objectives: 1, 2 & 3

PDCs: 6, 7, 9, 10 & 12

Objectives 3 and PDC 6 seek for development to contribute to the desired character of the Zone. The desired character statement acknowledges that the Zone contains traditional designs and materials but envisages that new dwellings will incorporate modern designs and building materials. Based on this excerpt the dwelling is considered to portray characteristics that satisfy the intent of the Desired Character Statement, by incorporating modern design elements and materials which will be of appropriate colours to complement the landscape.

This statement also acknowledges the importance of energy efficient design and it is noted that the main living areas are orientated to the North in line with good passive design principles. This will allow for internal solar access in the winter months to assist with heating, and during the summer months the integrated verandah and eaves will provide adequate shading to reduce solar heat load.

The Desired Character Statement also seeks that development respond sensitively to site topography. The split level design is considered an appropriate response to the site topography and will ensure that the building sits sensitively within the locality. The setting down of the freestanding garage also minimises the need for excessive earthworks to enable access.

Similarly, PDCs 7 and 9 seek for development to be designed and sited to relate to the slope of the land so that the bulk and scale of the built-form does not dominate the landscape, that the earthworks are kept to a minimum and the visual impact to adjoining dwellings and public spaces are minimised. As detailed, the split level design and location of the freestanding garage reduce resultant earthworks and the associated retaining walls will therefore have a maximum height of 1m. In relation to the bulk and scale of the dwelling, it is noted that the proposed dwelling is a relatively modest design that complies with quantitative setback and height guiding criteria. The attached decking which will sit directly on the Eastern boundary adjoins a large rural allotment and is sited beyond the cul-de-sac end of Fern Hill Road. It is considered that the bulk and scale of the proposed dwelling is unlikely to dominate the locality and is therefore considered to be consistent with the Desired Character Statement and the relevant PDCs 7 and 9.

In relation to impacts on views from adjoining dwellings, it is considered that the proposed development will have some level of impact particularly from 21, 23 and 32 Fern Hill Road which are all located directly adjacent to the cul-de-sac adjoining the subject site. In considering this outcome, it is worth reflecting that the dwelling does not offend any setback or height parameters, as previously mentioned and as such is of a scale that is envisaged and anticipated in the Zone. It is further noted that residential development is envisaged and anticipated within the Zone.

The quantitative parameters for outbuildings are set out in PDC 12. The proposed garage complies with all but the front setback criteria, which seeks a minimum 8m setback. The proposed garage is to be sited a minimum of 5m from the Fern Hill Road boundary and will therefore likely have the biggest impact as viewed from neighbouring properties and the streetscape. Notwithstanding the proposal's variance with the provisions of PDC 12, the siting of the garage forward of the building line has been proposed in response to the steep topography of the subject land. The siting in this location will result in an overall reduction of earthworks, in comparison to what would be required to site the garage in-line with a dwelling on the site. It is therefore considered the visual impact of the garage will not be excessive and will be mitigated by established and proposed landscaping, which includes dedicated planting forward of the garage building line. As such, it is considered that the proposed development is not contrary to PDC 7(c) and 10 and demonstrates sufficient consideration to mitigate the shortfall in achieving the quantitative provisions of PDC 12.

With respect to vegetation, the Native Vegetation Council have endorsed the clearing of native vegetation in association with the house. In addition, trees identified as Regulated and Significant in the associated arborist report are within 20m of the existing dwelling at 32 Fern Hill Road and their removal is exempt from development controls. The Significant tree along the Western boundary is proposed to be removed as part of the application, however it is noted that this tree is exempt from development controls as it is within 20m of an existing dwelling within a bushfire risk

area. The Regulated tree to the rear of the allotment is to be retained, though it is also exempt from development controls due to its proximity to an existing dwelling. The Native Vegetation Report submitted in support of the application notes that the site is highly modified and does not represent an intact stratum. On balance it is considered that the excerpt of the Desired Character Statement relating to vegetation has been adequately considered.

b) Council Wide provisions

The Council Wide provisions of relevance to this proposal seek (in summary):

- Development of a high design standard and appearance that responds to and reinforces the positive aspects of the local environment and built form.
- Orderly and economic development that creates a safe, convenient and pleasant environment in which to live in.
- A diverse range of dwelling types and sizes available to cater for changing demographics.

Design and Appearance

Objectives: 1

PDCs: 1, 3, 7, 9, 18, 20 & 28

Objective 1 seeks that development is of a high design standard, whilst PDC 1 seeks for proposed buildings to reflect the desired character of the locality whilst incorporating contemporary designs which have regard for mass and proportion, external materials, roof pitch, façade articulations and detailing. It is considered that the proposed dwelling is of appropriate design standard which incorporates the use non-reflective finishes and darker natural tones that will blend in with the locality. The use of darker tones in the finishes is consistent with the intent of PDC 3. Whilst the contemporary split-level and pitched gable design combination is not commonly seen in this locality it has become a common design style throughout the hills. It is noted that the proposed dwelling will sit below the height of the adjacent two storey dwelling at 32 Fern Hill Road and complies with quantitative height provisions. As mentioned earlier in the report, from a streetscape perspective the bulk and scale of the dwelling is acceptable and is also generally consistent with quantitative requirements pertaining to setbacks stipulated in the Policy Area and Zone, with the exception of the garage front setback. On balance the proposal is therefore considered sufficiently consistent with Objective 1 and PDC 1.

Concerns were also raised by the representors in regards to the impact on views from their property. It is considered that the dwelling is well setback from the shared boundary at 32 Fern Hill Road and based on the orientation of the neighbouring dwelling, it is considered that the proposed dwelling will not have a significant nor unreasonable impact on neighbouring views in its own right. When the impact is considered with respect to the existing vegetation (proposed to be removed) and the general ambience of the site, it is acknowledged that the transition from a vacant allotment to a residential property will cause a degree of interruption to the existing views, however it is noted that when the land division proposal was considered it was

anticipated that the site would eventually be developed for residential purposes. The design and placement of the dwelling is considered modest and responsive to the site topography, consistent with PDC 7.

PDC 18 seeks that development minimises direct overlooking of the main internal living areas and areas of private open space of neighbouring properties by offsetting the location of balconies and windows so that the views are oblique rather than direct, by setting the building away from boundaries and incorporating screening where appropriate. It is noted that the height of the attached decking triggered the need for public notification of this proposal. In respect to the neighbouring property at 32 Fern Hill Road, the applicant has provided plans demonstrating that the decking will sit approximately 2.3m below the ground level of the neighbouring dwelling. This will largely diminish the opportunity for direct views, particularly when consideration is given to the retention of existing boundary fencing and vegetation on the neighbouring allotment which will further mitigate potential overlooking.

It is acknowledged that there will be some views into the neighbouring properties from the Eastern end of the decking. The adjacent land at 25 Fern Hill Road forms part of an unusual 'dog-leg' in the allotment shape and does not form part of the private open space in association with the dwelling on this land. Furthermore, the dwelling at 25 Fern Hill Road is not readily visible from the subject land due to vegetation and the siting of the dwelling at 53 Wattle Tree Road. Views across to 53 Wattle Tree Road will be obscured by vegetation and diminished by both the topography of the land and sight line distances. The proposal is therefore considered to be consistent with PDC 18.

With respect to the relationship to the public realm and setbacks to the primary street it is considered that on balance and with regard to the site constraints and context that the proposal will contribute positively to the Fern Hill Road streetscape. This is despite the freestanding garage being located forward of the proposed dwelling. In this regard it is considered that impact of the garage will be diminished by its position below the dwelling, where views from the deck and the main living areas will still be available to the public realm, its complimentary colour scheme and the softening to be provided by proposed screen planting particularly adjacent to the Northern wall of the garage. Based on the above the qualitative guidance provided by PDCs 20 and 28 are considered to be sufficiently addressed.

Energy Efficiency

Objectives: 1

PDCs: 1, 2, 3

The proposed dwelling responds well to passive design principles, by locating the main living area with northern orientation, allowing solar access in the winter months. This is complimented by sufficient eave overhang and a verandah that will block out harsh summer sunlight and subsequent heat loads.

The main roof orientation on the Northern side of the dwelling with a pitch of 22.5 degrees will maximise exposure to direct sunlight for any future solar collectors. Citing the above the proposal is considered to reasonably satisfy Objective 1 and PDCs 1, 2 and 3.

Hazards

Objectives: 5

PDCs: 7 & 8

There is no mapped flood risk to the property. The nearby watercourse is managed with an existing culvert under the driveway of 23 Fern Hill Road. The slope of the land to the East makes it unlikely that the subject land and surrounding area would be inundated in a flood event, as this would be more likely further downstream.

Due to the topography of the land the dwelling could not be sited within 30m of Fern Hill Road and as such the appropriate access and manoeuvring areas for firefighting vehicles were required to be demonstrated on-site in accordance with the Ministers Code. Although a formal referral to the CFS is not required under Schedule 8 for this proposal as the land is within a Medium Bushfire Risk Area, the applicant consulted with the CFS pursuant to the difficult access conditions on the site. A solution utilising the initial section of the proposed driveway and the cul-de-sac end of Fern Hill Road to complete a 'T-turn' manoeuvre was developed in consultation with the CFS. The proposed solution therefore satisfies PDC 7.

The proposal generally responds to PDC 8 with respect to vegetation clearance, access and provision of an adequate water supply for firefighting purposes.

Natural Resources

Objectives: 1

PDCs: 14 & 37

The main concern of both representors is the loss of native vegetation including mature trees and understorey. Whilst this is a legitimate concern, and one also considered at the land division stage, the applicant has demonstrated that due process has been undertaken in seeking the relevant endorsement from the Native Vegetation Council. In response to the advice of the Native Vegetation Council the proposed dwelling, garage and all associated earthworks have been confined to the area shown in green on the Regulation Advice plan 2020/3108/473. This endorsement is subject to an offset payment into the Native Vegetation Fund which is a matter between the applicant and the Native Vegetation Council. The remainder of trees on site are to be retained and proposed screening vegetation has been selected to balance the planting of native trees with species recommended by the CFS for bushfire safety, in accordance with Objective 1 & PDC 37.

PDC 14 seeks that development include a stormwater management system that mitigates peak flows and ensures appropriate discharge of stormwater, without exceeding carrying capacities of downstream systems. The applicant has provided a stormwater management plan for the subject land demonstrating that all stormwater will be captured and directed to stormwater tanks with overflow being discharged to Fern Hill Road via a rock-filled swale. Engineering are satisfied with the method of stormwater management and as such it is considered that proposal is consistent with PDC 14.

Orderly and Sustainable Development

Objectives: 1 & 4

PDCs: 1

The subject land is located in Country Living Zone (Bridgewater) Policy Area which anticipates residential use of land in the form of single and two storey dwellings. The proposal is therefore considered to be consistent with Objectives 1 and 4, and PDC 1. PDC 9 states that development should take place on land which is suitable for the intended use having regard to the location and the condition of that land. As noted, this Zone is designated for residential purposes and the associated land division was approved in expectation of such development.

Residential Development

Objectives: 1 & 2

PDCs: 9, 10, 13, 15, 17, 18, 19 & 27

Objective 1 seeks safe, convenient, sustainable and healthy living environment whilst Objective 2 seeks a diverse range of dwelling types and sizes to cater for changing demographics. The proposed dwelling is considered to achieve both of these objectives by expanding the residential offering in the Zone and also incorporating a contemporary dwelling design that provides a modern and adaptive open plan living arrangement.

The dwelling is designed with living rooms and outdoor areas that take advantage of external outlooks across the street and adjoining vegetation. The entry to the dwelling will be clearly visible from the street ensuring a coherent relationship to the public realm. This ensures consistency with PDCs 9 and 10.

The location of the garage forward of the dwelling has been previously referred to and is considered a reasonable outcome given site topography and the proposed screen plantings. There are other examples of garages forward of dwellings in the locality, typically due to comparable topographic access difficulties. The proposal is therefore considered on balance to satisfy PDCs 13 and 15.

The site coverage of the proposal is modest and equates to approximately 33% of the allotment, well below the quantitative guide of 50%. This allows for appropriate dwelling configuration and space for rainwater tanks, private open space and landscaping, so as to accord with PDC 17.

Private Open Space will be provided in surplus of the qualifying and quantitative criteria under PDCs 18 and 19. Based on the site plan private open space excluding the decking area will account for a minimum of 300m², well above the 80m² requirement. Minimum dimension and accessibility criteria are also met when the decking area is considered.

It is not considered the proposal introduces the potential for undue overlooking or the reduction of visual privacy to neighbouring private open space or habitable room windows. As demonstrated by the applicant, the level differences between the proposed dwelling and the dwelling at 32 Fern Hill Road will mitigate overlooking

concerns when looking west from the attached decking. To the North the dwelling looks over Fern Hill Road Reserve and to the East the subject site abuts rural land comprising significant mature vegetation. As discussed, the dwellings to the East and South-east are screened by vegetation and sight-line distance in addition to the topography of the land all combine to prevent direct overlooking into habitable spaces. It is therefore considered the proposal accords with the intent of PDC 27.

Transportation and Access

Objective: 2

PDCs: 25, 32 & 34

The grade of the access driveway has been determined as appropriate by Council's Engineer. Additionally, the applicant has demonstrated capacity for fire-fighting vehicle access and manoeuvring in accordance with the Minister's Code. The garage provides for two undercover car parking spaces with two further on-site visitor car parking spaces possible forward of the garage. This ensures the proposal complies with Objective 2 and PDCs 25, 32 and 34.

7. SUMMARY & CONCLUSION

The development proposal is to construct a single storey split level dwelling with associated freestanding garage and retaining walls at 34 Fern Hill Road, Bridgewater. During the public notification period, two representations were submitted to Council. Both representations were in opposition to the proposal and were predominantly concerned with the removal of native vegetation required to facilitate the dwelling. One of the representors, whose property directly abuts the subject land, also expressed concern with the building height and visual impact, as well as the potential for overlooking.

The proposal has been assessed against the relevant provisions of the Development Plan and based on what is anticipated for a residential development in the Country Living Zone, the proposal is considered to represent an appropriate form of development for the site. The proposed dwelling is appropriately setback from site boundaries and designed to respond to the topography of the site. It is considered that some visual impact can be anticipated due to the clearing of native vegetation to facilitate the development. However, the applicant intends to landscape the site to soften the proposal and to provide partial screening to the garage as viewed from Fern Hill Road.

Concerns in relation to overlooking have been carefully considered and based on the level differences, separation distance of buildings, existing fencing and existing and proposed landscaping, it is considered that the proposal will not introduce the potential for unreasonable overlooking.

Based on the above the proposal is sufficiently consistent with the relevant provisions of the Development Plan, and it is considered the proposal is not seriously at variance with the Development Plan. In the view of staff, the proposal on balance has sufficient merit to warrant consent. Staff therefore recommend that Development Plan Consent be **GRANTED**, subject to conditions.

8. RECOMMENDATION

That the Council Assessment Panel considers that the proposal is not seriously at variance with the relevant provisions of the Adelaide Hills Council Development Plan, and GRANTS Development Plan Consent to Development Application 20/1049/473 by Lloyd Building Solutions Pty Ltd for Single storey split level detached dwelling, deck (maximum height 2.6m), retaining walls (maximum height 1m), domestic outbuilding - garage & associated earthworks at 34 Fern Hill Road Bridgewater subject to the following conditions:

(1) Development In Accordance With the Plans

The development herein approved shall be undertaken in accordance with the following plans, details and written submissions accompanying the application, unless varied by a separate condition:

- Civil Stormwater Management Plan Revision 2 prepared by Tesseract International dated 21 January 2021 and received by Council 21 January 2021.
- Site Plan Sheet No .2, Issue A prepared by Lloyd Building Solutions dated 11 February 2021 and received by Council 11 February 2021.
- Floor Plan Sheet No. 3 prepared by Lloyd Building Solutions dated 26 November 2020 and received by Council 26 November 2020.
- North East, South-West and South East Elevation Sheet No. 3 prepared by Lloyd Building Solutions dated 26 November 2020 and received by Council 26 November 2020.
- North West Elevation, Garage Elevations and Garage Floor Plan Sheet No. 5 prepared by Lloyd Building Solutions dated 26 November 2020 and received by Council 26 November 2020.
- External Colour Scheme prepared by Lloyd Building Solutions dated 5 November 2020 and received by Council 5 November 2020.
- Civil Calculations 20-453 prepared by Tesseract International dated 21 January 2021 and received by Council 21 January 2021.

REASON: To ensure the proposed development is undertaken in accordance with the approved plans.

(2) Stormwater Overflow Directed to Street

All roof runoff generated by the development hereby approved shall be directed to a rainwater tank with overflow to the street in accordance with the Stormwater Management Plan and Civil Calculations prepared by Tesseract International dated 21 January 2021 and to the satisfaction of Council, within one month of the roof cladding being installed.

All roof and hard paved water runoff shall be managed to prevent trespass onto adjoining properties and into the effluent disposal area where an on-site waste control system exists. Overflow from rainwater tanks is to be directed to the street in accordance with Stormwater Management Plan and Civil Calculations prepared by Tesseract International dated 21 January 2021 to the satisfaction of Council.

REASON: To minimise erosion, protect the environment and to ensure no ponding of stormwater resulting from development occurs on adjacent sites.

(3) Residential Lighting

All external lighting shall be directed away from residential development and, shielded if necessary to prevent light spill causing nuisance to the occupiers of those residential properties.

REASON: Lighting shall not detrimentally affect the residential amenity of the locality.

(4) External Finishes

The external finishes to the buildings herein approved shall be as follows:

DWELLING WALLS: Colorbond 'Night Sky' or similar

DWELLING ROOF: Colorbond 'Night Sky' or similar

GARAGE ROOF & WALLS: Colorbond 'Night Sky' or similar

GARAGE DOOR: Gliderol 'Tuscan Merbau' panels or similar

REASON: The external materials of buildings should have surfaces which are of low light-reflective nature and blend with the natural rural landscape and minimise visual intrusion.

(5) Timeframe for Landscaping to be Planted

Landscaping detailed on the Site Plan Sheet No. 2 Issue A prepared by Lloyd Building Solutions dated 11 February 2021 shall be planted in the planting season following occupation and maintained in good health and condition at all times. Any such vegetation shall be replaced in the next planting season if and when it dies or becomes seriously diseased.

REASON: To maintain and enhance the visual amenity of the locality in which the subject land is situated and ensure the survival and maintenance of the vegetation.

(6) Treatment to Excavations and Fill

All exposed excavations and fill as shown on the Site Plan Sheet No. 2 Issue A prepared by Lloyd Building Solutions dated 11 February 2021 shall be:

- (a) rounded off and bettered to match and blend with the natural contours of the land;
- (b) covered with approximately 100mm of topsoil;
- (c) seeded to avoid erosion and visual concerns; and
- (d) screened with trees, shrubs and ground covers prior to occupation of the approved development to the reasonable satisfaction of Council.

REASON: To maintain the visual amenity of the locality in which the subject land is located.

(7) Access Requirements

Private roads and access tracks shall provide safe and convenient access and egress for bushfire fighting vehicles as follows:

- Access to the building site shall be of all-weather construction, with a minimum formed road surface width of 3 metres.
- The 'T'-shaped turning area, utilizing the public road, shall be a minimum formed length of 11 metres with minimum internal radii of 9.5 metres on bends, including bends connecting private access to public roads.
- Vegetation overhanging the access road shall be pruned to achieve a minimum vehicular clearance of not less than 4 metres in width and a vertical height clearance of 4 metres.
- Entry and exit angles to the driveway shall be designed to accommodate safe travel for large fire-fighting vehicles with a long wheel base (length 8.3 metres).
- The gradient of the access road shall not exceed 16 degrees (29%), in steep terrain the construction of the public road or driveway shall be a sealed surface.

REASON: To provide safe access to properties in the event of a bushfire.

(8) Firefighting Water Supply – Mains Water Supply Available

A supply of water independent of reticulated mains supply shall be available at all times for fire-fighting purposes:

- A minimum supply of 2,000 (two thousand) litres of water shall be available for fighting purposes at all times; and
- The water supply shall be located such that it provides the required water; and
- The water supply shall be fitted with domestic fittings (standard household taps that enable an occupier to access a supply of water with domestic hoses or buckets for extinguishing minor fires); and
- The water supply outlet shall be located at least 400mm above ground level for a distance of 200mm either side of the outlet; and
- A water storage facility connected to mains water shall have an automatic float switch to maintain full capacity; and
- Where the water storage facility is an above-ground water tank, the tank (including any support structure) shall be constructed of non-combustible material.

REASON: To minimise the threat and impact of fire on life and property as the property is located in a Medium Bushfire Prone Area.

(9) Soil Erosion Control

Prior to construction of the approved development straw bales (or other soil erosion control methods as approved by Council) shall be placed and secured below areas of excavation and fill to prevent soil moving off the site during periods of rainfall.

REASON: Development should prevent erosion and stormwater pollution before, during and after construction.

(10) Restriction on Use of Outbuilding

The outbuilding (garage) shall not be used for human habitation, commercial or industrial purposes. Any such activity may constitute a change in use and will require separate development approval.

REASON: To ensure the proposed development is undertaken in accordance with the approved plans.

(11) Residential Access Point – SD13

The vehicle access point and cross over shall be constructed in accordance with Adelaide Hills Council standard engineering detail SD13 – residential vehicular crossing paved for sealed road with kerb and SD19 – allowable crossover locations, within 3 months of occupation/use of the development.

REASON: For safe and convenient movement of vehicles.

NOTES

(1) Development Plan Consent (DPC) Expiry

This Development Plan Consent is valid for a period of twelve (12) months commencing from the date of the decision or where an appeal has been commenced the date on which the appeal is determined In the Environment, Development and Resources (ERD) Court.

(2) Erosion Control During Construction

Management of the property during construction shall be undertaken in such a manner as to prevent denudation, erosion or pollution of the environment.

(3) EPA Environmental Duty

The applicant is reminded of his/her general environmental duty, as required by Section 25 of the Environment Protection Act 1993, to take all reasonable and practical measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes, or may cause, environmental harm.

(4) Department of Environment and Water (DEW) - Native Vegetation Council

The applicant is advised that any proposal to clear, remove limbs or trim native vegetation on the land, unless the proposed clearance is subject to an exemption under the Regulations of the Native Vegetation Act 1991, requires the approval of the Native Vegetation Council. The clearance of native vegetation includes the flooding of land, or any other act or activity that causes the killing or destruction of native vegetation, the severing of branches or any other substantial damage to native vegetation. For further information visit:

[www.environment.sa.gov.au/Conservation/Native_Vegetation/
Managing_native_vegetation](http://www.environment.sa.gov.au/Conservation/Native_Vegetation/Managing_native_vegetation)

Any queries regarding the clearance of native vegetation should be directed to the Native Vegetation Council Secretariat on 8303 9777. This must be sought prior to Full Development Approval being granted by Council.

(5) Works On Boundary

The development herein approved involves work on the boundary. The onus of ensuring development is in the approved position on the correct allotment is the responsibility of the land owner/applicant. This may necessitate a survey being carried out by a licensed land surveyor prior to the work commencing.

9. ATTACHMENTS

Locality Plan
Proposal Plans
Application Information
Applicant's Professional Reports
Referral Responses
Representation
Applicant's response to representations
Publically Notified Plans

Respectfully submitted

Concurrence

Ashleigh Gade
Statutory Planner

Deryn Atkinson
Assessment Manager



DISCLAIMER
Apart from any use permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission obtained from the Adelaide Hills Council. Requests and enquiries concerning reproduction and rights should be directed to the Chief Executive Officer, The Adelaide Hills Council, PO Box 44, Woodside SA 5244. The Adelaide Hills Council, its employees and servants do not warrant or make any

representations regarding the use, or results of use of the information contained herein as to its correctness, accuracy, currency or otherwise. In particular, it should be noted that the accuracy of property boundaries when displayed over aerial photography cannot be considered to be accurate, and that the only certain method of determining boundary locations is to use the services of a licensed Surveyor. The Adelaide Hills Council, its

employees and servants expressly disclaim all liability or responsibility to any person using the information or advice contained herein. ©

Scale = 1:752.220

20 m



Annotations

- Representor 2
- Representor 1
- Subject Land

Planners Summary

- PlanningSummary

AHC Core

- Parks
- Townships
- RoadsStreetView
 - ADJOINING LGA RD
 - AHC & PRIVATE
 - AHC RD
 - DPTI RD
 - PRIVATE RD
 - SHARED RD

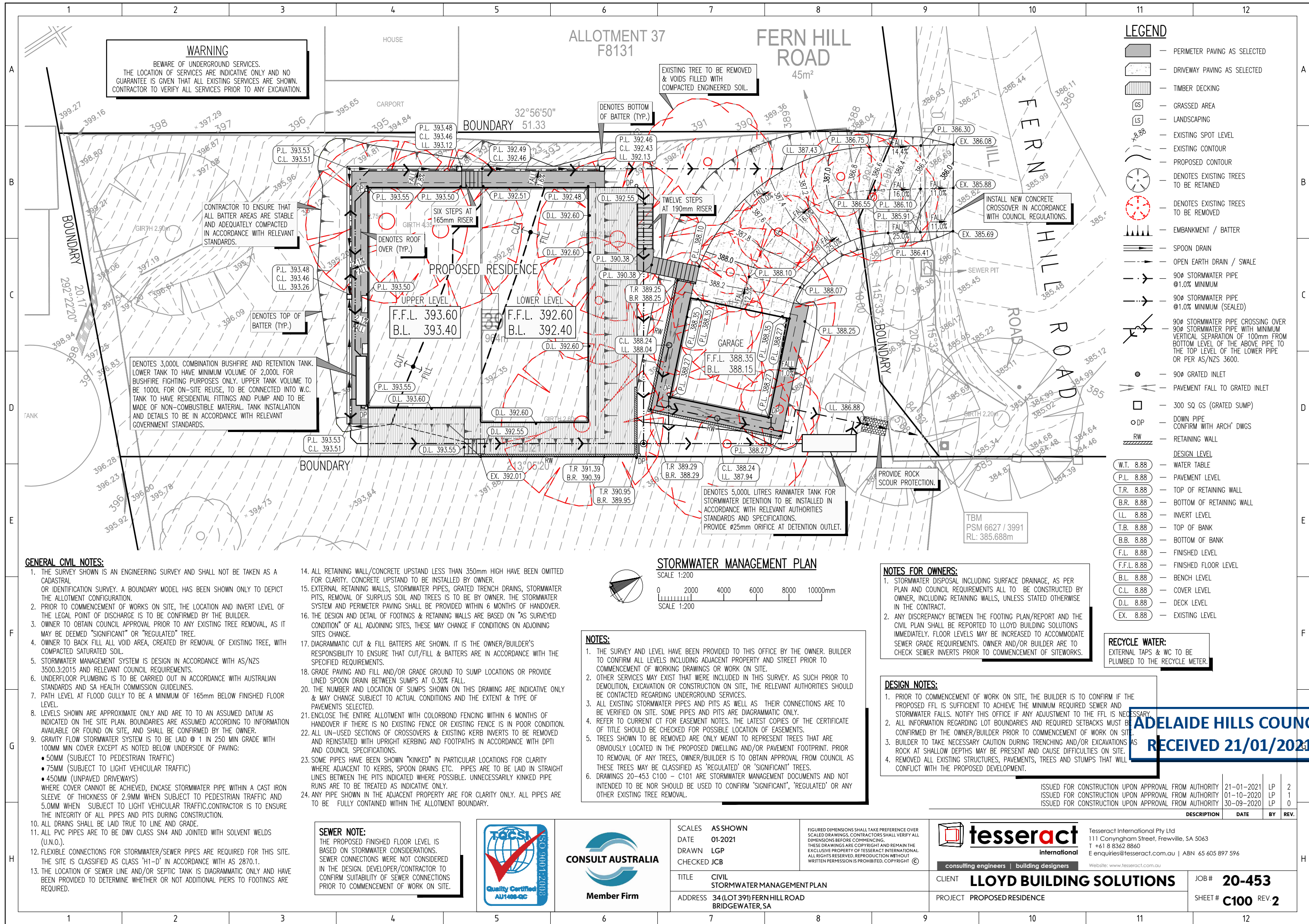
- PropertyOwner
- Parcels
- Roads
- Suburbs
- Rivers
 - River
 - Creeks
 - Streams

Burnt Area Cudlee Creek

- CudleeCreekBurntArea

Flood Study Data

- TorrensFloodZones_20Yr



LEGEND

- PERIMETER PAVING AS SELECTED
- DRIVEWAY PAVING AS SELECTED
- TIMBER DECKING
- GS - GRASSED AREA
- LS - LANDSCAPING
- EXISTING SPOT LEVEL
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DENOTES EXISTING TREES TO BE RETAINED
- DENOTES EXISTING TREES TO BE REMOVED
- EMBANKMENT / BATTER
- SPOON DRAIN
- OPEN EARTH DRAIN / SWALE
- 90° STORMWATER PIPE @1.0% MINIMUM
- 90° STORMWATER PIPE @1.0% MINIMUM (SEALED)
- 90° STORMWATER PIPE CROSSING OVER 90° STORMWATER PIPE WITH MINIMUM VERTICAL SEPARATION OF 100mm FROM BOTTOM LEVEL OF THE ABOVE PIPE TO THE TOP LEVEL OF THE LOWER PIPE OR PER AS/NZS 3600.
- 90° GRATED INLET
- PAVEMENT FALL TO GRATED INLET
- 300 SQ GS (GRATED SUMP)
- DOWN PIPE CONFIRM WITH ARCH DWGS
- RETAINING WALL
- DESIGN LEVEL
- W.T. 8.88 - WATER TABLE
- P.L. 8.88 - PAVEMENT LEVEL
- T.R. 8.88 - TOP OF RETAINING WALL
- B.R. 8.88 - BOTTOM OF RETAINING WALL
- I.L. 8.88 - INVERT LEVEL
- T.B. 8.88 - TOP OF BANK
- B.B. 8.88 - BOTTOM OF BANK
- F.L. 8.88 - FINISHED LEVEL
- F.F.L. 8.88 - FINISHED FLOOR LEVEL
- B.L. 8.88 - BENCH LEVEL
- C.L. 8.88 - COVER LEVEL
- D.L. 8.88 - DECK LEVEL
- EX. 8.88 - EXISTING LEVEL

RECYCLE WATER:
EXTERNAL TAPS & WC TO BE
PLUMBED TO THE RECYCLE METER.

NOTES FOR OWNERS:
1. STORMWATER DISPOSAL INCLUDING SURFACE DRAINAGE, AS PER PLAN AND COUNCIL REQUIREMENTS ALL TO BE CONSTRUCTED BY OWNER, INCLUDING RETAINING WALLS, UNLESS STATED OTHERWISE IN THE CONTRACT.
2. ANY DISCREPANCY BETWEEN THE FOOTING PLAN/REPORT AND THE CIVIL PLAN SHALL BE REPORTED TO LLOYD BUILDING SOLUTIONS IMMEDIATELY. FLOOR LEVELS MAY BE INCREASED TO ACCOMMODATE SEWER GRADE REQUIREMENTS. OWNER AND/OR BUILDER ARE TO CHECK SEWER INVERTS PRIOR TO COMMENCEMENT OF SITEWORKS.

DESIGN NOTES:
1. PRIOR TO COMMENCEMENT OF WORK ON SITE, THE BUILDER IS TO CONFIRM IF THE PROPOSED FFL IS SUFFICIENT TO ACHIEVE THE MINIMUM REQUIRED SEWER AND STORMWATER FALLS. NOTIFY THIS OFFICE IF ANY ADJUSTMENT TO THE FFL IS NECESSARY.
2. ALL INFORMATION REGARDING LOT BOUNDARIES AND REQUIRED SETBACKS MUST BE CONFIRMED BY THE OWNER/BUILDER PRIOR TO COMMENCEMENT OF WORK ON SITE.
3. BUILDER TO TAKE NECESSARY CAUTION DURING TRENCHING AND/OR EXCAVATIONS AS ROCK AT SHALLOW DEPTHS MAY BE PRESENT AND CAUSE DIFFICULTIES ON SITE.
4. REMOVED ALL EXISTING STRUCTURES, PAVEMENTS, TREES AND STUMPS THAT WILL CONFLICT WITH THE PROPOSED DEVELOPMENT.

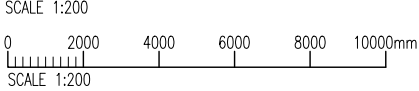
NOTES:
1. THE SURVEY AND LEVEL HAVE BEEN PROVIDED TO THIS OFFICE BY THE OWNER. BUILDER TO CONFIRM ALL LEVELS INCLUDING ADJACENT PROPERTY AND STREET PRIOR TO COMMENCEMENT OF WORKING DRAWINGS OR WORK ON SITE.
2. OTHER SERVICES MAY EXIST THAT WERE INCLUDED IN THIS SURVEY. AS SUCH PRIOR TO DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITIES SHOULD BE CONTACTED REGARDING UNDERGROUND SERVICES.
3. ALL EXISTING STORMWATER PIPES AND PITS AS WELL AS THEIR CONNECTIONS ARE TO BE VERIFIED ON SITE. SOME PIPES AND PITS ARE DIAGRAMMATIC ONLY.
4. REFER TO CURRENT CT FOR EASEMENT NOTES. THE LATEST COPIES OF THE CERTIFICATE OF TITLE SHOULD BE CHECKED FOR POSSIBLE LOCATION OF EASEMENTS.
5. TREES SHOWN TO BE REMOVED ARE ONLY MEANT TO REPRESENT TREES THAT ARE OBVIOUSLY LOCATED IN THE PROPOSED DWELLING AND/OR PAVEMENT FOOTPRINT. PRIOR TO REMOVAL OF ANY TREES, OWNER/BUILDER IS TO OBTAIN APPROVAL FROM COUNCIL AS THESE TREES MAY BE CLASSIFIED AS 'REGULATED' OR 'SIGNIFICANT' TREES.
6. DRAWINGS 20-453 C100 - C101 ARE STORMWATER MANAGEMENT DOCUMENTS AND NOT INTENDED TO BE NOR SHOULD BE USED TO CONFIRM 'SIGNIFICANT', 'REGULATED' OR ANY OTHER EXISTING TREE REMOVAL.

GENERAL CIVIL NOTES:
1. THE SURVEY SHOWN IS AN ENGINEERING SURVEY AND SHALL NOT BE TAKEN AS A CADASTRAL OR IDENTIFICATION SURVEY. A BOUNDARY MODEL HAS BEEN SHOWN ONLY TO DEPICT THE ALLOTMENT CONFIGURATION.
2. PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE LOCATION AND INVERT LEVEL OF THE LEGAL POINT OF DISCHARGE IS TO BE CONFIRMED BY THE BUILDER.
3. OWNER TO OBTAIN COUNCIL APPROVAL PRIOR TO ANY EXISTING TREE REMOVAL, AS IT MAY BE DEEMED "SIGNIFICANT" OR "REGULATED" TREE.
4. OWNER TO BACK FILL ALL VOID AREA, CREATED BY REMOVAL OF EXISTING TREE, WITH COMPACTED SATURATED SOIL.
5. STORMWATER MANAGEMENT SYSTEM IS DESIGN IN ACCORDANCE WITH AS/NZS 3500.3:2015 AND RELEVANT COUNCIL REQUIREMENTS.
6. UNDERFLOOR PLUMBING IS TO BE CARRIED OUT IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND SA HEALTH COMMISSION GUIDELINES.
7. PATH LEVEL AT FLOOD GULLY TO BE A MINIMUM OF 165mm BELOW FINISHED FLOOR LEVEL.
8. LEVELS SHOWN ARE APPROXIMATE ONLY AND ARE TO AN ASSUMED DATUM AS INDICATED ON THE SITE PLAN. BOUNDARIES ARE ASSUMED ACCORDING TO INFORMATION AVAILABLE OR FOUND ON SITE, AND SHALL BE CONFIRMED BY THE OWNER.
9. GRAVITY FLOW STORMWATER SYSTEM IS TO BE LAID @ 1 IN 250 MIN GRADE WITH 100MM MIN COVER EXCEPT AS NOTED BELOW UNDERSIDE OF PAVING:
• 50MM (SUBJECT TO PEDESTRIAN TRAFFIC)
• 75MM (SUBJECT TO LIGHT VEHICULAR TRAFFIC)
• 450MM (UNPAVED DRIVEWAYS)
WHERE COVER CANNOT BE ACHIEVED, ENCASE STORMWATER PIPE WITHIN A CAST IRON SLEEVE OF THICKNESS OF 2.9MM WHEN SUBJECT TO PEDESTRIAN TRAFFIC AND 5.0MM WHEN SUBJECT TO LIGHT VEHICULAR TRAFFIC. CONTRACTOR IS TO ENSURE THE INTEGRITY OF ALL PIPES AND PITS DURING CONSTRUCTION.
10. ALL DRAINS SHALL BE LAID TRUE TO LINE AND GRADE.
11. ALL PVC PIPES ARE TO BE DWV CLASS SN4 AND JOINTED WITH SOLVENT WELDS (U.N.O.).
12. FLEXIBLE CONNECTIONS FOR STORMWATER/SEWER PIPES ARE REQUIRED FOR THIS SITE. THE SITE IS CLASSIFIED AS CLASS 'H1-D' IN ACCORDANCE WITH AS 2870.1.
13. THE LOCATION OF SEWER LINE AND/OR SEPTIC TANK IS DIAGRAMMATIC ONLY AND HAVE BEEN PROVIDED TO DETERMINE WHETHER OR NOT ADDITIONAL PIERS TO FOOTINGS ARE REQUIRED.

14. ALL RETAINING WALL/CONCRETE UPSTAND LESS THAN 350mm HIGH HAVE BEEN OMITTED FOR CLARITY. CONCRETE UPSTAND TO BE INSTALLED BY OWNER.
15. EXTERNAL RETAINING WALLS, STORMWATER PIPES, GRATED TRENCH DRAINS, STORMWATER PITS, REMOVAL OF SURPLUS SOIL AND TREES IS TO BE BY OWNER. THE STORMWATER SYSTEM AND PERIMETER PAVING SHALL BE PROVIDED WITHIN 6 MONTHS OF HANDOVER.
16. THE DESIGN AND DETAIL OF FOOTINGS & RETAINING WALLS ARE BASED ON "AS SURVEYED CONDITION" OF ALL ADJOINING SITES, THESE MAY CHANGE IF CONDITIONS ON ADJOINING SITES CHANGE.
17. DIAGRAMMATIC CUT & FILL BATTERS ARE SHOWN. IT IS THE OWNER/BUILDER'S RESPONSIBILITY TO ENSURE THAT CUT/FILL & BATTERS ARE IN ACCORDANCE WITH THE SPECIFIED REQUIREMENTS.
18. GRADE PAVING AND FILL AND/OR GRADE GROUND TO SUMP LOCATIONS OR PROVIDE LINED SPOON DRAIN BETWEEN SUMPS AT 0.30% FALL.
20. THE NUMBER AND LOCATION OF SUMPS SHOWN ON THIS DRAWING ARE INDICATIVE ONLY & MAY CHANGE SUBJECT TO ACTUAL CONDITIONS AND THE EXTENT & TYPE OF PAVEMENTS SELECTED.
21. ENCLOSE THE ENTIRE ALLOTMENT WITH COLORBOND FENCING WITHIN 6 MONTHS OF HANDOVER IF THERE IS NO EXISTING FENCE OR EXISTING FENCE IS IN POOR CONDITION.
22. ALL UN-USED SECTIONS OF CROSSOVERS & EXISTING KERB INVERTS TO BE REMOVED AND REINSTATE WITH UPRIGHT KERBING AND FOOTPATHS IN ACCORDANCE WITH DPTI AND COUNCIL SPECIFICATIONS.
23. SOME PIPES HAVE BEEN SHOWN "KINKED" IN PARTICULAR LOCATIONS FOR CLARITY WHERE ADJACENT TO KERBS, SPOON DRAINS ETC. PIPES ARE TO BE LAID IN STRAIGHT LINES BETWEEN THE PITS INDICATED WHERE POSSIBLE. UNNECESSARILY KINKED PIPE RUNS ARE TO BE TREATED AS INDICATIVE ONLY.
24. ANY PIPE SHOWN IN THE ADJACENT PROPERTY ARE FOR CLARITY ONLY. ALL PIPES ARE TO BE FULLY CONTAINED WITHIN THE ALLOTMENT BOUNDARY.

SEWER NOTE:
THE PROPOSED FINISHED FLOOR LEVEL IS BASED ON STORMWATER CONSIDERATIONS. SEWER CONNECTIONS WERE NOT CONSIDERED IN THE DESIGN. DEVELOPER/CONTRACTOR TO CONFIRM SUITABILITY OF SEWER CONNECTIONS PRIOR TO COMMENCEMENT OF WORK ON SITE.

STORMWATER MANAGEMENT PLAN



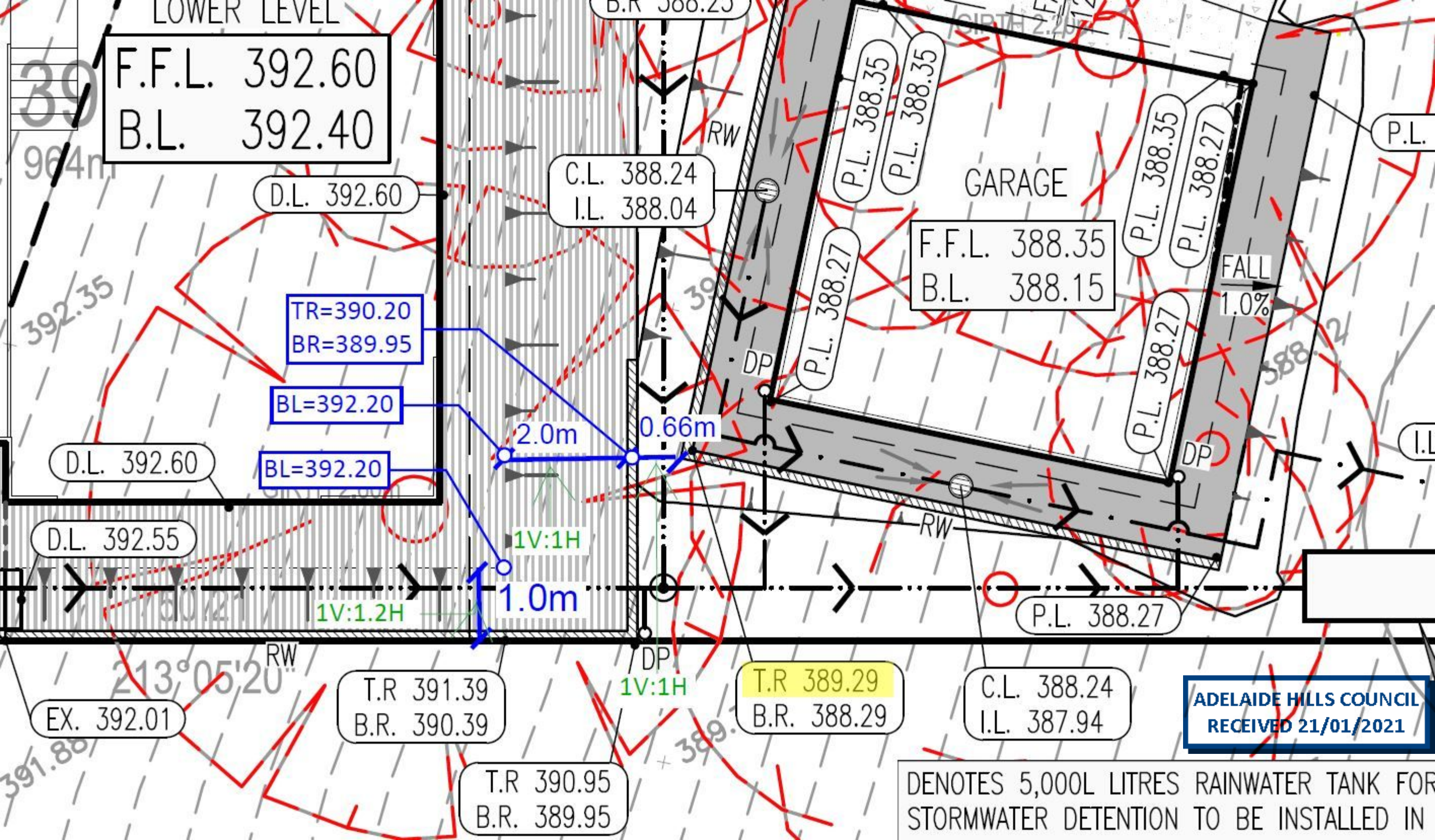
SCALES	AS SHOWN
DATE	01-2021
DRAWN	LGP
CHECKED	JCB
TITLE	CIVIL STORMWATER MANAGEMENT PLAN
ADDRESS	34 (LOT 391) FERN HILL ROAD BRIDGEWATER, SA

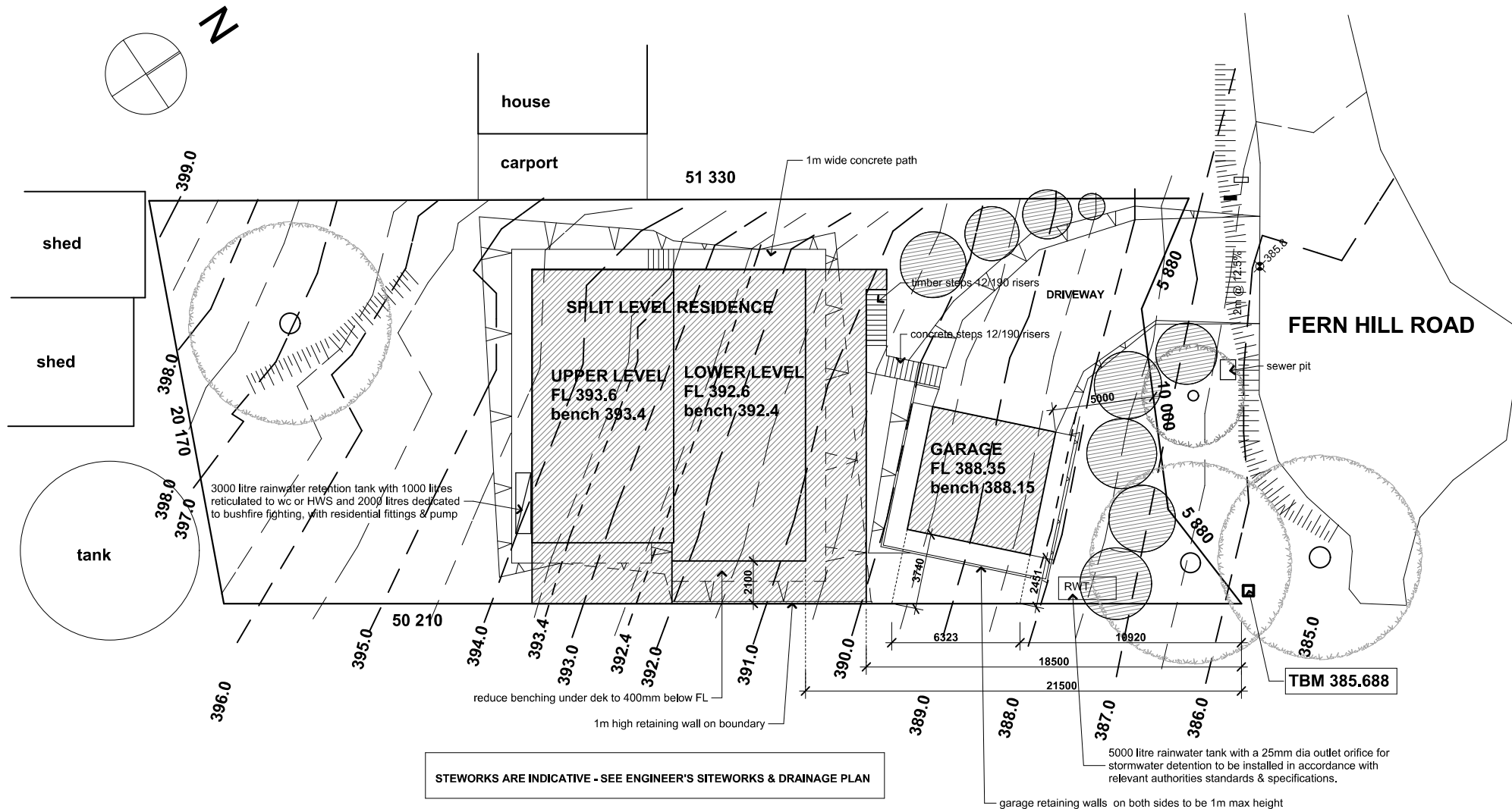


Tesseract International Pty Ltd
111 Conyngham Street, Frewville, SA 5063
T +61 8 8362 8860
E enquiries@tesseract.com.au | ABN 65 605 897 596
Website: www.tesseract.com.au

CLIENT	LLOYD BUILDING SOLUTIONS	JOB #	20-453
PROJECT	PROPOSED RESIDENCE	SHEET #	C100 REV 2

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY	21-01-2021	LP	2
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY	01-10-2020	LP	1
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY	30-09-2020	LP	0





FENCING

The existing 1500mm high corrugated iron fence to be painted grey.
The existing wire mesh fences to be straightened and re-aligned with the correct boundary.
No additional (new) fences to be erected.



SCREEN PLANTING

New screen planting to front of property to reduce visual impact of residence & garage.
Planting to be low bushfire hazard salt rich species such as saltbush & boobialla as recommended by SA CFS.

2

SITE PLAN

1:200

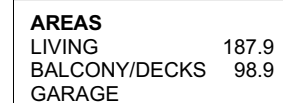
ADELAIDE HILLS COUNCIL
RECEIVED: 11/02/2021

Lloyd Building Solutions
Pty Ltd
LIC No. BLD 257473
PO BOX 3125, NEWTON, SA 5074
Mob 0411 222 708
email: ian@lbsolutions.net.au

**PROPOSED RESIDENCE AT
34 (LOT 391) FERN HILL ROAD,
BRIDGEWATER
FOR B. LLOYD & J. BALA**

drawn **ERIC SMITH & ASSOCIATES PTY LTD**

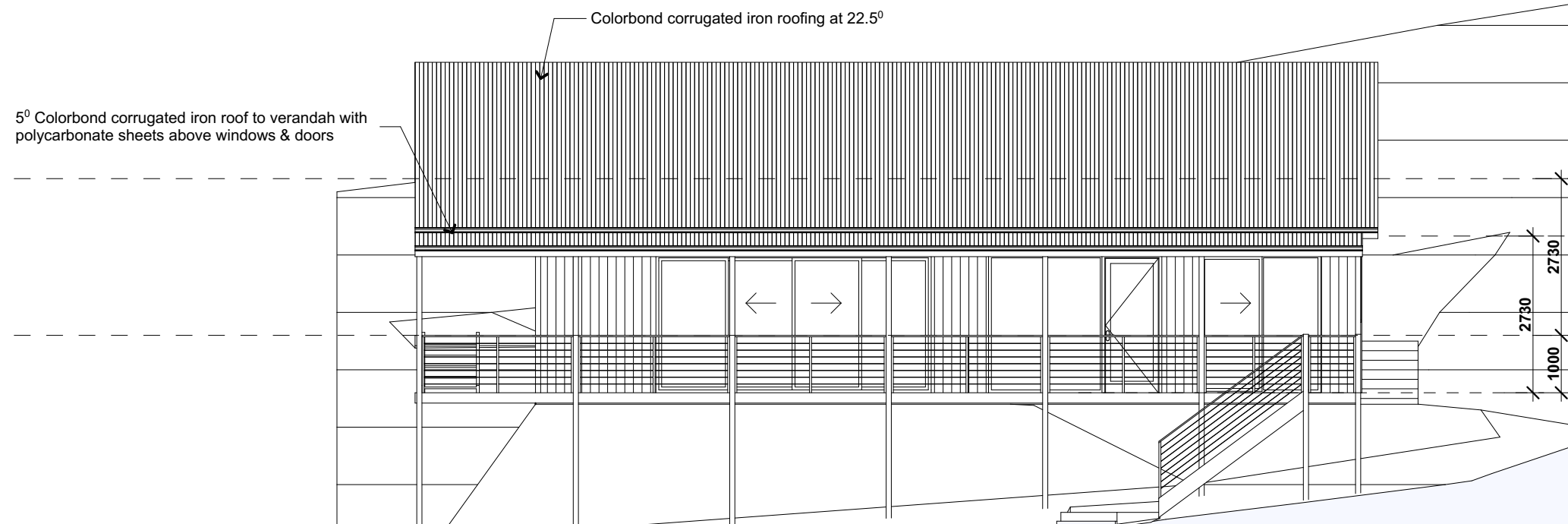
Date 11/02/2021 Sheet No. 2 Issue **A**



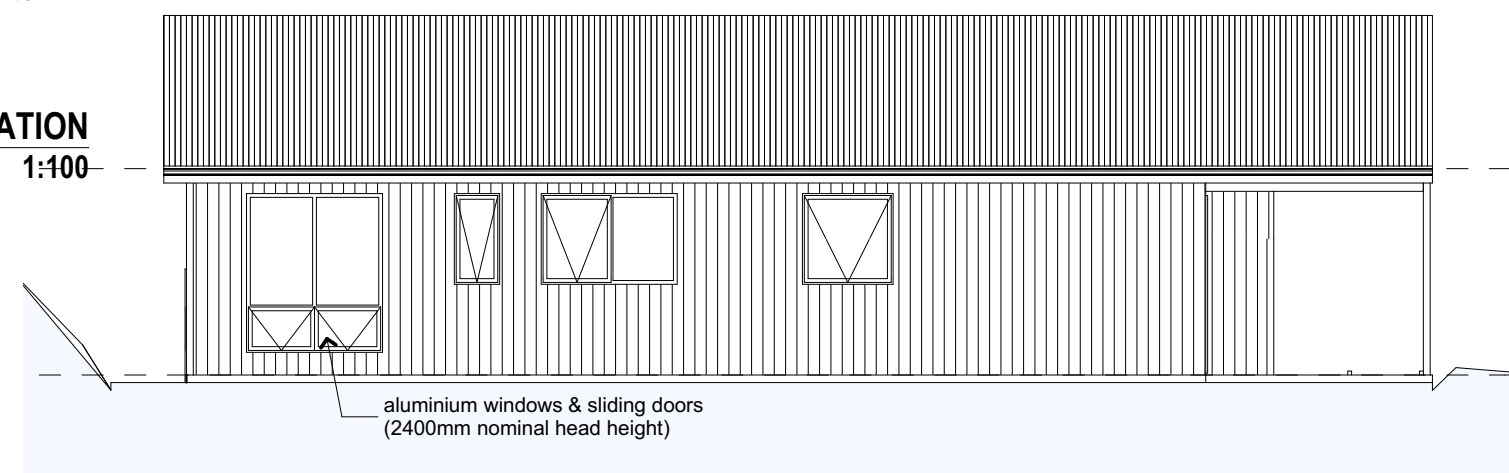
Ⓢ

NIGHT SKY COLORBOND CORRUGATED IRON
MATT BLACK ULTRAALUMINIUM
GLIDEROL TUSCAN MERBAU COLOUR PANELGLIDE
NIGHT SKY
EKODECK LEATHERWOOD (BAL 29 boards within 300mm
of doors
NIGHT SKY WITH STAINLESS STEEL WIRES
NIGHT SKY COLORBOND CORRUGATED IRON
NIGHT SKY COLORBOND

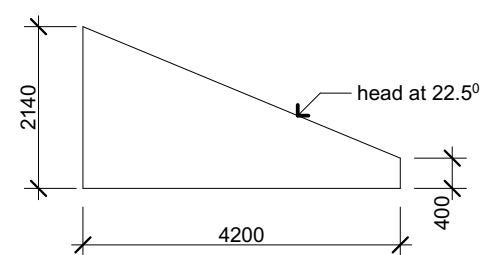
Date 26/11/2020	Sheet No. 3	Issue
------------------------	-------------	-------



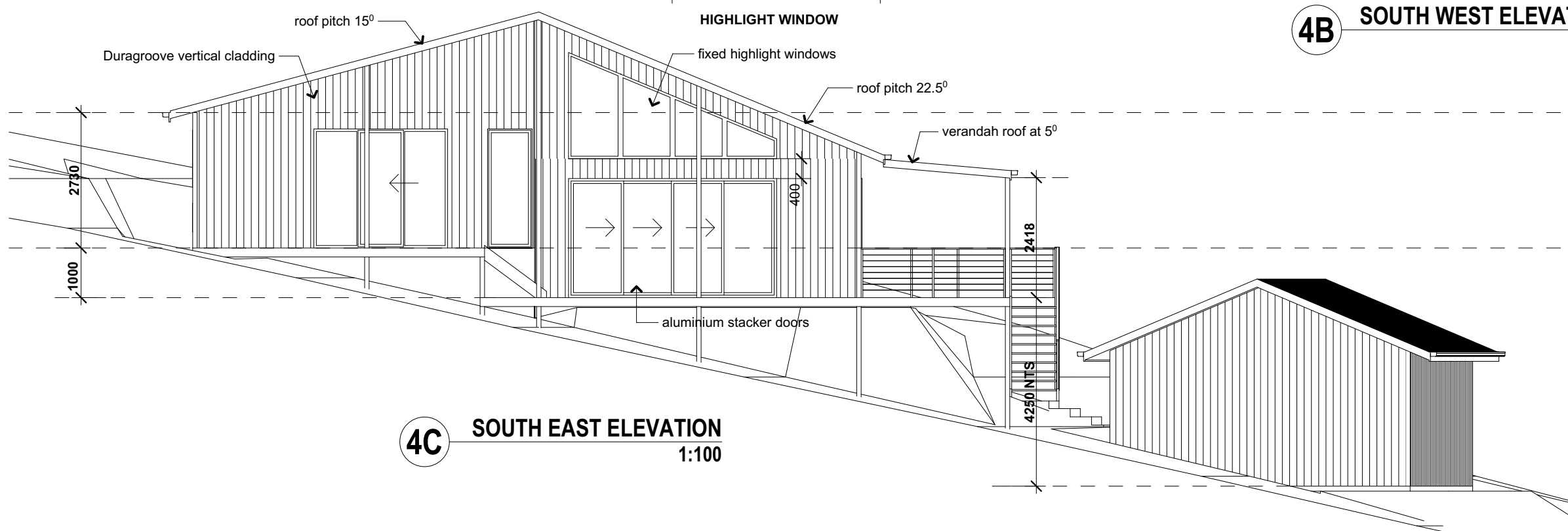
4A NORTH EAST ELEVATION
1:100



4B SOUTH WEST ELEVATION
1:100



HIGHLIGHT WINDOW



4C SOUTH EAST ELEVATION
1:100

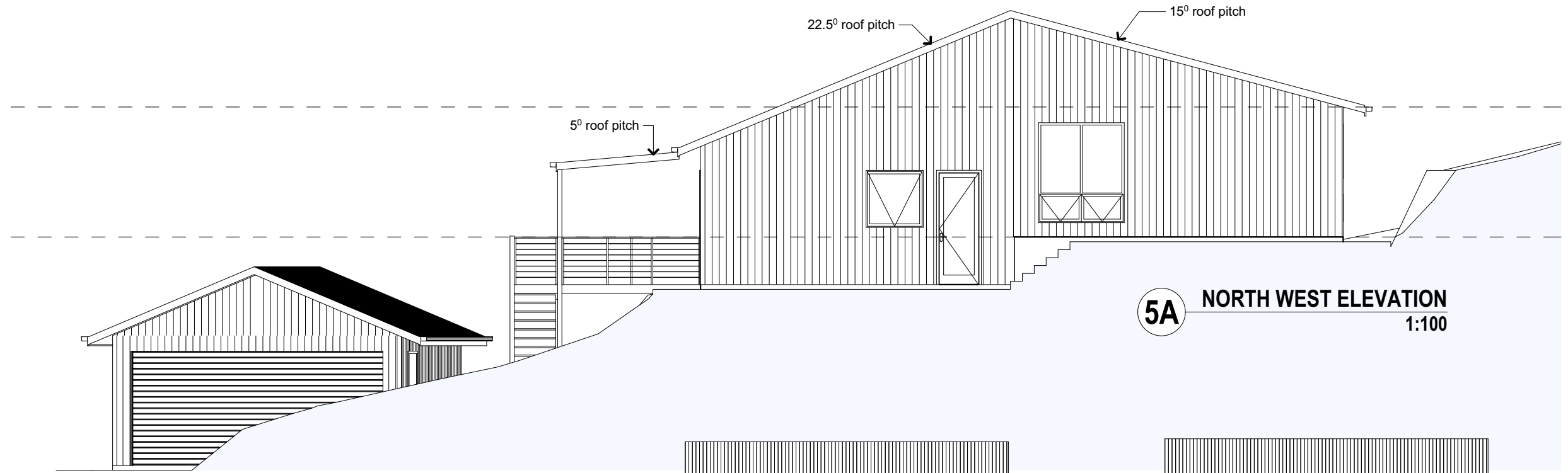
ADELAIDE HILLS COUNCIL
RECEIVED 26/11/2020

Lloyd Building Solutions
Pty Ltd
LIC No. BLD 257473
PO BOX 3125, NEWTON, SA 5074
Mob 0411 222 708
email: ian@lbsolutions.net.au

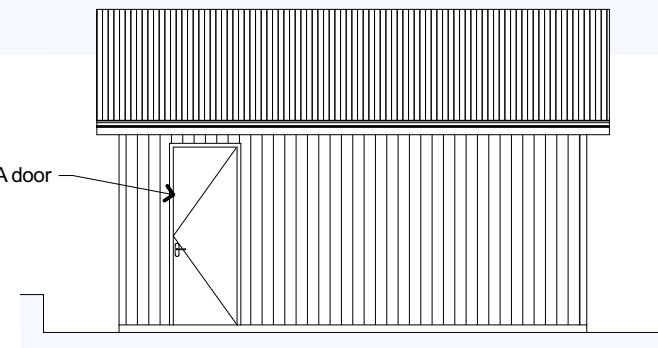
PROPOSED RESIDENCE AT
34 (LOT 391) FERN HILL ROAD,
BRIDGEWATER
FOR B. LLOYD & J. BALA

drawn **ERIC SMITH & ASSOCIATES PTY LTD**

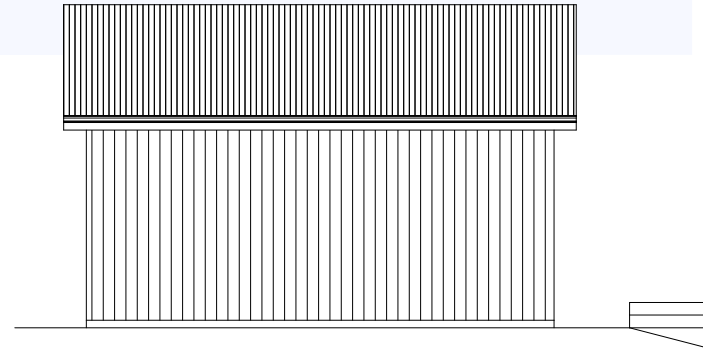
Date **26/11/2020** Sheet No. **4** Issue



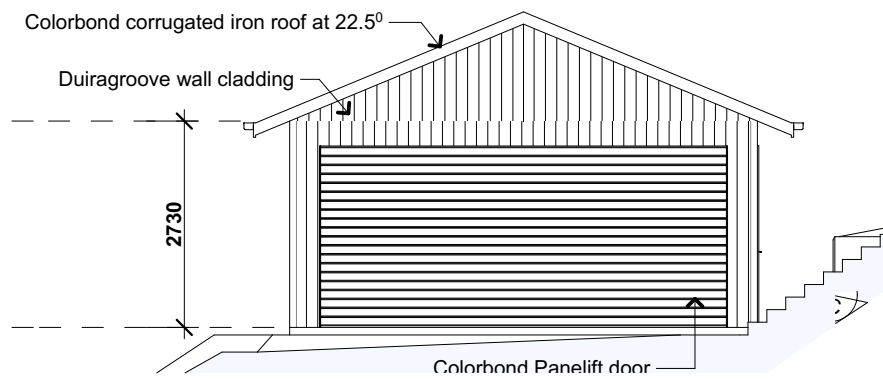
5A NORTH WEST ELEVATION
1:100



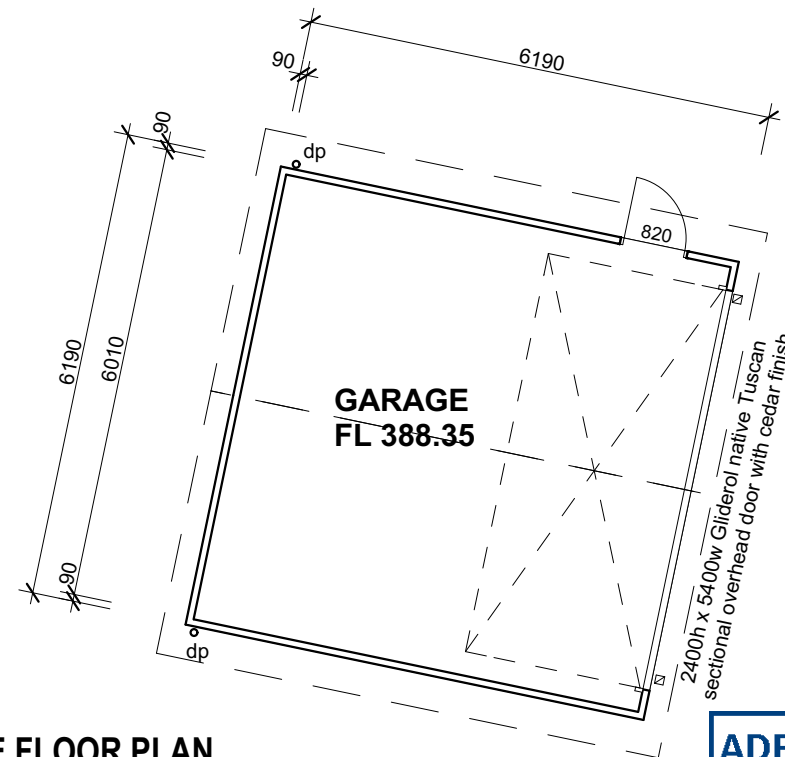
5C GARAGE SW ELEVATION
1:100



5D GARAGE SE ELEVATION
1:100




5B GARAGE NW ELEVATION
1:100



5E GARAGE FLOOR PLAN
1:100

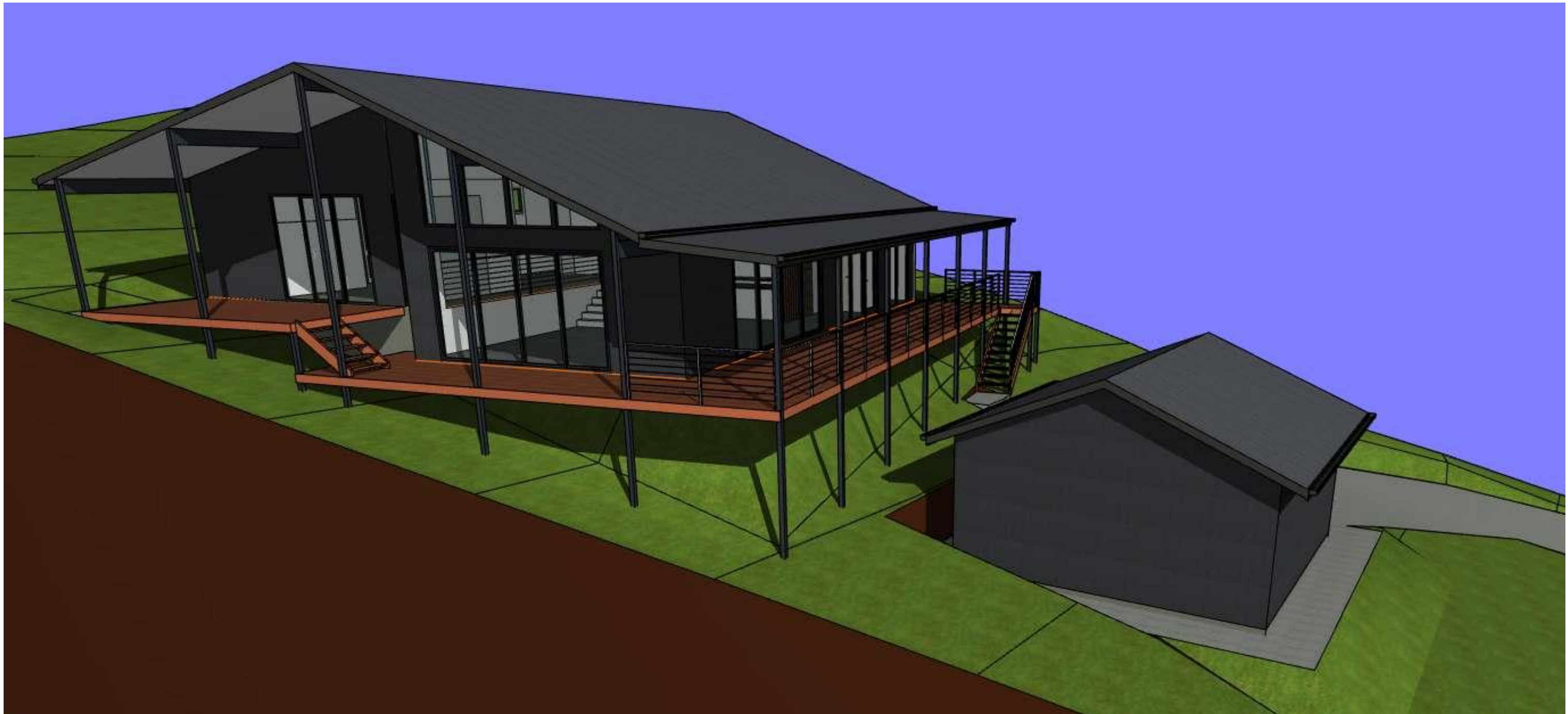
ADELAIDE HILLS COUNCIL
RECEIVED 26/11/2020

Issue	Amendment	Date
 Lloyd Building Solutions Pty Ltd LIC No. BLD 257473 PO BOX 3125, NEWTON, SA 5074 Mob 0411 222 708 email: ian@lbsolutions.net.au		
PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA		
drawn ERIC SMITH & ASSOCIATES PTY LTD		
Date 26/11/2020	Sheet No. 5	Issue



ADELAIDE HILLS COUNCIL
RECEIVED 26/11/2020

Issue	Amendment	Date
<div><div><div></div></div><div><div>Lloyd Building Solutions</div><div>Pty Ltd</div><div>LIC No. BLD 257473</div><div>PO BOX 3125, NEWTON, SA 5074</div><div>Mob 0411 222 708</div><div>email: ian@lbsolutions.net.au</div></div></div>		
<div>PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA</div>		
<div>drawn ERIC SMITH & ASSOCIATES PTY LTD</div>		
Date 26/11/2020	Sheet No. 1	Issue



ADELAIDE HILLS COUNCIL
RECEIVED 26/11/2020

 Lloyd Building Solutions Pty Ltd LIC No. BLD 257473 PO BOX 3125, NEWTON, SA 5074 Mob 0411 222 708 email: ian@lbsolutions.net.au		
PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA		
drawn ERIC SMITH & ASSOCIATES PTY LTD		
Date 26/11/2020	Sheet No. 1A	Issue

Lloyd Building Solutions Pty Ltd

ABN 15 331 985 989

BLD LIC No: BLD 257473

Po Box 3125

Newton SA 5074

Mob: 0411 222 708 Email: ian@lbsolutions.net.au

Att. Planning Department – Ashleigh Gade
Adelaide Hills Council
Via Email: agade@ahc.sa.gov.au

5th November 2020

Dear Ashleigh,

**Re: - External Colour Scheme for Proposed Single Storey New Dwelling – Lot 391, No 34 Fern Hill Rd
Bridgewater SA 5155**

Find the indicated external color scheme below for this property:

Roof:	Night Sky colourbond corrugated
Gutters Fascias/Barges:	Night Sky colourbond
Downpipes:	PVC painted to match mounting surface – Night Sky
Windows:	Matt Black Ultra powder coat
Garage Door:	Gliderol Tuscan Merbau colour panel glide
External Cladding:	Night Sky Colourbond corrugated
Decking:	Ekodeck Leatherwood colour (BAL 29 boards within 300mm of doors)
Verandah Posts:	Night Sky painted to match
Balustrade:	Night Sky powdercoat posts with stainless wiring

I trust this satisfies your requirements at this stage.

Yours Faithfully

Ian Lloyd

Ian Lloyd
General Manager



Native Vegetation Council

File: 2020/3108/473
DA Number:
Contact: Sharon Gillam
Telephone: 8463 6927

Level 4
81-95 Waymouth St
ADELAIDE 5000

GPO Box 1047
Adelaide SA 5001

Ph | 08 8303 9777
Fx | 08 8303 9760

nvc@sa.gov.au

14/09/2020

Mr Neil Page
18 Sheridan Court
MOUNT BARKER SA 5251

Dear Neil,

REGULATION ADVICE NOTIFICATION **Regulation 12(33) – New dwelling or building**

I refer to your application to clear 0.06 ha of modified *Eucalyptus obliqua* (Stringybark) + *E. cosmophylla* (Cup Gum) open forest with understorey of native sedges and grasses, to construct a dwelling and associated infrastructure, located at 34 Fern Hill Rd, Bridgewater, SA (CT 6234/308, Hundred of Noarlunga).

The Native Vegetation Council (NVC) considers that the proposed clearance of 0.06 ha of native vegetation satisfies the requirements of Native Vegetation Regulation 12(33) (Attachment 1). The NVC endorses the use of NV Regulation 12(33) under delegated authority *subject to*:

1. No clearance to occur until any relevant planning approval under the Development Act 1993 for the dwelling and associated infrastructure has been sought and obtained;
2. Clearance to be confined to the area shown on the attached Regulation Advice Plan 2020/3108/473 and in the submitted report titled: Native Vegetation Clearance Proposal – 34 Fern Hill Rd Bridgewater, prepared by Wayne Brown of Environments by Design, dated 28 July 2020;
3. Payment of \$1,141.31 (\$1,081.81 – GST exclusive - for clearance and \$59.50 for administration – GST inclusive) to the Native Vegetation Fund to be made within one month of invoice date. (Note the invoice will not be sent until the attached form “Understanding of Regulation Advice” is signed and returned).
4. The endorsement shall be valid for a period of 2 years from the decision date, after which time a new endorsement will be required.

*Please complete the attached form, “Understanding of Regulation Advice” (including signature and date; a scanned copy is OK), to confirm that you fully understand the Advice and Conditions detailed in this letter. **No clearance is to occur until this form is signed and returned.***

ADELAIDE HILLS COUNCIL
RECEIVED 05/11/2020

Please contact Sharon Gillam on 8463 6927 if you have any questions.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'Sarah Reachill', with a stylized, cursive script.

16/09/20

Sarah Reachill
A/Manager
Delegate
Native Vegetation Council



Note: Please read the Regulation Advice Notification to acknowledge that you have understood the Advice made by the Native Vegetation Council, then sign and return this form by fax, post or email to:

Post: Sharon Gillam
Native Vegetation Branch
Department for Environment and Water
GPO Box 1047
Adelaide SA 5001

Email: sharon.gillam@sa.gov.au

UNDERSTANDING OF REGULATION ADVICE

File: 2020/3108/473 Neil Page
Dwelling site and associated infrastructure
34 Fern Hill Road, Bridgewater SA

I clearly understand the Native Vegetation Council's Regulation Advice Notification and the conditions associated with clearance.

Name of Landowner(s) or Company:

Signature of Landowner(s) or seal of Company and authorised signatory:

.....
.....
.....
.....

Date :

Attachment 1. Native Vegetation Regulation 12(33)

Division 5—Risk assessment**12—Risk assessment**

- (1) Subject to this Division, native vegetation may be cleared in any of the circumstances set out in Schedule 1 Part 4, Part 5 or Part 6.
- (2) The operation of this regulation extends to native vegetation that is growing or is situated on land that is subject to a heritage agreement or a management agreement if a provision of the relevant Part of Schedule 1 setting out circumstances in which vegetation may be cleared specifies that the provision applies to such vegetation.

16—Clearance for other activities

- (1) Clearance of native vegetation for the purposes of activities of a kind specified in Schedule 1 Part 6 is permitted only if it is undertaken in accordance with—
 - (a) the written approval of the Council; or
 - (b) standard operating procedure determined or approved by the Council for the purposes of this provision.
- (2) Authorisation to clear native vegetation under subregulation (1) is subject to—
 - (a) a condition—
 - (i) that the clearance of native vegetation is to be undertaken in accordance with a management plan, approved by the Council for implementation, that results in a significant environmental benefit; or
 - (ii) that the person undertaking the operations is to make a payment into the Fund of an amount considered by the Council to be sufficient to achieve a significant environmental benefit in the manner contemplated by section 21(6) or (6a) of the Act,
 as determined by the Council; and
 - (b) such other conditions as the Council thinks fit.
- (3) Clearance of native vegetation for the purposes of activities of a kind specified in Schedule 1 Part 6 is permitted only if any conditions that apply to the approval are complied with.

Schedule 1, Part 6**33—New dwelling or building**

- (1) Clearance of vegetation required in order to erect a building or structure or other facility that is ancillary to a building, provided that any development authorisation required by or under the *Development Act 1993* has been obtained.
- (2) Subclause (1) does not apply to—
 - (a) clearance of vegetation established in accordance with a condition of a consent for clearance of vegetation; or
 - (b) clearance of vegetation undertaken in connection with subdivision of the land on which the vegetation is growing or is situated; or
 - (c) clearance that would be contrary to—
 - (i) a condition of a consent for clearance of vegetation; or
 - (ii) a condition imposed in connection with clearance of vegetation permitted under these regulations; or
 - (iii) a condition in respect of clearance permitted under the revoked regulations.

**Native Vegetation Regulation Application
Regulation 12(33) - New Dwelling
Neil Page - Bridgewater, 34 Fern Hill Rd, house site**



Government of South Australia
Department for Environment
and Water



REGULATION ADVICE PLAN

TO FORM PART OF THE DECISION TO THE
NATIVE VEGETATION COUNCIL

APPLICATION NO. 2020/3108/473

HUNDRED of NOARLUNGA

D123071 A391

Title Reference: CT 6234/308



Clearance exempt



Property/Section Boundary



Road

Produced for: Native Vegetation Council
By: Native Vegetation Branch
Department for Environment and Water

Imagery: Latest_Imagery_ImageMapSA

Date: 10/09/2020
Version: 01
Datum: GDA94

SO: SG



Native Vegetation Council

Delegate, Native Vegetation Council

Dated: 16/09/20

Decision Date:

72

DISCLAIMER

The Department for Environment and Water its employees and servants do not warrant or make any representation regarding the use, or results of use of the information contained herein as to its correctness, accuracy, currency or otherwise.
The Department for Environment and Water, its employees and servants expressly disclaim all liability or responsibility to any person using the information or advice contained herein.

0 5 10 15 20 25 Meters

Scale: 1:347

© Government of South Australia, through the Department for Environment and Water.
This work is Copyright. Apart from any use permitted under the Copyright Act 1968 (Cwth), no part may be reproduced by any process without prior written permission obtained from the Department for Environment and Water. Requests and enquiries concerning reproduction and rights should be directed to the Chief Executive, Department for Environment and Water, GPO Box 1047, Adelaide SA 5001.

**ADELAIDE HILLS COUNCIL
RECEIVED 05/11/2020**

Native Vegetation Review

Number 25 Fern Hill Road - Bridgewater

Native Vegetation Accredited Consultant - Wayne Brown
29/01/2019

This report provides a review of any possible native vegetation impacts in the event a house is built on the allotment.

Prepared for:

Mr Neil Page
18 Sheridan Court
Mt Barker 5251
E: robneil@internode.on.net
M:0499 550 129

Report Prepared by:

Wayne Brown
Principal Environmental Consultant
For Environments by Design Trust
PO Box 62
Bridgewater SA 5155

Office Contact

Environments by Design Team
Message: (08) 8339 5528
Mobile: 0408 813 628
Email: wayne@environmentsbydesign.com.au

Disclaimer

Any advice or information contained in this report has been prepared solely for the use of the project and should not be provided to any other party (in whole or in part) without the prior written consent of the Manager, Environments by Design. No responsibility to any third party is accepted as the report has not been prepared, and is not intended, for any person other than those involved in the project. Environments by Design consultants or sub consultants will not be responsible for the effect upon the accuracy, completeness, currency or reliability of the proposal of any material or information supplied to Environments by Design by the project representatives or any other party.

Contents

Task	4
Analysis	5
Site Vegetation Structure.....	6
Additional Site Notes	6
Potential Impacts - Tree Numbers	7
High Fire Risk Issues	7
Map of potential impact area	8
Overview Site Photos	9
Potential Impacted Tree Photos	11
Native Vegetation Act & Regulations.....	13
Review Outcome	13
References	14
Attachment 1- Data Sheet	15

Task

To analyse the potential impacts on native vegetation associated with a possible house site and access on a division of allotment 25 Fern Hill Road Bridgewater South Australia.

Location Map

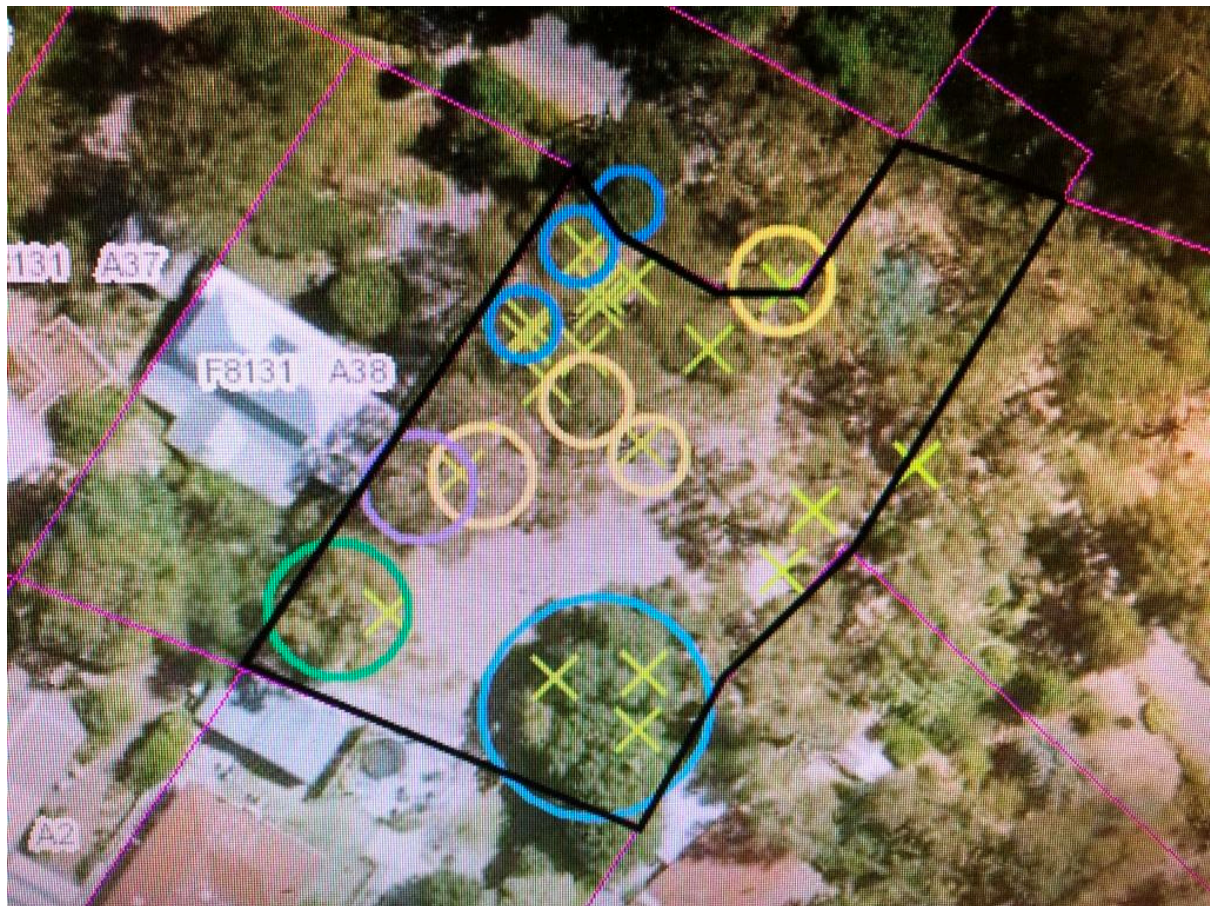


Analysis

Three reviews of this site by Native Vegetation Accredited Consultant have occurred on 23/11/2018, 15/12/2018 and 25/01/2019 reflecting the issues associated with planning boundaries and the Native Vegetation Act and associated regulations.

NOTES

- The site reviewed is highly modified and **does not** represent an intact stratum.
- Some introduced trees are present on the site.
- Ground layer is a mix of native grasses, small species and exotics grasses, highly modified.



Key to site

- (Blue Circle) - Introduced trees (NOT local native species)
- (Green Circle) - Regulated tree *Eucalyptus obliqua* with hollows (retain)
- (Purple Circle) - *Eucalyptus obliqua* within 10 m of neighbours - multi trunk rated significant
- (Yellow Circles) - Dead Trees
- X (Yellow) - GPS all trees @3m variance

Please refer to survey plan and site assessment data sheet (attachment 1) for further information.

Site Vegetation Structure

- a. The native Eucalyptus overstory is dominated by Eucalyptus obliqua (stringy bark) which is in medium to poor condition. Numerous stringy bark trees are dead or are showing signs of dieback, a possible sign of Phytophthora cinnamomi, common in the Bridgewater area.

Other trees at the site include:

- 1 Eucalyptus cosmophylla (Cup Gum).
- 1 Acacia longifolia (introduced).
- 1 Corymbia maculata.

- b. Middle level plants do not exist.

- c. Understory / ground cover consists of:

Native Plants*

- Microleana stipoides
- Rytidosperma species
- Lepidosperma species
- Juncus pallidus
- Lomandra sp
- Panicum sp

- d. Introduced *

- Dactylis glomerata
- Oxalis perennans
- Holcus lanatus
- Bromus sp
- Briza maxima
- Dactylis glomerata
- Holcus lanatus

*Please note

- A full biological survey was not conducted as part of this report.
- This is NOT a Native Vegetation Application to the NVC

Additional Site Notes

- a. The site is currently grazed by livestock (sheep).
- b. Some Eucalyptus obliqua trees are dead.
- c. Many of the Eucalyptus obliqua have signs of dieback which could indicate the presence of Phytophthora cinnamomi (not tested) which is common to the Bridgewater area.
- d. It is highly likely more Eucalyptus obliqua trees will die over the next few years.
- e. No native plant species listed under the NP&W Act or threatened community under the EPBC Act were observed.
- f. No trees with hollows would be designated for removal if a structure was built on the site.

Potential Impacts - Tree Numbers

A potential house structure and driveway is likely to effect 4 native trees that are currently alive, 3 native trees which are dead and 3 introduced species.

#	Botanical Name	Common Name	Native or Introduced	Dead or alive
2	Eucalyptus obliqua	Messmate Stringy Bark	Native	Alive
3	Eucalyptus obliqua	Messmate Stringy Bark	Native	Dead
4	Eucalyptus obliqua	Messmate Stringy Bark	Native	Dead
5	Eucalyptus obliqua	Messmate Stringy Bark	Native	Dead
6	Eucalyptus obliqua	Messmate Stringy Bark	Native	Alive
7	Eucalyptus obliqua	Messmate Stringy Bark	Native	Alive
8	Corymbia maculata	Spotted Gum	Introduced	Alive
11	Eucalyptus cosmophylla	Cup Gum	Native	Alive
12	Acacia longifolia	Long Leaf Wattle	Introduced	Alive
13	Fraxinus excelsior	European Ash	Introduced	Alive

Refer to field work data sheet in attachments.

High Fire Risk Issues

This allotment is found within a high fire risk area. As part of the site analysis it was observed that Tree 2 (alive) and tree 3 (dead) was within the prescribed distance of 10m from neighbouring structure.

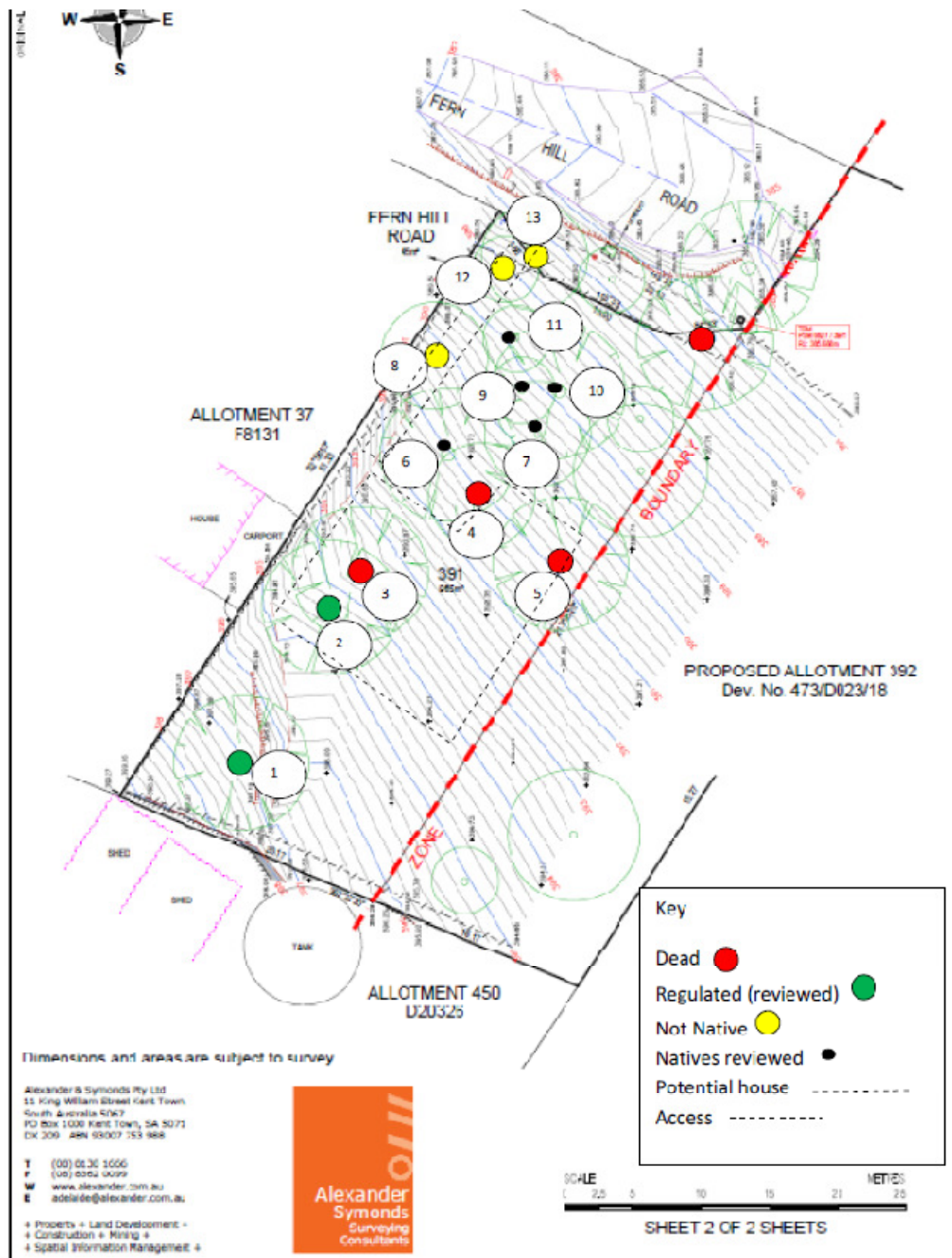
A review by CFS is recommended.



Photo W Brown -
2 trees close to neighbouring structure.

Tree 2 is multi trunked which makes it a significant tree. The addition of the tree stems records a circumference of 3.27m. Approval to clear by Adelaide Hills council may be required.

Map of potential impact area



Overview Site Photos



Photo W Brown -
Numerous trees
are dead or
showing dieback



Photo W Brown - Trees dead or showing signs of dieback

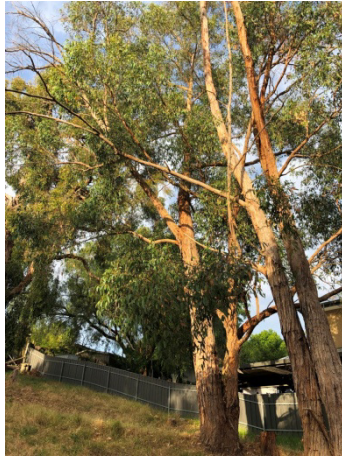


Photo W Brown -
Potential access is
part of CFS
turnaround created
through introduced
ash tree.

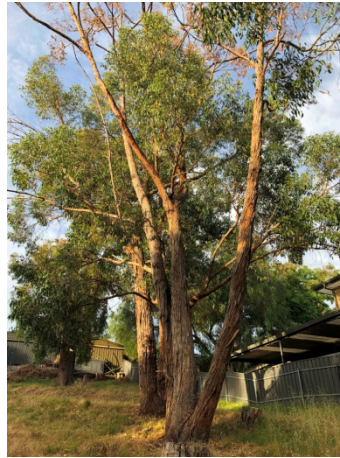


Photo W Brown -
Location footprint
of potential
structure.

Potential Impacted Tree Photos



Tree 2



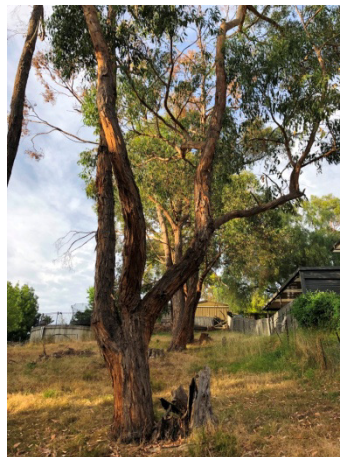
Tree 3



Tree 4



Tree 5



Tree 6



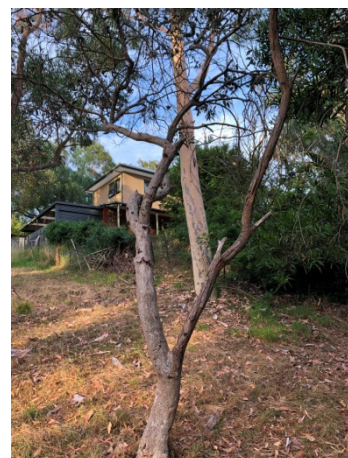
Tree 7



Tree 8



Tree 9



Tree 11



Tree 12



Tree 13 (proposed entrance)



Photo W Brown -
Typical
groundcover - a
mix of native
plants and
introduced species

Native Vegetation Act & Regulations

Given this is residential subdivision regulation 12 (35) would apply. This regulation will cover the house footprint, access track, fencing and CFS requirements.

Issues to consider during the assessment process;

1. The location of a potential structure (house) to avoid clearance of native vegetation where possible .
2. The footprint of the potential structure.
3. CFS considerations.
4. Access from Fern Hill road to the structure.
5. Quality of the native vegetation found on the site
6. Any native plant species listed under the NP&W Act or threatened community under the EPBC Act.
7. Potential fauna species within 5km which are listed under the NP&W Act or threatened community under the EPBC Act.

Review Outcome

Under the Native Vegetation Regulations it would be possible to build and approved house giving consideration to regulation 12 (35) after relevant consent has been approved under the Development Act 1993 given:

Discussion

1. The identified and proposed house site avoids the clearance of intact native vegetation.
2. The vegetation reviewed on site is mostly in poor condition.
3. The structure could be configured to suit the site to avoid excessive clearance.
4. Two native tree would be directly impacted on by the proposal.
5. The removal of trees along the boundary reflect the CFS regulations within a high bushfire area.
6. The access to the site contains species which are not listed under the NP&W Act or threatened community under the EPBC Act.
7. No listed fauna species under the NP&W Act or threatened community under the EPBC Act are impacted by the making of the access track.

Conclusion

There is no reason an application for clearance would be rejected.

Future owners of the allotment would require a full Native Vegetation assessment and application to the Native Vegetation Branch for approvals.

References

- Protecting Regulated and Significant Trees; DPTI; November 2011.
www.sa.gov.au/topics/planning-and-property/land-and-property-development/building-and-property-development-applications/regulated-and-significant-trees
- Native Vegetation Accreditation Manual 2017; Native Vegetation Management Unit.
www.environment.sa.gov.au/topics/native-vegetation/legislation-administration

Attachment 1- Data Sheet

SCATTERED TREE SURVEY - Site assessment Data													
					Date	Day	Month	Year			Total # trees:	See report	
Applicants Name - Neil Page						25	1	2019					
Observer/s:					Wayne Brown			Regeneration present Y/N:			No		
Site Name or Id					25 Fern Hill Road Bridgewater								
Tree #	Photo #	WGS 84 way-point	Die-back %	Species	Ht (m)	Diam	Circ	Hollows			Canopy diam (m)	Mistle-toe % canopy total	Other
								# S	# M	# L	(optional)	(optional)	COMMENTS
1	A	235	20%	Eucalyptus obliqua	13	0.88	2.75	2		1		No	REGULATED
2	B	234	5%	Eucalyptus obliqua	13	1.04	3.27					No	SIGNIFICANT / MULTI TRUNKS
3	C	233	100%	Eucalyptus obliqua	13	1.31	4.10					No	DEAD / MULTI TRUNKS
4	D	232	100%	Eucalyptus obliqua	13	0.35	1.05					No	
5	E	231	98%	Eucalyptus obliqua	9	0.76	2.40					No	
6	F	230	15%	Eucalyptus obliqua	13	0.56	1.80					No	
7	G	229	10%	Eucalyptus obliqua	14	0.32	1.00					No	
8	H	228	0	Corymbia maculata	14	0.46	1.45					No	Non Native
9	I	227	10%	Eucalyptus obliqua	14	0.25	0.80					No	
10	J	226	10%	Eucalyptus obliqua	14	0.66	2.10					No	
11	K	225	90%	Eucalyptus cosmophylla	4	0.09	0.30					No	
12	L	224	0	Acacia longifolia	Not recorded							No	Introduced
13	M	223	0	Fraxinus excelsior	Not recorded							No	Introduced



tesseract
international

consulting engineers | building designers

Tesseract International Pty Ltd
111 Conyngham Street Frewville SA 5063
T 08 8362 8860
E enquiries@tesseract.com.au | A.B.N. 65 605 897 596

Civil Calculations

FOR

LLOYD BUILDING SOLUTIONS

PROJECT

Proposed Residence

LOCATION

34 (Lot 391) Fern Hill Road
Bridgewater, South Australia

JOB NO

20-453

DATE

21st January 2021

**ADELAIDE HILLS COUNCIL
RECEIVED 21/01/2021**

Issue and Revision Record

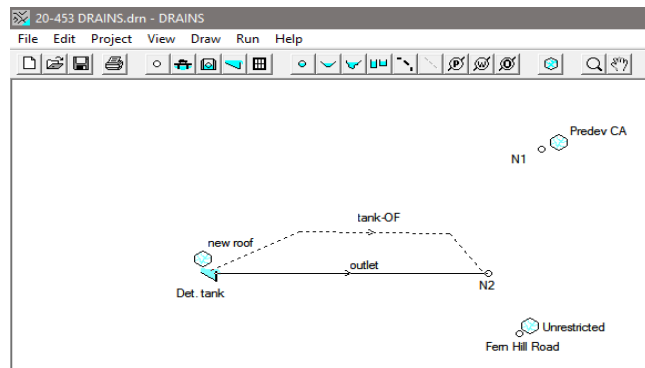
Revision	Date	Originator	Checker	Approver	Description
0	21-01-2021	L.G. Palmes	J.M. Valeriano	J.C. Bryant	Construction Issue

Proposed Residence
34 (Lot 391) Fern Hill Road, Bridgewater, SA

20-453 DRAINS CALCULATION Data

PIT / NODE DETAILS		Version 15																				
Name	Type	Family	Size	Ponding Volume (cu.m)	Pressure Change Coeff. Ku	Surface Elev (m)	Max Pond Depth (m)	Base Inflow (cu.m/s)	Blocking Factor	x	y	Bolt-down lid	id	Part Full Shock Loss	Inflow Hydrograph	Pit is	Internal Width (mm)	Inflow is Misaligned	Minor Safe Pond Depth (m)	Major Safe Pond Depth (m)		
N1	Node					386		0		433.529	-99.308		2		No							
N2	Node					387.8		0		411.173	-158.925		975		No							
Fern Hill Road	Node					386		0		424.214	-187.802		203196		No							
DETENTION BASIN DETAILS																						
Name	Elev	Surf. Area	Not Used	Outlet Type	K	Dia(mm)	Centre RL	Pit Family	Pit Type	x	y	HED	Crest RL	Crest Length(m)	id							
Det. tank	387.6	2.38		Orifice		25	387.612			294.735	-159.856	No			9434							
	388.1	2.38																				
	388.6	2.38																				
	389.1	2.38																				
	389.7	2.38																				
SUB-CATCHMENT DETAILS																						
Name	Pit or Node	Total Area (ha)	Paved Area %	Grass Area %	Supp Area %	Paved Time (min)	Grass Time (min)	Supp Time (min)	Paved Length (m)	Grass Length (m)	Supp Length (m)	Paved Slope(%)	Grass Slope %	Supp Slope %	Paved Rough	Grass Rough	Supp Rough	Lag Time or Factor	Gutter Length (m)	Gutter Slope %	Gutter FlowFactor	Rainfall Multiplier
Predev CA	N1	0.0965	0	100	0	0	5	0										0				1
new roof	Det. tank	0.0363	100	0	0	5	0	0										0				1
Unrestricted	Fern Hill Road	0.0633	20	80	0	5	5	0										0				1
PIPE DETAILS																						
Name	From	To	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Type	Dia (mm)	I.D. (mm)	Rough	Pipe Is	No. Pipes	Chg From	At Chg	Chg (m)	RI (m)	Chg (m)	RL (m)	etc (m)			
outlet	Det. tank	N2	10	387.6	387.5	1	uPVC, not under roads	90	86	0.012	NewFixed	1	Det. tank	0								
DETAILS OF SERVICES CROSSING PIPES																						
Pipe	Chg (m)	Bottom Elev (m)	Height of Service (m)	Chg (m)	Bottom Elev (m)	Height of Service (m)	Chg (m)	Bottom Elev (m)	Height of Service (m)	etc												
CHANNEL DETAILS																						
Name	From	To	Type	Length (m)	U/S IL (m)	D/S IL (m)	Slope (%)	Base Width (m)	L.B. Slope (1:?)	R.B. Slope (1:?)	Manning n	Depth (m)	Roofed									
OVERFLOW ROUTE DETAILS																						
Name	From	To	Travel Time (min)	Spill Level (m)	Crest Length (m)	Weir Coeff. C	Cross Section	Safe Depth Major Storms (m)	SafeDepth Minor Storms (m)	Safe DxV (sq.m/sec)	Bed Slope (%)	D/S Area Contributing %	id									
tank-OF	Det. tank	N2	0.1	389.6	0.1	1.7	sed to model flows across n	0.2	0.05	0.6	1	0	9444									
PIPE COVER DETAILS																						
Name	Type	Dia (mm)	Safe Cover (m)	Cover (m)	Unsafe																	
outlet	uPVC, not under roads	86	0.15	-0.09	Unsafe																	

This model has no pipes with non-return valves



20-453 DRAINS CALCULATION

20% AEP Result

DRAINS results prepared from Version 2020.061

PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arriving (cu.m/s)	Version 8 Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint
N2	387.54		0				

SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	Paved Max Q (cu.m/s)	Grassed Max Q (cu.m/s)	Paved Tc (min)	Grassed Tc (min)	Supp. Tc (min)	Due to Storm
Predev CA	0.003	0	0.003	0	5	0	20% AEP, 4.5 hour burst, Storm 2
new roof	0.007	0.007	0	5	0	0	20% AEP, 5 min burst, Storm 1
Unrestricted	0.002	0.002	0	5	5	0	20% AEP, 5 min burst, Storm 1

PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm
outlet	0.001	0.6	388.677	387.537	AEP, 1 hour burst, Storm 8

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm

OVERFLOW ROUTE DETAILS

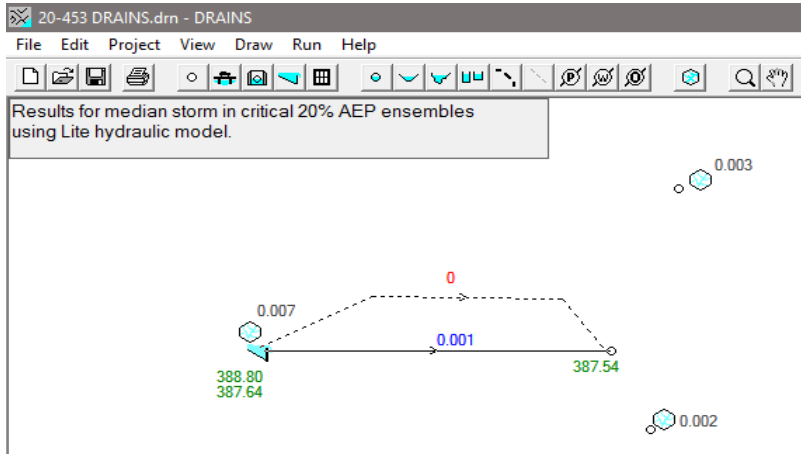
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
tank-OF	0	0	0.362	0		0	0	0

DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
Det. tank	388.8	2.8	0.001	0.001	0

Run Log for 20 run at 22:56:16 on 20/1/2021 using version 2020.061

Flows were safe in all overflow routes.



20-453 DRAINS CALCULATION

5% AEP Result

DRAINS results prepared from Version 2020.061

PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arriving (cu.m/s)	Version 8 Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint
N2	387.54		0.003				

SUB-CATCHMENT DETAILS							
Name	Max Flow Q (cu.m/s)	Paved Max Q (cu.m/s)	Grassed Max Q (cu.m/s)	Paved Tc (min)	Grassed Tc (min)	Supp. Tc (min)	Due to Storm
Predev CA	0.012	0	0.012	0	5	0	5% AEP, 10 min burst, Storm 9
new roof	0.01	0.01	0	5	0	0	5% AEP, 5 min burst, Storm 1
Unrestricted	0.01	0.003	0.007	5	5	0	5% AEP, 10 min burst, Storm 5

PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm
outlet	0.002	0.63	389.224	387.541	1EP, 45 min burst, Storm 2

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm

OVERFLOW ROUTE DETAILS

Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
tank-OF	0	0	10.912	0		0	0	0

DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
Det. tank	389.4	4.3	0.002	0.002	0

Run Log for 20 run at 22:57:59 on 20/1/2021 using version 2020.061

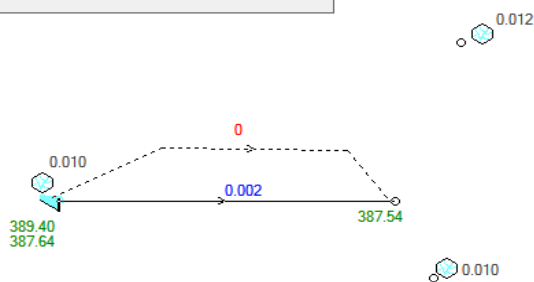
Flows were safe in all overflow routes.

20-453 DRAINS.drn - DRAINS

File Edit Project View Draw Run Help



Results for median storm in critical 5% AEP ensembles using Lite hydraulic model.



20-453 DRAINS CALCULATION

1% AEP Result

DRAINS results prepared from Version 2020.061

PIT / NODE DETAILS

Name	Max HGL	Max Pond HGL	Max Surface Flow Arriving (cu.m/s)	Version 8 Max Pond Volume (cu.m)	Min Freeboard (m)	Overflow (cu.m/s)	Constraint
N2	387.54		0.01				

SUB-CATCHMENT DETAILS

Name	Max Flow Q (cu.m/s)	Paved Max Q (cu.m/s)	Grassed Max Q (cu.m/s)	Paved Tc (min)	Grassed Tc (min)	Supp. Tc (min)	Due to Storm
Predev CA	0.023	0	0.023	0	5	0	1% AEP, 10 min burst, Storm 6
new roof	0.015	0.015	0	5	0	0	1% AEP, 5 min burst, Storm 1
Unrestricted	0.016	0.004	0.012	5	5	0	1% AEP, 10 min burst, Storm 6

PIPE DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Max U/S HGL (m)	Max D/S HGL (m)	Due to Storm
outlet	0.002	0.65	389.482	387.543	1% AEP, 20 min burst, Storm 3

CHANNEL DETAILS

Name	Max Q (cu.m/s)	Max V (m/s)	Due to Storm

OVERFLOW ROUTE DETAILS

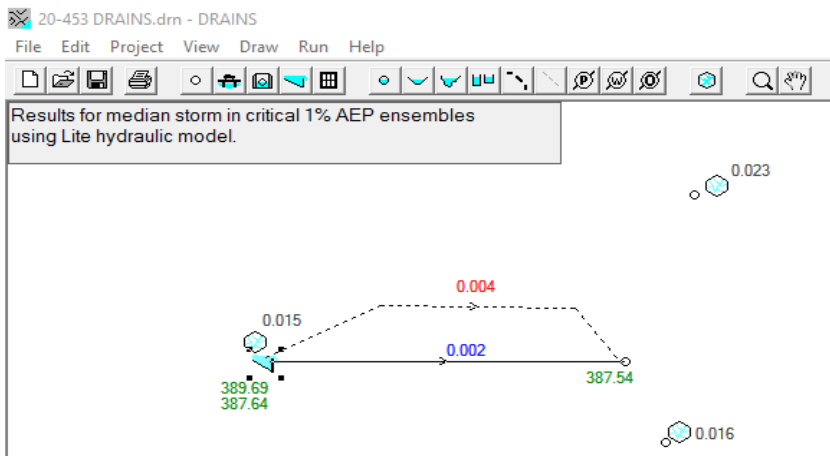
Name	Max Q U/S	Max Q D/S	Safe Q	Max D	Max DxV	Max Width	Max V	Due to Storm
tank-OF	0.004	0.004	10.912	0.009	0	4.51	0.22	1% AEP, 20 min burst, Storm 3

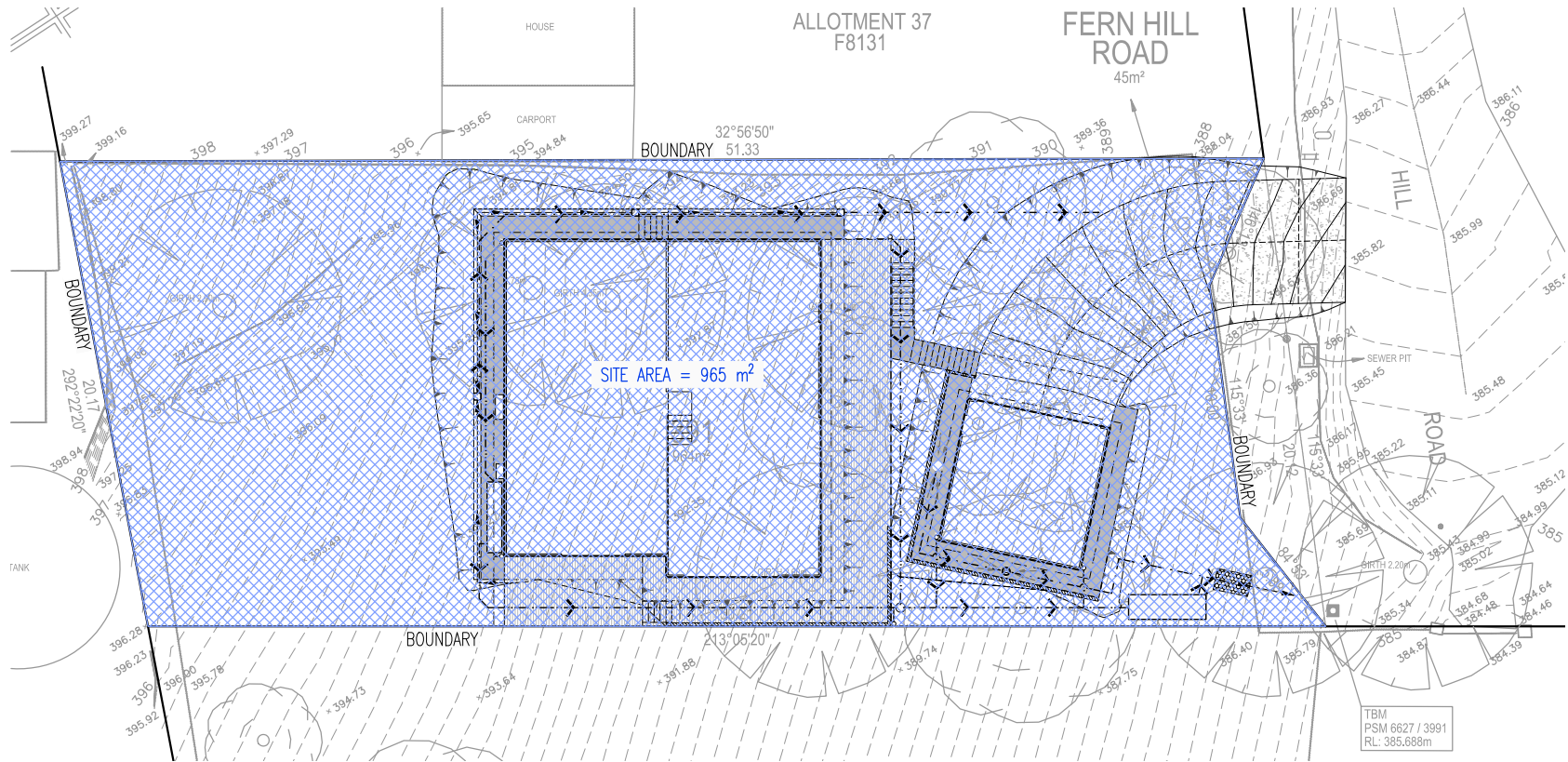
DETENTION BASIN DETAILS

Name	Max WL	MaxVol	Max Q Total	Max Q Low Level	Max Q High Level
Det. tank	389.69	5	0.006	0.002	0.004

Run Log for 20 run at 22:59:34 on 20/1/2021 using version 2020.061

Flows were safe in all overflow routes.





CATCHMENT AREA DIAGRAM
SCALE: NTS

PRE AND POST DEVELOPMENT FLOWS						
	AREA (m²)	IMPERVIOUS	PERVIOUS	Q @20% AEP (L/s)	Q @5% AEP (L/s)	Q @1% AEP (L/s)
PREDEVELOPMENT	965	0	100%	3	12	23
POST DEVELOPMENT		60	40	3	12	22

DESIGN NOTES:

1. THE REQUIRED DETENTION VOLUME FOR THE PROPOSED DEVELOPMENT WAS CALCULATED BASED ON COUNCIL CRITERIA OF RESTRICTING STORMWATER DISCHARGE TO PREDEVELOPMENT LEVELS BY THE USE OF DETENTION TANKS OR SIMILAR.
2. THE PROPOSED ON-SITE DETENTION SYSTEM IS VIA A 5,000L RAINWATER TANK.

ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY 21-01-2021 LP 0



SCALES AS SHOWN
DATE 01-2020
DRAWN LGP
CHECKED JCB

FIGURED DIMENSIONS SHALL TAKE PREFERENCE OVER SCALED DIMENSIONS. CONTRACTORS SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING. THESE DRAWINGS ARE COPYRIGHT AND REMAIN THE EXCLUSIVE PROPERTY OF TESSERACT INTERNATIONAL. ALL RIGHTS RESERVED. REPRODUCTION WITHOUT WRITTEN PERMISSIONS PROHIBITED. COPYRIGHT ©

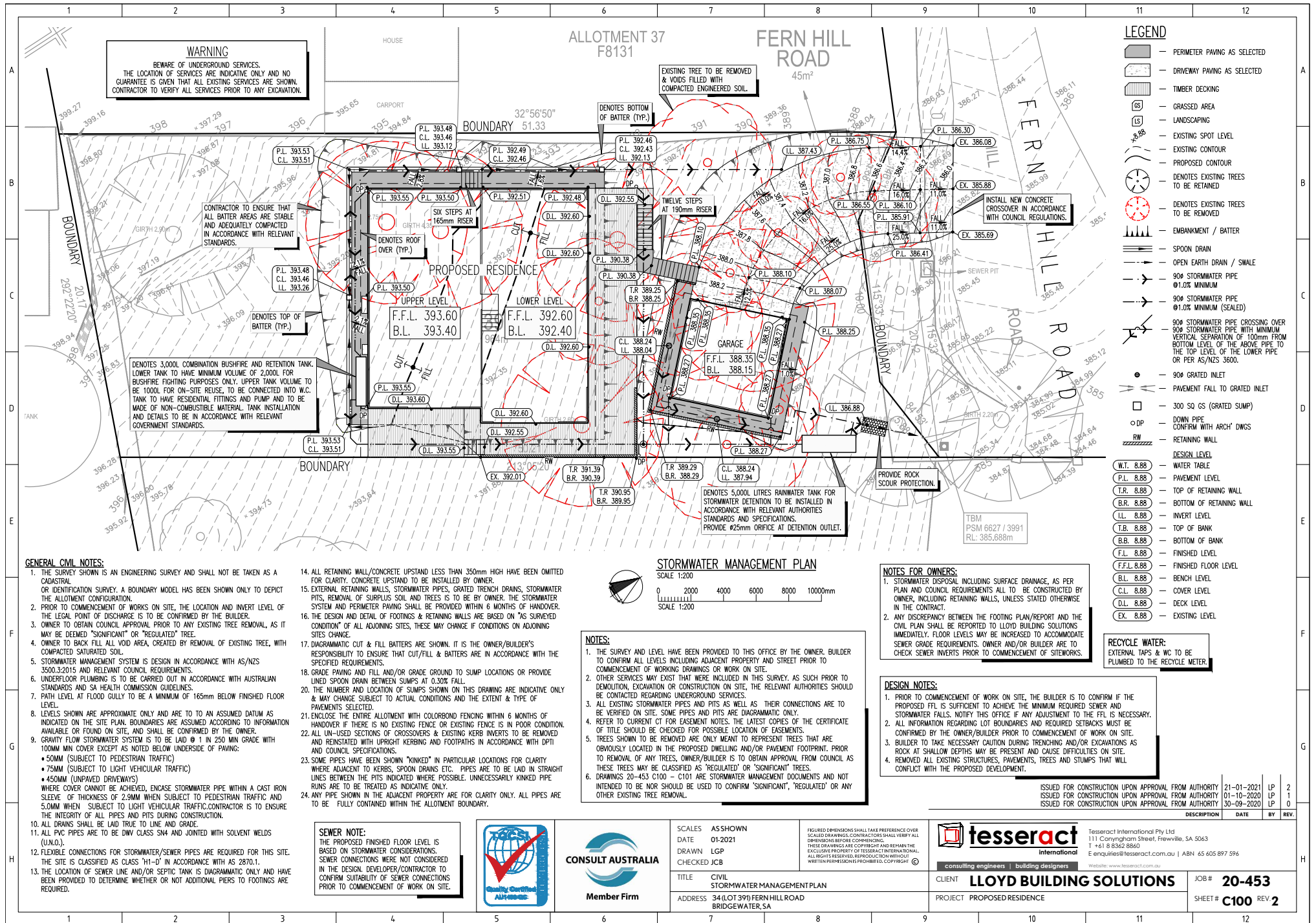
TITLE CIVIL CATCHMENT AREA DIAGRAM
ADDRESS 34 (LOT 391) FERN HILL ROAD BRIDGEWATER, SA

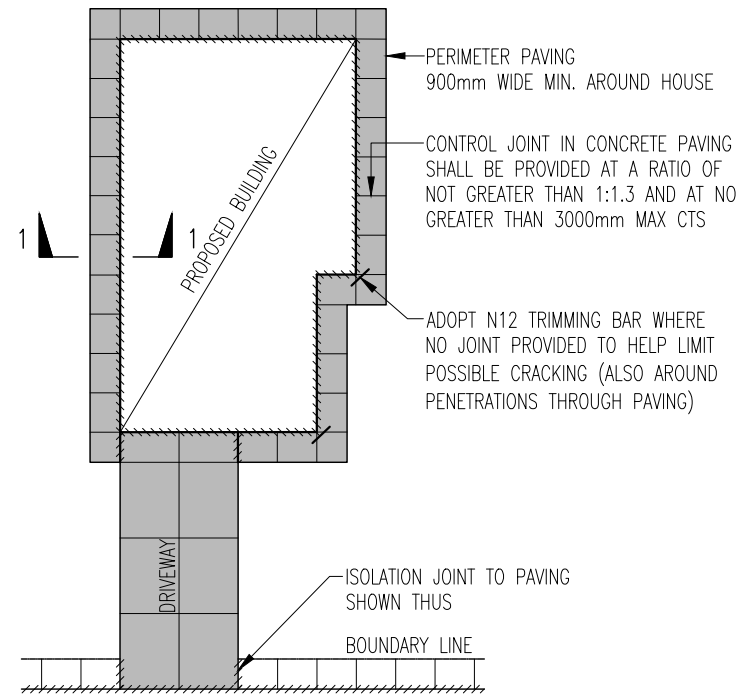


Tesseract International Pty Ltd
111 Conyngham Street, Frewville, SA 5063
T +61 8 8362 8860
E enquiries@tesseract.com.au | ABN 65 605 897 596
Website: www.tesseract.com.au

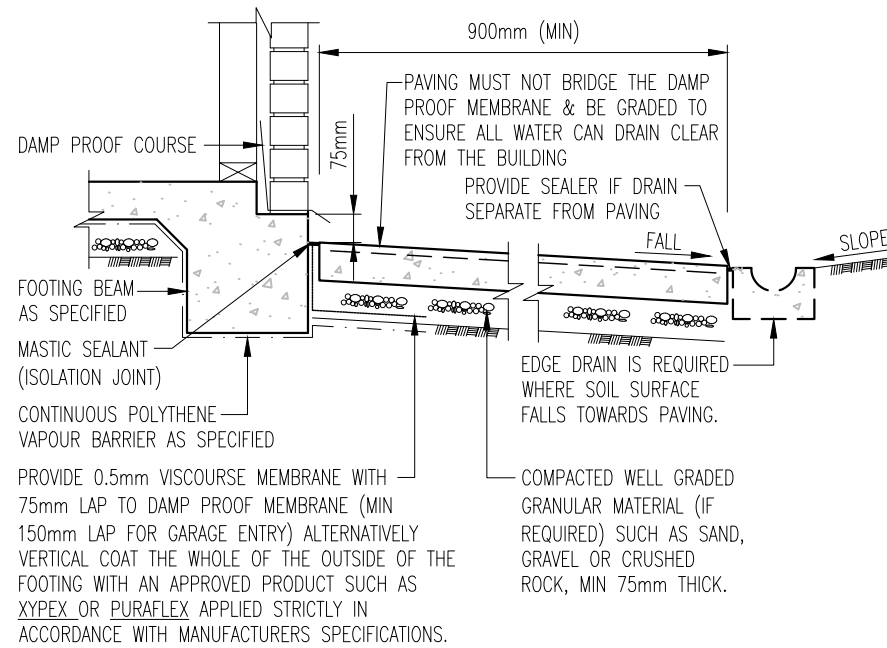
CLIENT **LLOYD BUILDING SOLUTIONS**
PROJECT PROPOSED RESIDENCE

JOB # **20-453**
SHEET # **5** REV. **0**





PLAN OF PAVING AROUND A BUILDING
NTS

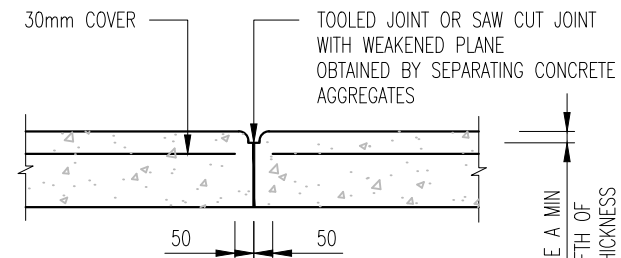


NOTE:
THE DAMP PROOF COURSE SHALL NOT BE LESS THAN 75mm ABOVE ADJACENT FINISHED PAVING. A 50mm HEIGHT DIFFERENCE BETWEEN THE DAMP PROOF COURSE & ADJACENT PAVING IS PERMITTED WHERE THE PAVING IS PROTECTED FROM THE DIRECT WEATHER BY A CARPORT, VERANDAH OR THE LIKE.

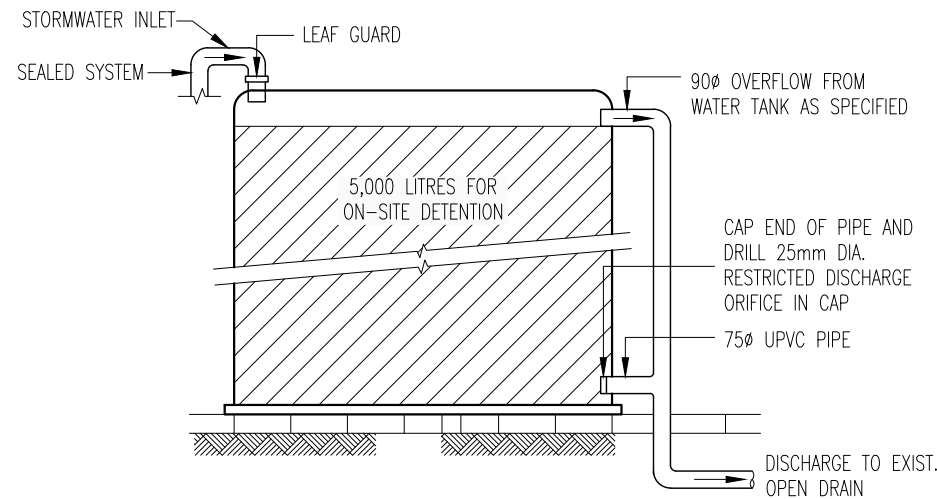
TYPICAL SECTION THROUGH PAVING & SPOON DRAIN
NOT TO SCALE

GENERAL PAVING NOTES:

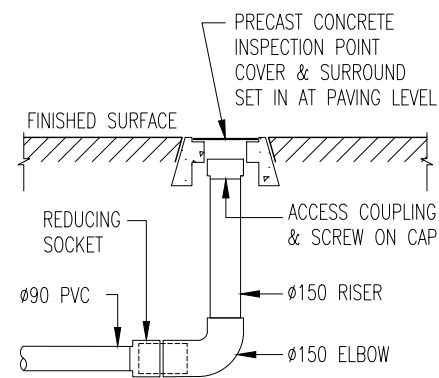
1. DETAILS APPLICABLE FOR FOOT AND BICYCLE TRAFFIC ONLY.
2. IT IS RECOMMENDED THAT CONCRETE PAVING BE REINFORCED WITH SL52 FABRIC. 30mm COVER TO TOP.
3. IF PAVING MOVES AWAY FROM FOOTING EDGE FILL GAP WITH MASTIC SEALANT TO PREVENT MOISTURE PENETRATION.
4. EDGE DRAIN TO BE PROVIDED TO DIRECT RUN-OFF AWAY FROM BUILDING.
5. MINIMUM SLOPE OF PAVING:
 - CLASS A, S - 1 IN 30 CROSSFALL.
 - CLASS M, H, E - 1 IN 20 CROSSFALL



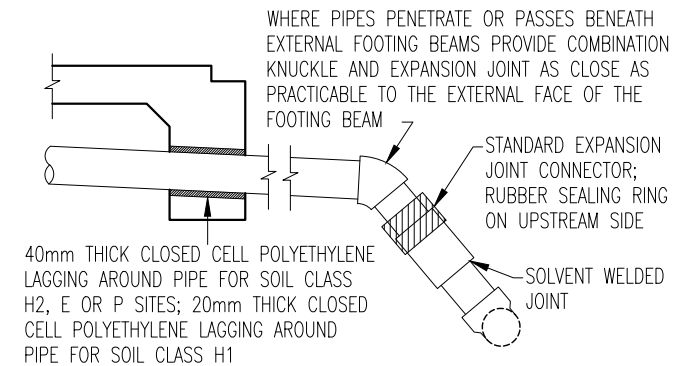
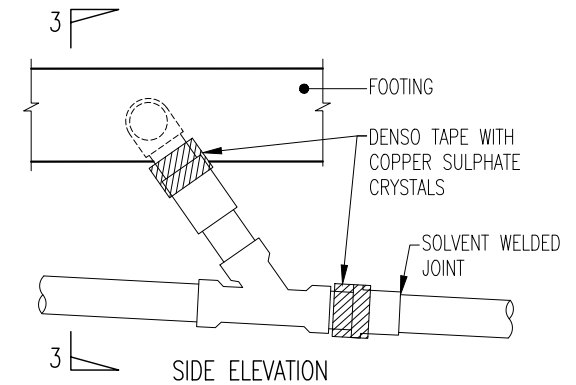
PAVING CONTROL JOINT DETAIL
SECTION 1-1
N.T.S.



**STORMWATER DETENTION/RETENTION
TANK TYPICAL DETAIL**
NTS



INSPECTION OPENING DETAIL
NTS



SECTION 3-3

NOTES:

- DUE TO THE MOISTURE REACTIVE NATURE OF SOILS ON CLASS H1, H2, E OR ANY SITE CLASSIFIED AS P SITES, IT IS REQUIRED THAT THE SERVICE PIPES INCLUDE STANDARD EXPANSION TYPE JOINT COUPLINGS. PROVIDE FLEXIBLE CONNECTIONS TO PIPES IN ACCORDANCE WITH THE FOLLOWING:
1. CONNECTIONS ARE REQUIRED AT EACH LOCATION WHERE ANY PIPES (65mm OR LARGER) PENETRATE OR PASS BENEATH OR THROUGH THE EXTERNAL FOOTING BEAMS
 2. TWO EXPANSION JOINT CONNECTORS ARE REQUIRED, AS DETAILED ABOVE, AT EACH CONNECTION
 3. THE DENSO TAPE MUST BE SPRINKLED WITH COPPER SULPHATE CRYSTALS PRIOR TO WRAPPING & MUST EXTEND 50mm BEYOND THE JOINT ON BOTH SIDES
 4. DETAILS ARE APPLICABLE TO SEWER AND STORMWATER PIPES
 5. FOR ADDITIONAL REQUIREMENTS (IE. LOCATION AND SPACING), REFER TO THE NATIONAL PLUMBING AND DRAINAGE CODE AS 3500

**FLEXIBLE SERVICE CONNECTION DETAIL FOR CLASS
H1, H2, E OR P SITES STORMWATER & SEWER**
NTS

ADELAIDE HILLS COUNCIL
RECEIVED 21/01/2021

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY	21-01-2021	LP	1
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY	30-09-2020	LP	0



SCALES AS SHOWN
DATE 01-2021
DRAWN LGP
CHECKED JCB

FIGURED DIMENSIONS SHALL TAKE PREFERENCE OVER SCALED DRAWINGS. CONTRACTORS SHALL VERIFY ALL DIMENSIONS BEFORE COMMENCING. THESE DRAWINGS ARE COPYRIGHT AND REMAIN THE EXCLUSIVE PROPERTY OF TESSERACT INTERNATIONAL. ALL RIGHTS RESERVED. REPRODUCTION WITHOUT WRITTEN PERMISSION IS PROHIBITED. COPYRIGHT ©



Tesseract International Pty Ltd
111 Conyngham Street, Frewville, SA 5063
T +61 8 8362 8860
E enquiries@tesseract.com.au | ABN 65 605 897 596
Website: www.tesseract.com.au

consulting engineers | building designers

CLIENT **LLOYD BUILDING SOLUTIONS**
PROJECT PROPOSED RESIDENCE

JOB # **20-453**
SHEET # **C101** REV. **1**

Ashleigh Gade

From: Ian Lloyd
Sent: Tuesday, 24 November 2020 3:32 PM
To: Ashleigh Gade
Subject: FW: Lot 391, No 34 Fern Hill Rd Bridgewater CFS Considerations - DA 20/1049
Attachments: Truck Turning Circles - 34 Fern Hill Rd Bridgewater_001425 - with t turn.pdf

Hi Ashleigh.

Find directly below, the response from Leah Bertholini from CFS regarding this property.

I have attached her required turning circle sketch which relates to the points I make in the email directly below Leah's.

The total thread of conversation can be followed below but her top email is pretty much the summary.

I trust this satisfies your requirements under query (1) on your additional details request letter dated 5th November and you can proceed even with some conditions as outlined by Leah.

I already sent through the Native Vegetation response under point (2) of your letter and just wish to confirm that this was satisfactory?

In response to point (3) of your letter, there are no fences being erected or altered on the block. Our client wishes to keep it all open and as unimpeded as possible to maintain the open hills appeal.

The Neighbour to the south east boundary is happy to leave all open along that boundary where our client's deck abuts, with the Neighbour's intention to plant more bushes, trees and shrubs on his property over time.

I will have an amended site plan soon, which I will forward to you with additional landscaping details to the front of this property as requested. It has taken a bit longer than anticipated hence the reason I thought I would get the rest of the above to you now and follow up with that as soon as possible.

Kind Regards

Ian

Ian Lloyd | General Manager
Lloyd Building Solutions Pty Ltd
Lic No BLD 257473

From: Bertholini, Leah (CFS)
Sent: Tuesday, 24 November 2020 3:02 PM
To: Ian Lloyd
Subject: RE: Lot 391, No 34 Fern Hill Rd Bridgewater CFS Considerations

The surface on the side of the road where a kerb would normally be, will need to be all weather, so gravel should suffice, it is the steep portions which should be sealed.

The entry exit angle transitions from 0 to 12 degrees may be an issue for you, but council can do their assessment against that or go with condition on the consent.

As stated previously I have no objection providing it meets the following, and council can utilise these as conditions of consent if the wish:

- Access to the building site shall be of all-weather construction, with a minimum formed road surface width of 3 metres.
- The 'T' shaped turning area, (utilising the public road) shall be a minimum formed length of 11 metres with minimum internal radii of 9.5 metres on bends, including bends connecting private access to public roads.
- Vegetation overhanging the access road shall be pruned to achieve a minimum vehicular clearance of not less than 4 metres in width and a vertical height clearance of 4 metres.
- Entry and exit angles to the driveway shall be designed to accommodate safe travel for large fire fighting vehicles with a long wheel base (Length 8.3 metres).
- The gradient of the access road shall not exceed 16 degrees (29%), in steep terrain the construction of the public road or driveway shall be a sealed surface.

Leah Bertholini
Bushfire Safety Officer
South Australian Country Fire Service
Level 3, 60 Waymouth Street, Adelaide
Adelaide SA 5000

cfs.sa.gov.au | [Find us on Facebook](#) | [Follow us on Twitter](#)



The information in this e-mail may be confidential and/or legally privileged. It is intended solely for the addressee. Access to this e-mail by anyone else is unauthorised. If you are not the intended recipient, any disclosure, copying, distribution or any action taken or omitted to be taken in reliance on it, is prohibited and may be unlawful.

From: Ian Lloyd
Sent: Tuesday, 24 November 2020 2:54 PM
To: Bertholini, Leah (CFS)
Subject: RE: Lot 391, No 34 Fern Hill Rd Bridgewater CFS Considerations

Hi Leah.

I understand the need not to rely on the neighbouring properties.

Apologies for the delayed response. I wanted to check measure the site before getting back to you and we had a couple of other queries with Council to contend with in the mean-time.

Your outline is very achievable. The distance we have from your measuring dot back up the driveway is easily up to 15 metres and the slope of the driveway approx. 12 degrees or 21% well within your required range.

The crossover is sealed bitumen in accordance with the Council requirement for the sub-division approval and the client will be concreting the driveway from the front boundary to the Garage.

It is a bit tight on the upward swing out of the driveway as your overlay shows. It crosses the edge of the road but there are no kerbs on either side of the road allowing additional leeway to turn a truck.

If all of this is acceptable to you could we get confirmation in keeping with the Council requirement for their Planning Approval?

Kind Regards

Ian

Ian Lloyd | General Manager
Lloyd Building Solutions Pty Ltd
Lic No BLD 257473

From: Bertholini, Leah (CFS)
Sent: Tuesday, 17 November 2020 5:11 PM
To: Ian Lloyd
Subject: RE: Lot 391, No 34 Fern Hill Rd Bridgewater CFS Considerations

Good afternoon,

We shouldn't rely on other private property as it may not be available in perpetuity (ie fence/gate/landscaping).

I have attached what I had envisaged when I emailed you last week (not to scale). Is this manoeuvre not possible?

Given it is steep sealed is best and entry exit angles should be able to accommodate long vehicles.

Regards,

Leah Bertholini
Bushfire Safety Officer
South Australian Country Fire Service
Level 3, 60 Waymouth Street, Adelaide
Adelaide SA 5000



The information in this e-mail may be confidential and/or legally privileged. It is intended solely for the addressee. Access to this e-mail by anyone else is unauthorised. If you are not the intended recipient, any disclosure, copying, distribution or any action taken or omitted to be taken in reliance on it, is prohibited and may be unlawful.

From: Ian Lloyd
Sent: Tuesday, 17 November 2020 3:15 PM
To: Bertholini, Leah (CFS)
Subject: FW: Lot 391, No 34 Fern Hill Rd Bridgewater CFS Considerations

Hi Leah.

I am wondering if you have been able to look at what I sent last Wednesday below?
I spoke with Gill late last week but she suggested she was best leaving it with you as you already had your head into this one.
I need to keep it moving for the Planning Application. If we need to formalise a CFS application form and fee, please advise.

Thanks

Ian

Ian Lloyd | General Manager
Lloyd Building Solutions Pty Ltd
Lic No BLD 257473

From: Ian Lloyd
Sent: Wednesday, 11 November 2020 5:44 PM

To: Bertholini, Leah (CFS) _____

Subject: RE: Lot 391, No 34 Fern Hill Rd Bridgewater CFS Considerations

Hi Leah.

Thanks for your follow up.

I tried to call today to chat about this and if you get the chance it may be easier to call back to discuss the options.

However, after looking at the site plan, we can achieve a turn around for the trucks on Fern Hill Rd Cul-De-Sac utilising the neighbour's driveway across the road which is almost level with the road. This only gets the trucks on the road at the base of No 34's driveway. I have attached 2 photos of the driveway entry which the Council insisted be bitumen sealed as a condition of the sub-division to enable vehicles to access the property.

If the trucks sit on the road they are further away from the rear of the property than the Minister's Code requirement of a maximum of 30 metres from the front boundary. We currently have 31.7 metres from front boundary to rear of house on the RHS looking from the street. (See marked up site plan attached)

If the set back to the rear of the house is still considered too far back with the truck sitting on the road and even if the turning circle in the cul-de-sac is suitable for the truck, would the alternative be to utilise a 22,000 litre tank and pump on this block even though it is in a BAL 12.5 zone? We may be able to utilise 2 x 11,000 litre or even 3 tanks that could link to combine to 22,000 litres with a pump to alleviate the need to have access onto the property with a truck?

Happy to discuss the alternative options for this one.

Kind Regards

Ian

Ian Lloyd | General Manager
Lloyd Building Solutions Pty Ltd
Lic No BLD 257473

From: Bertholini, Leah (CFS)

Sent: Monday, 9 November 2020 3:17 PM

To: Ian Lloyd

Subject: RE: Lot 391, No 34 Fern Hill Rd Bridgewater CFS Considerations

Good afternoon Ian,

Thanks for your email. The intent is to be able to reach the back of the house using a single length of hose from the fire appliance and leave the site in a forward direction.

Are you able to modify the entrance to the driveway to achieve the required turning radius and use the public road to form a T shape turn as follows:

- Access to the building site shall be of all-weather construction, with a minimum formed road surface width of 3 metres.
- The 'T' shaped turning area, (utilising the public road) shall be a minimum formed length of 11 metres with minimum internal radii of 9.5 metres on bends, including bends connecting private access to public roads.
- Vegetation overhanging the access road shall be pruned to achieve a minimum vehicular clearance of not less than 4 metres in width and a vertical height clearance of 4 metres.
- Entry and exit angles to the driveway shall be designed to accommodate safe travel for large fire fighting vehicles with a long wheel base (Length 8.3 metres).
- The gradient of the access road shall not exceed 16 degrees (29%), in steep terrain the construction of the public road or driveway shall be a sealed surface.

Leah Bertholini
Bushfire Safety Officer
South Australian Country Fire Service
Level 3, 60 Waymouth Street, Adelaide
Adelaide SA 5000

Ashleigh Gade

From: Ashley Curtis
Sent: Wednesday, 27 January 2021 11:00 AM
To: Ashleigh Gade
Subject: FW: 20/1049 - 34 Fern Hill Road Bridgewater
Attachments: 20-453 C100 (2).pdf; 20-453 C100 snip.JPG; 20-453 C101 (1).pdf; 20-453 Civil Calculations (0).pdf

Hi Ashleigh,

I have reviewed the amended documentation provided and advise I have no further objections to this proposed development.

Regards,

Ashley Curtis
Manager Civil Services

From: Ashleigh Gade
Sent: Friday, 22 January 2021 6:28 PM
To: Ashley Curtis
Subject: FW: 20/1049 - 34 Fern Hill Road Bridgewater

Hi Ashley,

Revised stormwater plans for 20/1049. Let me know if this addresses your requests.

I will update the Referral Documents A20/23868 as well.

Regards,

Ashleigh Gade
Statutory Planner
Adelaide Hills Council

Visit me at: 28 Onkaparinga Valley Road, Woodside
PO Box 44 Woodside SA 5244

This email (including any attachments) is confidential and intended only for use by the addressee. It has been sent by Adelaide Hills Council. If you are not the intended recipient of this document, you are advised that any use, reproduction, disclosure or distribution of the information contained in this document is prohibited. If you have received this document in error, please advise us immediately and destroy the document. It is noted that legal privilege is not waived because you have read this email or its attachments. Any loss or damage incurred by using this document is the recipient's responsibility. Adelaide Hills Council's entire liability will be limited to resupplying the document. No warranty is made that this document is free from computer virus or other defect.

From: Ian Lloyd
Sent: Thursday, 21 January 2021 6:44 PM

To: Ashleigh Gade
Subject: RE: 20/1049 - 34 Fern Hill Road Bridgewater

Hi Ashleigh.

Find the revised stormwater site management plans and details attached as requested. They now show a 5000 litre Colourbond detention tank near the Garage to slow the flow of stormwater to the street back to pre-developed rates with supporting calculations included.

The retaining wall heights are now noted with a "Snip" detail of the rear Garage retaining wall noting a maximum retaining wall height of 1.0m in this and all other placements on the block, which brings all back to a landscape detail not requiring the retaining walls be designed by the Engineer.

I trust this now satisfies the Council's Engineering Department and all can proceed to the Council meeting in March for final assessment. Please advise if anything else is required as soon as possible to beat the March meeting deadline.

Kind Regards

Ian

Ian Lloyd | General Manager
Lloyd Building Solutions Pty Ltd
Lic No BLD 257473

From: Ashleigh Gade
Sent: Thursday, 14 January 2021 4:21 PM
To: Ian Lloyd
Subject: 20/1049 - 34 Fern Hill Road Bridgewater

Hi Ian,

Thanks for your time on the phone earlier. As discussed, the Engineering Department are satisfied with the access, however they require amendments to the stormwater management:

The current proposal of uncontrolled discharge of stormwater onto the ground is not supported. Stormwater discharge is to be limited to predevelopment levels by the use of detention tanks or similar.

Additionally, as discussed, it is requested that all retaining wall heights be specified on the Siteworks Plan and be consistent with those quoted on the Site Plan.

If you have any further questions, please do not hesitate to let me know.

Regards,

Ashleigh Gade

SOUTH AUSTRALIAN DEVELOPMENT ACT, 1993
REPRESENTATION ON APPLICATION – CATEGORY 2 NOTIFICATION

Development Number: **20/1049/473**

My Name:.....**NICOLA BARNES & PAUL ANGAS**

Postal Address:**23 FERN HILL ROAD, BRIDGEWATER**

Contact No:

Email:

(by providing an email address you agree to receive any related future correspondence electronically)

This representation is in relation to the application by: **Lloyd Building Solutions Pty Ltd**

Nature of Development: **Split level detached dwelling, deck (maximum height 2.6m), retaining walls (maximum height 1m), domestic outbuilding - garage & associated earthworks**

Proposed to be located at: **34 Fern Hill Road Bridgewater SA 5155**

My representation: **(cross out whichever does not apply below)**
~~Supports the proposed development~~ **OR** Opposes the proposed development

My interests are: **(cross out whichever does not apply below)**
owner of local property OR occupier of local property
a representative of a company OR other
organisation affected by the proposal OR a private citizen

The address of the property affected is:

.....**23 FERN HILL ROAD BRIDGEWATER**..... Postcode: **5155**
The specific aspects of the application to which I make representation are:

.....**REMOVAL OF LIVE NATIVE TREES & CLEARING OF**.....
.....**NATIVE UNDERSTOREY**.....

My objections (if any) could be overcome by:.....**RELOCATING DWELLING TO**.....
.....**POSITION FURTHER SOUTH, MINIMISING ANY VEGETATION**.....
.....**CLEARANCE**.....

(cross out whichever does not apply below)

I do wish to be heard in support of my representation by appearing personally or being represented by the following person.

OR

~~I do not wish to be heard in support of my representation.~~

"Please note that, in accordance with Section 38 (10)(a) of the *Development Act 1993*, the Council Assessment Panel may, in its absolute discretion, allow a person who made a representation to appear personally or by representative before it to be heard in support of the representation."

Please note that *no right of appeal* to the Environment, Resources and Development Court exists for a person or body who submit a Category 2 representation.

Date: **24/11/20**

Signature: 

The closing time and date for Representations is 5.00pm on 26 November 2020 & Representations can only be received during the period 16 November 2020 to 26 November 2020

"Please note that in accordance with Section 38(8) of the *Development Act 1993*, a copy of this representation is forwarded to the Applicant for their information and response. Further a copy of your representation (including your name and address) will become public and can be viewed on the web."

Adelaide Hills Council

PO Box 44

Woodside SA 5244

22 November 2020

Re: Submission relating to Development Application No. 20/1049/473

We object to the removal of the live native trees on the block, along with the clearing of all the native understorey. Council approved the subdivision of the block on the basis that clearance of any native trees would be avoided.

Background

The impacts of this development were discussed in detail in December 2018 and April 2019, during the application to subdivide this block off from the remainder of 25 Fern Hill Road, Bridgewater (Development Application No. 18/401/473). The Development Panel included:

- Professor Stephen Hamnett (Independent Presiding Member)
- Simon Bradley (Independent Member)
- Rob McBryde (Independent Member)
- Piers Brissenden (Independent Member)
- Cr Linda Green

The land holders submitting the application were Neil and Robyn Page and they engaged Wayne Brown to provide a native vegetation assessment.

On the front page of Wayne Brown's Native Vegetation Review he states:

"This report provides a review of any possible native vegetation impacts in the event a house is built on the allotment."

The assessment by Wayne Brown was neither accurate nor independent – he described the native vegetation on the block as "not an intact stratum" which is both incorrect and not relevant for a subdivision application. One of the trees he mapped as 'dead' is alive. In his report Wayne Brown stated that "nothing should stop the proponent from being able to subdivide" – an opinion that is not within the remit of an independent native vegetation consultant.

In regards to the application:

- Four adjacent neighbours objected to the subdivision.
- The land was covered by a Land Management Agreement designed specifically to prevent the land from being subdivided.
- Evidence on the future impacts to native vegetation and habitats was provided by a senior ecologist from the Department of Environment and Water (DEW) – who was one of the neighbours.

All of this was ignored by Council and all but one member of the Development Panel. The Panel were in favour of facilitating the removal of the Land Management Agreement. They did not accept the written and verbal submissions from the DEW staff member and instead cited consultant Wayne

Brown's statement that the future house site is suitable to "**avoid the clearance of native vegetation**". This statement was backed by a rough hand-drawn map of where a building envelope could be sited by the land-holder Neil Page – with copies given to the panel.

Specific comments from consultant Wayne Brown that formed the basis of the panel's decision include:

"The identified and proposed house site avoids the clearance of native vegetation."

"The structure could be configured to suit the site."

"No live trees are required to be cleared to build a structure (house)."

At the end of Wayne Brown's native vegetation assessment, he stated: ***"There is no reason an application for clearance would be rejected."***

In the summarising statement from the Presiding Member of the panel (Professor Stephen Hamnett) he stated that Wayne Brown's report was the only formal native vegetation report provided (ignoring the written and verbal evidence from the Senior Ecologist from DEW). Both Wayne Brown and the landholder Neil Page stated that a future house could be built on the block *without clearing any native vegetation* and thus the panel had no reason not to approve the subdivision.

We note that none of this extensive discussion and submissions (objections) from 4 neighbours was included in the minutes of this Development Panel meeting.

Observations 2019-2020

At the time of the subdivision approval, there was an intact canopy of mature stringybark trees, which can be seen from the historical aerial photos (Figure 1).

Since the subdivision application was lodged, three of the native trees have died. Also a number of the smaller trees have been illegally removed from the block.

It also appears that someone has applied herbicide around the base of all the trees – see attached photos with a clearly observable ring of dead plants around each tree (Figure 2). This has killed all the plants at ground layer – introduced grasses as well as native plants. It is unknown if this has contributed to the death of some of the mature trees.

Recent observations are that at least 50% of the groundcover vegetation is native. The groundcover includes predominantly native grasses (*Microlaena stipoides*, *Austrostipa mollis*, *Rytidosperma racemosa*, *Rytidosperma* sp.) and sedges (*Carex inversa*, *Juncus* spp.) and a substantial cover of *Lomandra filiformis*.

Native Vegetation assessment

Wayne Brown's report acknowledges ***"A full biological survey was not conducted as part of this report."*** Indeed there are more native species on the block than were identified during Wayne Brown's brief assessment, including native orchids *Microtis uncinata* and lilies *Burchardia umbellata*.

The report finishes: ***"This is NOT a Native Vegetation Application to the NVC."*** and ***"Future owners of the allotment would require a full Native Vegetation assessment and application to the Native Vegetation Branch for approvals"***.

To our knowledge, there has been no further native vegetation assessment nor survey of the existing trees on the block. The proponent has made no effort to retain the trees and adapt design to minimise impacts to native vegetation.

We trust it has been made abundantly clear to the new owners that this development application requires approval from the Native Vegetation Council before any development activities commence within the boundary of the block.

Our objections to the current development application

We object to the removal of the live native trees on the block, along with the clearing of all the native understorey. Council approved the subdivision of the block on the basis that clearance of any native trees could be avoided.

All but one mature tree are proposed to be removed by the current application. This is not in accordance with the agreed outcomes for development as determined by Council's Development Panel.

At the time of the subdivision of the block, there were eight mature, live native stringybark trees on the block. There are currently five left, with three having been removed. These remaining trees need to be surveyed accurately to within 1 metre accuracy to determine how the building design could be altered to allow retention of these trees. At the very least, the three mature native stringybark trees and one spotted gum along the western boundary of the block must be retained and preserved.

Regards,

Nicola Barnes and Paul Angas

23 Fern Hill Road

Bridgewater SA 5155

CC: Adam Schultz and Sybille Thorpe, Native Vegetation Management Unit



Figure 1: Aerial photo showing intact stratum at 34 Fern Hill Road, Bridgewater. (Image: Google Earth.)



Figure 2: Evidence of herbicide application onto native understorey around live native trees and stumps of illegally removed trees at 34 Fern Hill Road, Bridgewater.

SOUTH AUSTRALIAN DEVELOPMENT ACT, 1993
REPRESENTATION ON APPLICATION – CATEGORY 2 NOTIFICATION

Development Number: **20/1049/473**

My Name: **Darrell + Bianca Stanbridge**

Postal Address: **32 Fern Hill Rd Bridgewater**

Contact No: **08 8333 1111**

Email: **darrell@stanbridge.com.au**
(by providing an email address you agree to receive any related future correspondence electronically)

This representation is in relation to the application by: **Lloyd Building Solutions Pty Ltd**

Nature of Development: **Split level detached dwelling, deck (maximum height 2.6m), retaining walls (maximum height 1m), domestic outbuilding - garage & associated earthworks**

Proposed to be located at: **34 Fern Hill Road Bridgewater SA 5155**

My representation: **(cross out whichever does not apply below) → see attachment**
~~Supports the proposed development~~ **OR** Opposes the proposed development

My interests are: **(cross out whichever does not apply below)**
owner of local property OR occupier of local property
~~a representative of a company OR other~~
~~organisation affected by the proposal OR a private citizen~~

The address of the property affected is:

32 Fern Hill Rd Bridgewater Postcode: **5155**

The specific aspects of the application to which I make representation are:

See Attachment

My objections (if any) could be overcome by:

See Attachment

(cross out whichever does not apply below)

I do wish to be heard in support of my representation by appearing personally or being represented by the following person.

OR

~~I do not wish to be heard in support of my representation.~~

"Please note that, in accordance with Section 38 (10)(a) of the *Development Act 1993*, the Council Assessment Panel may, in its absolute discretion, allow a person who made a representation to appear personally or by representative before it to be heard in support of the representation."

Please note that *no right of appeal* to the Environment, Resources and Development Court exists for a person or body who submit a Category 2 representation.

Date: **23/11/20**

Signature: **[Signature]**

The closing time and date for Representations is 5.00pm on 26 November 2020 & Representations can only be received during the period 16 November 2020 to 26 November 2020

"Please note that in accordance with Section 38(8) of the *Development Act 1993*, a copy of this representation is forwarded to the Applicant for their information and response. Further a copy of your representation (including your name and address) will become public and can be viewed on the web."

34 Fern Hill Rd Bridgewater

I would like to make representations on this proposed development.

We have not yet met the owners of this property, so as we share a boundary there are a few points we would like to raise and have clarified.

We hope that the issues we raise might be resolved by being provided with further information, or perhaps some minor amendments that would result in mutual benefit to existing and new residents.

We assume that the applicants would like to retain as much privacy and natural environment as possible, and these are of main concern to us.

Below are specific issues we would like to raise.

1) Roof line height of the dwelling –

We have attempted to get a bearing on the height of the house as per picture 5A in plans. This is the side of the house that will be in our line of vision from our front verandah, carport and upstairs living area. I can see that there is an approximately two-metre deep cutting from the height of our driveway, but we request to clearly see in the plans where the highest point of this side roof is, in relation to our carport/house. Could a Street Scape Elevation plan be provided so that this can be viewed, as we are concerned that the home could significantly impact our views from our verandah and upstairs living area. This could also result in lack of privacy for both us and the new residents, as there are two windows (including a bedroom) and a glass door on the western side of the proposed dwelling.

Could be resolved by - a street scape elevation plan that may alleviate our concerns, and/or assured provision for adequate screening, either natural and/or otherwise.

2) Sight line of steps/deck to house entry –

As per picture 4A, the steps turn to the right to make a landing on the deck. We are concerned that people walking up these steps and onto this landing will have a direct line of sight into the front bedrooms of our lower story and upper story windows. Please note that the position of the decking and entry steps are outside of the identified footprint of the potential structure which was approved in the land subdivision. The intention of the approval was to protect as much native vegetation as possible if a future structure was built.

Could be resolved by - A street scape elevation plan may show that this is not the case, but we request that this be confirmed or amended to protect our privacy, so that every time someone walks up these steps to enter their house they cannot see into our children's bedrooms. Another option could be to turn the steps left to enter the deck.

3) Clearance of trees/vegetation –

Since the Native Vegetation report was completed on 25/1/19, trees 7, 12, 13 have already been removed. Some of these provided us with a privacy screen between our home and number 23 (across the road). New plantings will take many years to grow to the height required to provide a similar screen. The only trees that still provide us with a privacy screen between our homes are tree 8, Photo H (Spotted Gum) and tree 6. Tree 8 was listed as having 0% die-back in the native vegetation report. This tree is very close to our boundary while well away from our home, and is also not close to any building envelope as per the land division approval. The Spotted Gum brings us significant privacy as well as providing habitat to native birds and koalas. We would be devastated to see this beautiful tree removed if there is another option that will enable it to be saved.

Trees 2 and 3 provide a privacy screen next to our house as well as significant shade during summer. Removal of Significant tree 2 will remove this privacy and shade resulting in a less environmentally friendly house for us. Please note tree 2 had an extra trunk that was cut down prior to the sale of the block. This recently had new growth which now appears to be dying after the recent spraying of property. These 2 trees provide a habitat corridor for animals such as the kookaburras that live in the hollows of regulated tree 1. The kookaburras and other birds migrate through the block in these and the other trees each day.

On the Native Vegetation report, tree 6 was not included in the proposed building footprint and we feel this does not need to be removed as there would be an alternative plan. Tree 10 is now dead, however contains hollows that rosellas currently inhabit. Tree 7, which had only 10% die-back on the vegetation report, was surprisingly cut down prior to the sale of the property.

Why must all the trees on this block be removed at the detriment of native animals? Surely something can be done to minimize the human impact on this vegetation corridor between our property and our neighbours so that we can continue to protect our native species?

In summary, to quote the review outcome of the vegetation report, which formed the basis of the approval of the land subdivision:

- *The identified and proposed house site avoids the clearance of intact native vegetation*
- *The structure could be configured to suit the site to avoid excessive clearance*
- *Two native trees would be directly impacted on by the proposal.*

As per the conclusion of the report, “future owners of the allotment would require a full native vegetation assessment and application to the Native Vegetation branch for approvals”. We request that an updated native vegetation assessment is undertaken by an independent authority. Please note that native understory plants were thriving over spring. Some of these species will now not be visible to an assessor.

References -

AHC development plan

SITING AND VISIBILITY OBJECTIVES 1 Protection of scenically attractive areas, particularly natural and rural landscapes. PRINCIPLES OF DEVELOPMENT CONTROL 1 Development should be sited and designed to minimise its visual impact on: (a) the natural, rural or heritage character of the area (b) areas of high visual or scenic value, particularly rural areas (c) views from public reserves, scenic or tourist routes and walking trails. 2 Buildings should be sited in unobtrusive locations and should: (a) be grouped together (b) where possible, be located in such a way as to be screened by existing vegetation when viewed from public roads and especially from Scenic Routes shown on Figure AdHi(EC)/1 (c) be designed to blend with surrounding developments and landscapes.

LANDSCAPING, FENCES AND WALLS - (k) complement existing vegetation, including native vegetation

Could be resolved by - This tree is marked for removal (as per plans) but this only appears to be to enable a sloped cutting around the driveway nearby. Perhaps there is a way that the driveway could be constructed with a retaining wall further away from the tree, since most of the remaining trees (including a significant tree) on the block are earmarked to be removed. The new owners may not be aware of the wildlife that inhabit the trees on this block, so if another option was possible to preserve this tree it would be much appreciated.

As stated previously, we are happy to engage in dialogue with the owners to clarify or resolve the above issues. We have lived at our property for 20 years, so have a high level of awareness of the wildlife and special features of this area. We would like the opportunity to work together with the new landowners to reach mutually agreeable outcomes.

Kind regards, Darrell and Bianca Stanbridge

32 Fern Hill Rd

Bridgewater SA 5155

Lloyd Building Solutions Pty Ltd

ABN 15 331 985 989

BLD LIC No: BLD 257473

Po Box 3125

Newton SA 5074

Mob: 0411 222 708 Email: ian@lbsolutions.net.au

Att. Planning Department – Ashleigh Gade

Adelaide Hills Council

Via Email: agade@ahc.sa.gov.au

6th December 2020

Dear Ashleigh,

**Re: - Objections to Proposed Development for New Spilt Level Residential Dwelling – Lot 391, No 34
Fern Hill Rd Bridgewater SA 5155 – DA 20/1049.473**

In response to objections lodged by Nicola Barnes & Paul Angas of 23 Fern Hill Rd Bridgewater, dated 24th November 2020 and Darrel & Bianco Stanbridge of 32 Fern Hill Rd, dated 23rd November 2020, find our responses below:

- (1) Several matters raised are historic and relate to dis-satisfaction of the land division process and the Council and the Development Panel's handling of that application. This is now historic and has no bearing on this development application.
- (2) The matters relating to the native vegetation clearing or protection have already been dealt with under the land division application and a copy of the Native Vegetation Council Regulation Advice Notification letter dated 14th September 2020 is attached incorporating a clearly defined area with highlighted site picture of the Clearance Exempt area for this block. We are well within this area for our proposed development.
- (3) This Native Vegetation Council letter dated 14th September 2020 as attached, was carried out by Neil Page, the previous owner, knowing that any future owner would need this before they could proceed with any development proposal or activities on this block and has been applied with the overall design and layout of this development proposal.
- (4) When advised by Council that a public notification process had to be applied to this application, we contacted Sharon Gillam from the Native Vegetation Council to confirm that this development fell within their desired guidelines. She affirmed this.

- (5) Our clients purchased this block of land in good faith, based on current sub-division approval conditions and the Native Vegetation Council's reports provided to them, prior to purchasing the block. Any change to the pre-determined guidelines they and we had from the previous owner, Council or the Native Vegetation Council prior to this application being prepared and submitted could bring into question, whether our clients were mis-lead.
- (6) To answer the query as to why the house could not be moved further south, this would push it closer to the largest tree on the block in the south west corner and the only tree the Native Vegetation Council has instructed must remain as outside the Clearance Exempt Zone. As an aside, it would also create problems with the development site getting too close to the root exclusion zone base of that tree. (Any Arborist report should support this) The other aside, is, it would put the new house much closer than the 20 metre distance away from trees for bushfire rulings.
- (7) We confirm that under the bushfire regulations, any tree within 20 metres of a dwelling does not need approval for removal. All and any of the existing trees in question by objectors are within that distance of the existing dwelling at No 32 Fern Hill Rd. *The Development Act 1993 provides that damaging a 'regulated' or 'significant' tree is development and requires Development Approval from Council. This does not include dead trees or trees within 20 metres of a house in a bushfire prone area.*
- (8) Our clients, to date, have not removed any existing trees, dead or otherwise from this property. It is our understanding that the trees removed were dead and were taken without our client's knowledge and prior to the settlement of the land. They chased that up with the previous owner to confirm that no further trees would be removed until full development approval was given.
- (9) The neighbor to the east has kindly slashed the block on behalf of our clients and our clients have also complied with Council's recent request to maintain the undergrowth for the upcoming bushfire season.
- (10) In relation to any overlooking concerns, by Darrell & Bianca Stanbridge of No 32 Fern Hill Rd, we confirm that the equal and opposite concern applies. Our client's proposed house and deck are mainly forward of their house and carport position. Our client's house levels are below Mr. & Mrs. Stanbridge's, creating a reverse overlooking issue from them into our client's yard. Obviously, they are already built and in position, so our client has had to consider this fact already. Refer to the attached marked up Engineer's Site Drainage Management plan showing the contours, levels and set out of the existing Stanbridge house and carport in relation to our client's house. Effectively our client's house at the upper split level is approx. 1300mm below the Stanbridge's Carport level and the lower split level is approx. 2300mm lower. It is why our client has determined to keep the existing corrugated and wire fences along that common west boundary encouraging the existing climbers on these fences to grow and thicken. They intend to plant more screening landscape along that boundary too.

(11) Any elevated view from our client's front deck or stair is toward the front of their own block as well as the front yard of the Neighbor's at No 32 Fern Hill Rd with no overlooking into the Neighbor's bedrooms or any room for that matter. No street elevation is required to see this based on the information and marked up plans provided. It is why a great deal of thought has gone into the layout, design, and levels of the current application.

(12) In relation to the Garage and driveway position and cut/fill levels proposed, this land is on the limits of an acceptable slope for a driveway before any site cutting is performed. i.e. 1 in 5. Therefore, the existing land topography dictates the level of the Garage and the driveway shape and slope so a car can traverse it safely. This driveway also has to provide a safe and acceptable backing area for a fire fighting truck which has been negotiated with the CFS so the rear of a truck can get within 30 metres of the rear of the house to fight any potential bushfires. We might add that this is also a bonus to the neighbors at No 32 Fern Hill Rd.

We believe our design proposal provides sufficient consideration to all matters required to be met for an approval on this block as proposed.

We trust Council will see the benefits of the proposal presented and proceed with an approval.

Yours Sincerely

Ian Lloyd

Ian Lloyd
General Manager

WARNING
BEWARE OF UNDERGROUND SERVICES.
THE LOCATION OF SERVICES ARE INDICATIVE ONLY AND NO
GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
CONTRACTOR TO VERIFY ALL SERVICES PRIOR TO ANY EXCAVATION.

CONTRACTOR TO ENSURE THAT
ALL BATTER AREAS ARE STABLE
AND ADEQUATELY COMPACTED
IN ACCORDANCE WITH RELEVANT
STANDARDS.

DENOTES 3,000L COMBINATION BUSHFIRE AND RETENTION TANK.
LOWER TANK TO HAVE MINIMUM VOLUME OF 2,000L FOR
BUSHFIRE FIGHTING PURPOSES ONLY. UPPER TANK VOLUME
TO BE 1000L FOR ON-SITE REUSE, TO BE CONNECTED INTO W.C.
TANK TO HAVE RESIDENTIAL FITTINGS AND PUMP AND TO BE
MADE OF NON-COMBUSTIBLE MATERIAL. TANK INSTALLATION
AND DETAILS TO BE IN ACCORDANCE WITH RELEVANT
GOVERNMENT STANDARDS.

PROPOSED DWELLING
NEIGHBOUR'S CARPORT & DWELLING

GENERAL CIVIL NOTES:

- THE SURVEY SHOWN IS AN ENGINEERING SURVEY AND SHALL NOT BE TAKEN AS A CADASTRAL OR IDENTIFICATION SURVEY. A BOUNDARY MODEL HAS BEEN SHOWN ONLY TO DEPICT THE ALLOTMENT CONFIGURATION.
- PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE LOCATION AND INVERT LEVEL OF THE LEGAL POINT OF DISCHARGE IS TO BE CONFIRMED BY THE BUILDER.
- OWNER TO OBTAIN COUNCIL APPROVAL PRIOR TO ANY EXISTING TREE REMOVAL, AS IT MAY BE DEEMED "SIGNIFICANT" OR "REGULATED" TREE.
- OWNER TO BACK FILL ALL VOID AREA, CREATED BY REMOVAL OF EXISTING TREE, WITH COMPACTED SATURATED SOIL.
- STORMWATER MANAGEMENT SYSTEM IS DESIGN IN ACCORDANCE WITH AS/NZS 3500.3:2015 AND RELEVANT COUNCIL REQUIREMENTS.
- UNDERFLOOR PLUMBING IS TO BE CARRIED OUT IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND SA HEALTH COMMISSION GUIDELINES.
- PATH LEVEL AT FLOOD GULLY TO BE A MINIMUM OF 165mm BELOW FINISHED FLOOR LEVEL.
- LEVELS SHOWN ARE APPROXIMATE ONLY AND ARE TO AN ASSUMED DATUM AS INDICATED ON THE SITE PLAN. BOUNDARIES ARE ASSUMED ACCORDING TO INFORMATION AVAILABLE OR FOUND ON SITE, AND SHALL BE CONFIRMED BY THE OWNER.
- GRAVITY FLOW STORMWATER SYSTEM IS TO BE LAID @ 1 IN 250 MIN GRADE WITH 100MM MIN COVER EXCEPT AS NOTED BELOW UNDERSIDE OF PAVING:
 - 50MM (SUBJECT TO PEDESTRIAN TRAFFIC)
 - 75MM (SUBJECT TO LIGHT VEHICULAR TRAFFIC)
 - 450MM (UNPAVED DRIVEWAYS)WHERE COVER CANNOT BE ACHIEVED, ENCASE STORMWATER PIPE WITHIN A CAST IRON SLEEVE OF THICKNESS OF 2.9MM WHEN SUBJECT TO PEDESTRIAN TRAFFIC AND 5.0MM WHEN SUBJECT TO LIGHT VEHICULAR TRAFFIC. CONTRACTOR IS TO ENSURE THE INTEGRITY OF ALL PIPES AND PITS DURING CONSTRUCTION.
- ALL DRAINS SHALL BE LAID TRUE TO LINE AND GRADE.
- ALL PVC PIPES ARE TO BE DWV CLASS SN4 AND JOINED WITH SOLVENT WELDS (U.N.O.).
- FLEXIBLE CONNECTIONS FOR STORMWATER/SEWER PIPES ARE REQUIRED FOR THIS SITE. THE SITE IS CLASSIFIED AS CLASS "H1-D" IN ACCORDANCE WITH AS 2870.1.
- THE LOCATION OF SEWER LINE AND/OR SEPTIC TANK IS DIAGRAMMATIC ONLY AND HAVE BEEN PROVIDED TO DETERMINE WHETHER OR NOT ADDITIONAL PIERS TO FOOTINGS ARE REQUIRED.

- ALL RETAINING WALL/CONCRETE UPSTAND LESS THAN 350mm HIGH HAVE BEEN OMITTED FOR CLARITY. CONCRETE UPSTAND TO BE INSTALLED BY OWNER.
- EXTERNAL RETAINING WALLS, STORMWATER PIPES, GRATED TRENCH DRAINS, STORMWATER PITS, REMOVAL OF SURPLUS SOIL AND TREES IS TO BE BY OWNER. THE STORMWATER SYSTEM AND PERIMETER PAVING SHALL BE PROVIDED WITHIN 6 MONTHS OF HANDOVER.
- THE DESIGN AND DETAIL OF FOOTINGS & RETAINING WALLS ARE BASED ON "AS SURVEYED CONDITION" OF ALL ADJOINING SITES, THESE MAY CHANGE IF CONDITIONS ON ADJOINING SITES CHANGE.
- DIAGRAMMATIC CUT & FILL BATTERS ARE SHOWN. IT IS THE OWNER/BUILDER'S RESPONSIBILITY TO ENSURE THAT CUT/FILL & BATTERS ARE IN ACCORDANCE WITH THE SPECIFIED REQUIREMENTS.
- GRADE PAVING AND FILL AND/OR GRADE GROUND TO SUMP LOCATIONS OR PROVIDE LINED SPOON DRAIN BETWEEN SUMPS AT 0.30% FALL.
- THE NUMBER AND LOCATION OF SUMPS SHOWN ON THIS DRAWING ARE INDICATIVE ONLY & MAY CHANGE SUBJECT TO ACTUAL CONDITIONS AND THE EXTENT & TYPE OF PAVEMENTS SELECTED.
- ENCLOSE THE ENTIRE ALLOTMENT WITH COLORBOND FENCING WITHIN 6 MONTHS OF HANDOVER IF THERE IS NO EXISTING FENCE OR EXISTING FENCE IS IN POOR CONDITION.
- ALL UN-USED SECTIONS OF CROSSOVERS & EXISTING KERB INVERTS TO BE REMOVED AND REINSTATED WITH UPRIGHT KERBING AND FOOTPATHS IN ACCORDANCE WITH DPTI AND COUNCIL SPECIFICATIONS.
- SOME PIPES HAVE BEEN SHOWN "KINKED" IN PARTICULAR LOCATIONS FOR CLARITY WHERE ADJACENT TO KERBS, SPOON DRAINS ETC. PIPES ARE TO BE LAID IN STRAIGHT LINES BETWEEN THE PITS INDICATED WHERE POSSIBLE. UNNECESSARILY KINKED PIPE RUNS ARE TO BE TREATED AS INDICATIVE ONLY.
- ANY PIPE SHOWN IN THE ADJACENT PROPERTY ARE FOR CLARITY ONLY. ALL PIPES ARE TO BE FULLY CONTAINED WITHIN THE ALLOTMENT BOUNDARY.

RECYCLE WATER:
EXTERNAL TAPS & WC TO BE
PLUMBED TO THE RECYCLE METER.



SCALES AS SHOWN
DATE 09-2020
DRAWN LGP
CHECKED JCB

TITLE CIVIL
STORMWATER MANAGEMENT PLAN
ADDRESS 34 (LOT 391) FERN HILL ROAD
BRIDGEWATER, SA

FIGURED DIMENSIONS SHALL TAKE PREFERENCE OVER
SCALED DRAWINGS. CONTRACTORS SHALL VERIFY ALL
DIMENSIONS BEFORE COMMENCING.
THESE DRAWINGS ARE COPYRIGHT AND REMAIN THE
EXCLUSIVE PROPERTY OF TESSERACT INTERNATIONAL.
ALL RIGHTS RESERVED. REPRODUCTION WITHOUT
WRITTEN PERMISSION IS PROHIBITED. COPYRIGHT ©



tesseract
International
consulting engineers | building designers

Tesseract International Pty Ltd
111 Conyngham Street, Frewville, SA 5063
T +61 8 8362 8860
E enquiries@tesseract.com.au | ABN 65 605 897 596
Website: www.tesseract.com.au

CLIENT **LLOYD BUILDING SOLUTIONS**
PROJECT PROPOSED RESIDENCE

JOB # **20-453**
SHEET # **C100** REV. **1**

LEGEND

- PERIMETER PAVING AS SELECTED
- DRIVEWAY PAVING AS SELECTED
- TIMBER DECKING
- GRASSED AREA
- LANDSCAPING
- EXISTING SPOT LEVEL
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DENOTES EXISTING TREES TO BE RETAINED
- DENOTES EXISTING TREES TO BE REMOVED
- EMBANKMENT / BATTER
- SPOON DRAIN
- OPEN EARTH DRAIN / SWALE
- 90° STORMWATER PIPE @1.0% MINIMUM
- 90° STORMWATER PIPE @1.0% MINIMUM (SEALED)
- 90° GRATED INLET
- PAVEMENT FALL TO GRATED INLET
- 300 SQ GS (GRATED SUMP)
- DOWN PIPE CONFIRM WITH ARCH' DWGS
- RETAINING WALL
- DESIGN LEVEL
- W.T. 8.88 - WATER TABLE
- P.L. 8.88 - PAVEMENT LEVEL
- T.R. 8.88 - TOP OF RETAINING WALL
- B.R. 8.88 - BOTTOM OF RETAINING WALL
- I.L. 8.88 - INVERT LEVEL
- T.B. 8.88 - TOP OF BANK
- B.B. 8.88 - BOTTOM OF BANK
- F.L. 8.88 - FINISHED LEVEL
- F.F.L. 8.88 - FINISHED FLOOR LEVEL
- B.L. 8.88 - BENCH LEVEL
- C.L. 8.88 - COVER LEVEL
- D.L. 8.88 - DECK LEVEL
- EX. 8.88 - EXISTING LEVEL

NOTES FOR OWNERS:

- STORMWATER DISPOSAL INCLUDING SURFACE DRAINAGE, AS PER PLAN AND COUNCIL REQUIREMENTS ALL TO BE CONSTRUCTED BY OWNER, INCLUDING RETAINING WALLS, UNLESS STATED OTHERWISE IN THE CONTRACT.
- ANY DISCREPANCY BETWEEN THE FOOTING PLAN/REPORT AND THE CIVIL PLAN SHALL BE REPORTED TO LLOYD BUILDING SOLUTIONS IMMEDIATELY. FLOOR LEVELS MAY BE INCREASED TO ACCOMMODATE SEWER GRADE REQUIREMENTS. OWNER AND/OR BUILDER ARE TO CHECK SEWER INVERTS PRIOR TO COMMENCEMENT OF SITEWORKS.

DESIGN NOTES:

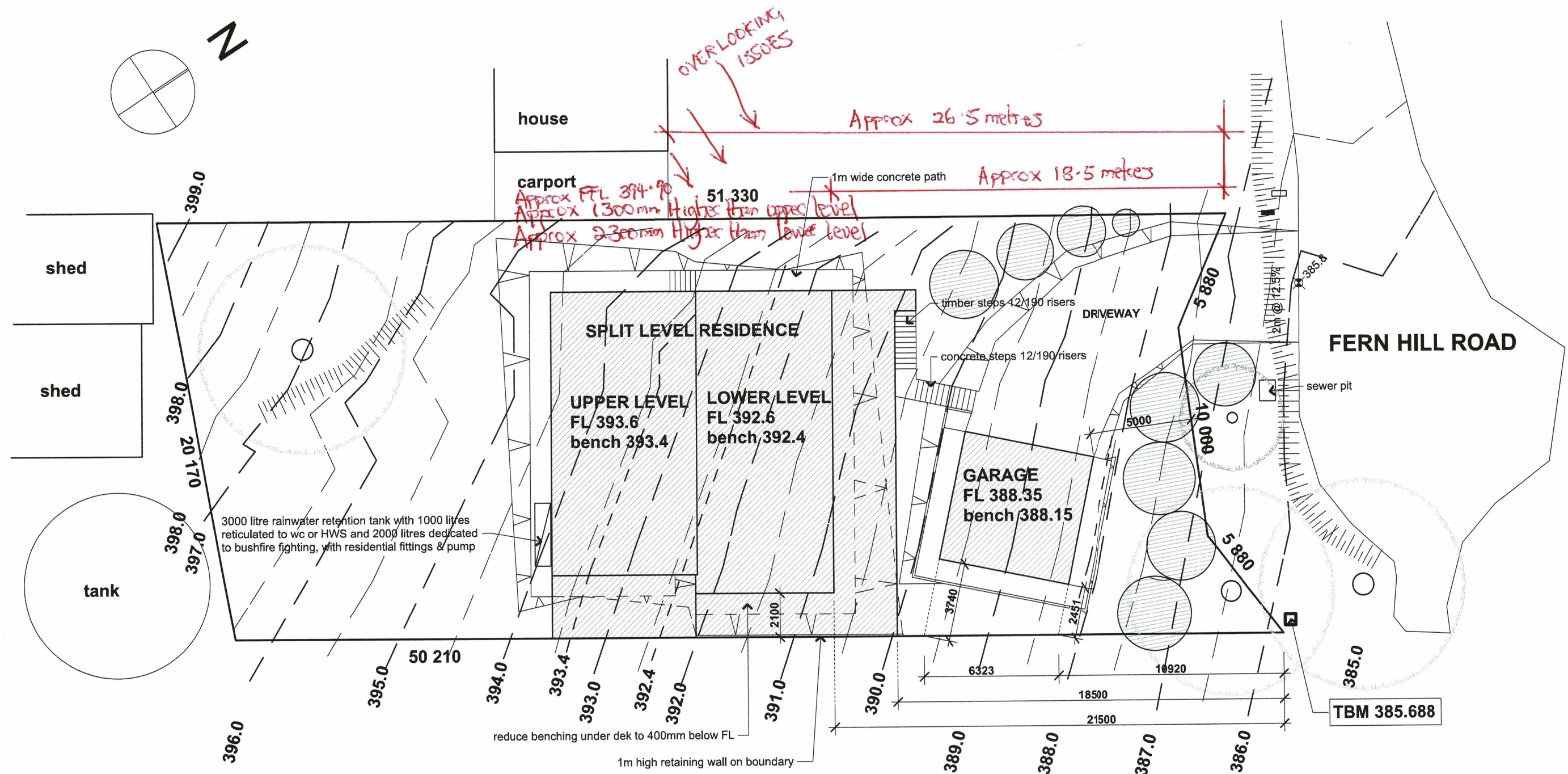
- PRIOR TO COMMENCEMENT OF WORK ON SITE, THE BUILDER IS TO CONFIRM IF THE PROPOSED FFL IS SUFFICIENT TO ACHIEVE THE MINIMUM REQUIRED SEWER AND STORMWATER FALLS. NOTIFY THIS OFFICE IF ANY ADJUSTMENT TO THE FFL IS NECESSARY.
- ALL INFORMATION REGARDING LOT BOUNDARIES AND REQUIRED SETBACKS MUST BE CONFIRMED BY THE OWNER/BUILDER PRIOR TO COMMENCEMENT OF WORK ON SITE.
- BUILDER TO TAKE NECESSARY CAUTION DURING TRENCHING AND/OR EXCAVATIONS AS ROCK AT SHALLOW DEPTHS MAY BE PRESENT AND CAUSE DIFFICULTIES ON SITE.
- REMOVED ALL EXISTING STRUCTURES, PAVEMENTS, TREES AND STUMPS THAT WILL CONFLICT WITH THE PROPOSED DEVELOPMENT.

SEWER NOTE:

THE PROPOSED FINISHED FLOOR LEVEL IS BASED ON STORMWATER CONSIDERATIONS. SEWER CONNECTIONS WERE NOT CONSIDERED IN THE DESIGN. DEVELOPER/CONTRACTOR TO CONFIRM SUITABILITY OF SEWER CONNECTIONS PRIOR TO COMMENCEMENT OF WORK ON SITE.

ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY 01-10-2020 LP 1
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY 30-09-2020 LP 0

DESCRIPTION	DATE	BY	REV.



FENCING

The existing 1500mm high corrugated iron fence to be painted grey.
The existing wire mesh fences to be straightened and re-aligned with the correct boundary.
No additional (new) fences to be erected.

SCREEN PLANTING

New screen planting to front of property to reduce visual impact of residence & garage.
Planting to be low bushfire hazard salt rich species such as saltbush & boobialla as recommended by SA CFS.

2

SITE PLAN

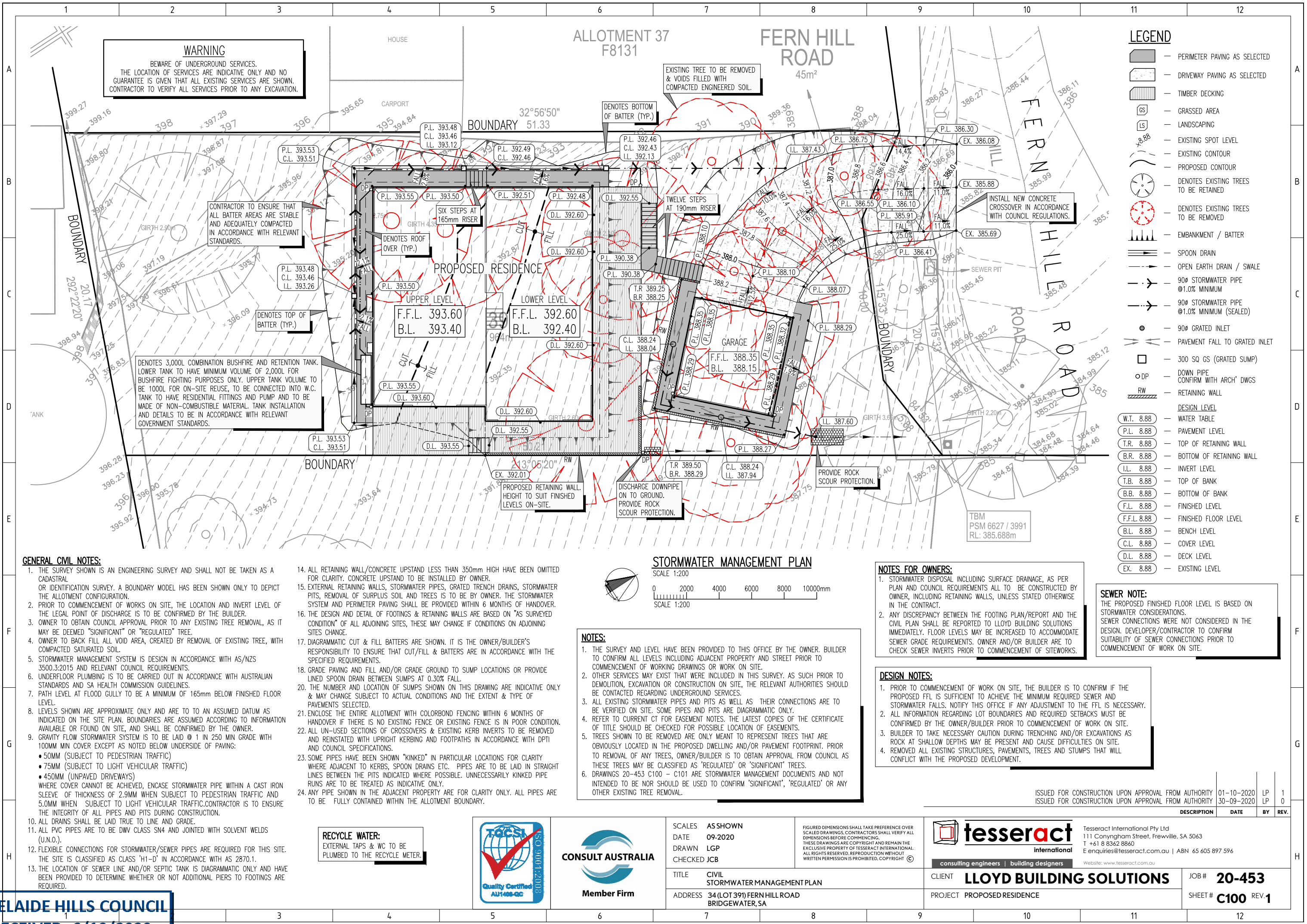
1:200

Lloyd Building Solutions
Pty Ltd
LIC No. BLD 257473
PO BOX 3125, NEWTON, SA 5074
Mob 0411 222 708
email: ian@lbsolutions.net.au

**PROPOSED RESIDENCE AT
34 (LOT 391) FERN HILL ROAD,
BRIDGEWATER
FOR B. LLOYD & J. BALA**

drawn **ERIC SMITH & ASSOCIATES PTY LTD**

Date **26/11/2020** Sheet No. **2** Issue



WARNING
BEWARE OF UNDERGROUND SERVICES.
THE LOCATION OF SERVICES ARE INDICATIVE ONLY AND NO
GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
CONTRACTOR TO VERIFY ALL SERVICES PRIOR TO ANY EXCAVATION.

CONTRACTOR TO ENSURE THAT
ALL BATTER AREAS ARE STABLE
AND ADEQUATELY COMPACTED
IN ACCORDANCE WITH RELEVANT
STANDARDS.

DENOTES 3,000L COMBINATION BUSHFIRE AND RETENTION TANK.
LOWER TANK TO HAVE MINIMUM VOLUME OF 2,000L FOR
BUSHFIRE FIGHTING PURPOSES ONLY. UPPER TANK VOLUME TO
BE 1000L FOR ON-SITE REUSE, TO BE CONNECTED INTO W.C.
TANK TO HAVE RESIDENTIAL FITTINGS AND PUMP AND TO BE
MADE OF NON-COMBUSTIBLE MATERIAL. TANK INSTALLATION
AND DETAILS TO BE IN ACCORDANCE WITH RELEVANT
GOVERNMENT STANDARDS.

HOUSE

CARPORT

ALLOTMENT 37
F8131

FERN HILL
ROAD

EXISTING TREE TO BE REMOVED
& VOIDS FILLED WITH
COMPACTED ENGINEERED SOIL.

DENOTES BOTTOM
OF BATTER (TYP.)

BOUNDARY 51.33

PROPOSED RESIDENCE

UPPER LEVEL

F.F.L. 393.60

B.L. 393.40

LOWER LEVEL

F.F.L. 392.60

B.L. 392.40

TWELVE STEPS
AT 190mm RISER

GARAGE

F.F.L. 388.35

B.L. 388.15

INSTALL NEW CONCRETE
CROSSOVER IN ACCORDANCE
WITH COUNCIL REGULATIONS.

PROVIDE ROCK
SCOUR PROTECTION.

DISCHARGE DOWNPIPE
ON TO GROUND.
PROVIDE ROCK
SCOUR PROTECTION.

PROPOSED RETAINING WALL.
HEIGHT TO SUIT FINISHED
LEVELS ON-SITE.

GENERAL CIVIL NOTES:

1. THE SURVEY SHOWN IS AN ENGINEERING SURVEY AND SHALL NOT BE TAKEN AS A CADASTRAL OR IDENTIFICATION SURVEY. A BOUNDARY MODEL HAS BEEN SHOWN ONLY TO DEPICT THE ALLOTMENT CONFIGURATION.
2. PRIOR TO COMMENCEMENT OF WORKS ON SITE, THE LOCATION AND INVERT LEVEL OF THE LEGAL POINT OF DISCHARGE IS TO BE CONFIRMED BY THE BUILDER.
3. OWNER TO OBTAIN COUNCIL APPROVAL PRIOR TO ANY EXISTING TREE REMOVAL, AS IT MAY BE DEEMED "SIGNIFICANT" OR "REGULATED" TREE.
4. OWNER TO BACK FILL ALL VOID AREA, CREATED BY REMOVAL OF EXISTING TREE, WITH COMPACTED SATURATED SOIL.
5. STORMWATER MANAGEMENT SYSTEM IS DESIGN IN ACCORDANCE WITH AS/NZS 3500.3:2015 AND RELEVANT COUNCIL REQUIREMENTS.
6. UNDERFLOOR PLUMBING IS TO BE CARRIED OUT IN ACCORDANCE WITH AUSTRALIAN STANDARDS AND SA HEALTH COMMISSION GUIDELINES.
7. PATH LEVEL AT FLOOD GULLY TO BE A MINIMUM OF 165mm BELOW FINISHED FLOOR LEVEL.
8. LEVELS SHOWN ARE APPROXIMATE ONLY AND ARE TO AN ASSUMED DATUM AS INDICATED ON THE SITE PLAN. BOUNDARIES ARE ASSUMED ACCORDING TO INFORMATION AVAILABLE OR FOUND ON SITE, AND SHALL BE CONFIRMED BY THE OWNER.
9. GRAVITY FLOW STORMWATER SYSTEM IS TO BE LAID @ 1 IN 250 MIN GRADE WITH 100MM MIN COVER EXCEPT AS NOTED BELOW UNDERSIDE OF PAVING:
 - 50MM (SUBJECT TO PEDESTRIAN TRAFFIC)
 - 75MM (SUBJECT TO LIGHT VEHICULAR TRAFFIC)
 - 450MM (UNPAVED DRIVEWAYS)WHERE COVER CANNOT BE ACHIEVED, ENCASE STORMWATER PIPE WITHIN A CAST IRON SLEEVE OF THICKNESS OF 2.9MM WHEN SUBJECT TO PEDESTRIAN TRAFFIC AND 5.0MM WHEN SUBJECT TO LIGHT VEHICULAR TRAFFIC. CONTRACTOR IS TO ENSURE THE INTEGRITY OF ALL PIPES AND PITS DURING CONSTRUCTION.
10. ALL DRAINS SHALL BE LAID TRUE TO LINE AND GRADE.
11. ALL PVC PIPES ARE TO BE DWV CLASS SN4 AND JOINTED WITH SOLVENT WELDS (U.N.O.).
12. FLEXIBLE CONNECTIONS FOR STORMWATER/SEWER PIPES ARE REQUIRED FOR THIS SITE. THE SITE IS CLASSIFIED AS CLASS "H1-D" IN ACCORDANCE WITH AS 2870.1.
13. THE LOCATION OF SEWER LINE AND/OR SEPTIC TANK IS DIAGRAMMATIC ONLY AND HAVE BEEN PROVIDED TO DETERMINE WHETHER OR NOT ADDITIONAL PIERS TO FOOTINGS ARE REQUIRED.

14. ALL RETAINING WALL/CONCRETE UPSTAND LESS THAN 350mm HIGH HAVE BEEN OMITTED FOR CLARITY. CONCRETE UPSTAND TO BE INSTALLED BY OWNER.
15. EXTERNAL RETAINING WALLS, STORMWATER PIPES, GRATED TRENCH DRAINS, STORMWATER PITS, REMOVAL OF SURPLUS SOIL AND TREES IS TO BE BY OWNER. THE STORMWATER SYSTEM AND PERIMETER PAVING SHALL BE PROVIDED WITHIN 6 MONTHS OF HANDOVER.
16. THE DESIGN AND DETAIL OF FOOTINGS & RETAINING WALLS ARE BASED ON "AS SURVEYED CONDITION" OF ALL ADJOINING SITES, THESE MAY CHANGE IF CONDITIONS ON ADJOINING SITES CHANGE.
17. DIAGRAMMATIC CUT & FILL BATTERS ARE SHOWN. IT IS THE OWNER/BUILDER'S RESPONSIBILITY TO ENSURE THAT CUT/FILL & BATTERS ARE IN ACCORDANCE WITH THE SPECIFIED REQUIREMENTS.
18. GRADE PAVING AND FILL AND/OR GRADE GROUND TO SUMP LOCATIONS OR PROVIDE LINED SPOON DRAIN BETWEEN SUMPS AT 0.30% FALL.
20. THE NUMBER AND LOCATION OF SUMPS SHOWN ON THIS DRAWING ARE INDICATIVE ONLY & MAY CHANGE SUBJECT TO ACTUAL CONDITIONS AND THE EXTENT & TYPE OF PAVEMENTS SELECTED.
21. ENCLOSE THE ENTIRE ALLOTMENT WITH COLORBOND FENCING WITHIN 6 MONTHS OF HANDOVER IF THERE IS NO EXISTING FENCE OR EXISTING FENCE IS IN POOR CONDITION.
22. ALL UN-USED SECTIONS OF CROSOVERS & EXISTING KERB INVERTS TO BE REMOVED AND REINSTATED WITH UPRIGHT KERBING AND FOOTPATHS IN ACCORDANCE WITH DPTI AND COUNCIL SPECIFICATIONS.
23. SOME PIPES HAVE BEEN SHOWN "KINKED" IN PARTICULAR LOCATIONS FOR CLARITY WHERE ADJACENT TO KERBS, SPOON DRAINS ETC. PIPES ARE TO BE LAID IN STRAIGHT LINES BETWEEN THE PITS INDICATED WHERE POSSIBLE. UNNECESSARILY KINKED PIPE RUNS ARE TO BE TREATED AS INDICATIVE ONLY.
24. ANY PIPE SHOWN IN THE ADJACENT PROPERTY ARE FOR CLARITY ONLY. ALL PIPES ARE TO BE FULLY CONTAINED WITHIN THE ALLOTMENT BOUNDARY.

RECYCLE WATER:
EXTERNAL TAPS & WC TO BE
PLUMBED TO THE RECYCLE METER.



SCALES AS SHOWN
DATE 09-2020
DRAWN LGP
CHECKED JCB

FIGURED DIMENSIONS SHALL TAKE PREFERENCE OVER
SCALED DRAWINGS. CONTRACTORS SHALL VERIFY ALL
DIMENSIONS BEFORE COMMENCING.
THESE DRAWINGS ARE COPYRIGHT AND REMAIN THE
EXCLUSIVE PROPERTY OF TESSERACT INTERNATIONAL.
ALL RIGHTS RESERVED. REPRODUCTION WITHOUT
WRITTEN PERMISSION IS PROHIBITED. COPYRIGHT ©

TITLE CIVIL
STORMWATER MANAGEMENT PLAN
ADDRESS 34 (LOT 391) FERN HILL ROAD
BRIDGEWATER, SA



Tesseract International Pty Ltd
111 Conyngham Street, Frewville, SA 5063
T +61 8 8362 8860
E enquiries@tesseract.com.au | ABN 65 605 897 596
Website: www.tesseract.com.au

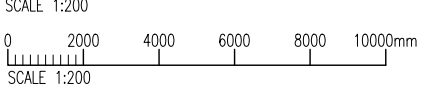
CLIENT LLOYD BUILDING SOLUTIONS
PROJECT PROPOSED RESIDENCE

JOB # 20-453
SHEET # C100 REV. 1

LEGEND

- PERIMETER PAVING AS SELECTED
- DRIVEWAY PAVING AS SELECTED
- TIMBER DECKING
- GS GRASSED AREA
- LS LANDSCAPING
- EXISTING SPOT LEVEL
- EXISTING CONTOUR
- PROPOSED CONTOUR
- DENOTES EXISTING TREES TO BE RETAINED
- DENOTES EXISTING TREES TO BE REMOVED
- EMBANKMENT / BATTER
- SPOON DRAIN
- OPEN EARTH DRAIN / SWALE
- 90° STORMWATER PIPE @1.0% MINIMUM
- 90° STORMWATER PIPE @1.0% MINIMUM (SEALED)
- 90° GRATED INLET
- PAVEMENT FALL TO GRATED INLET
- 300 SQ GS (GRATED SUMP)
- DOWN PIPE CONFIRM WITH ARCH DWGS
- RETAINING WALL
- DESIGN LEVEL
- W.T. 8.88 WATER TABLE
- P.L. 8.88 PAVEMENT LEVEL
- T.R. 8.88 TOP OF RETAINING WALL
- B.R. 8.88 BOTTOM OF RETAINING WALL
- I.L. 8.88 INVERT LEVEL
- T.B. 8.88 TOP OF BANK
- B.B. 8.88 BOTTOM OF BANK
- F.L. 8.88 FINISHED LEVEL
- F.F.L. 8.88 FINISHED FLOOR LEVEL
- B.L. 8.88 BENCH LEVEL
- C.L. 8.88 COVER LEVEL
- D.L. 8.88 DECK LEVEL
- EX. 8.88 EXISTING LEVEL

STORMWATER MANAGEMENT PLAN



NOTES:

1. THE SURVEY AND LEVEL HAVE BEEN PROVIDED TO THIS OFFICE BY THE OWNER. BUILDER TO CONFIRM ALL LEVELS INCLUDING ADJACENT PROPERTY AND STREET PRIOR TO COMMENCEMENT OF WORKING DRAWINGS OR WORK ON SITE.
2. OTHER SERVICES MAY EXIST THAT WERE INCLUDED IN THIS SURVEY. AS SUCH PRIOR TO DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITIES SHOULD BE CONTACTED REGARDING UNDERGROUND SERVICES.
3. ALL EXISTING STORMWATER PIPES AND PITS AS WELL AS THEIR CONNECTIONS ARE TO BE VERIFIED ON SITE. SOME PIPES AND PITS ARE DIAGRAMMATIC ONLY.
4. REFER TO CURRENT CT FOR EASEMENT NOTES. THE LATEST COPIES OF THE CERTIFICATE OF TITLE SHOULD BE CHECKED FOR POSSIBLE LOCATION OF EASEMENTS.
5. TREES SHOWN TO BE REMOVED ARE ONLY MEANT TO REPRESENT TREES THAT ARE OBVIOUSLY LOCATED IN THE PROPOSED DWELLING AND/OR PAVEMENT FOOTPRINT. PRIOR TO REMOVAL OF ANY TREES, OWNER/BUILDER IS TO OBTAIN APPROVAL FROM COUNCIL AS THESE TREES MAY BE CLASSIFIED AS "REGULATED" OR "SIGNIFICANT" TREES.
6. DRAWINGS 20-453 C100 - C101 ARE STORMWATER MANAGEMENT DOCUMENTS AND NOT INTENDED TO BE NOR SHOULD BE USED TO CONFIRM "SIGNIFICANT", "REGULATED" OR ANY OTHER EXISTING TREE REMOVAL.

NOTES FOR OWNERS:

1. STORMWATER DISPOSAL INCLUDING SURFACE DRAINAGE, AS PER PLAN AND COUNCIL REQUIREMENTS ALL TO BE CONSTRUCTED BY OWNER, INCLUDING RETAINING WALLS, UNLESS STATED OTHERWISE IN THE CONTRACT.
2. ANY DISCREPANCY BETWEEN THE FOOTING PLAN/REPORT AND THE CIVIL PLAN SHALL BE REPORTED TO LLOYD BUILDING SOLUTIONS IMMEDIATELY. FLOOR LEVELS MAY BE INCREASED TO ACCOMMODATE SEWER GRADE REQUIREMENTS. OWNER AND/OR BUILDER ARE TO CHECK SEWER INVERTS PRIOR TO COMMENCEMENT OF SITEWORKS.

DESIGN NOTES:

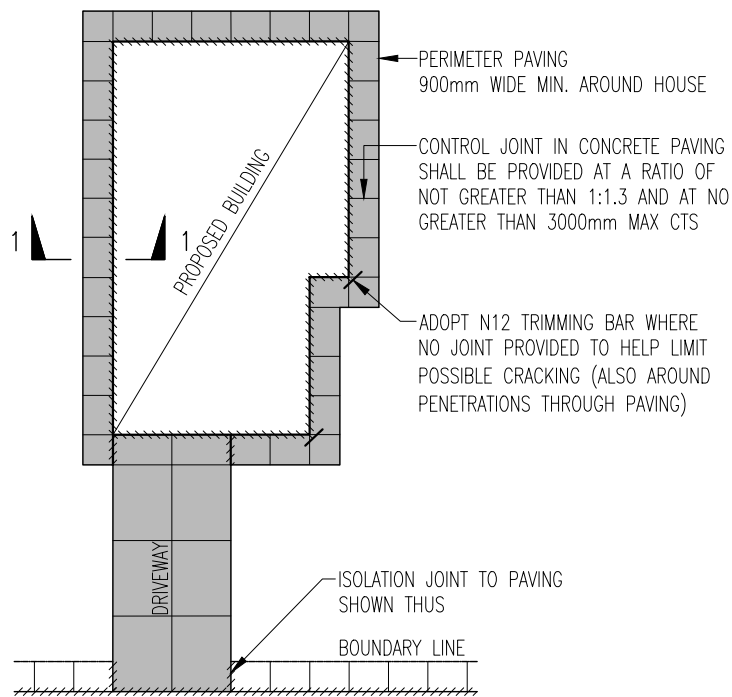
1. PRIOR TO COMMENCEMENT OF WORK ON SITE, THE BUILDER IS TO CONFIRM IF THE PROPOSED FFL IS SUFFICIENT TO ACHIEVE THE MINIMUM REQUIRED SEWER AND STORMWATER FALLS. NOTIFY THIS OFFICE IF ANY ADJUSTMENT TO THE FFL IS NECESSARY.
2. ALL INFORMATION REGARDING LOT BOUNDARIES AND REQUIRED SETBACKS MUST BE CONFIRMED BY THE OWNER/BUILDER PRIOR TO COMMENCEMENT OF WORK ON SITE.
3. BUILDER TO TAKE NECESSARY CAUTION DURING TRENCHING AND/OR EXCAVATIONS AS ROCK AT SHALLOW DEPTHS MAY BE PRESENT AND CAUSE DIFFICULTIES ON SITE.
4. REMOVED ALL EXISTING STRUCTURES, PAVEMENTS, TREES AND STUMPS THAT WILL CONFLICT WITH THE PROPOSED DEVELOPMENT.

SEWER NOTE:

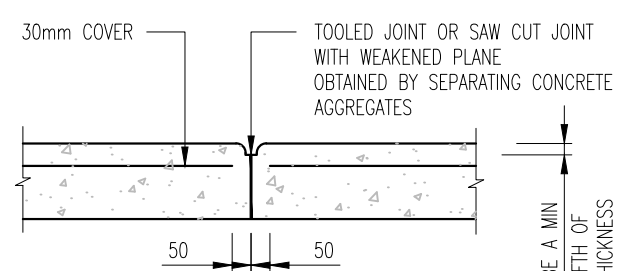
THE PROPOSED FINISHED FLOOR LEVEL IS BASED ON STORMWATER CONSIDERATIONS.
SEWER CONNECTIONS WERE NOT CONSIDERED IN THE DESIGN. DEVELOPER/CONTRACTOR TO CONFIRM SUITABILITY OF SEWER CONNECTIONS PRIOR TO COMMENCEMENT OF WORK ON SITE.

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY	01-10-2020	LP	1
ISSUED FOR CONSTRUCTION UPON APPROVAL FROM AUTHORITY	30-09-2020	LP	0

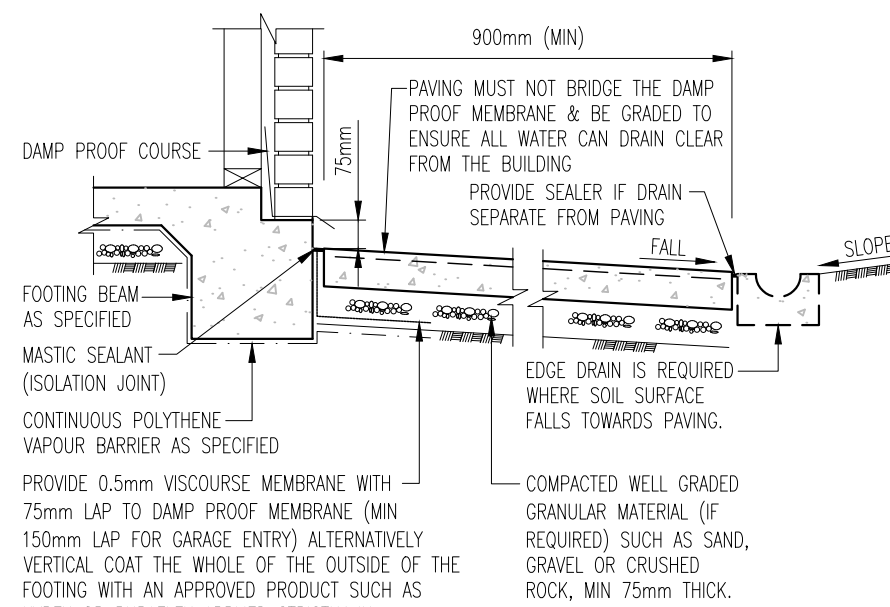
ADELAIDE HILLS COUNCIL
RECEIVED: 6/10/2020



PLAN OF PAVING AROUND A BUILDING
NTS



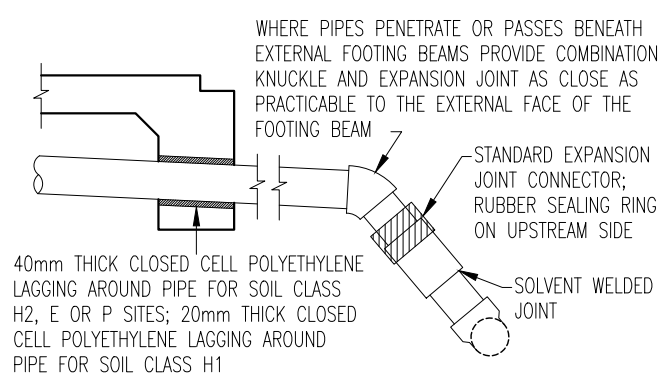
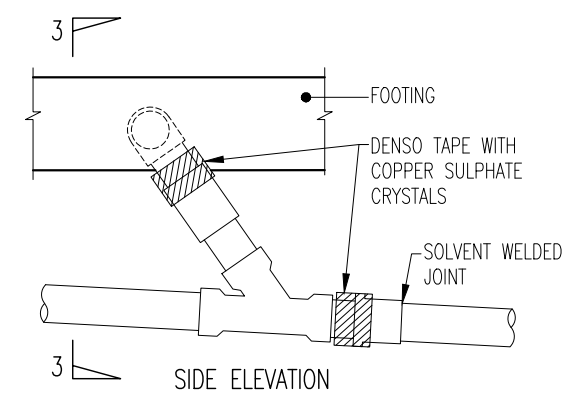
PAVING CONTROL JOINT DETAIL
SECTION 1-1
N.T.S.



NOTE:
THE DAMP PROOF COURSE SHALL NOT BE LESS THAN 75mm ABOVE ADJACENT FINISHED PAVING. A 50mm HEIGHT DIFFERENCE BETWEEN THE DAMP PROOF COURSE & ADJACENT PAVING IS PERMITTED WHERE THE PAVING IS PROTECTED FROM THE DIRECT WEATHER BY A CARPORT, VERANDAH OR THE LIKE.

TYPICAL SECTION THROUGH PAVING & SPOON DRAIN
NOT TO SCALE

- GENERAL PAVING NOTES:
1. DETAILS APPLICABLE FOR FOOT AND BICYCLE TRAFFIC ONLY.
 2. IT IS RECOMMENDED THAT CONCRETE PAVING BE REINFORCED WITH SL52 FABRIC. 30mm COVER TO TOP.
 3. IF PAVING MOVES AWAY FROM FOOTING EDGE FILL GAP WITH MASTIC SEALANT TO PREVENT MOISTURE PENETRATION.
 4. EDGE DRAIN TO BE PROVIDED TO DIRECT RUN-OFF AWAY FROM BUILDING.
 5. MINIMUM SLOPE OF PAVING:
 - CLASS A, S - 1 IN 30 CROSSFALL.
 - CLASS M, H, E - 1 IN 20 CROSSFALL



SECTION 3-3

- NOTES:
- DUE TO THE MOISTURE REACTIVE NATURE OF SOILS ON CLASS H1, H2, E OR ANY SITE CLASSIFIED AS P SITES, IT IS REQUIRED THAT THE SERVICE PIPES INCLUDE STANDARD EXPANSION TYPE JOINT COUPLINGS. PROVIDE FLEXIBLE CONNECTIONS TO PIPES IN ACCORDANCE WITH THE FOLLOWING:
1. CONNECTIONS ARE REQUIRED AT EACH LOCATION WHERE ANY PIPES (65mm OR LARGER) PENETRATE OR PASS BENEATH OR THROUGH THE EXTERNAL FOOTING BEAMS
 2. TWO EXPANSION JOINT CONNECTORS ARE REQUIRED, AS DETAILED ABOVE, AT EACH CONNECTION
 3. THE DENSO TAPE MUST BE SPRINKLED WITH COPPER SULPHATE CRYSTALS PRIOR TO WRAPPING & MUST EXTEND 50mm BEYOND THE JOINT ON BOTH SIDES
 4. DETAILS ARE APPLICABLE TO SEWER AND STORMWATER PIPES
 5. FOR ADDITIONAL REQUIREMENTS (IE. LOCATION AND SPACING), REFER TO THE NATIONAL PLUMBING AND DRAINAGE CODE AS 3500

**FLEXIBLE SERVICE CONNECTION DETAIL FOR CLASS
H1, H2, E OR P SITES STORMWATER & SEWER**
NTS

ADELAIDE HILLS COUNCIL
RECEIVED: 6/10/2020



SCALES	AS SHOWN
DATE	09-2020
DRAWN	LGP
CHECKED	JCB
TITLE	CIVIL DETAILS
ADDRESS	34 (LOT 391) FERN HILL ROAD BRIDGEWATER, SA

 <div>tesseract international</div>		Tesseract International Pty Ltd 111 Conyngham Street, Frewville, SA 5063 T +61 8 8362 8860 E enquiries@tesseract.com.au ABN 65 605 897 596 Website: www.tesseract.com.au	
consulting engineers building designers			
CLIENT	LLOYD BUILDING SOLUTIONS		JOB # 20-453
PROJECT	PROPOSED RESIDENCE		SHEET # C101 REV. 0



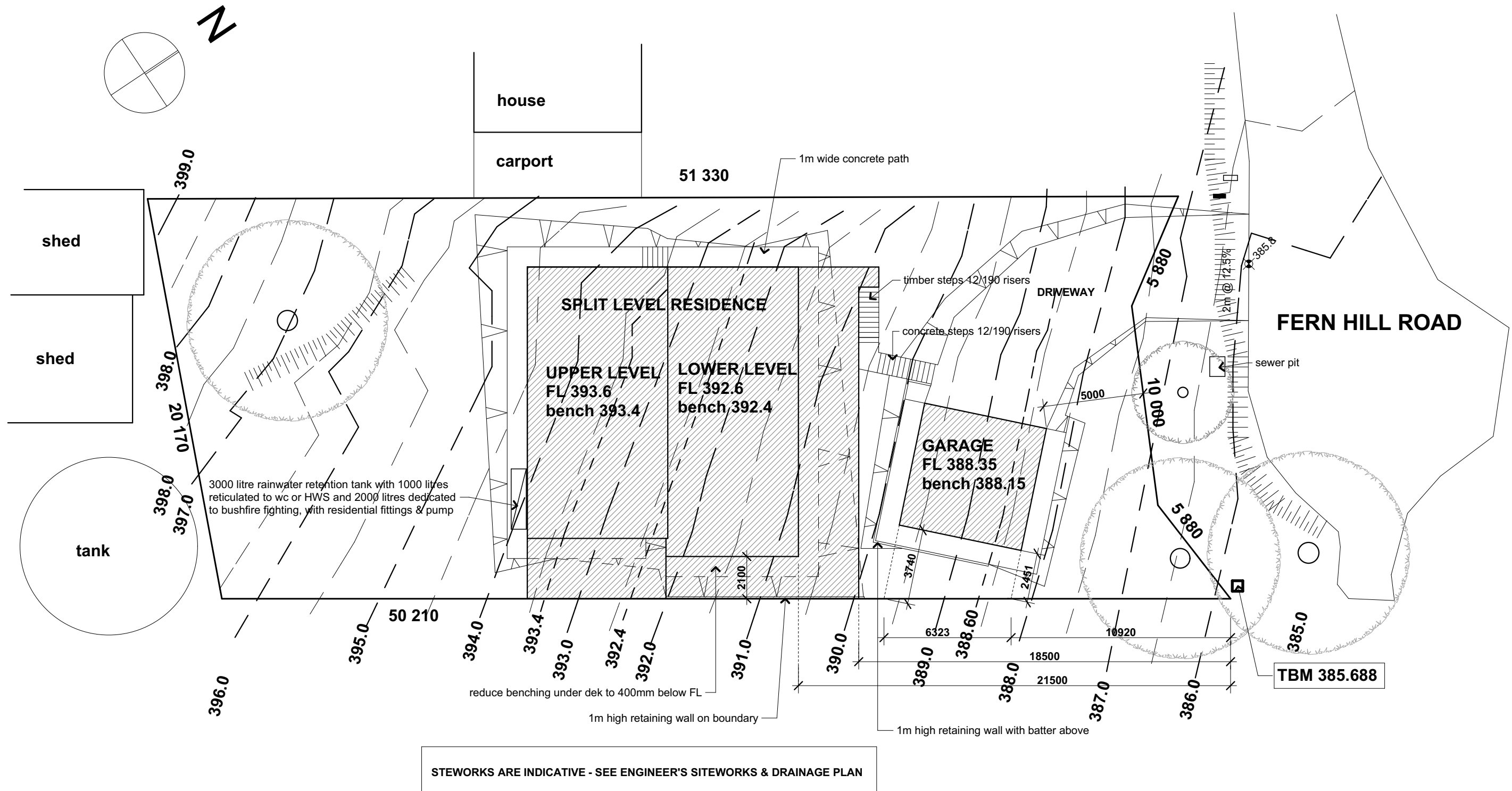
ADELAIDE HILLS COUNCIL
RECEIVED: 6/10/2020

Issue	Amendment	Date
<div><div><div></div></div><div><div>Lloyd Building Solutions</div><div>Pty Ltd</div><div>LIC No. BLD 257473</div><div>PO BOX 3125, NEWTON, SA 5074</div><div>Mob 0411 222 708</div><div>email: ian@lbsolutions.net.au</div></div></div>		
<div>PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA</div>		
<div>drawn ERIC SMITH & ASSOCIATES PTY LTD</div>		
Date 02-Oct-20	Sheet No. 1	Issue



ADELAIDE HILLS COUNCIL
RECEIVED: 6/10/2020

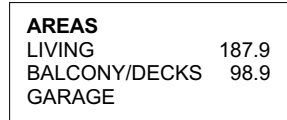
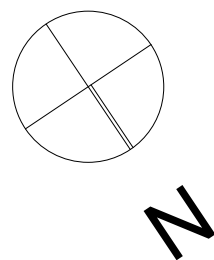
 Lloyd Building Solutions Pty Ltd LIC No. BLD 257473 PO BOX 3125, NEWTON, SA 5074 Mob 0411 222 708 email: ian@lbsolutions.net.au		
PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA		
drawn ERIC SMITH & ASSOCIATES PTY LTD		
Date 02-Oct-20	Sheet No. 1A	Issue



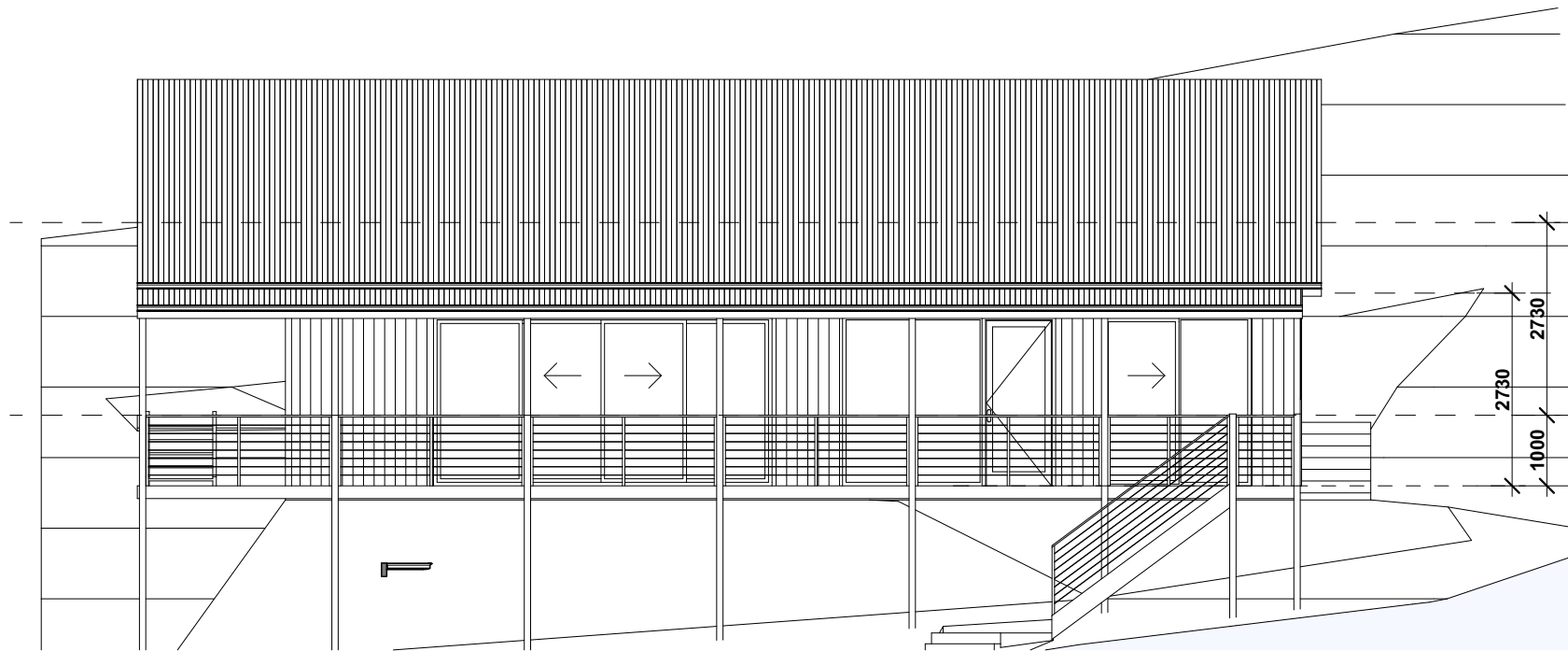
2

SITE PLAN
1:200

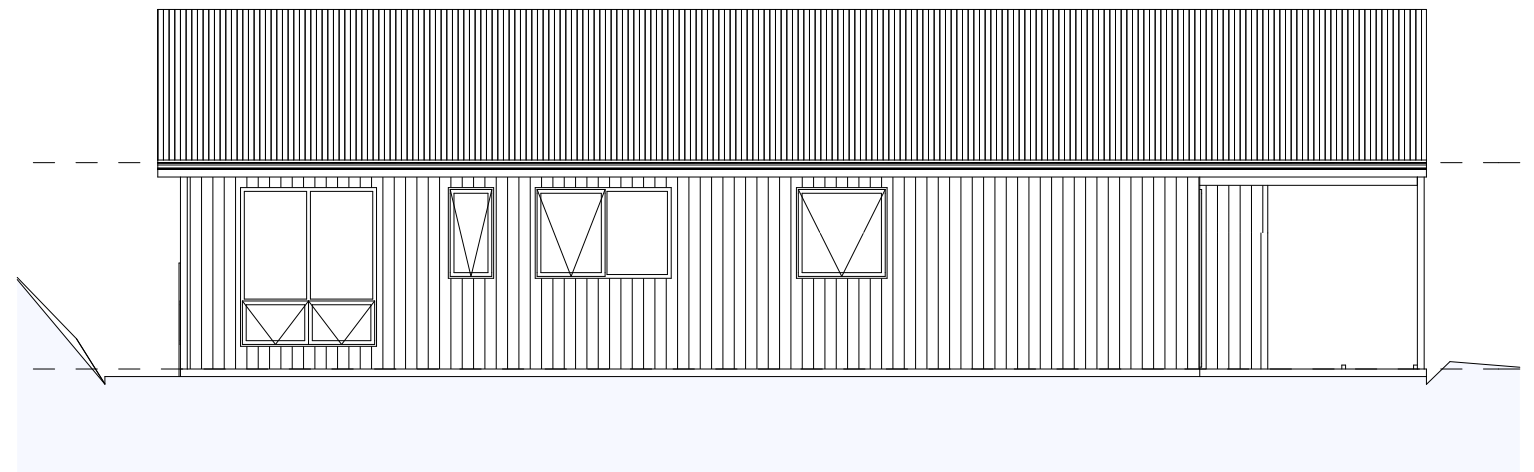
	Lloyd Building Solutions Pty Ltd LIC No. BLD 257473 PO BOX 3125, NEWTON, SA 5074 Mob 0411 222 708 email: ian@lbsolutions.net.au	
	PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA	
drawn ERIC SMITH & ASSOCIATES PTY LTD		
Date 02-Oct-20	Sheet No. 2	Issue



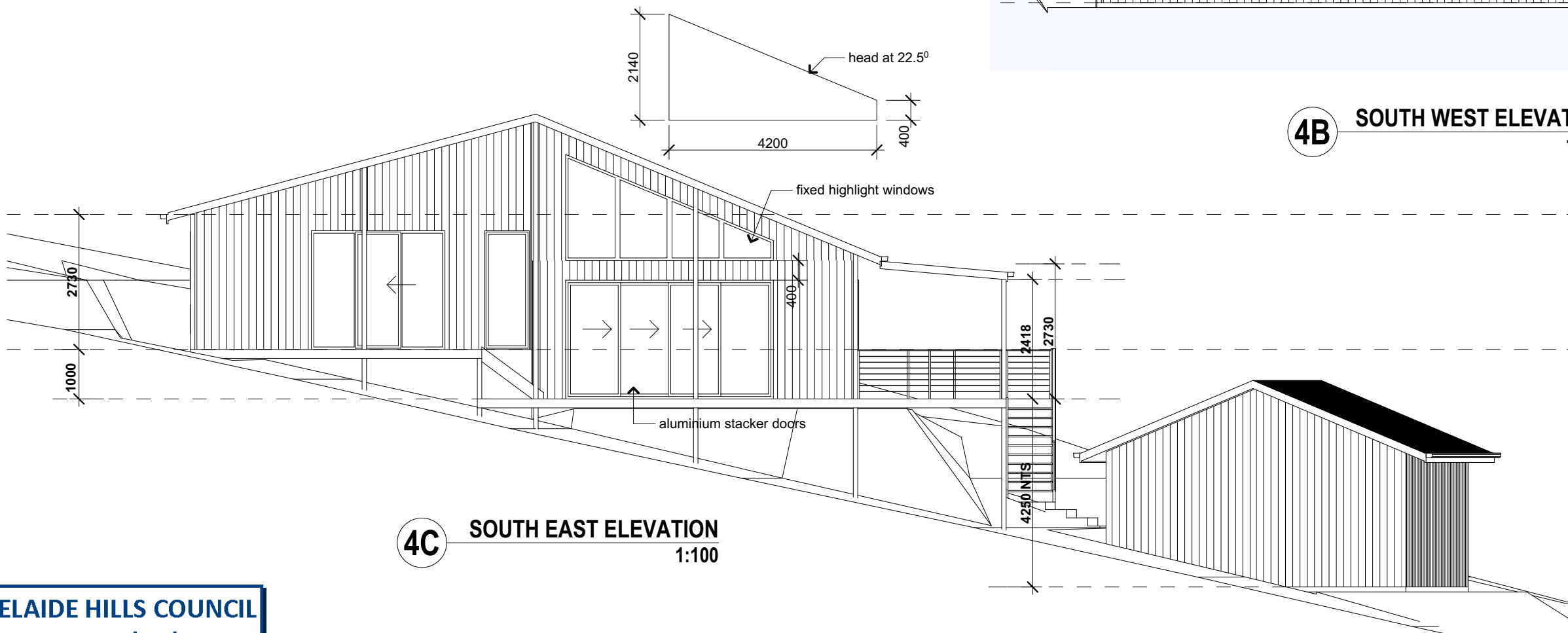
ADELAIDE HILLS COUNCIL
RECEIVED: 6/10/2020



4A NORTH EAST ELEVATION
1:100

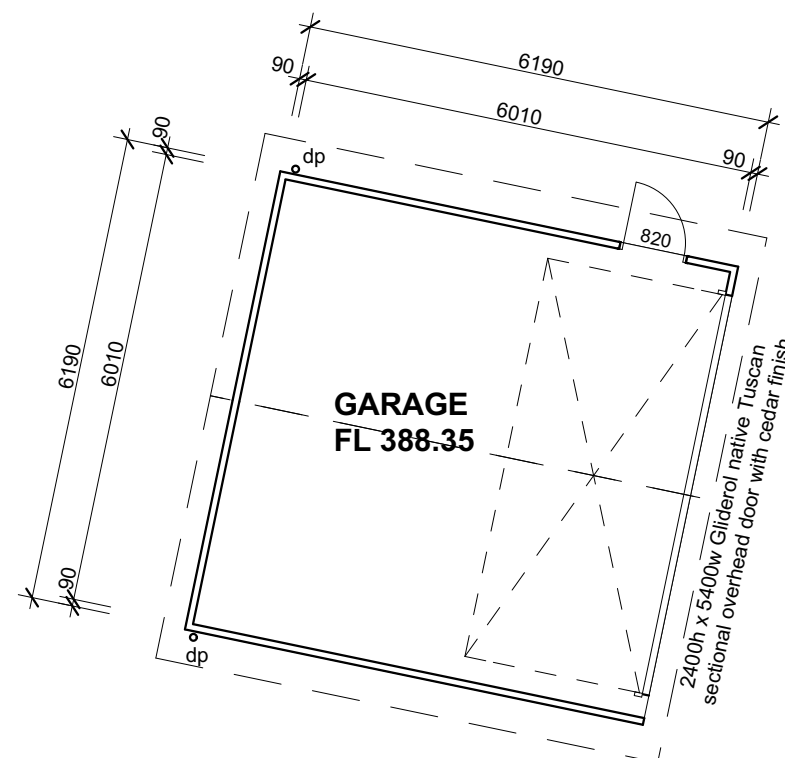
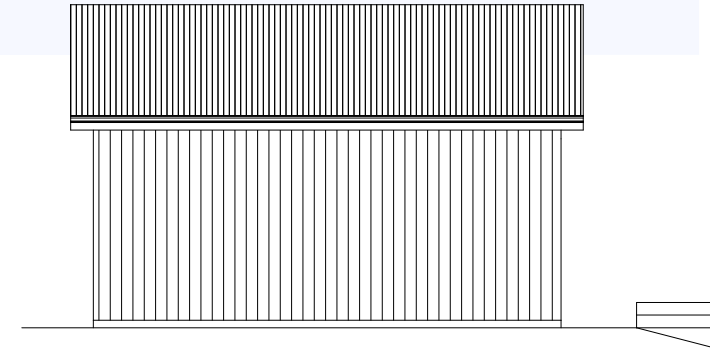
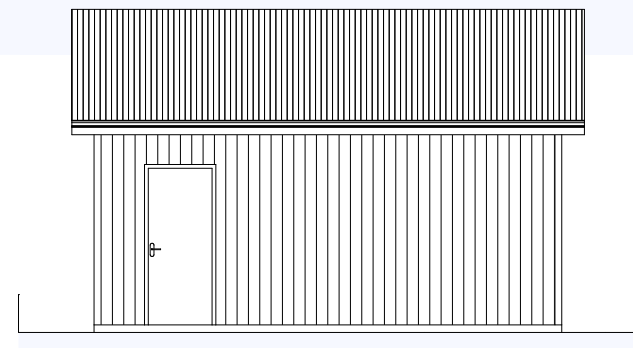
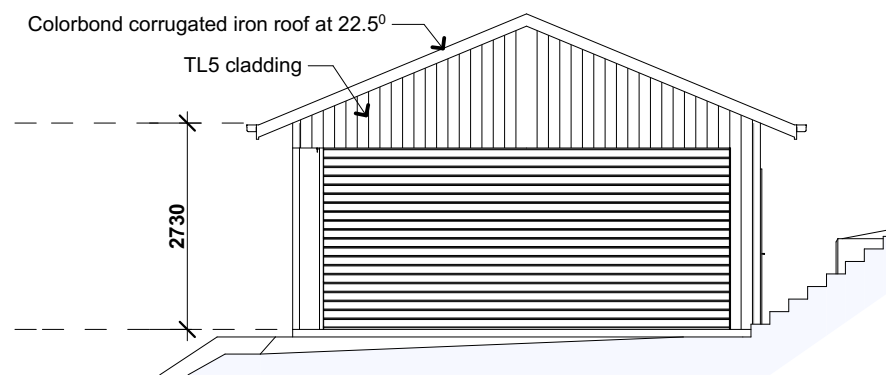
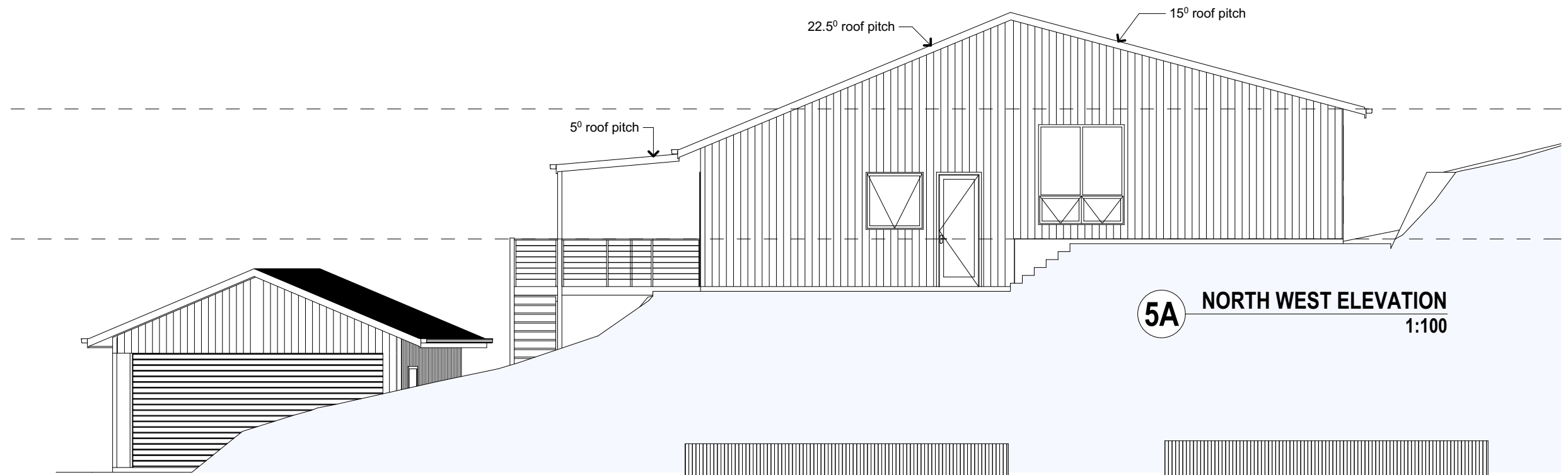



4B SOUTH WEST ELEVATION
1:100



4C SOUTH EAST ELEVATION
1:100

 Lloyd Building Solutions Pty Ltd LIC No. BLD 257473 PO BOX 3125, NEWTON, SA 5074 Mob 0411 222 708 email: ian@lbsolutions.net.au		
PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA		
drawn ERIC SMITH & ASSOCIATES PTY LTD		
Date 02-Oct-20	Sheet No. 4	Issue



Issue	Amendment	Date
 Lloyd Building Solutions Pty Ltd LIC No. BLD 257473 PO BOX 3125, NEWTON, SA 5074 Mob 0411 222 708 email: ian@lbsolutions.net.au		
PROPOSED RESIDENCE AT 34 (LOT 391) FERN HILL ROAD, BRIDGEWATER FOR B. LLOYD & J. BALA		
drawn ERIC SMITH & ASSOCIATES PTY LTD		
Date 02-Oct-20	Sheet No. 5	Issue

Lloyd Building Solutions Pty Ltd

ABN 15 331 985 989

BLD LIC No: BLD 257473

Po Box 3125

Newton SA 5074

Mob: 0411 222 708 Email: ian@lbsolutions.net.au

Att. Planning Department – Ashleigh Gade
Adelaide Hills Council
Via Email: agade@ahc.sa.gov.au

5th November 2020

Dear Ashleigh,

**Re: - External Colour Scheme for Proposed Single Storey New Dwelling – Lot 391, No 34 Fern Hill Rd
Bridgewater SA 5155**

Find the indicated external color scheme below for this property:

Roof:	Night Sky colourbond corrugated
Gutters Fascias/Barges:	Night Sky colourbond
Downpipes:	PVC painted to match mounting surface – Night Sky
Windows:	Matt Black Ultra powder coat
Garage Door:	Gliderol Tuscan Merbau colour panel glide
External Cladding:	Night Sky Colourbond corrugated
Decking:	Ekodeck Leatherwood colour (BAL 29 boards within 300mm of doors)
Verandah Posts:	Night Sky painted to match
Balustrade:	Night Sky powdercoat posts with stainless wiring

I trust this satisfies your requirements at this stage.

Yours Faithfully

Ian Lloyd

Ian Lloyd
General Manager

Native Vegetation Review

Number 25 Fern Hill Road - Bridgewater

Native Vegetation Accredited Consultant - Wayne Brown
29/01/2019

This report provides a review of any possible native vegetation impacts in the event a house is built on the allotment.

Prepared for:

Mr Neil Page
18 Sheridan Court
Mt Barker 5251
E: robneil@internode.on.net
M:0499 550 129

Report Prepared by:

Wayne Brown
Principal Environmental Consultant
For Environments by Design Trust
PO Box 62
Bridgewater SA 5155

Office Contact

Environments by Design Team
Message: (08) 8339 5528
Mobile: 0408 813 628
Email: wayne@environmentsbydesign.com.au

Disclaimer

Any advice or information contained in this report has been prepared solely for the use of the project and should not be provided to any other party (in whole or in part) without the prior written consent of the Manager, Environments by Design. No responsibility to any third party is accepted as the report has not been prepared, and is not intended, for any person other than those involved in the project. Environments by Design consultants or sub consultants will not be responsible for the effect upon the accuracy, completeness, currency or reliability of the proposal of any material or information supplied to Environments by Design by the project representatives or any other party.

Contents

Task	4
Analysis	5
Site Vegetation Structure.....	6
Additional Site Notes	6
Potential Impacts - Tree Numbers	7
High Fire Risk Issues	7
Map of potential impact area	8
Overview Site Photos	9
Potential Impacted Tree Photos	11
Native Vegetation Act & Regulations.....	13
Review Outcome	13
References	14
Attachment 1- Data Sheet	15

Task

To analyse the potential impacts on native vegetation associated with a possible house site and access on a division of allotment 25 Fern Hill Road Bridgewater South Australia.

Location Map

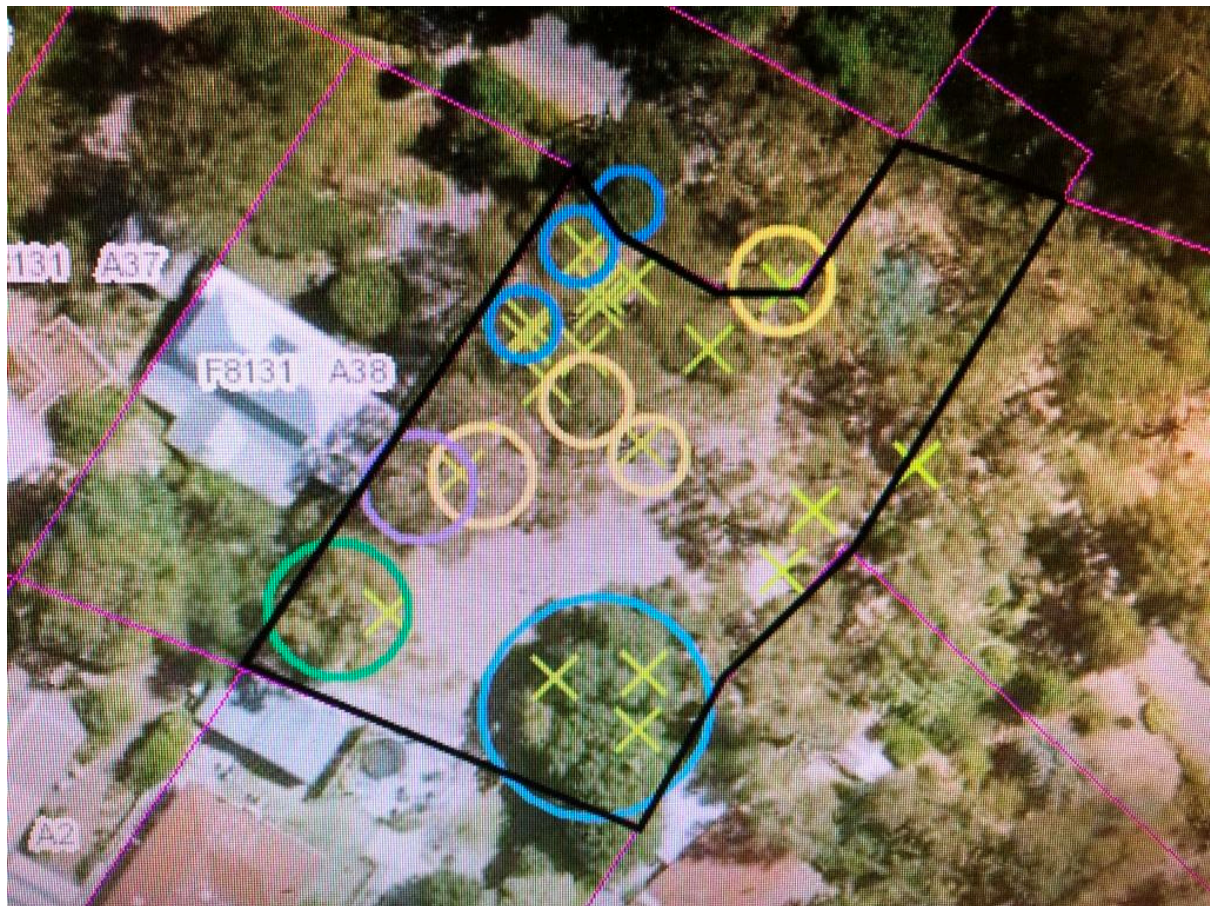


Analysis

Three reviews of this site by Native Vegetation Accredited Consultant have occurred on 23/11/2018, 15/12/2018 and 25/01/2019 reflecting the issues associated with planning boundaries and the Native Vegetation Act and associated regulations.

NOTES

- The site reviewed is highly modified and **does not** represent an intact stratum.
- Some introduced trees are present on the site.
- Ground layer is a mix of native grasses, small species and exotics grasses, highly modified.



Key to site

- (Blue Circle) - Introduced trees (NOT local native species)
- (Green Circle) - Regulated tree *Eucalyptus obliqua* with hollows (retain)
- (Purple Circle) - *Eucalyptus obliqua* within 10 m of neighbours - multi trunk rated significant
- (Yellow Circles) - Dead Trees
- X (Yellow) - GPS all trees @3m variance

Please refer to survey plan and site assessment data sheet (attachment 1) for further information.

Site Vegetation Structure

- a. The native Eucalyptus overstory is dominated by Eucalyptus obliqua (stringy bark) which is in medium to poor condition. Numerous stringy bark trees are dead or are showing signs of dieback, a possible sign of Phytophthora cinnamomi, common in the Bridgewater area.

Other trees at the site include:

- 1 Eucalyptus cosmophylla (Cup Gum).
- 1 Acacia longifolia (introduced).
- 1 Corymbia maculata.

- b. Middle level plants do not exist.

- c. Understory / ground cover consists of:

Native Plants*

- Microleana stipoides
- Rytidosperma species
- Lepidosperma species
- Juncus pallidus
- Lomandra sp
- Panicum sp

- d. Introduced *

- Dactylis glomerata
- Oxalis perennans
- Holcus lanatus
- Bromus sp
- Briza maxima
- Dactylis glomerata
- Holcus lanatus

*Please note

- A full biological survey was not conducted as part of this report.
- This is NOT a Native Vegetation Application to the NVC

Additional Site Notes

- a. The site is currently grazed by livestock (sheep).
- b. Some Eucalyptus obliqua trees are dead.
- c. Many of the Eucalyptus obliqua have signs of dieback which could indicate the presence of Phytophthora cinnamomi (not tested) which is common to the Bridgewater area.
- d. It is highly likely more Eucalyptus obliqua trees will die over the next few years.
- e. No native plant species listed under the NP&W Act or threatened community under the EPBC Act were observed.
- f. No trees with hollows would be designated for removal if a structure was built on the site.

Potential Impacts - Tree Numbers

A potential house structure and driveway is likely to effect 4 native trees that are currently alive, 3 native trees which are dead and 3 introduced species.

#	Botanical Name	Common Name	Native or Introduced	Dead or alive
2	Eucalyptus obliqua	Messmate Stringy Bark	Native	Alive
3	Eucalyptus obliqua	Messmate Stringy Bark	Native	Dead
4	Eucalyptus obliqua	Messmate Stringy Bark	Native	Dead
5	Eucalyptus obliqua	Messmate Stringy Bark	Native	Dead
6	Eucalyptus obliqua	Messmate Stringy Bark	Native	Alive
7	Eucalyptus obliqua	Messmate Stringy Bark	Native	Alive
8	Corymbia maculata	Spotted Gum	Introduced	Alive
11	Eucalyptus cosmophylla	Cup Gum	Native	Alive
12	Acacia longifolia	Long Leaf Wattle	Introduced	Alive
13	Fraxinus excelsior	European Ash	Introduced	Alive

Refer to field work data sheet in attachments.

High Fire Risk Issues

This allotment is found within a high fire risk area. As part of the site analysis it was observed that Tree 2 (alive) and tree 3 (dead) was within the prescribed distance of 10m from neighbouring structure.

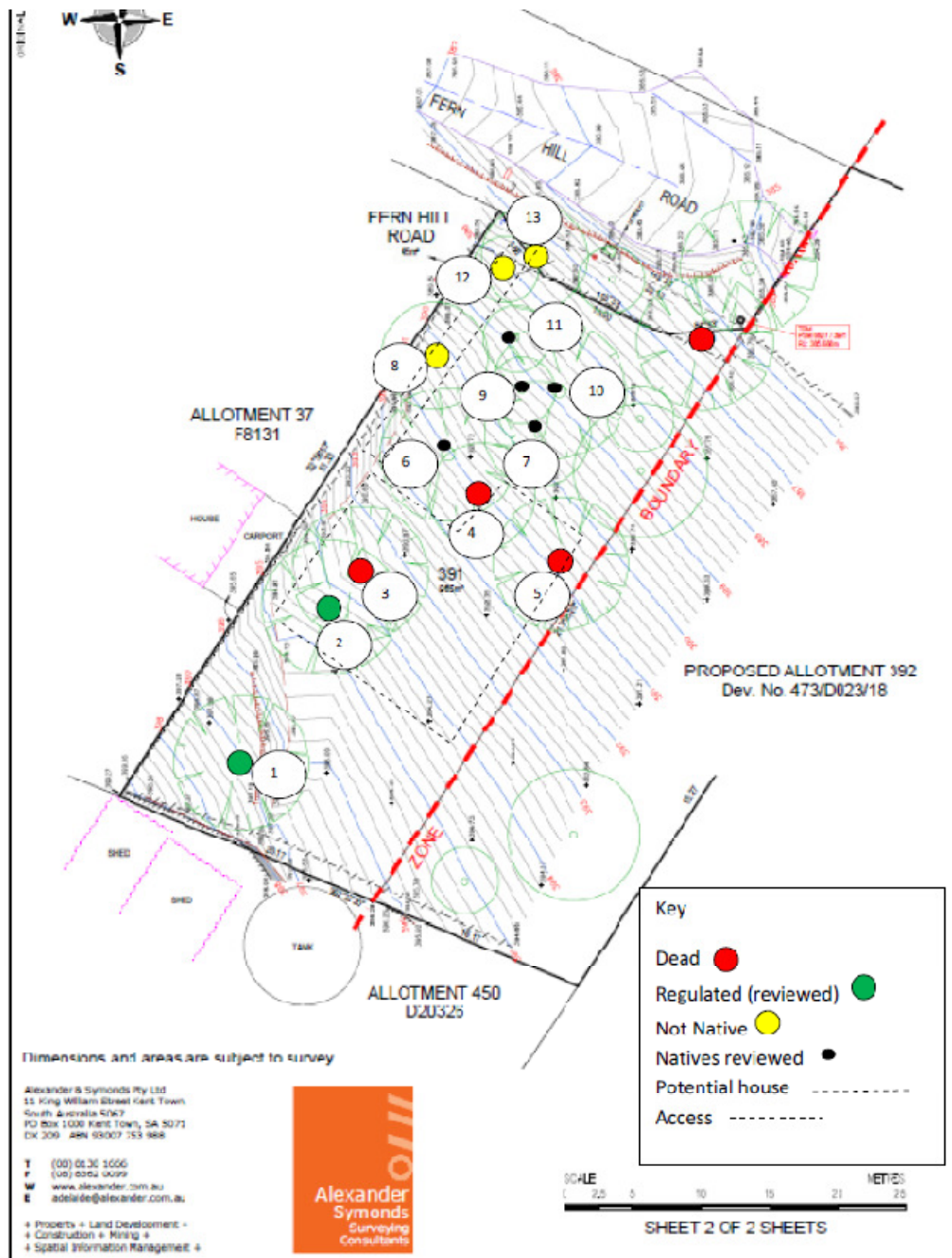
A review by CFS is recommended.



Photo W Brown -
2 trees close to neighbouring structure.

Tree 2 is multi trunked which makes it a significant tree. The addition of the tree stems records a circumference of 3.27m. Approval to clear by Adelaide Hills council may be required.

Map of potential impact area



Overview Site Photos



Photo W Brown -
Numerous trees
are dead or
showing dieback



Photo W Brown - Trees dead or showing signs of dieback

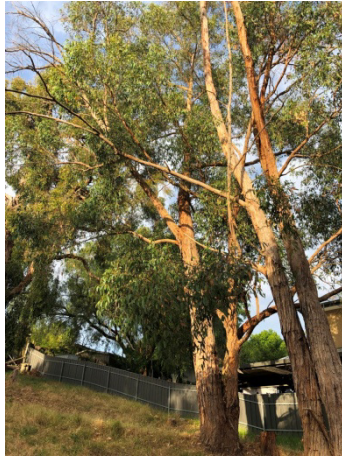


Photo W Brown -
Potential access is
part of CFS
turnaround created
through introduced
ash tree.

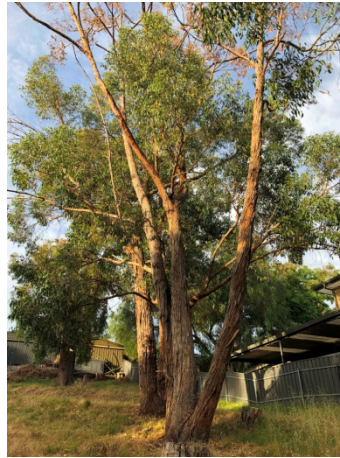


Photo W Brown -
Location footprint
of potential
structure.

Potential Impacted Tree Photos



Tree 2



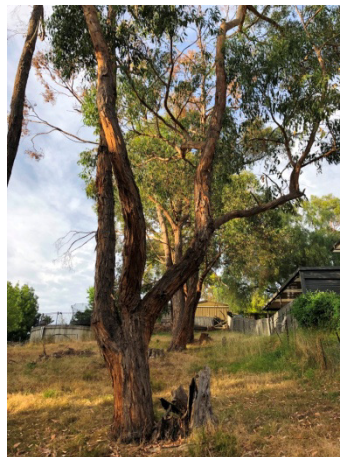
Tree 3



Tree 4



Tree 5



Tree 6



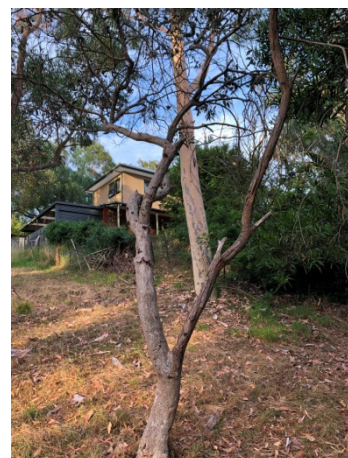
Tree 7



Tree 8



Tree 9



Tree 11



Tree 12



Tree 13 (proposed entrance)



Photo W Brown -
Typical
groundcover - a
mix of native
plants and
introduced species

Native Vegetation Act & Regulations

Given this is residential subdivision regulation 12 (35) would apply. This regulation will cover the house footprint, access track, fencing and CFS requirements.

Issues to consider during the assessment process;

1. The location of a potential structure (house) to avoid clearance of native vegetation where possible .
2. The footprint of the potential structure.
3. CFS considerations.
4. Access from Fern Hill road to the structure.
5. Quality of the native vegetation found on the site
6. Any native plant species listed under the NP&W Act or threatened community under the EPBC Act.
7. Potential fauna species within 5km which are listed under the NP&W Act or threatened community under the EPBC Act.

Review Outcome

Under the Native Vegetation Regulations it would be possible to build and approved house giving consideration to regulation 12 (35) after relevant consent has been approved under the Development Act 1993 given:

Discussion

1. The identified and proposed house site avoids the clearance of intact native vegetation.
2. The vegetation reviewed on site is mostly in poor condition.
3. The structure could be configured to suit the site to avoid excessive clearance.
4. Two native tree would be directly impacted on by the proposal.
5. The removal of trees along the boundary reflect the CFS regulations within a high bushfire area.
6. The access to the site contains species which are not listed under the NP&W Act or threatened community under the EPBC Act.
7. No listed fauna species under the NP&W Act or threatened community under the EPBC Act are impacted by the making of the access track.

Conclusion

There is no reason an application for clearance would be rejected.

Future owners of the allotment would require a full Native Vegetation assessment and application to the Native Vegetation Branch for approvals.

References

- Protecting Regulated and Significant Trees; DPTI; November 2011.
www.sa.gov.au/topics/planning-and-property/land-and-property-development/building-and-property-development-applications/regulated-and-significant-trees
- Native Vegetation Accreditation Manual 2017; Native Vegetation Management Unit.
www.environment.sa.gov.au/topics/native-vegetation/legislation-administration

Attachment 1- Data Sheet

SCATTERED TREE SURVEY - Site assessment Data													
					Date	Day	Month	Year			Total # trees:	See report	
Applicants Name - Neil Page						25	1	2019					
Observer/s:					Wayne Brown			Regeneration present Y/N:			No		
Site Name or Id					25 Fern Hill Road Bridgewater								
Tree #	Photo #	WGS 84 way-point	Die-back %	Species	Ht (m)	Diam	Circ	Hollows			Canopy diam (m)	Mistle-toe % canopy total	Other
								# S	# M	# L	(optional)	(optional)	COMMENTS
1	A	235	20%	Eucalyptus obliqua	13	0.88	2.75	2		1		No	REGULATED
2	B	234	5%	Eucalyptus obliqua	13	1.04	3.27					No	SIGNIFICANT / MULTI TRUNKS
3	C	233	100%	Eucalyptus obliqua	13	1.31	4.10					No	DEAD / MULTI TRUNKS
4	D	232	100%	Eucalyptus obliqua	13	0.35	1.05					No	
5	E	231	98%	Eucalyptus obliqua	9	0.76	2.40					No	
6	F	230	15%	Eucalyptus obliqua	13	0.56	1.80					No	
7	G	229	10%	Eucalyptus obliqua	14	0.32	1.00					No	
8	H	228	0	Corymbia maculata	14	0.46	1.45					No	Non Native
9	I	227	10%	Eucalyptus obliqua	14	0.25	0.80					No	
10	J	226	10%	Eucalyptus obliqua	14	0.66	2.10					No	
11	K	225	90%	Eucalyptus cosmophylla	4	0.09	0.30					No	
12	L	224	0	Acacia longifolia	Not recorded							No	Introduced
13	M	223	0	Fraxinus excelsior	Not recorded							No	Introduced

