



**REPORT**

**Amendment C241wsea - Shenstone Park Precinct  
Structure Plan: Extractive Industries - Matter: 940371**  
*Expert Witness Report*

Submitted to:

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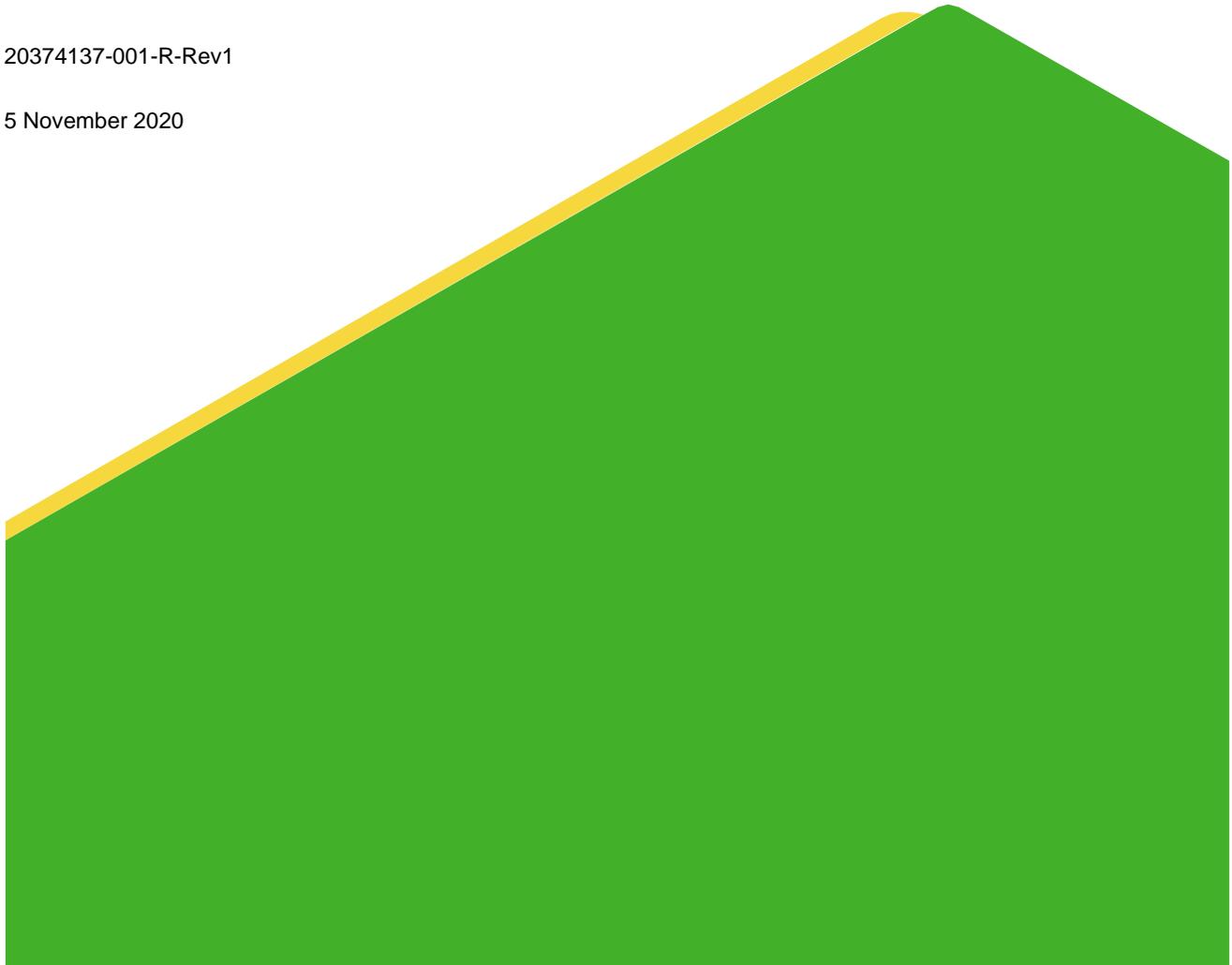
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## 1.0 INTRODUCTION

- 1) My name is Garrett Christopher Hall. I hold the position of Principal Environmental Scientist and am an Associate at Golder Associates Pty Ltd (Australia) (Golder) an environmental and engineering consultancy firm. I am located in Golder's Melbourne office, Building 7, 570 – 588 Swan Street, Richmond, Victoria, and I have been employed by Golder since December 2009.
- 2) I have been asked by Barro Group Pty Ltd (**Barro Group**) to provide evidence in respect of state and local government policies regarding extractive industries and potential policy and operational implications and considerations as these relate to the Woody Hill and Phillips Quarries (as further defined in Paragraph 7).
- 3) My area of expertise for this hearing is my understanding of the overarching policy and statutory framework for the development and approval of extractive industries in Victoria and the application of the statutory framework under the Victorian *Environment Protection Act 1970* (the **EP Act**) as it relates to the proposed separation distances and the protection of the environment, inclusive of amenity, and the continued access to extractive industry resources.

### 1.1 Qualifications and Experience

- 4) I hold the qualification of Bachelor of Science (Environmental) Honours and Masters of Environmental Science, both obtained from Monash University, Melbourne.
- 5) Prior to joining Golder I was employed by the Environment Protection Authority Victoria (**EPA**), other environmental consultancies and in academia and have 19 years' experience in the environmental industry. During my employment with EPA I worked extensively on policy development and implementation encompassing industrial planning and assessment, compliance, policy development and stakeholder engagement. I held senior management-level roles both in the policy development and operational areas. I have experience in assessing environmental performance and impact and associated strategies for effective management of statutory obligations in industrial operations, land development and infrastructure development.
- 6) Whilst employed with Golder I have undertaken assessments regarding development proposals where separation distances have been considered for a range of industrial operations including quarrying, waste management, general industrial areas and food production.

### 1.2 Scope of Evidence

- 7) In my evidence I have been briefed by Barro Group to provide an expert witness report in relation to the following:
  - a. State and local government policies relevant to extractive industries, generally or within the northern growth corridor;
  - b. The status of the Woody Hill Quarry and the Phillips Quarry in the context of strategic planning within the north growth corridor;
  - c. The relationship between the Woody Hill Quarry and the Phillips Quarry and their operational requirements from a planning perspective;
  - d. Whether and, if so, how the ability to extract the resource in the Woody Hill Quarry and the Phillips Quarry and their operational requirements should be protected through the Amendment;
  - e. Whether any changes are required to the Amendment; and

- f. A response to relevant submissions.

## 2.0 BACKGROUND INFORMATION THAT HAS BEEN RELIED UPON

- 8) In preparing evidence for this Proposal I have read background information and supporting documents associated with the Shenstone Park PSP, as prepared and exhibited by the Victorian Planning Authority (the **VPA**). I have also been provided with and read background briefing information regarding Barro Group's existing and proposed operation of the Woody Hill and Phillips Quarries, including its submission to the VPA in relation to the Shenstone Park PSP.
- 9) Specifically, I have relied on the information included in Barro Group's submission to VPA (submission 24) and the response made on Barro Group's behalf, dated 2 October 2020, to Directions 6 and 7 of the Panel, to provide the basis of my understanding of its existing and proposed operation of the Woody Hill and Phillips Quarries in the context of the Shenstone Park PSP.
- 10) I have reviewed and considered the advice contained within the 2017 GHD report titled, '*Impact Assessment Report for the Shenstone Park Precinct Structure Plan*', and its 2019 addendum, as exhibited with the Shenstone Park PSP (the **GHD Reports**).

## 3.0 STATE AND LOCAL GOVERNMENT POLICIES RELEVANT TO EXTRACTIVE INDUSTRIES

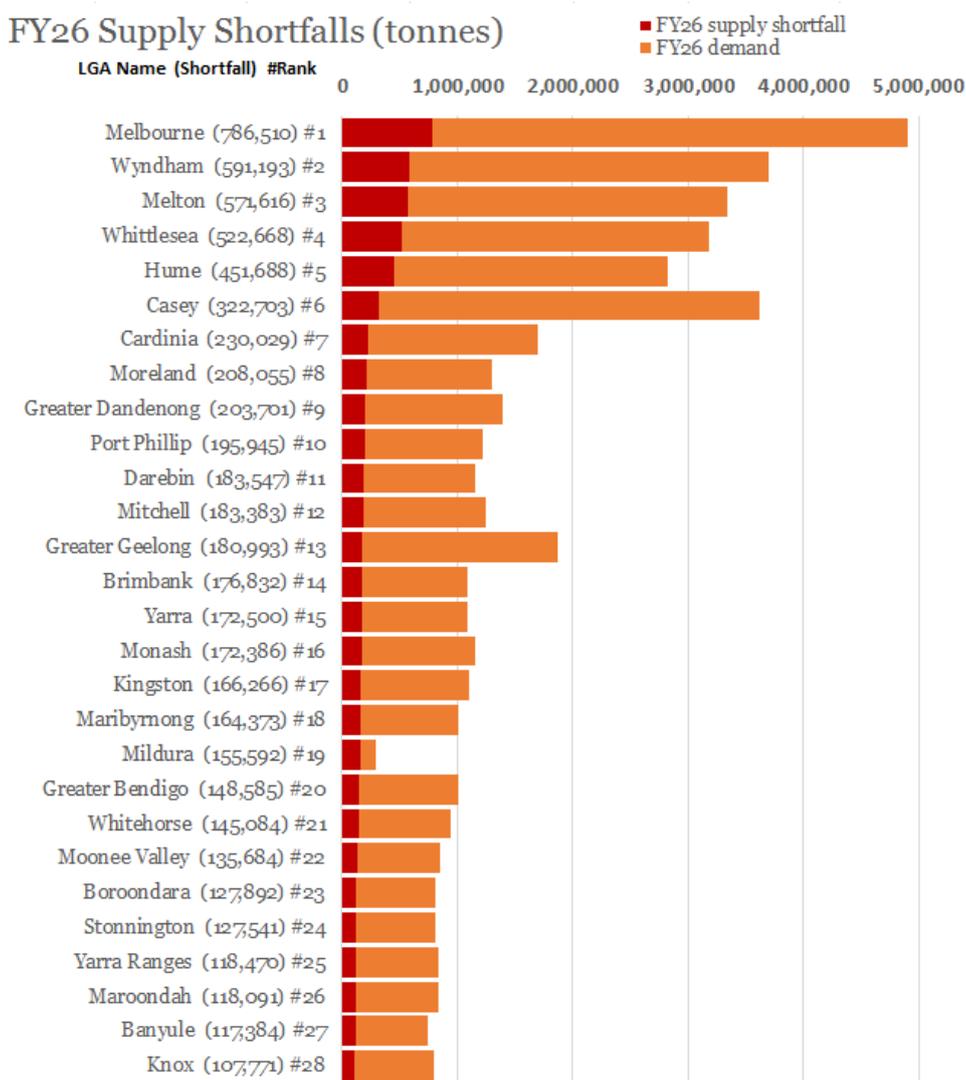
- 11) The Victorian state government has recognised the importance of identifying and providing efficient access to extractive industry resources proximal to demand, with this reflected in studies and policies applied across the state.
- 12) In 2016 the then DEDJTR commissioned Pricewaterhouse Coopers (PwC) to prepare a '*Demand and supply study of extractive resources in Victoria, 2015-2050*' (PwC, 2016). This study reported demand for extractive (stone) resource products, which include the mudstone and basalt (hard rock) produced and intended to be produced at the Woody Hill and Phillips quarries, remains very strong, driven by a substantial increase in infrastructure and land development in Melbourne. As described below, there is state government and policy recognition of the need to safely and efficiently access these resources and supply these to the local market in order to support housing and infrastructure development across Melbourne, and particularly within growth corridors such as the northern growth corridor encompassing the Shenstone Park PSP area.

### 3.1 Supply and Demand for Resources

- 13) Across Melbourne there is a substantial growth in investment for infrastructure development that is correlating with an increase in demand for the products of extractive industries. Demand for concrete and building and construction materials has placed pressure on extractive resources across Melbourne, and while material to supply this growth can be sourced outside metropolitan Melbourne, this presents a substantial cost to development, with the costs associated with transporting material significantly adding to the cost of supply. In this regard PwC (2016) note that:

*"Given the large mass of extractive resources demanded compared to their value, transportation costs between sources of extractive resources and locations of use are large cost elements in the resource supply chain. Accordingly, quarries are often located in relatively close proximity to customers. While much larger transport distances are not uncommon, quarries typically service demand within 100km."*

- 14) PwC (2016) reported projected cumulative hard rock (which includes sedimentary mudstone and igneous basalt) resource production shortages of 43,168,216 tonnes from 2015 to 2050 in the Whittlesea municipality, one of seven Local Government Areas (LGAs) identified by the VPA as an Urban Growth Area.
- 15) Whittlesea is ranked as the fourth most supply challenged LGA in the state, with an annual hard rock supply shortfall of approximately 500,000 tonnes by 2026 (see plate 1 below).



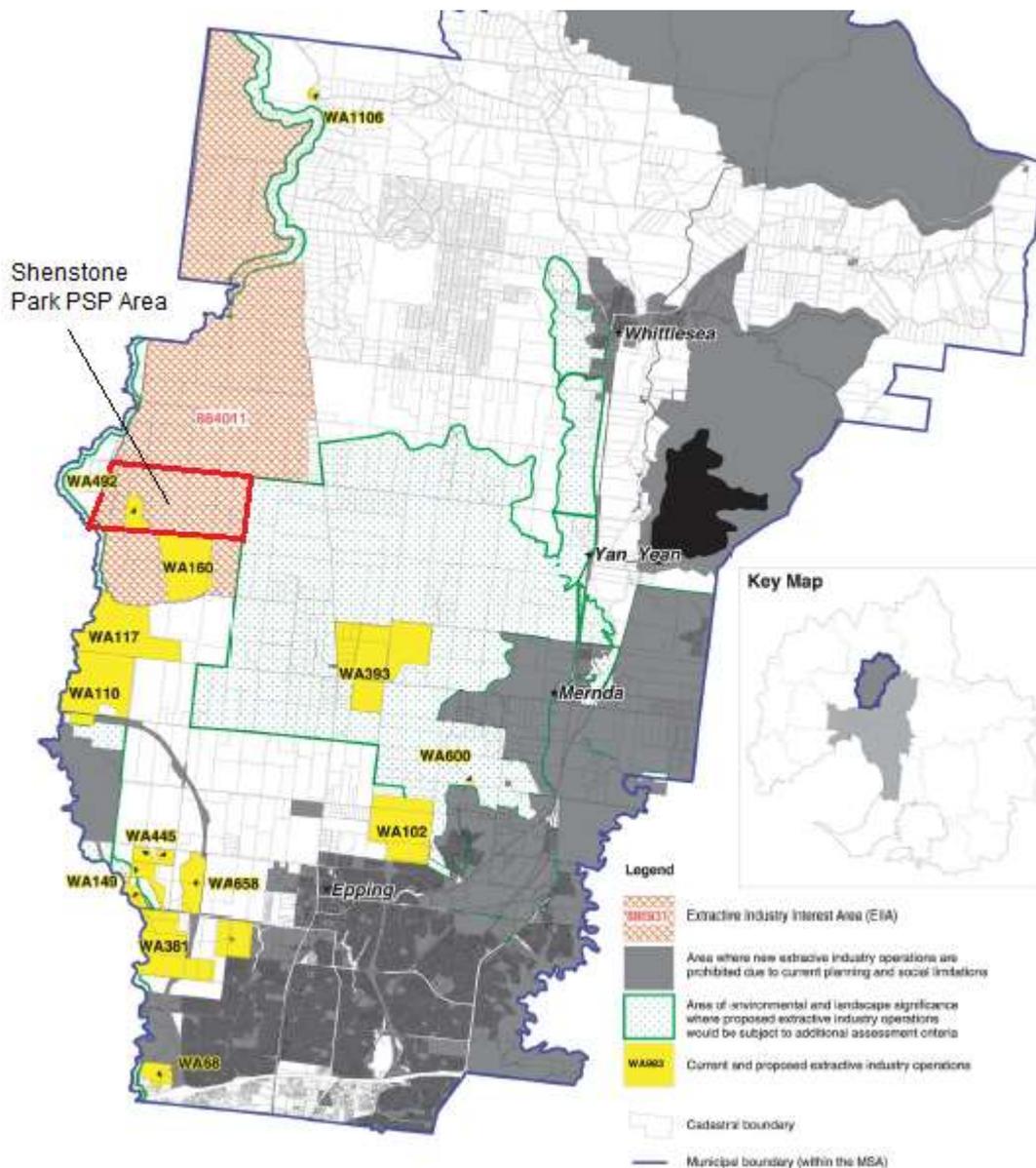
**Plate 1: Identified potential 2026 supply shortfalls by municipality. Source: PwC, 2016**

- 16) The PwC (2016) study also projected shortfall in supply of hard rock resources, such as those extracted at the Woody Hill Quarry, and what may be extracted from the Phillips Quarry, suggesting that these extractive resources will remain in demand through the 2026-2050 study period. Accordingly ERR predict that 89% more quarry resources will be required for construction state-wide by 2050 to meet this shortfall in supply (PwC, 2016).
- 17) The substantial shortfall in projected supply in Whittlesea suggests that there is, and will be, demand for new extractive resources, and particularly hard rock resources, within the municipality and broader Melbourne. The supply projections described above indicate that existing Work Authorities will not be able to meet demand based on their existing approved footprints and there is therefore need to protect

existing permitted extractive resources within the municipality. It is my recent experience that proceeding through the approvals processes required for establishing a new Work Authority can take five years or more. Therefore, to meet the immediate supply challenges in Whittlesea and the broader northern growth corridor, those resources with existing approvals need to be able to continue to provide product to the market to service projected demand.

### 3.2 Government Policy and Strategic Resource Areas

- 18) PwC (2016) recognises that the the Whittlesea municipality, and the area within and immediately surrounding the Shenstone Park PSP area specifically, contains extractive resources that are in demand to support residential, commercial and infrastructure development across the State, but particularly across Melbourne. There is currently supply pressure on existing extractive resource supply, particularly hard rock sources, and quarry operators across Melbourne are looking to expand their production capacity through quarry extensions and new quarry developments.
- 19) The Geological Survey of Victoria (GSV, 2003) notes in, '*Melbourne Supply Area – Extractive Industry Interest Areas*' (the **EIIAs**) that hard rock is " *durable and strong and is used in building and road construction. Explosives are necessary to break up the raw material prior to further processing. Hard rock extracted in the Melbourne region comprises basalt, hornfels, granite, rhyolite and rhyodacite. Melbourne is fortunate in having large deposits of hard rock situated in the North/West Region around Werribee, Melton and Whittlesea, Healesville and Yea and in the Eastern Region around Berwick and Pakenham.*"
- 20) The Whittlesea City EIIA is recognised in GSV (2003) as being a substantial supply source for basalt, scoria and sedimentary rock (mudstone), as well as clay. While GSV (2003) note the presence of 11 endorsed extractive industry tenements in the City of Whittlesea, the Whittlesea City EIIA is confined to the north west portion of the LGA, within which the only endorsed extractive industry tenements are the Woody Hill and Phillips quarries. The Whittlesea City EIIA provides advantages in resource extraction and supply by having good transport access to the Hume Highway and Epping Road. The Whittlesea City EIIA includes both the Woody Hill Quarry and Phillips Quarry and covers the entire area of the Shenstone Park PSP area, as shown in Plate 2 below (GSV, 2003).



**Plate 2: Whittlesea City EIA adapted from GSV (2003) to show Shenstone Park PSP Area (Source: GSV, 2003)**

- 21) PwC (2016) stated that the majority of the demand for hard rock “is expected in central and fringe areas of Metropolitan Melbourne, driven by strong population growth projections. Key areas of future demand include Melbourne, Hume, Casey, Whittlesea and Wyndham.” Further, PwC (2016) state that, “identified critical locations for exhaustion of current and planned future hard rock reserves include Indigo, Whittlesea and Wyndham, along with areas of Victoria’s Inner South East. These exhaustions could result in cost increases in Greater Melbourne for construction activities that utilise hard rock as these resources are sought from further afield.”
- 22) PwC (2016) established a set of criteria (Strategic Resource Determination) to provide for the identification of strategically important extractive resource areas, namely:

**Table 1: Strategic Resource Determination Criteria (Source: PwC, 2016)**

Criteria	Comment
Threatened resource types	<p>Resources that are in short supply in the State relative to the level of projected demand (less than 5 years of supply from current and planned reserves).</p> <p>Identification of known locations of these resources has also been undertaken, where possible.</p> <p>This criterion has regard to the potential substitutability of resources in considering which particular extractive resources could be subject to strong price pressures in the future.</p>
Resource depletion	<p>Locations where supply is unable to meet demand due to exhaustion of reserves.</p> <p>Identifies locations in Victoria where supply is unable to match demand due to significant exhaustion of existing licensed reserves across the analysis period.</p> <p>This criterion points to locations where licensing of new resources will be required to replace exhausted assets, with potential implications for policies governing land use.</p>
Significant production	<p>Locations that produce significant volumes of extractive resources</p> <p>Identifies those locations that deliver large volumes of extractive resources across the analysis period.</p> <p>This criterion points to the Victorian locations which could be considered for protection of existing resources to support the State's development.</p>
Resources important to Melbourne	<p>Locations critical to supporting Greater Melbourne's future.</p> <p>Identifies those locations that are expected to deliver significant volumes of resource to Greater Melbourne (areas which supply at least 1% of their total supply to Melbourne).</p> <p>This criterion will identify those locations that could result in significant infrastructure cost increases in Melbourne should encroachment or sterilisation of extractive resources occur.</p>

23) PWC (2016) applied these criteria to extractive industry resources across the state, from which it identified the following Top 10 strategic resource municipalities, with these being:

1. South Gippsland
2. Greater Geelong
3. Mitchell
4. Knox

- 5. Cardinia
- 6. Yarra Ranges
- 7. Whittlesea**
- 8. Baw Baw
- 9. Wellington
- 10. Latrobe.

24) PwC (2016) notes that Whittlesea is expected to experience significant exhaustion of current and future planned reserves of hard rock with Work Authorities in place across the period 2015 to 2050, with a projected cumulative production shortfall of 43,168,216 tonnes. Existing reserves within the Woody Hill and Phillips quarries, and others in the region, are needed to meet demand, and additional hard rock (i.e. mudstone and basalt) quarries may be required in the Whittlesea City EIA to address the projected shortfall in supply. Currently the Woody Hill and Phillips quarries are the only two quarries nominated in the Whittlesea City EIA (GSV, 2003).

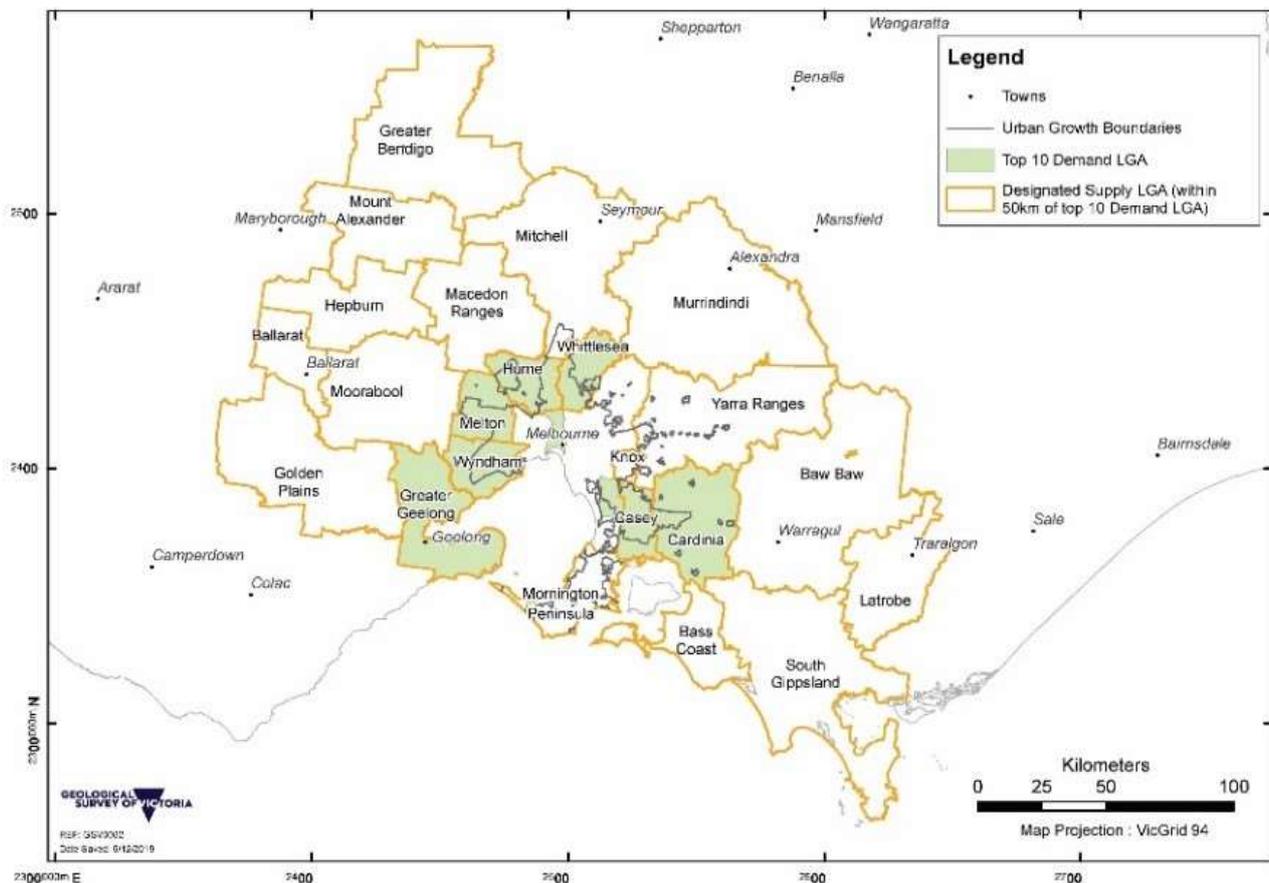
### 3.3 Joint Ministerial Statement on Extractive Resources

- 25) In recognising the strategic importance of stone resources the State government released its *Joint Ministerial Statement - Extractive Resources: Rock Solid Foundations for Victoria's Growth* (DEDJTR, 2018) (the **Joint Ministerial Statement**), which outlined its approach to deliver a better approach for land use planning and regulation that will secure the quarries we need to meet our growing needs.
- 26) Within the Joint Ministerial Statement the State government has committed to:
- a. *Streamline approval processes to expand production;*
  - b. *Protect the continuity of supply from existing quarries;*
  - c. *Apply the 'agent of change' principle to quarries;*
  - d. *Provide better guidance to industry and local government;*
  - e. *Identify and protect extractive resources of strategic importance; and*
  - f. *Reduce the environmental impact of quarrying and deliver landscapes for the community.*
- 27) The Joint Ministerial Statement recognises, "*an immediate priority is to address pressing supply constraints by streamlining planning and works approvals for existing quarries. Many existing quarries have capacity to expand but need variations to their planning permits or works permits.*"
- 28) I note that Work Authority WA492 for Woody Hill Quarry is existing, while WA6437 for Woody Hill Quarry and WA6852 for Phillips Quarry are pending the relevant statutory approvals. Nonetheless these are two such quarries with capacity to expand production, which are needed to meet the pressing supply constraints. Achieving the full capacity of Work Authorities WA492 and WA6437 for Woody Hill Quarry, and as sought for WA6852 for Phillips Quarry, will be necessary in addressing the shortfall in supply of extractive resources in the northern growth corridor, as identified by PwC (2016).
- 29) The Joint Ministerial Statement first introduced the concept of 'Hot List' quarry sites with the goal of halving current approval times for these quarries from 18 months to nine months to increase the short-term availability of supply to the market. The Barro Group's Woody Hill (Donnybrook) Quarry was

included in the 'Hot List' of quarry sites. This 'Hot List' has since been formalised as the 'Priority Project List', which is discussed further in paragraphs 30) to 35).

### 3.4 Priority Project List

- 30) Barro Group's Woody Hill Quarry (WA492) is included in the 'Priority Project List'. The Extractive Industry Priority Project List identifies quarry projects that will be given priority planning consideration with the goal of halving current approval times from 18 months to nine months.
- 31) ERR state that, "Existing quarries located in areas close to the highest demand for building raw materials may be included on the Priority List if they seek to expand production and need a planning permit. Generally, these include quarries located in local government areas in the 'designated extractive supply area' close to greater Melbourne and including the regional urban growth centres of Latrobe, Greater Geelong, Ballarat, and Greater Bendigo." These designated extractive supply areas and 'Top 10 Demand LGA's' are reproduced in Plate 3 below.



**Plate 3: Designated extractive supply areas and 'Top 10 Demand LGA's'.** Source: ERR, 2020

- 32) Whittlesea is included as a Top 10 demand municipality, within which the Barro Group quarries are located, and both within the Shenstone Park PSP area.
- 33) In terms of the advantages provided by inclusion of a quarry site on the Priority Project List, ERR state that, "in mid-2020 the Minister for Planning agreed that there is merit in calling in applications for Priority List quarries earlier in the application process to avoid potential delays, provide greater certainty to industry and also to support Councils process applications, especially during the COVID-19 pandemic and emerging from it. This means that rather than waiting for delays in the planning application process,

*as soon as a planning permit application for expansion of an eligible quarry is submitted to the relevant council the Minister for Planning has the option to ‘call in’ the application and decide the planning permit in place of the local council.”*

- 34) The Priority Project List is focused on approvals for expansions of supply from existing quarries by expediting the assessment and statutory approvals for Work Plan Variations associated with an existing quarry. In this regard the extension and Work Plan Variation for the Woody Hill Quarry (WA6437) is considered an extension to the existing Woody Hill Quarry (WA492) and is therefore on the Priority Project List.
- 35) The Phillips Quarry (WA6852), while previously having held a Work Authority, is considered a new application. As the Priority Project List is focused on expediting Work Plan Variation approvals associated with an existing quarry, rather than considering new Work Authority and Work Plan approvals, it is not immediately clear whether the Phillips Quarry may be considered a Priority Project. The Minister for Planning nonetheless is able to Call In planning applications for new quarries, “*where it is not subject to an Environmental Effects Statement, provided certain criteria are met*” (ERR, 2020). Regardless, this may be a moot point, as a planning permit from Council is already in place for the Phillips Quarry and therefore the Priority Project List’s ‘Call In’ provisions may not be required. It is nonetheless my view that Barro Group’s proposed operation of the Phillips Quarry is intrinsically linked to its operation of the Woody Hill Quarry, with processing infrastructure and access to Donnybrook Road proposed to be shared between the two quarries.

### 3.5 State Planning Policy Framework

- 36) The Victorian *Planning and Environment Act 1987* provides for the preparation of a set of standard provisions for planning schemes called the Victoria Planning Provisions (**VPPs**). The VPPs form a state-wide approach for planning schemes. Planning schemes set out policies and provisions for the use, development and protection of land for an area.
- 37) Of the various VPPs, the following are of direct relevance to extractive industries and their development and protection from encroachment by incompatible land uses. These specific VPPs are also reflected in the Whittlesea Planning Scheme (the **WPS**), which would be applied to the Shenstone Park PSP area.

#### 3.5.1 Clause 14.03-1S - Resource Exploration and Extraction

- 38) The objective of Clause 14.03 is “to encourage exploration and extraction of natural resources in accordance with acceptable environmental standards”.
- 39) Some of the strategies outlined in this clause are:
- a. Provide for the long-term protection of natural resources in Victoria.
  - b. Protect the opportunity for exploration and extraction of natural resources where this is consistent with overall planning considerations and acceptable environmental practice.
  - c. Ensure planning permit applications clearly define buffer areas appropriate to the nature of the proposed extractive uses, which are to be owned or controlled by the proponent of an extractive industry.
- 40) The WPS identifies the need to protect the long-term natural resources in Victoria and this has generally been reflected by the VPA in the Shenstone Park PSP.
- 41) In relation to Item c) in Paragraph 39) I understand that much of the area set aside as quarry buffer land in the Shenstone Park PSP is not owned, or in the control of Barro Group, as is the desire of this Clause.

While the preference for a quarry proponent to own, or have control over its separation distances is desirable and generally appropriate for a greenfield quarry development, in this instance we are considering existing quarries, which are currently bordered by compatible land uses on land that may provide its buffer. It is my view that the proposal to change land uses around the periphery of the quarries to more sensitive land uses, which may be considered incompatible with quarry operations, should accommodate the appropriate separation distances for the maintenance of amenity and public safety. To retrospectively apply these separation distances within the quarry tenement boundaries would adversely reduce the volume of the resources that may be extracted from the Woody Hill and Phillips quarries and further exacerbate the resource supply challenges identified by PwC (2016). It is my further view, subject to additional commentary I provide in Paragraphs 82) to 85), that the VPA has sought to accommodate these separation distances adequately and appropriately in the PSP.

### 3.5.2 Clause 52.09 Stone Extraction and Extractive Industry Interest Areas

42) The purpose of this clause is:

- a. To ensure that use and development of land for stone extraction does not adversely affect the environment or amenity of the area during or after extraction.
- b. To ensure that excavated areas can be appropriately rehabilitated.
- c. To ensure that sand and stone resources, which may be required by the community for future use, are protected from inappropriate development.

43) An application to use and develop land for stone extraction must be accompanied by:

- a. A copy of a Work Plan or a variation to an approved Work Plan that has received statutory endorsement under section 77TD of the *Mineral Resources (Sustainable Development) Act 1990*.
- b. The written notice of statutory endorsement under section 77TD(1) of the *Mineral Resources (Sustainable Development) Act 1990*.
- c. Any conditions specified under section 77TD(3) of the *Mineral Resources (Sustainable Development) Act 1990*.
- d. Clause 52.09-4 also states that the referral requirements of Clause 52.09-4 do not apply to an application to use and develop land for stone extraction if a copy of the Work Plan or a variation to the approved Work Plan was previously listed in Clause 66 under section 77TE of the *Mineral Resources (Sustainable Development) Act 1990*.

44) Barro Group's Woody Hill Quarry has ERR's statutory endorsement of Work Plans for both WA492 and WA6437. Barro Group has initiated the process to obtain approval of a new Work Plan for the Phillips Quarry under a new Work Authority WA6852, covering the same Work Authority boundary previously covered under Work Authority WA160.

## 4.0 THE STATUS OF THE WOODY HILL QUARRY AND THE PHILLIPS QUARRY IN THE CONTEXT OF STRATEGIC PLANNING WITHIN THE NORTH GROWTH CORRIDOR

### 4.1 Status of the Shenstone Park PSP area

- 45) The Barro Group land holdings comprises land within the Urban Growth Boundary, known as the Shenstone Park PSP area, and the *North Growth Corridor Plan* nominates the land as future urban.
- 46) The Shenstone Park PSP area is to the east of Kalkallo and extends to the east of the Sydney-Melbourne rail corridor, generally bound by Donnybrook Road to the north; the Wollert suburb boundary to the south; and, the Urban Growth Boundary to the east. The Shenstone Park PSP area is currently dominated by broad-acre agricultural land uses and existing extractive industry at the Woody Hill Quarry. Surrounding the Shenstone Park PSP area is a mixture of low-density residential development to the west (Kalkallo), extractive industry to the south and further broad-acre agricultural land uses across the balance of the broader region.

### 4.2 Status of the EIIA

- 47) Jacobs (2016) describes the purpose of an EIIA is to:

*“Identify land where stone extraction is likely to occur due to favourable geology and a lack of planning and environmental constraints.*

*The Melbourne Supply Area – Extractive Industry Interest Area Review outline that EIAs:*

- provide a basis for the long term protection of sand and stone resource by sterilisation by inappropriate land uses;*
- provide a basis for ensuring the long term availability of sand and stone resources for use by the community at minimal detriment to the environment;*
- assist in long term strategic planning that is being carried out by planning authorities;*
- ensure that planning and responsible authorities consult with all other agencies with regard to land use proposals within EIAs that may result in the reduction in sand and stone resources; and*
- create an awareness that extractive industry is a possible land use.*

*EIAs do not remove the need for planning approval for stone extraction or prevent land being used for other purposes.*

*EIAs have a degree of policy weight within the planning schemes. Clause 14.03 (Resource exploration and extraction) requires EIAs to be considered as policy documents and Clause 52.09-8 (Notice of an application) requires the giving of notice to the DEDJTR of certain planning permit applications which are made within EIAs.”*

- 48) It is recognised in GSV (2003) that the region within and around the Shenstone Park PSP area contains rock resources that are in demand to support residential, commercial and infrastructure development across the State, but particularly across Melbourne. As detailed by PwC (2016) there is currently supply pressure on existing hard rock sources and in response quarry operators across Melbourne are looking to expand their production capacity through quarry extensions and new quarry developments.

- 49) Hard rock quarries will generally apply blasting as part of its resource extraction methodology, with the resulting noise, vibration and air quality considerations requiring care in the siting and establishment of potentially sensitive land uses within proximity of these hard rock quarries. Within an EIIA some degree of priority is provided to the establishment and realisation of the resource extraction development over other potentially conflicting land use outcomes.
- 50) The Whittlesea City EIIA that overlies the Shenstone Park PSP area extends across a substantial portion of the north west of the Whittlesea LGA, as shown in Plate 2. The Whittlesea City EIIA includes the Woody Hill Quarry (within the PSP area) and the Phillips Quarry (immediately adjacent to the south of the PSP area). The EIIA designation provides no right to the resource but highlights the potential for future resource extraction development in and around the Shenstone Park PSP area.
- 51) *Planning Practice Note 89* (DELWP, 2020) outlines that development of new extractive industries is not a right under an EIIA, and any new development would be required to complete the normal statutory approval processes. Further, it details that within an EIIA it is required that a planning permit application to use or subdivide land or construct a building for accommodation; child care centre, education centre; or hospital must be given to the Secretary of the Department of Jobs, Precincts and Regions (DJPR) as the Department responsible for administering the *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act).
- 52) While the exhibited PSP does not accommodate other extractive industry beyond the existing Woody Hill Quarry within the PSP area, it does account for the future development of the Phillips Quarry to the immediate south of the PSP area. Owing to the potential land use conflicts that may arise between potential sensitive land use development and resource extraction development, this recognition by the VPA in the allocation of appropriate separation distances in the Shenstone Park PSP is important. There is potential for other extractive industries to be established within the EIIA to the north or further east of the Shenstone Park PSP area, but as these potential locations have not been identified it is not possible to account for these in the PSP at this stage.
- 53) Specific guidance is not provided by DJPR; the Department of Environment, Land, Water and Planning (DELWP); or City of Whittlesea (Council) on how the EIIA is to be applied in the context of development within or surrounding the Shenstone Park PSP area, or what assessments may be required to inform planning decisions. I have nonetheless assumed that an assessment may consider the:
- a. Quality and quantity of the rock resource within the PSP area;
  - b. Value and future demand for this rock resource; the method and duration of resource extraction; and
  - c. Realistic prospects for a Work Authority to be granted by the State regulator, Earth Resources Regulation (ERR), for a new quarry within the PSP area.

In this regard the Whittlesea City EIIA has identified the area covered by the Shenstone Park PSP and that of the Woody Hill and Phillips quarries to be a substantial supply source for basalt, scoria and sedimentary rock (mudstone). PwC (2016) has identified that there remains demand for hard rock (mudstone and basalt) in the northern growth corridor and that there will be a deficit in supply of these resources from existing approved sources through the period 2026 to 2050. Further, Woody Hill Quarry and Phillips Quarry are the only two current extractive industry tenements described in the Whittlesea City EIIA.

- 54) Where it is unlikely, or unfeasible for a Work Authority to be granted within the PSP area, it is assumed that development of the PSP area for potentially sensitive land uses may proceed. Conversely, existing

permitted extractive industry should be accommodated within the PSP through the application of appropriate separation distances being applied to the full extent of the permitted resources, which in this instance may be defined by the activity boundaries within Work Authorities WA492, WA6437 and WA6852. The application of separation distances in planning for the PSP area, as provided by the VPA in the Shenstone Park PSP, does not seek to quarantine this land from development of sensitive land uses forever. Sensitive land uses may, in the future, be developed within the area currently designated as buffer land when quarry operations cease. It is my view that this may be done progressively as extractive operations and rehabilitation terminates in certain areas of the quarry, or once rehabilitation has been completed for the entire quarry. This would be guided by the risks posed by the quarry in consultation with ERR and Council.

## 5.0 THE RELATIONSHIP BETWEEN THE WOODY HILL QUARRY AND THE PHILLIPS QUARRY AND THEIR OPERATIONAL REQUIREMENTS FROM A PLANNING PERSPECTIVE AND THE ABILITY TO EXTRACT THE RESOURCE FROM THESE QUARRIES

55) The relationship between the Woody Hill and Phillips quarries and their operational requirements, as they relate to planning and the protection of these uses from encroachment by incompatible land uses, is guided by a legislative framework and guidance that provides recommended separation distances between these land uses. In establishing these separation distances in the Shenstone Park PSP it is necessary that the objectives of the legislative framework are applied to provide adequate protection of extractive industry uses from encroachment by incompatible land uses in order for Barro Group to extract the resource from its quarries without undue impediment.

### 5.1 *Planning and Environment Act 1987*

56) The Victorian *Planning and Environment Act 1987* (the **P&E Act**) provides for the preparation of a set of standard provisions for planning schemes called the Victoria Planning Provisions (**VPPs**). The VPPs form a state-wide approach for planning schemes. Planning schemes set out policies and provisions for the use, development and protection of land for an area. These were discussed in paragraphs 36) to 44).

57) The P&E Act and the VPPs require that air quality issues must be considered in planning decisions.

58) When preparing a planning scheme or planning scheme amendment, the P&E Act requires a planning authority to take into account any significant effects which it considers the scheme or amendment might have on the environment.

59) Specific relevant clauses of the VPP include:

- a. **Clause 13.06-1S** relates to protection of air quality by ensuring, wherever possible, that there is suitable separation between land uses that reduce the amenity of sensitive land uses. It requires a planning authority to consider the *Recommended separation distances for industrial residual air emissions*, EPA Victoria publication number 1518, dated March 2013 (EPA Victoria Guidelines).
- b. **Clause 53.10** specifies the minimum threshold distance for various industry types between the proposed use and a sensitive land use zone (for example residential zones). No minimum threshold distance is specified for extractive industry. Where a proposal does not meet a minimum threshold distance EPA Victoria is a referral Authority for a planning permit.

- c. **Clause 17.03-2S** deals with industrial land development siting. It outlines strategies relating to appropriate threshold distances to sensitive land uses and protecting industrial uses from encroachment by sensitive land uses, which would adversely affect the industry viability. It requires a planning authority to consider the EPA Victoria Guidelines.
- d. **Clauses 13.06-1S and 17.03-2S** require that a planning authority must consider EPA Victoria's recommended minimum separation distances.

## 5.2 Environment Protection Act 1970

- 60) The Victorian *Environment Protection Act 1970* (**the EP Act**) is the primary legislation in Victoria for the protection of the environment. It considers all aspects of environment (air, water, land, waste and noise). The EP Act aims to prevent pollution and environmental damage by enabling the establishment of environmental quality objectives and supporting implementation programs. The EP Act has been amended considerably since its inception in 1970 and incorporates a wide variety of mechanisms, enforcement measures and enables the development of many supporting subordinate instruments. The EP Act was most recently amended in September 2018 by the *Environment Protection Amendment Act 2018*, which introduces substantial changes to the legislation that will come into effect from July 2021.
- 61) Principles consistent with the Australian National Strategy on Ecologically Sustainable Development and the Intergovernmental Agreement on the Environment (**IGAE**) have been incorporated into the EP Act to assist with implementation and decision making.
- 62) The EP Act establishes the powers, duties and functions of the EPA. These include making regulations and orders, recommending State Environment Protection Policies (**SEPPs**) and Waste Management Policies (**WMPs**), issuing works approvals, licences, permits, pollution abatement notices and implementing National Environment Protection Measures (**NEPMs**).

## 5.3 The State Environment Protection Policy (Air Quality Management)

- 63) SEPPs are subordinate instruments made under the EP Act to provide more detailed requirements and guidance for the application of the EP Act to Victoria.
- 64) The SEPPs elaborate and expand on the objectives of the EP Act by identifying the environmental values and benefits to the community of various segments of the environment. These values and benefits are referred to as beneficial uses. These beneficial uses are intended to be consistent with the Victorian community's expectations for protection of the environment from the effects of pollution and waste. The SEPP of most relevance to the siting and operation of extractive industries is the SEPP (Air Quality Management) (**SEPP (AQM)**) and SEPP (Control of Noise from Commerce, Industry and Trade) No. N-1 (**SEPP N-1**).
- 65) SEPPs embody these community expectations in a legal setting, enabling certainty and clarity for both the community and those regulated within the statutory framework.
- 66) To enable assessments to be made of whether beneficial uses are being protected, SEPPs also establish environmental quality objectives and describe the attainment and management programs necessary to achieve the desired environmental quality. Environmental quality objectives are often established as numerical criteria. Attainment program measures may include general and specific requirements for government agencies and industry.
- 67) As SEPPs are established as legal instruments the requirements in environmental regulations, works approvals, licences and other regulatory tools, must be consistent with SEPPs. The EPA can only issue

a licence or a works approval if it is satisfied that the emissions or discharges will be consistent with the requirements of the relevant SEPPs.

- 68) The SEPP (AQM) establishes the framework for managing emissions to air, so that the air quality objectives defined separately in SEPP (Ambient Air Quality) are met. The framework and attainment program in SEPP (AQM) address ambient (or regional) air quality, and the management of particular sources of emissions and local air quality impacts.
- 69) Clause 13 (2)(f) of the SEPP (AQM) states that:
- (2) The Authority [EPA Victoria] will employ statutory and non-statutory instruments and measures in implementing the policy:*
- (f) including environmental planning measures, including protocols for separation distances and land use planning;*
- 70) Clause 17 (Separation Distances) of the SEPP (AQM) states:
- (1) The Authority will develop a protocol for environmental management in accordance with this policy on the provision of separation distances between sources of emissions to the air environment and land uses that are sensitive to the potential impacts of those emissions on local amenity.*
- (2) The protocol for environmental management developed for the purposes of sub-clause (1) will assist the Authority, responsible authorities and planning authorities in assessing the suitability of development proposals that may have impacts on local amenity or on the viability of existing industries.*
- (3) The protocol developed under sub-clause (1) sets out the separation distances under this policy except where a protocol for environmental management developed in accordance with this policy, and in conjunction with relevant government agencies, for a particular industry or activity makes provision for separation distances for that industry or activity.*
- 71) Clause 40 of the SEPP (AQM) states:
- (1) The Authority will develop protocols for environmental management in accordance with this policy for assessing and managing the impacts of large line and area-based sources of air quality indicators in partnership with relevant Government of Victoria agencies, local government and other stakeholders.*
- (2) Any protocols developed for the purposes of sub-clause (1) will take into account the activities of a transitory nature in certain industries in developing best practicable approaches to controlling emissions. These industries include, but are not limited to:*
- a) mining;*
- b) quarrying; and*
- c) road construction and operation.*
- (3) A protocol developed under sub-clause (1) sets the conditions that apply under this policy to an industry or activity for which that protocol is developed.*
- (4) The Authority will investigate and develop techniques for improved assessment of the environmental impacts of road proposal options*
- 72) EPA Victoria has published the following Protocol for Environmental Management relevant to quarrying, namely the *Protocol for Environmental Management State Environment Protection Policy (Air Quality Management) – Mining and Extractive Industries* (Mining PEM). The Mining PEM is intended to provide guidance on the interpretation of the SEPP (AQM) and sets out the statutory requirements for the

management of emissions to air from the operation of mining and extractives industry sites. The Mining PEM does not include separation distances for quarries, the source of the recommended separation distances is discussed in paragraphs 73) to 85).

## 5.4 EPA Guideline – Recommended separation distances for industrial residual air emissions

- 73) The *Recommended separation distances for industrial residual air emissions*, EPA Victoria publication number 1518, dated March 2013 (EPA Victoria Guidelines) provides advice on recommended separation distances, including for quarries (discussed specifically in paragraph 79). Whilst not described as a 'Protocol for Environmental Management' it is consistent with the intent of Clause 17 of the SEPP (AQM).
- 74) The EPA Victoria Guidelines provides advice on recommended separation distances between industrial land uses that emit odour or dust, and sensitive land uses. It is intended to be used by planning authorities, EPA, industry, developers and the community, in the preparation and consideration of planning scheme amendments, planning permit applications, works approvals and licences.
- 75) Sensitive land use is defined in the EPA Victoria Guidelines as '*land uses which require a particular focus on protecting the beneficial uses of the air environment relating to human health and wellbeing, local amenity and aesthetic enjoyment*'.
- 76) The EPA Victoria Guidelines contains a list of recommended minimum separation distances and it aims to minimise the off-site impacts on sensitive land uses arising from unintended, industry-generated odour and dust emissions (industrial residual air emissions (**IRAEs**)). These are not intended as a protection from normal operations, but rather are established to offer some protection in the event of non-standard or upset operating conditions.
- 77) The EPA Victoria Guidelines recognises that appropriate separation distance may vary from that recommended in the guideline as a result of site-specific operational or environmental conditions. The recommended separation distances are EPA's default minimum in the absence of a site-specific assessment.
- 78) The EPA Victoria Guideline separation distances are only recommendations and not rules, as such. They can be varied. Where it is proposed to vary from a recommended separation distance EPA expects that an assessment that satisfies EPA will be required before EPA would support such a variation.
- 79) The EPA Victoria Guidelines provides the following recommended separation distances for quarrying, crushing, screening, stockpiling and conveying of rock:
- a. Without blasting, 250 metres;
  - b. With blasting, 500 metres; and
  - c. With respirable crystalline silica, 500 metres.
- 80) Separation distances are to be measured from the activity boundary of the industrial activity to the nearest sensitive land use. The activity boundary includes current or proposed industrial activities from which emissions may arise. The activity boundary is not necessarily the site boundary and is the area (within a polygon) that includes all current or proposed industrial activities (including the plants, buildings or other sources) from which IRAEs may arise (including stockpiles, windrows, leachate ponds and odour-control equipment).
- 81) The EPA Victoria Guidelines describe two methods for measuring the separation distance - the urban method and the rural method.

- a. The urban method measures the separation distance from the activity boundary of the industry to the property boundary of the nearest sensitive land use. This method should be used where the sensitive land use is in an urban area or township, or on a site less than 0.4 hectares, or in a zone allowing subdivision to be less than 0.4 hectares.
  - b. The rural method measures the separation distance from the activity boundary of the industry to the activity boundary of the sensitive land use. This method should be used where the sensitive land use is not in an urban area or township and is on a site at least 0.4 hectares in area, or in a zone requiring subdivisions to be at least 0.4 hectares.
- 82) The exhibited Shenstone Park PSP applies the following separation distances in relation to the Woody Hill and Phillips quarries:
- a. a 550 m separation distance between the Woody Hill and Phillips quarries and potentially sensitive land uses.
  - b. a 200 m radial blast separation distance from the boundary of the extraction area has been applied to mitigate against safety issues from fly rock during blasting.
  - c. A 900 m noise separation distance from the existing Woody Hill Quarry extraction area; a 600 m noise separation from the expanded Woody Hill Quarry extraction area; and, a 300 m noise separation from the Phillips Quarry extraction area.
- 83) I note that the proposed 550 m sensitive use separation distance and the 200 m radial blast separation distance are no less than those recommended by the legislative framework described above. I will defer to other experts that are better placed to comment on the adequacy of these separation distances relative to the potential risks that may be posed by the quarry operations however, as described in paragraphs 84) and 85) below, there are issues with the boundary used to define the extent of these separation distances as applied in the Shenstone Park PSP, which should be addressed.
- 84) It is my understanding from review of the GHD reports that its definition of the activity boundaries of the Woody Hill and Phillips quarries was limited to publicly available records on the existing Work Authorities within and adjacent to the PSP area. In this regard GHD, and in turn the VPA, was not privy to Barro Group's plans with respect to the current and future operation of the Woody Hill and Phillips quarries, as these have not completed their respective statutory endorsement or permitting processes. It is my understanding that Barro Group is simultaneously seeking a Work Plan Variation to Work Authority WA492 to extend Woody Hill Quarry further to the south, while also seeking a new Work Authority WA6437 to extend Woody Hill Quarry to the north and north east. At the same time Barro Group is seeking a new Work Authority WA6852 for Phillips Quarry, covering the same Work Authority boundary previously covered under Work Authority WA160. Consequently, the boundary alignments from which the separation distances were applied in the exhibited Shenstone Park PSP are inconsistent with those sought by Barro Group for Work Authorities WA492, WA6437 and WA6852. To avoid potential future land use conflict between extractive industry and incompatible land uses it is my opinion that the separation distance to potentially sensitive land uses be applied from the activity boundaries applicable to Work Authorities WA492, WA6437 and WA6852.
- 85) The 200 m radial blast separation distance is appropriate during active blasting and resource extraction, however, may be considered obsolete or prohibitive once terminal quarry batters have been achieved and no further blasting is required, or possible. It is my opinion that the application of this separation distance may be progressively removed in part to allow the establishment of compatible land uses, when terminal quarry batters have been achieved in a particular area of the quarry while the balance of the quarry remains operational. I refer to the recent Panel Report for the *Mitchell Planning Scheme*

*Amendment C106mth – Beveridge North West Precinct Structure Plan* (dated 7 October 2020), within which the Panel recognise that, “external buffer on land that is not owned or controlled by the quarry operator is problematic. [However] Planning should seek to minimise the impacts on the affected landowners by ensuring that interim non-sensitive uses are considered, and that the eventual development of the buffer area happens in as timely a manner as possible”. In this regard the radial blast separation distance may be retracted at the cessation of blasting activities and the establishment of non-sensitive and compatible land uses progressed on this land in the interim. I believe such a change should be referred to DJPR for endorsement prior to being enacted.

## 6.0 CHANGES REQUIRED TO THE AMENDMENT

- 86) It is my opinion that the methodology applied by GHD and the VPA in defining the sensitive land use and radial blast separation distances to be applied in the Shenstone Park PSP are appropriate, however I will defer to other experts that are better placed to comment on the adequacy of these separation distances relative to the potential risks that may be posed by the quarry operations. I nonetheless consider it necessary that the application of these separation distances, as they apply to the Woody Hill and Phillips quarries, should reflect the activity boundaries to be defined by Work Authorities WA492, WA6437 and WA6852 and those represented by ERR endorsed Work Plan Variations. These establish the likely future extent of the Woody Hill and Phillips quarries from which protection from encroachment by incompatible land uses should be afforded.
- 87) It is my opinion that the SUZ should encompass both the limit of extraction and the ancillary infrastructure required to support its development (i.e. weighbridge; processing; stockpiling; and haulage routes) for both the Woody Hill and Phillips quarries, however I will defer to other statutory planning experts regarding how this may be best achieved.
- 88) Further to the above, from an operational perspective it would be optimal for access between the Woody Hill and Phillips quarries to be maintained such that processing infrastructure, and access to Donnybrook Road, can be shared between the Woody Hill and Phillips quarries. I will again defer to other statutory planning experts regarding how this may be best achieved.
- 89) I reiterate that application of a radial blast separation distance is appropriate during active blasting and resource extraction, however, may be considered obsolete or prohibitive once terminal quarry batters have been achieved and no further blasting is required, or possible. It is my opinion that the application of this separation distance may be progressively removed in part to allow the establishment of compatible land uses when terminal quarry batters have been achieved in a particular area of the quarry, while the balance of the quarry remains operational. It is my opinion that the Shenstone Park PSP should include provision, or appropriate planning mechanisms, for the progressive removal of the radial blast separation distance as terminal quarry batters are achieved. I will again defer to other statutory planning experts regarding how this may be best achieved, however note that I believe such provisions or planning mechanisms should include a referral to DJPR for endorsement prior to being enacted.

## CLOSING STATEMENT

- 90) I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

## Signature Page

### **Golder Associates Pty Ltd**



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