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Contains information that would unreasonably prejudice the commercial position of Winstone Aggregates if released



# Belmont Quarry Development:

Sustaining the Wellington Region's Aggregate Supply

3 May 2024







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## **Executive Summary:**

Winstone Aggregates (Winstones) the owner and operator of Belmont Quarry in Wellington, puts forward its Belmont Quarry Development proposal for consideration as a project to be referred via the Government's new Fast Track Approvals Bill. The Belmont Quarry Development Proposal strategically aligns with the New Zealand Government's initiative to streamline regional, and nationally significant development through the fast-track consenting process. This proposal aims to extend the life of Belmont Quarry and enable the quarry to continue to provide premium quality aggregates that are vital for the wider Wellington region's infrastructure, underlining the project's regional and national significance.

#### **Key Points:**

- The problem: Belmont Quarry has maximised its existing overburden<sup>i</sup> disposal capacity, with no further options within its current boundaries. There are 2 years left of access to resource. A new Overburden Disposal Area (OBDA) is crucial for accessing new aggregate resources essential for the Wellington Region's supply.
   Without a long-term overburden solution Belmont Quarry will close in the medium term.
- Solution: Securing a new OBDA adjacent to the existing Quarry, is urgently needed
  to unlock existing rock/aggregate resource in the quarry. The proposed new area
  for OBDA, within the Belmont Regional Park, is the closest available disposal site
  to where the rock resource is located. Growth of the quarry for overburden
  placement, at the closest point to the overburden, will extend the life of the
  quarry for 40 years.
- Strategic growth via Fast-Track: Prioritising the quarry's growth through the fasttrack approvals process underscores the urgent need for a sustainable aggregate supply, directly contributing to key regionally and nationally significant infrastructure projects.
- Alignment with Legislative Reforms: We consider this project to be an excellent candidate for fast-track consideration, given its involvement with multiple statutes, regulations, plans, and policies. The proposal aligns with Government reforms aimed at accelerating infrastructure development, minimising delays, and



navigating the bureaucratic complexities that currently hinder such essential projects. It exemplifies how the complexity of obtaining various statutory approvals can introduce uncertainty, delays, and costs that are disproportionate to the project's environmental impacts, underscoring the necessity for a compressed and streamlined process. This project will progress faster, and therefore provide its benefits faster, by using the processes under the new fast track legislation than would otherwise be the case. Delayed consenting under the standard RMA process would be estimated to take approximately 3 to 5 years and such delays will constrain potential supply from the Belmont Quarry.

- Support for Faster and Streamlined Delivery of Regional and National
  Infrastructure: Referring this proposal for fast-track review will ensure the
  approvals required for the quarry expansion can be considered faster and in
  conjunction with one another, delivering a more cohesive assessment of the
  benefits and impacts of the project. The continued operation of Belmont Quarry
  will bolster ongoing and future infrastructure projects, vital for the economic and
  social well-being of the Wellington region and New Zealand.
- Sustainable and Efficient Development: Emphasises environmental stewardship
  and sustainable resource management, ensuring the project not only meets the
  immediate needs of the construction industry but does so in an environmentally
  responsible manner.
- Trusted operator: Winstones are an experienced and trusted national operator
  with a good environmental track record. We have extensive experience in
  developing and operating quarry projects and have successfully operated the
  Belmont Quarry since the 1980's.
- Economic impact and efficiency: Highlights the cost-saving and logistical benefits
  of local aggregate supply, crucial for the timely and budget-friendly completion of
  infrastructure projects, further justifying the need for the fast-track approval
  process.
- Shovel ready: Winstones has spent over 10 years developing this proposal and
  already has available a large amount of the technical background required to
  demonstrate the project's viability, with acceptable level of adverse effects and
  ensure this is the best option for the future of the Quarry. Winstones needs the
  first OBDA season to commence as soon as practicable after approval is granted.



 Immediate action: Within 3 months of approval engineering design, environmental and geotechnical assessments will start on the OBDA, with the physical works to follow for the next season. In Quarry timeframes, the need is urgent, and Winstones position is well aligned with Government's intent.

By adopting the fast-track consenting process, the Belmont Quarry Development Proposal exemplifies a proactive and strategic approach to meeting New Zealand's infrastructure challenges, aligning with the government's vision for streamlined development and sustainable growth.



## 1. Introduction:

Belmont Quarry, operated by Winstones, is a key asset in the Wellington Region's infrastructure framework and supply chain. The quarry has demonstrated its capacity to support significant regional and national infrastructure projects and has contributed to Wellington's growth since it was first established in the 1920's. Winstones took over the operation of the quarry in the 1980's.

Winstones has put forward the Belmont development proposal for consideration as a suitable candidate for referral to the new Fast Track Approvals Bill given the importance of the quarry being enabled to maximise its operation and strategic growth so it can maintain this support of regional and national projects. Through the existing consenting pathways available to this project the realisation of these benefits would be 5 years away. By that time Belmont would have been forced to close.

Belmont Quarry is a cornerstone in Wellington's construction and infrastructure sectors. It supplies approximately 40% of the region's aggregate needs and over 50% of high-grade aggregates essential for concrete and roading. Its prime location near Wellington's CBD, just 22km to the northeast, highlights its critical logistical. This proximity is especially significant as other similar resources have become inaccessible over time due to urban development.

Belmont Quarry faces a pressing challenge: it has less than two years of exposed resource remaining, before another overburden strip is required. At that point there is not further capacity on site to dispose of overburden. This situation poses a significant risk to its ability to supply premium aggregate, which is crucial for regional development projects. Overburden, the layer of soil and rock that lies above valuable mineral deposits, requires strategic management for efficient resource extraction. If not effectively managed, viable resource can be sterilised by placement of overburden. Proper overburden management is essential not just for quarrying operations but also for minimising environmental impact and ensuring the site's sustainability. The proposed expansion and the establishment of a new OBDA through a land exchange with Belmont Regional Park aims to address this



challenge, securing the quarry's future productivity and contribution to the Wellington region's growth.

The current structure of the RMA results in significant uncertainty for applicants, including in respect of costs and delays. The Infrastructure Commission's report<sup>1</sup> on this issue highlights the material financial and time-related burdens infrastructure developers face under the current RMA. Developers collectively spend \$1.29 billion annually on consenting, with costs averaging 5.5% of a project's total budget. The report also notes an increase in complexity and costs over time, with the average decision time for consent applications rising by 50% since 2014/15, and up to 150% for infrastructure projects specifically.

The issue of aggregate supply security is well-recognised by councils in the Wellington region, highlighting the strategic challenges and the critical need for efficient regional planning. Please refer to page 271 of the recent Wellington Regional Leadership Committee order in which the topic was tabled. The Greater Wellington Regional Council (GWRC) has actively pursued discussions and collaboration with various councils and the New Zealand Infrastructure Commission, addressing the scarcity of aggregate sources which are fundamental for sustaining regional growth and infrastructure demands. This collaborative effort is aimed at ensuring the cost-effective and timely access to aggregates for significant ongoing and future projects like the RiverLink initiative, which is crucial under the Future Development Strategy. The discussions emphasise the necessity of identifying and securing accessible aggregate sources to support the region's development objectives, thereby acknowledging the pivotal role of strategic aggregate management in regional planning.

Having a secure supply of quality aggregate close to demand is critical for project cost control. Once a load of aggregate is taken more than 30km from a quarry, the consumer is generally paying more in cartage costs than for the actual aggregate<sup>3</sup> e.g. the cost of

<sup>&</sup>lt;sup>1</sup> The cost of consenting infrastructure projects in New Zealand, A report for The New Zealand Infrastructure Commission / Te Waihanga, July 2021

Wellington Regional Leadership Committee Tuesday 19 March 2024, 9.00am https://www.qw.qovt.nz/assets/Documents/2024/03/Wellington-Regional-Leadership-Committee-19-March-2024-order-paper.pdf

<sup>3</sup> https://aga.org.nz/fact-files/



aggregate at least doubles when it is demanded more than 30km from its source. It is disappointing that some aggregate for Transmission Gully had to be sourced as far away as Mt Taranaki (300km distance) due to a shortage of local supply which not only has economic impacts but also environmental impacts of increased transport emissions.

## 2. Background

Winstone Aggregates, a division of Fletcher Concrete and Infrastructure Limited (FCIL), part of the Fletcher Building group, holds a prominent position in the aggregates industry in New Zealand. With a rich history dating back to the 19th century, over the last 150 years+, Winstones has established itself as the largest manufacturer and distributor of aggregates in the country. The company operates numerous extraction sites across New Zealand, including the Wellington region, where it plays a significant role in meeting the demand for aggregates.

In the Wellington region, Winstones operates several quarries including Belmont Quarry, Otaki Quarry and Petone Quarry. These operations provide a local and reliable source of aggregates for various construction projects in the region. Winstones quarries in the Wellington area have been longstanding contributors to the Wellington market, supplying essential materials for roading, construction, and infrastructure development.

Belmont Quarry, in particular, is a vital source of aggregates for the greater Wellington region. It's also makes up 50% of the high quality aggregate market, essential for asphalt and concrete. It's not just the quarry's operation that is crucial for the supply chain but also the interconnected ecosystem of businesses reliant on its output. Employment figures underscore this interdependence (co-located on the Belmont site):

- Winstone Aggregates: 18 permanent employees + 4 temps
- Firth Concrete: 14 employees
- Firth Masonry: 15+ employees
- Fulton Hogan Asphalt: 6+ employees
- Contractors: Additionally, between 18 to 30 contractors work across all sites, further supporting the quarry's operation.



Outside of the onsite employees, it is anticipated there is 500 direct employment, 800 indirect and induced employment of 700, for a total of 2000 total employment.<sup>4</sup>

This ecosystem of businesses, directly reliant on Belmont Quarry, highlights its importance not just as a supplier but as a cornerstone of the local economy. The efficiency gained from having these operations co-located with the quarry, as opposed to the significant costs and logistical challenges of carting aggregate from further afield, cannot be overstated. Such a setup ensures a steady, cost-effective supply of materials crucial for the region's infrastructure projects, underlining the quarry's significance to Wellington's ongoing development and economic health.

The supply of quality aggregate in the Wellington Region is constrained. In addition to the Belmont Quarry, there is one additional major quarry<sup>5</sup> that services the east coast of the Wellington Region. This quarry is also facing similar operational constraints to Belmont. Despite this, the demand for aggregate is anticipated to increase. The Wellington Region is projected to grow by 200,000 people by the year 2050 and will require an additional 99,000 homes<sup>6</sup>. There are also various transport infrastructure projects that will occur over the short- to medium-term, including:

- Various proposals to improve traffic networks around Wellington City,
- Northern Corridor,
- Otaki to North of Levin
- SH58 Stage 2
- SH2 Melling Transport Improvements
- Second Mt Victoria Tunnel and Basin Reserve
- Riverlink,
- Rail improvements,
- Cycleways and shared paths, and
- State Highway 55 improvements.

<sup>&</sup>lt;sup>4</sup> Brookby Quarry – Stage 3 – Assessment of Environmental Effects – Market Economics Consulting 27 November 2023 – Page 43 - https://www.epa.govt.nz/assets/Uploads/Documents/Fast-track-consenting/Brooky-Quarry/Appendix-21-Assessment-of-Economic-Effects.pdf

<sup>&</sup>lt;sup>5</sup> Horokiwi Quarry

<sup>&</sup>lt;sup>6</sup> Based on the Housing and Business Development Capacity Assessment: Wairarapa-Wellington-Horowhenua 2023



The importance of aggregates to the Wellington region's economy cannot be overstated. Aggregates are fundamental to the construction industry, serving as a vital component in road construction, building projects, and infrastructure development. The availability of locally sourced aggregates is crucial for minimising transportation costs, reducing emissions and ensuring a sustainable supply of materials and for recovery in the event of a natural disaster. Winstones recognises the government's focus on infrastructure development in Wellington and is committed to supporting this through continued local supply. This approach not only aligns with government intentions but also helps mitigate the risk of inflationary pressures on construction materials.

However, the aggregate industry often faces challenges in the consenting process and the protection of quarry resources, quarrying can only occur where there is suitable accessible rock. Belmont is one of the few remaining working quarries close to Wellington. Winstones emphasises the need for both national and local government support to create a legislative environment that recognises the significance of aggregates, streamlines the consenting process, and safeguards quarry resources from sterilisation and reverse sensitivity effects. By addressing these issues, Winstones aims to continue supplying high-quality aggregates for affordable housing, infrastructure development, and the overall prosperity of the Wellington region.

It is important to emphasise that this application has been made for consideration as a referral project due to the complexity, cost, and time it would take for a project of this nature to gain approval, with dual approvals required (two separate hearing process) across five different statutory processes. Winstones does not seek to compromise or seek any dispensation from the quality or level of detail of effects assessments for this proposal, and takes design, compliance, and construction and operation of its quarries very seriously. Winstones is committed to thoroughly mitigating adverse effects of its activities to acceptable levels. Winstones commits to high environmental standard on its sites and its business practices, please refer Appendix B: Environmental credentials for more details on this.



Winstones is not seeking a blanket approval for the existing quarry operations. Winstones values the existing relationships that it has with Greater Wellington Regional Council, Hutt City Council, and, working relationships it has with Te Āti Awa, Ngāti Toa Rangatira, Taranaki Whānui and the Port Nicholson Trust. The Belmont Quarry Development Proposal relates to the growth of the quarry, and due to the complex legislative pathways, and that uncertainty that brings, Winstones has tabled this proposal for consideration to the fast-track process.

#### Timeline:

Efforts to provide for the future of Belmont Quarry have been underway for more than a decade. Investigating use of land in the adjacent Belmont Regional Park commenced in 2013, leading to discussions with the Department of Conservation (DoC) and Greater Wellington Regional Council (GWRC) that spanned from 2015 to 2018. Over that time a significant amount of detailed work has been undertaken and consultation with some key stakeholders (Park Ranger of Belmont Regional Park, GWRC Officers, DoC Officers, site visits with ecologists from those organisations).

The journey towards realising the future of Belmont Quarry has been underscored by meticulous planning, strategic consultations, and detailed environmental assessments. Initiatives undertaken since 2013 have focused on comprehensively understanding the site's ecological impact, engaging with pivotal stakeholders, and ensuring alignment with regulatory frameworks. This overview delineates the significant steps taken to prepare the project for implementation, highlighting Winstones commitment to sustainable development and environmental stewardship within New Zealand's unique context.

The project was reinitiated in 2022 at the suggestion of GWRC in response to lack of areas suitable to consent further overburden disposal within the existing site.

## 3. Economic Contributions of Belmont Quarry

#### Market Share and Employment Impact:

Belmont Quarry commands a significant market share, supplying approximately 40% of the region's aggregate needs and over 50% of high-grade materials used in concrete and



asphalt, making it an indispensable asset in Wellington's economic landscape. The quarry hosts 53 full-time employees across various operations, complemented by 4 part-time temporary staff. Additionally, the dynamic nature of quarry activities incorporates the efforts of 18 to 30 contractors. Cumulatively, this amounts to up to 87 individual roles contributing to the site's productivity and economic footprint, underscoring its significant role within the local employment landscape and the broader regional economy.

Outside of the onsite employees, there would be follow on impacts based on similar sized quarries we would anticipate, the 500 direct employment, 800 indirect and induced employment of 700, for a total of 2000 total employment.<sup>7</sup>

#### **Economic Significance:**

The quarry's operation is not just about aggregate production; it represents a significant economic activity that bolsters Wellington's and New Zealand's economy. The direct revenue from the 30 million tonnes of aggregates produced nationwide, which includes Belmont's contributions, was estimated at \$502 million in 20218, contributing significantly to the country's GDP. This economic activity supports approximately 3,100 people in the quarrying sector alone, underscoring the quarry's role in fostering economic well-being and job creation.

#### Sustainability and Efficiency:

Proximity to aggregate sources like Belmont Quarry is crucial for maintaining low transportation costs, lower carbon emissions and minimising the environmental impact associated with the haulage of these high-weight, low-value products. The majority of CO2 emissions associated with aggregate use is the transport of these from source to point of use. Efficient access to Belmont's resources is vital for ensuring that infrastructure projects proceed timely and cost-effectively, highlighting the quarry's contribution to sustainable development and economic resilience in the Wellington region.

<sup>&</sup>lt;sup>7</sup> Brookby Quarry – Stage 3 – Assessment of Environmental Effects – Market Economics Consulting 27 November 2023 – Page 43 - https://www.epa.govt.nz/assets/Uploads/Documents/Fast-track-consenting/Brooky-Quarry/Appendix-21-Assessment-of-Economic-Effects.pdf

<sup>8</sup> https://aqa.org.nz/fact-files/



#### The need for growth:

With the quarry's existing site nearing its capacity and the potential for less than ten years of continued supply under favourable consenting outcomes, the proposed expansion into the northern area is critical. This expansion is essential not only for extending the quarry's life but also for maintaining efficient access to aggregate in the Wellington market, thereby supporting the region's ongoing and future infrastructure projects.

The economic contributions of Belmont Quarry extend far beyond its immediate operations. It plays a critical role in supporting Wellington's infrastructure, economic development, and sustainability goals. The proposed expansion and establishment of a new OBDA through a land exchange with Belmont Regional Park are pivotal for ensuring the quarry's continued ability to meet the region's aggregate needs, underscoring the strategic importance of fast-tracking this development proposal. The proposal maximises the existing aggregate resource and investment in Belmont Quarry operations (in an area where Quarrying has been part of the landscape for over 100 years) as it is far better to extend the life of the Quarrying operations in this location. If the Quarry were to close there would be a far greater environmental impact, cost, and adverse environmental effects of establishing a new Greenfield Quarry site further afield. There would be no guarantee that a suitable site could be found, due to sterilising of the resource, environmental features, and incompatible land uses.

## 4. Project Scope and Description:

The Belmont Quarry, pivotal in supplying the Wellington region's aggregate, faces a critical juncture. With less than two years of overburden storage capacity remaining, the quarry's operational sustainability is at risk. Overburden – the non-valuable soil and rock overlaying the quarry's valuable greywacke resource – must be efficiently managed to access these materials. This proposal outlines the establishment of a new OBDA through a strategic land exchange with Belmont Regional Park, addressing the urgent need for sustainable overburden management.



The engineering analysis reveals Belmont Quarry holds approximately **20 million bulk cubic meters** of valuable aggregate, underscoring its significance to the region's construction industry. However, managing the estimated 2.9 million bulk cubic meters of overburden, considering a 1.2 swell factor, is a challenge that necessitates immediate and innovative solutions.

The proposed OBDA not only ensures the quarry's continued productivity but also aligns with environmental sustainability goals. By integrating overburden management into the quarry's expansion plan, we ensure a balanced approach to resource extraction and environmental conservation, securing the quarry's role as a vital contributor to the Wellington region's infrastructure and economic development for the foreseeable future.

The proposed OBDA is vital for the quarry's continued operation, providing a sustainable solution for overburden management—a by-product of the quarrying process. Opening up this OBDA area will provide certainty into the future for the supply of aggregate to the greater Wellington region and to nationally significant projects. As the current overburden capacity is at full capacity for any meaningful longer life of the site, the development of a new disposal area is imperative to avoiding the termination and end of life of the quarry. Failing to develop this would necessitate extracting what remaining resources are feasible, albeit at the cost of 'sterilising' yet-to-be-realised resources by overlaying them with overburden and process fines, thus restricting future extraction opportunities. This new OBDA will enable the quarry to maintain its substantial contribution to the regional aggregate supply, delivering 40% of the total and 50% of the high-grade materials required for critical infrastructure projects. This development aims to extend the quarry's operational life by at least 40 years, justifying the significant investment and reflecting a long-term commitment to the region's construction and infrastructure sectors.

The scope of the project for which resource consent would be sought encompasses the following key elements:

• Earthworks: Growth of the quarry will involve extensive earthworks to prepare the new OBDA site. This will be undertaken with an approach that minimizes



environmental impact and respects the existing landscape, including placement design, season of earthworks, and landscape rehabilitation.

- Focused on OBDA: The primary focus of the project is the establishment of the OBDA and operations/activities to provide for that. The land exchange will facilitate the continued deposit of overburden, allowing quarrying activities to progress efficiently.
- Land Exchange: The land exchange is a pivotal component of the project, providing the legal and spatial framework for the OBDA. It is an arrangement that benefits both the quarry's operational needs and the regional park's long-term objectives.
- Approvals: The project seeks to obtain all necessary consents, permits, and
  approvals for operations in the new area, a process that could take up to 5 years
  without fast-tracking, coupled with significant approval uncertainties. Winstones
  is eager for the project to benefit from the government's proposed legislation
  designed to expedite the consent process for projects of local, regional, and
  national significance, thereby reducing wait times and streamlining approvals for
  essential infrastructure developments.

The Belmont Quarry Development is a well-considered proposal that takes into account the long-term needs of the construction industry, the local economy, and the community. By providing a detailed and strategic plan for the quarry's growth, Winstones demonstrates its commitment to sustainable development and its role as a key contributor to the nation's infrastructure.

## 5. Land exchange:

A land exchange is proposed with DoC, which:

 swaps approximately 29.04 ha of land adjacent to the Quarry owned by the Crown, as recreational reserves under the Reserves Act 1977 and administered and controlled by GWRC. Boffa Miskell Limited has assessed the ecological value of these areas (being the proposed OBDA Area) as "Low" in accordance with the Ecological Impact Assessment Guidelines; for



• three parcels of land owned by Fletcher Concrete and Infrastructure Limited totalling a maximum size of 30.86 ha, of moderate/high ecological value, that are currently within the Quarry site. These areas are unsuitable for quarry development due to meeting the significance criteria for significant indigenous vegetation.

The proposal has been previously tabled – as a high-level concept with GWRC and the DoC in 2016, 2018 and 2023.

The calculation of the required area for accommodating 3.5 million cubic metres of fill has been determined through engineering assessments, please refer to **Appendix D**: Engineering drawings

Crown Land (Belmont Park)			ete and Infrastructure Land
		15.22 ha	Dry Creek Cleanfill
29.04 ha	Proposed Belmont Regional Park OBDA Area	9.61 ha	QEII Covenant Area (Eastern edge)
		6.03 ha	Northern Gully OBDA & QEII Covenant Area
Total Land Area: 29.04 ha		Total Land Ar	rea: Up to <b>30.86 ha</b>

Table 1: Land exchange





Figure 1: Belmont Quarry Development

#### Approval Requirements and Legislative Framework:

Winstones understands that the new Bill will contain a fast-track process and is intended as a "one stop shop" process for approvals. Winstones considers that its proposal is an ideal candidate for a "one stop" process given the various approvals required for this project.

Since 2013 Winstones has been actively investigating options to use adjacent land within Belmont Regional Park for overburden disposal, which is needed to extend the life of the quarry. This land is held as recreational reserve under the Reserves Act 1977 (RA77). The proposed site is owned by the Crown (DoC) and controlled and managed by GWRC, under s28 RA77 as part of Belmont Regional Park.



Due to restrictions in the RA77 and Conservation Act 1987 and the provisions of the Greater Wellington Regional Parks Network Management Plan Winstone is unable to obtain approvals to undertake activities in this area while it remains Park land.

Other options to access the land were considered but not viable due to the ultimate ownership of the land being with Department of Conservation. DoC Officials, GWRC and Winstones agree that an exchange under s15 is the only pathway available for Winstones to access this strategically important land.

Because the land is owned by the Crown under the RA77 there is no ability to have the exchange proposal and application for resource consents under the RMA considered at the same time, (which could occur if the land were recreational reserve land owned by GWRC).

To gain approval for use of the land as an OBDA, Winstones is facing a two-step process, with a separate application, notification, hearing, decision, and the need to obtain the approval and resolution of full GWRC Council - required under the RA77 before the application is referred to the Minister of Conservation for a decision on the exchange.

If GWRC agrees to the exchange request and recommends referring the application and if the Minister then agrees to the exchange, only then can Winstones apply for resource consent from both the Hutt City Council (HCC) and GWRC for the OBDA. Based on previous experience, that proposal is also likely to be either limited or publicly notified and require a hearing, either at Council level and then on appeal or via direct referral to the Environment Court.

Overall, it is anticipated that it may take between 4-5 years to obtain all the necessary approvals (if that initial process is successful). Several other approvals including Overseas Investment Office approval for the land exchange are required.



## 6. Approval summary

Winstones anticipates that the following consents/ approvals/ permits would be required for the entire project:

Table 2: Approval requirements

Statute	Brief Description of approval required:
Reserves Act 1977	Application under s15 of the Reserves Act 1977 allows the Minister of Conservation to authorise an exchange of reserve land for other land of ecological value within the Belmont quarry footprint. The key process for that is:
	(a)An application to exchange of land be made by Winstones to GWRC under the Regional Parks Network Plan for the exchange proposal, including a detailed assessment of effects, matters covered in the application guide, and an assessment of the exchange and an assessment against the management plans objectives.
	(b)GWRC publicly notify the proposal and seek written objections, appoint a hearing committee, and hold a hearing which makes a recommendation to Council. (s120)
	(c)The Councillors of a full Regional Council must consider the recommendation and objections and make a resolution on whether it supports the exchange request.
	(d) If GWRC resolves to support the exchange request, then they must make a resolution accompanied by a formal request to the Minister to consider the exchange proposal. That includes sending a copy of any objections and the reasons for the Council's decision on those objections to the Minister.
	The Minister must then consider the request a decide whether to grant or decline the exchange. And consider other matters in s15 in terms of value and terms.
	The exchange is authorised by the Minister issuing a gazette notice authorising the exchange upon which the land formerly owned by the Crown becomes freehold land owned by Winstones.
	Revocation of the Gazette Notice appointing GWRC to control and manage the land subject to the exchange with Winstones is also sought.
	Amendment to the GWRC Parks Regional Network Plan to amend Park boundaries may subsequently be required.



Statute	Brief Description of approval required:	
Local Government Act 2002	If the full GWRC Council resolution to agree to ask the Minister to approve the exchange proposal triggers LGA significance considerations (TBC).	
Resource Management Act 1991	Subdivision or boundary adjustment of parcels of land from Regional Park and Belmont Quarry titles in preparation for the land exchange (if approved).  Resource consent (land use consent) for the proposal from Hutt City Council under the Operative District Plan, any Proposed District Plan <sup>9</sup> and any relevant National Environmental Standard. Relevant land use consent(s) would be required in perpetuity.  Resource consent would be sought from Greater Wellington Regional Council for various activities under the Natural Resources Plan (and NRP-PC1) and the Natural Environmental Standard for Freshwater. It is anticipated that the consents required would include: (but not limited to) water permits for diversion and taking of water; discharge consents to water and to air; land use consent for works within rivers and wetlands; and land use consent for bulk earthworks and cleanfilling. A duration of a minimum of 35 years would be sought for those regional consents.  Resource consents would require robust planning assessment against the following planning documents:  Operative RPS and any proposed plan changes (RPS-PC1),  Operative Natural Resources Plan and any proposed plan changes (NRP-PC1),  National Policy Statement for Freshwater Management 2020,  National Policy Statement for Indigenous Biodiversity 2023, and  The Resource Management Act (Part 2).	
Overseas Investment Act 2005	Fletcher Building, the parent company of Winstones Aggregates, is an "overseas person" under the Overseas Investment Act 2005 given its overseas shareholdings. The land to be acquired as part of the land exchange is sensitive land and OIO consent will also be required for this acquisition. It is anticipated that this consent could take 6 to 9 months.	
Heritage New \Zealand	Archaeological approval (if required) in connection with bulk earthworks where archaeological site is uncovered or altered.	

<sup>&</sup>lt;sup>9</sup> It is anticipated that the Hutt City Proposed District Plan will be notified in the third quarter of this year.



Statute	Brief Description of approval required:
Pouhere Taonga Act 2014	
Land Transfer Act 2017	To register, vary and amend existing easements across proposal site, in favour of Transpower.
Wildlife Act 1953	Wildlife permits to authorise the translocation of any indigenous fauna. Any necessary permits e.g. for gecko relocation etc.

## 7. Potential effects

The Belmont Quarry Development proposal is strategically designed to expand the quarry's operational capacity to meet the increasing demand for aggregate in the Wellington region. This expansion is critical not only for sustaining the region's infrastructure development but also for ensuring the continued economic growth of the area. This assessment of potential effects evaluates the potential environmental impacts associated with the proposed expansion, incorporating significant environmental considerations into every phase of the development process. Extensive evaluations of alternatives were conducted, particularly within the current Quarry boundaries; however, these alternatives presented greater environmental impacts and would significantly reduce the quarry's operational lifespan due to the limited capacity for overburden storage.

#### Site Description and Physical Environment

Belmont Quarry is strategically located within a geologically significant area known for its abundant greywacke rock formations. The quarry's proximity to Wellington CBD and major transport routes underscores its critical role in supplying essential construction materials to the region, making it a pivotal element of the local infrastructure supply chain.



#### **Proposed Activities**

The development plan includes the placement of overburden within Belmont Regional Park to support the continued extraction of aggregate. The proposed activities encompass extensive land clearing, soil removal, and the establishment of new access roads and necessary infrastructure to accommodate the expanded operations. This expansion is designed to ensure that the quarry can continue to meet the regional demand for aggregates effectively and efficiently.

#### **Potential Effects**

#### **Visual and Landscape Effects**

The proposed expansion involves the depositing of approximately 3.5 million cubic meters of overburden into the adjacent areas of the Belmont Regional Park. This alteration will result in a material change to the landscape within the park. Despite the scale of this change, careful design considerations have been made to ensure that the overburden placement is conducted in a manner that maintains an acceptable level of landscape impact, particularly considering the site's historical use as farmland. The planned removal of invasive species such as wilding pines will further enhance the ecological value of the area.

The design of the final OBDA landscape is being developed in close collaboration with local stakeholders, including iwi partners, HCC, and GWRC. This collaborative approach provides a unique opportunity to design from the ground up infrastructure that can be utilized in the area post-completion, enhancing the long-term value and utility of the land.

#### Noise and Vibration

Given the extensive experience in managing noise and vibration at the site, the proposed expansion is expected to continue these management practices effectively. With no residential areas in close proximity to the proposed expansion area, the noise and vibration effects are anticipated to be less than minor. Operational noise will continue to be managed within the limits set by existing consents, utilising advanced noise suppression technology and operational management plans that restrict noisy activities to daytime hours.



#### Air Quality and Dust

As with noise and vibration, the significant distance between the proposed area and any residential dwellings minimises the potential impact on air quality and dust. The quarry has operated for over a century with robust practices and management plans that have successfully managed air quality and dust to acceptable levels for the surrounding environment and community. These practices will be continued and enhanced as necessary to ensure ongoing compliance with air quality standards.

#### Water Management

The existing stormwater management plans for the site are well-established, ensuring that stormwater and water management for the expanded area can be appropriately managed. The design and staging of the overburden placement and the final landforms will take into account effective stormwater management to prevent any adverse impacts on the local waterways and ensure compliance with environmental standards.

#### **Traffic and Transportation**

The proposed development will primarily affect internal traffic, with heavy vehicle movements confined to the site. This internal management of traffic removes the need for overburden to be transported off-site, thereby negating any potential traffic and transportation effects on the surrounding road network.

#### **Archaeological and Cultural Effects**

Ongoing consultations with mana whenua and respect for the site's cultural heritage are central to the project. An archaeological assessment has been conducted for the site, confirming that there are no known significant sites within the development footprint. This proactive approach ensures that any potential cultural and archaeological concerns are identified and managed appropriately.

#### **Ecological Impacts**

A comprehensive review of the ecological values of the area has been undertaken. The area, which was a farm until the late 1970s and mid-1980s before becoming part of Belmont Regional Park, is characterized by regenerating bush. The ecological values of the area are currently considered low, particularly in comparison to the proposed land



swap area, which is of higher ecological quality. The development will adhere to a Management Plan, which includes habitat restoration and enhancement projects to promote biodiversity within and around the quarry site.

#### Mitigation Measures

Mitigation strategies will be focused on minimizing the environmental footprint of the quarry expansion. These strategies include restoring native vegetation, ongoing noise and dust monitoring, and active community engagement to address any concerns from local residents and stakeholders. These measures are designed to ensure that the expansion is conducted in an environmentally responsible manner, with a strong focus on sustainable practices.

#### **Monitoring and Management Plans**

Comprehensive monitoring programs will be implemented to track the effectiveness of the mitigation measures. These programs will be supported by adaptive management plans that can be adjusted based on monitoring results to ensure that environmental protection objectives are continually met.

#### Conclusion

The proposed expansion of Belmont Quarry is expected to have manageable environmental effects, given the implementation of robust mitigation and management strategies. The development will significantly contribute to the regional economy by providing essential materials for infrastructure projects while ensuring sustainable management of natural resources. Winstones is committed to responsible environmental stewardship and community engagement throughout the development process.



## 8. Te Tiriti o Waitangi (Treaty of Waitangi) Settlements, arrangements and commitments that impact the proposal.

Relevant mana whenua are The Port Nicholson block – (Taranaki Whānui ki te Upoko o Te Ika), Ngāti Toa Rangatira; and Te Āti Awa. Our strategy is centred on deepening these relationships through ongoing dialogue about Belmont Quarry's future. We are dedicated to a respectful and meaningful engagement strategy that transforms existing relationships into genuine partnerships. This involves our senior leadership actively learning from mana whenua to ensure our business practices not only respect but prioritise mana whenua perspectives effectively.

There are two relevant Settlement deeds, The Port Nicholson Block (Taranaki Whānui ki te Upoko o Te Ika) Claims Settlement Act 2009 and Ngāti Toa Rangatira Claims Settlement Act 2014. Legal advice<sup>10</sup> has confirmed the proposed OBDA site is not identified as offer back land nor is it subject to an existing right of first refusal (RFR) under relevant Treaty of Waitangi Settlement deeds.<sup>11</sup>

The Crown has no offer back obligations in respect of the proposed land to be transferred to Winstones. While this land is not subject to any RFR under relevant settlement deeds, even if it was, exchanges of land under s15 RA77 are exempt from offer back obligations under the relevant settlement acts. <sup>12</sup> Historical title Investigations undertaken also confirm that there are unlikely to be any Public Works Act 1981 (PWA81) offer-back obligations in respect of the site. PWA81 obligations do not apply to land exchanged under the RA77<sup>13</sup>.

<sup>&</sup>lt;sup>10</sup> Greenwood Roche advice to Winstone Aggregates dated 21 December 2022.

<sup>&</sup>lt;sup>11</sup> The Port Nicholson Block (Taranaki Whānui ki te Upoko o Te Ika) Claims Settlement Act 2009 (the Taranaki Whānui Settlement Act) sets out the basis of settlement between the Crown and Taranaki Whanūi ke te Upoko o Te Ika. There are no sites within the Belmont Regional Park listed in the Schedule to the Deed.

<sup>12</sup> Section 93(a), s105(a) of the Taranaki Whānui Settlement Act allows for the Crown to dispose of RFR land in accordance with s15 of the Reserves Act, without undertaking the offer back process at ss94-98 of that Act. Section 185(1) and (2) and s198(a) of the Ngāti Toa Rangitira Claims Settlement Act 2014 contain a similar exception clause.

<sup>&</sup>lt;sup>13</sup> Section 15(8) of the Reserves Act 1977 provides that noting in s40 of the Public Works Act applies to land exchanged under this section.



The Crown has acknowledged the cultural and historic importance of the Hutt River and its tributaries to Ngāti Toa Rangatira and the cultural and historic importance of the Hutt River Taranaki Whānui in the Settlement Deeds. The proposed site contains intermittent streams and headwaters that are within the catchment of the Hutt River. As Belmont Quarry also sits between the proposal site and the Hutt River, Winstones already holds a full suite of discharge consents to manage the impact of its operations on the Hutt River.

HCC and GWRC have Memorandums' of Partnership in place with relevant iwi under the Local Government Act 2002. DoC also has a Protocol in place governing interactions with mana whenua providing for an ongoing relationship between the parties as part of Settlement Deeds.

The policy framework under both the RA77, Regional Parks Network Plan and the Hutt City District Plan and Greater Wellington's Natural Resources Plan and Proposed Plans anticipate consultation and consideration of the views of mana whenua as part of the decision-making framework for an exchange under the RA77, resource consent and plan processes. Winstones intends to continue that engagement process with key stakeholders and work with mana whenua as it develops its proposal.

#### Summary Table of Iwi Group Discussions at Belmont Quarry

Winstone's has strong relationships and partnerships with multiple mana whenua dating back 10-20 years. As part of the works programme for the site a number of discussions have been held with Te Āti Awa, Ngāti Toa Rangatira and Taranaki Whānui. Once the Fast-Track Approvals Bill was announced the potential for Belmont Quarry Development to be submitted to the fast track has been tabled with mana whenua.

Date	lwi Groups Involved	Main Discussion Points	Participants
24 July 2023	MATERIAL PROPERTY.	Preliminary discussions on project collaboration and expectations.	Val Panui (Fletcher Building), Wiremu Tamati-Smith (Winstone Aggregates), Kura Moeahu (Chairman, Te Āti Awa)
22 August 2023		Detailed discussions on collaboration strategies, project specifics, and community engagement.	Val Panui, Nick Traber (Fletcher Building), Amanda Croft, Wiremu



Date	lwi Groups Involved	Main Discussion Points	Participants	
			Tamati-Smith (Winstone Aggregates), Kura Moeahu (Chairman, Te Āti Awa)	
20 February 2024	Ngāti Toa, Te Āti Awa	Discussion on the significance of Belmont Park, future environmental and resource management, and the Belmont Quarry Development.	Helmut Modlik (Ngāti Toa), Wirangi Luke (Te Āti Awa), <b>S</b> 9(2)(a) Hon. Kris Faafoi, Mark Rippey (Winstone Aggregates)	
6 March 2024	Taranaki Whānui, Te Āti Awa	Site visit to discuss on-ground environmental management and project specifics.	Kara Puketapu (CEO, Taranaki Whānui), s 9(2)(a) Sam Shepherd, Mark Rippey (Winstone Aggregates); Apologies: Wirangi Luke, s 9(2)(a) s 9(2)(a)	
22 March 2024	Ngāti Toa	Focus on biodiversity strategies, partnership agreements, and development plans for the Belmont Quarry.	Rawiri Faulkner, Aimee Bishop (Ngāti Toa), <b>s 9(2)(a)</b> Rayya Ali (Winstone Aggregates)	
15 April 2024	Taranaki Whānui	Discussion of the Belmont Quarry Development.	Kara Puketapu, (CEO, Taranaki Whānui), <b>s 9(2)(a)</b> (Winstone Aggregates), Lee Hunter (Project Manager, Taranaki Whānui)	

Winstone Aggregates has engaged in a comprehensive series of discussions with iwi groups, initiating in July 2023 with preliminary talks involving Te Āti Awa that set the foundation for future collaborations. These discussions progressed to include more detailed strategic meetings addressing project specifics and community engagement. In February 2024, the discussions expanded to include Ngāti Toa and covered significant topics such as the environmental implications of the Belmont Park and potential land swap proposals. A crucial site visit with Taranaki Whānui and Te Āti Awa took place in March 2024, which was followed closely by a strategic meeting in March 2024 focusing on biodiversity strategies, partnership agreements, and development plans. Subsequently, the project discussions continued in April 2024, focusing on the fast-tracking of the project. These discussions are integral to ensuring the operations align with both the cultural values of the iwi and the environmental priorities essential to the quarry's sustainable development.



## 9. Project Details and Optimal Development:

#### Long-term Sustainable Development Strategy:

The sustainable development of Belmont Quarry necessitates a strategic approach to overburden management. With the quarry's future in mind, it's crucial to assess the development options with and against the establishment within the current boundaries of the Regional Park for an Overburden Disposal Area (OBDA).

#### **Development without Regional Park OBDA:**

- Current overburden disposal options within the Cottle OBDA are exhausted and signal the urgent need for alternative overburden disposal solutions to sustain quarry operations. There is no capacity for overburden from another quarrying campaign.
- Lack of a proximal OBDA could lead to increased costs, environmental impact, and logistical inefficiencies, potentially affecting the quarry's ability to supply essential aggregate.

#### Advantages of an area within the neighbouring Regional Park OBDA:

- Establishing an OBDA within the Regional Park offers a solution that allows the
  continuation of quarrying at Belmont Quarry, it aligns with sustainability principles,
  significantly reducing the carbon footprint associated with overburden disposal
  (reduced haul distance & grade).
- This approach provides ample capacity for the long-term development of the quarry, ensuring a steady supply of aggregate materials.
- It also presents opportunities for enhancing local biodiversity and recreational value through the rehabilitation of the disposal area.
  - Regeneration efforts: Aiming to further the park's regeneration from its
    past as farmland, with a coordinated biodiversity strategy developed in
    partnership with GWRC and iwi.
  - Collaboration for improvement: The park, a popular spot for mountain biking, walking, and tramping, will see enhancements to existing facilities and new additions. Winstones' commitment includes working closely with



- community groups like Friends of Belmont Park, following thorough consultations.
- Higher quality: The land being transferred has higher quality ecological values, compared to the current low ecological values of the area proposed within the Belmont Regional Parks.

#### Operational excellence:

Winstones' commitment to operational excellence and environmental stewardship is demonstrated through its history of compliant and innovative OBDA management, including the successful development of the Cottle OBDA.

#### Quarry development conclusion:

The comparative analysis underscores the necessity of a Regional Park OBDA for the long-term, sustainable development of Belmont Quarry. This strategy not only supports the operational needs of the quarry but also contributes positively to the regional ecosystem and community.

## 10. Alternatives and Options:

As part of the Belmont Quarry development project there have been extensive evaluations of Overburden Disposal Area (OBDA) options to ensure sustainable quarry operations. Three options were considered, two primary options have been explored at depth: the Northern Gully OBDA and the Regional Park OBDA, with a focus on achieving operational efficiency and environmental compliance.

Transport offsite analysis: Exploring the feasibility of offsite overburden disposal revealed significant challenges, leading to its exclusion from further consideration. Key factors included the prohibitive costs associated with transporting such a massive volume of overburden, the scarcity of viable locations capable of accommodating the material, and the substantial carbon footprint generated by offsite transport and significant increase in the volume of traffic onto State Highway 1. These constraints underscored the necessity of identifying a sustainable, cost-effective solution close proximity to Belmont Quarry.



Northern Gully OBDA: This on-site option had the potential to allow for a far smaller footprint of overburden and was initially considered but has been excluded because it is likely to be unsuitable due to the presence a significant stream. The consenting pathway for this is onerous, with higher environmental impacts, while not allowing as much capacity for the overburden.

Regional Park OBDA: Identified as the preferred option due to several advantages:

- Absence of significant environmental constraints, offering a simpler consenting pathway.
- Sufficient capacity to meet Belmont Quarry's long-term overburden disposal requirements.
- Located in close proximity to the quarry, ensuring operational efficiencies and lower transport costs.

This analysis underscores the strategic selection of the Regional Park OBDA as the optimal solution for Belmont Quarry's expansion, balancing operational needs with environmental and community considerations.

## 11. Timeframe and Efficiency Gains:

Business certainty is paramount for investments in long-term projects like Belmont Quarry. Without government intervention, Winstones anticipates a 5-year timeline to secure all necessary approvals, with a large project risk profile associated. This protracted process, potentially commencing works by 2029, could constrain operations in the short term and affect quarry productivity. However, if the project is selected for the referral process, this timeline could be significantly reduced, enabling Winstones to commence OBDA earthworks within two years. This acceleration not only enhances business certainty and operational efficiency but also mitigates inflationary pressures on a crucial construction material by reducing consenting delays and ensuring timely supply.



## 12. Conclusion:

The Belmont Quarry Development proposal aligns with key national and regional priorities, reflecting a strategic approach to resource management and infrastructure development:

- Regional and National Significance: The proposal is crucial for the Wellington region and New Zealand, ensuring the availability of essential aggregates for critical infrastructure, underscoring its importance at both regional and national levels
- Alignment with Fast-Track Consenting: Demonstrates readiness to proceed under the proposed fast-track consenting process, facilitating significant infrastructure developments efficiently.
- Environmental and community stewardship: Committed to high environmental standards, aligning with governmental emphasis on sustainable management of natural resources. This proposal potentially going a Fast-Track pathway, does not change the high standards that Winstones sets for its sites, its developments, and its people.
- Government stakeholders: Winstones will continue ongoing proposal engagement with stakeholders, such as GWRC, HCC and DoC.
- Iwi partners: Winstones has existing relationships with a number of local iwi, such as Ngāti Toa, Te Āti Awa and Taranaki Whānui. Winstones proposes to build these into stronger partnerships in the coming years
- Contribution to National Prosperity: Positioned to significantly contribute to New Zealand's economic and infrastructural prosperity under the new legislative paradigm.
- Providing business certainty. Accelerating this proposal not only solidifies
  business certainty and enhances operational efficiency but also plays a pivotal role
  in alleviating inflationary pressures on key construction materials. By streamlining
  the consenting process, we ensure a reliable and timely supply, effectively
  managing costs and supporting the construction sector's stability.



This proposal represents a proactive step towards addressing both regional needs and national infrastructure goals, showcasing a model for future projects within the Government's strategic framework.



## **Appendix A: Record of Titles**

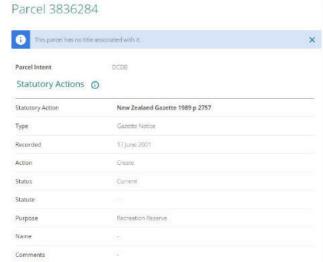




Figure 2: Belmont Regional Park is a Gazette notice



## RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD





Identifier WN31B/39

Land Registration District Wellington

Date Issued 08 July 1987

**Prior References** 

WN19A/709 WN348/92 WNE3/862

**Estate** Fee Simple

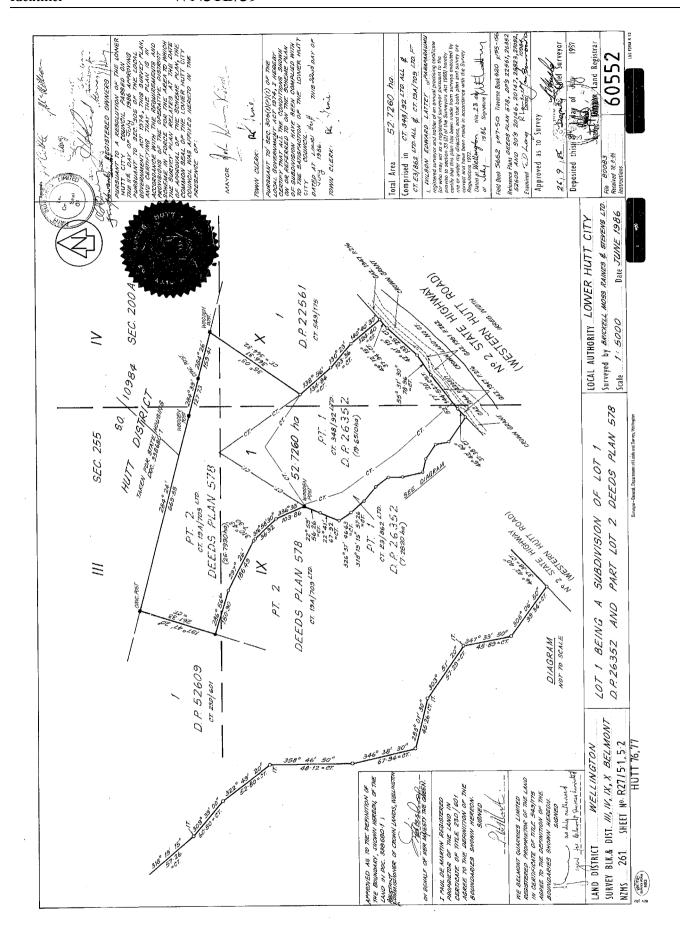
Area 52.7260 hectares more or less
Legal Description Lot 1 Deposited Plan 60552

**Registered Owners** 

Fletcher Concrete and Infrastructure Limited

#### **Interests**

10476608.1 Open Space Covenant pursuant to Section 22 Queen Elizabeth The Second National Trust Act 1977 - 23.6.2016 at 10:44 am.





# RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD





Identifier WN31D/969

Land Registration District Wellington

Date Issued 20 May 1988

**Prior References** WN549/175

**Estate** Fee Simple

Area 19.7170 hectares more or less

Legal Description Part Lot 1 Deposited Plan 22561

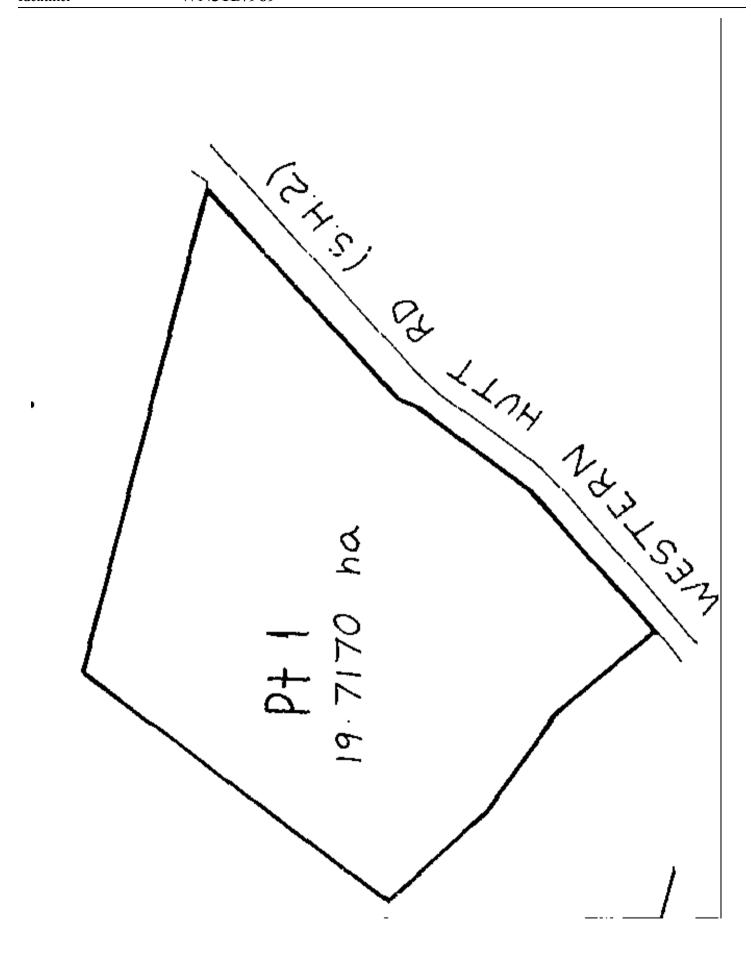
**Registered Owners** 

Fletcher Concrete and Infrastructure Limited

### **Interests**

9032630.1 Encumbrance to Hutt City Council - 28.9.2012 at 9:38 am

10476608.1 Open Space Covenant pursuant to Section 22 Queen Elizabeth The Second National Trust Act 1977 - 23.6.2016 at 10:44 am.





## RECORD OF TITLE UNDER LAND TRANSFER ACT 2017 FREEHOLD





**Part-Cancelled** 

Identifier WNF2/1438

Land Registration DistrictWellingtonDate Issued06 March 1967

**Prior References** WN489/101

**Estate** Fee Simple

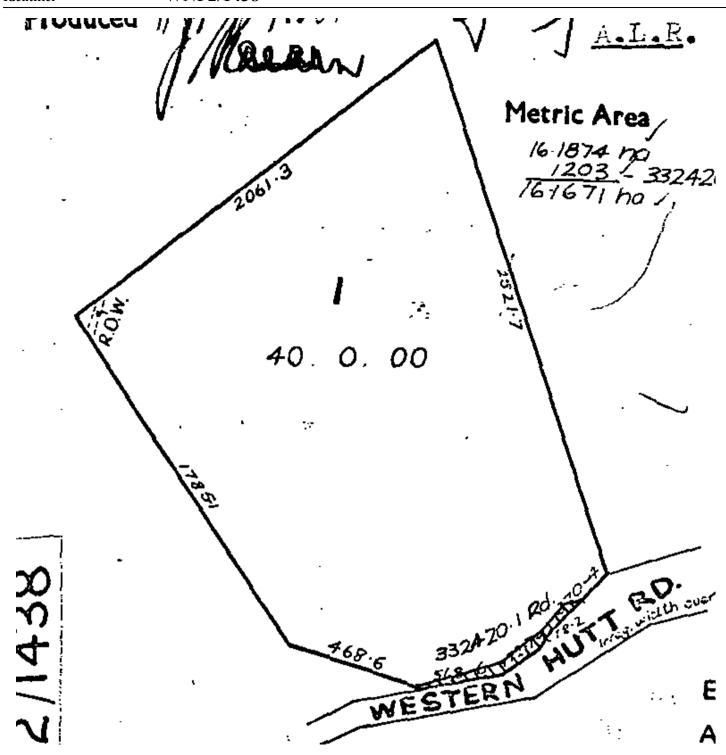
Area 16.1874 hectares more or less
Legal Description Lot 1 Deposited Plan 28205

**Registered Owners** 

Fletcher Concrete and Infrastructure Limited

#### **Interests**

Subject to a right of way over part coloured yellow on DP 28205 specified in Easement Certificate 701267 332420.1 Gazette Notice taking part (1203m2) of the within land (hatched black hereon) for road - 22.6.1979 at 10.55 am





## **Appendix B: Environmental credentials**

Winstones is an industry leader and takes its environmental footprint very seriously, it is committed to long-term sustainability. As part of the Winstones sustainability strategy an Environmental Product Declaration (EPD) for aggregate and sand products was undertaken, making Winstones the first quarry company in New Zealand to do so. Released in February 2022, the EPD covers the embodied carbon of products from eight quarries across the country.

To further demonstrate commitment to sustainability Winstones developed a positive biodiversity plan with the goal of achieving positive biodiversity by 2030. This plan involves implementing voluntary pest control measures across their sites, focusing on degraded native vegetation within ecological districts without existing pest control programs. Winstones plans to invest \$3.2 million by 2030, with an initial investment of \$600,000 in the first year alone.

Winstones efforts in sustainability and biodiversity have been recognised by industry peers. They were awarded the 2022 MIMICO Environment and Community Award for being the first quarry company in New Zealand to produce an EPD for aggregate and sand products. This prestigious award was determined by popular vote at the QuarryNZ conference.

In addition to biodiversity and sustainability initiatives, Winstones conducted a Life Cycle Assessment (LCA) of their products in 2020. Working with environmental services consultancy thinkStep, an assessment of the environmental impacts of their product inputs and outputs, including electricity, diesel, water, waste, and emissions was undertaken. The outcome of the LCA was the EPD, a science-based and independently verified document that communicates transparent and comparable data about the life-cycle environmental impacts of their products.

The EPD not only addresses carbon emissions but also considers the environmental impacts of acid rain, algal blooms, summer smog, energy use, and water consumption. It covers all stages of the product life cycle and adheres to international standards. Winstones EPD supports end users in their commitment to environmental sustainability

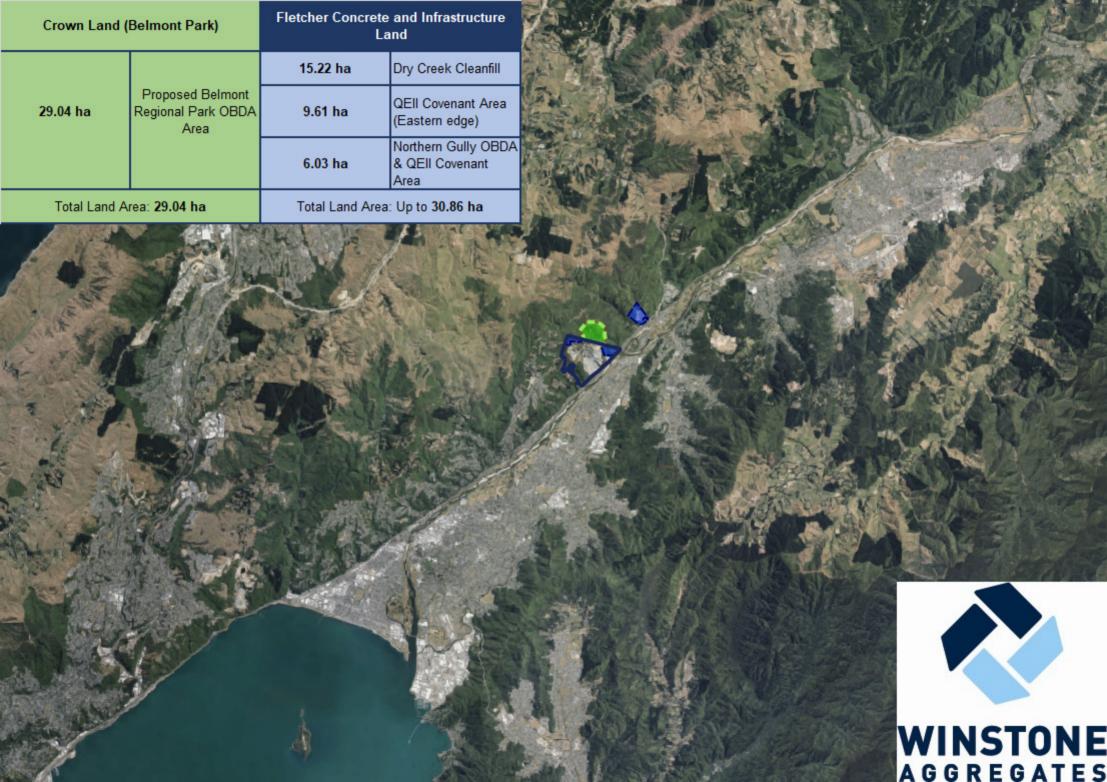


and seeking credits with relevant rating schemes such as the Infrastructure Sustainability Rating Scheme and Green Star Design and As Built New Zealand v1.0.

Through Winstones sustainability efforts, including biodiversity initiatives and the production of the EPD, the aim is to reduce Winstones environmental footprint and become national leaders in the aggregate industry. Winstones prioritises transparency, environmental protection, and continuous improvement as key pillars of the sustainability strategy.



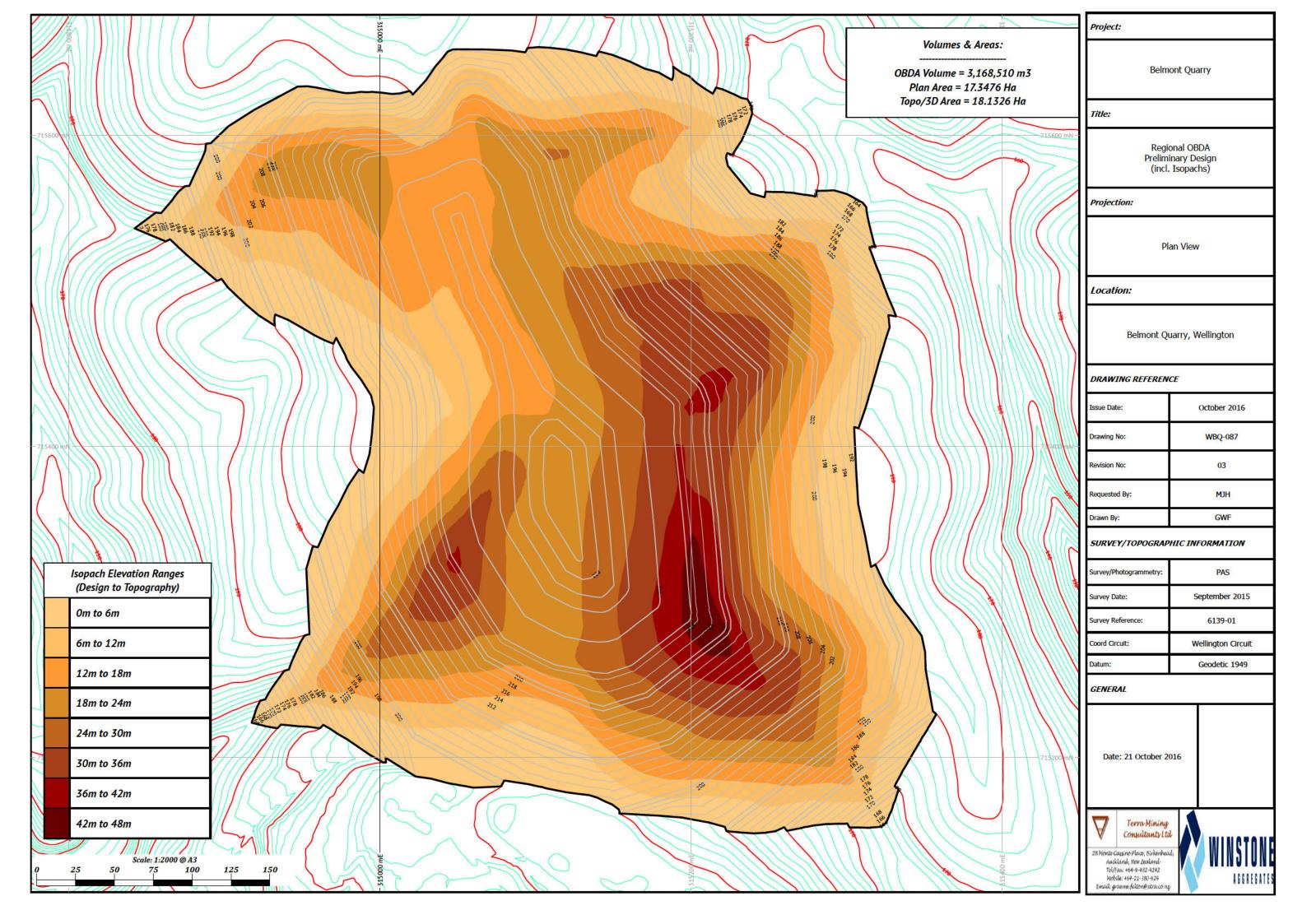


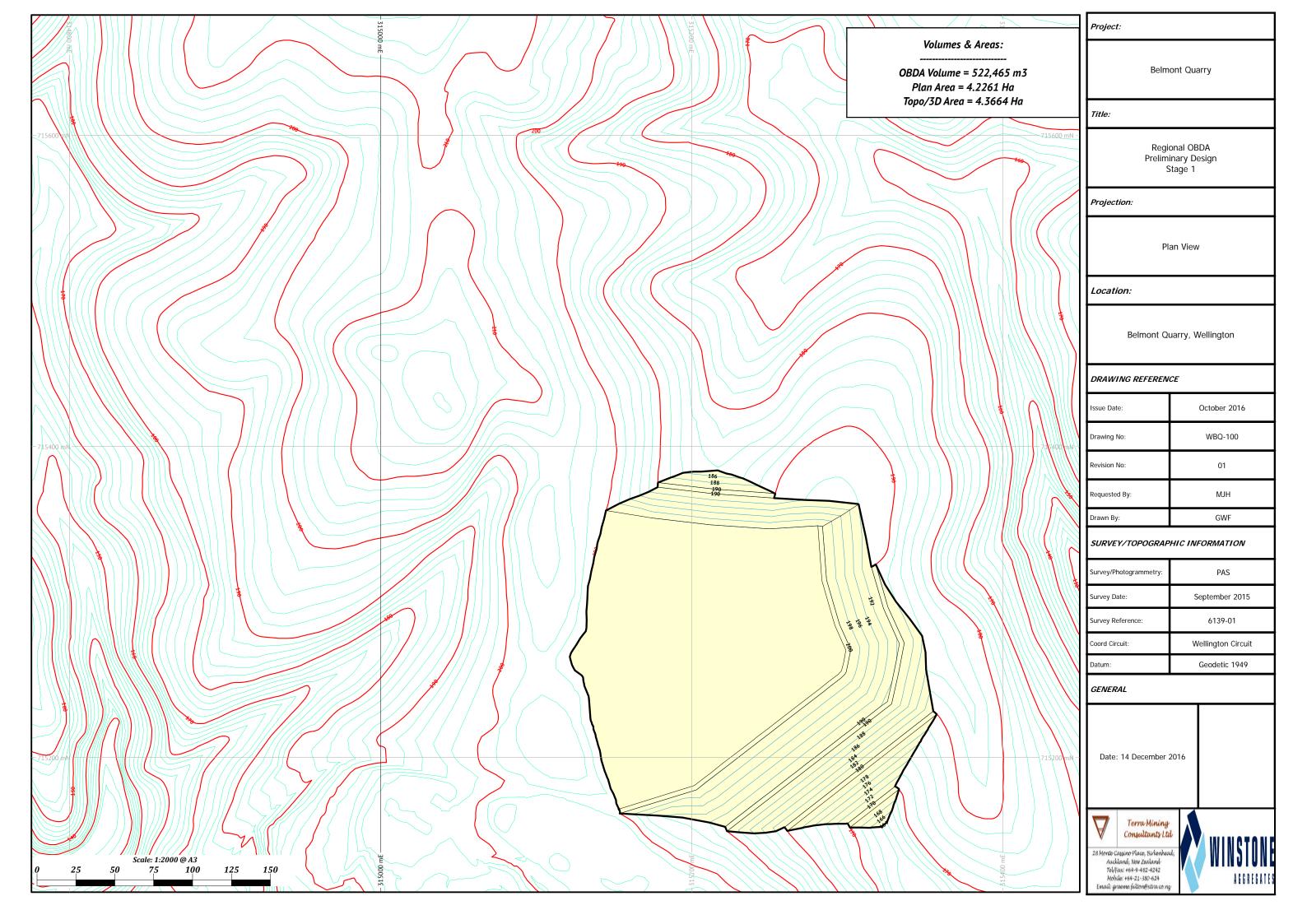


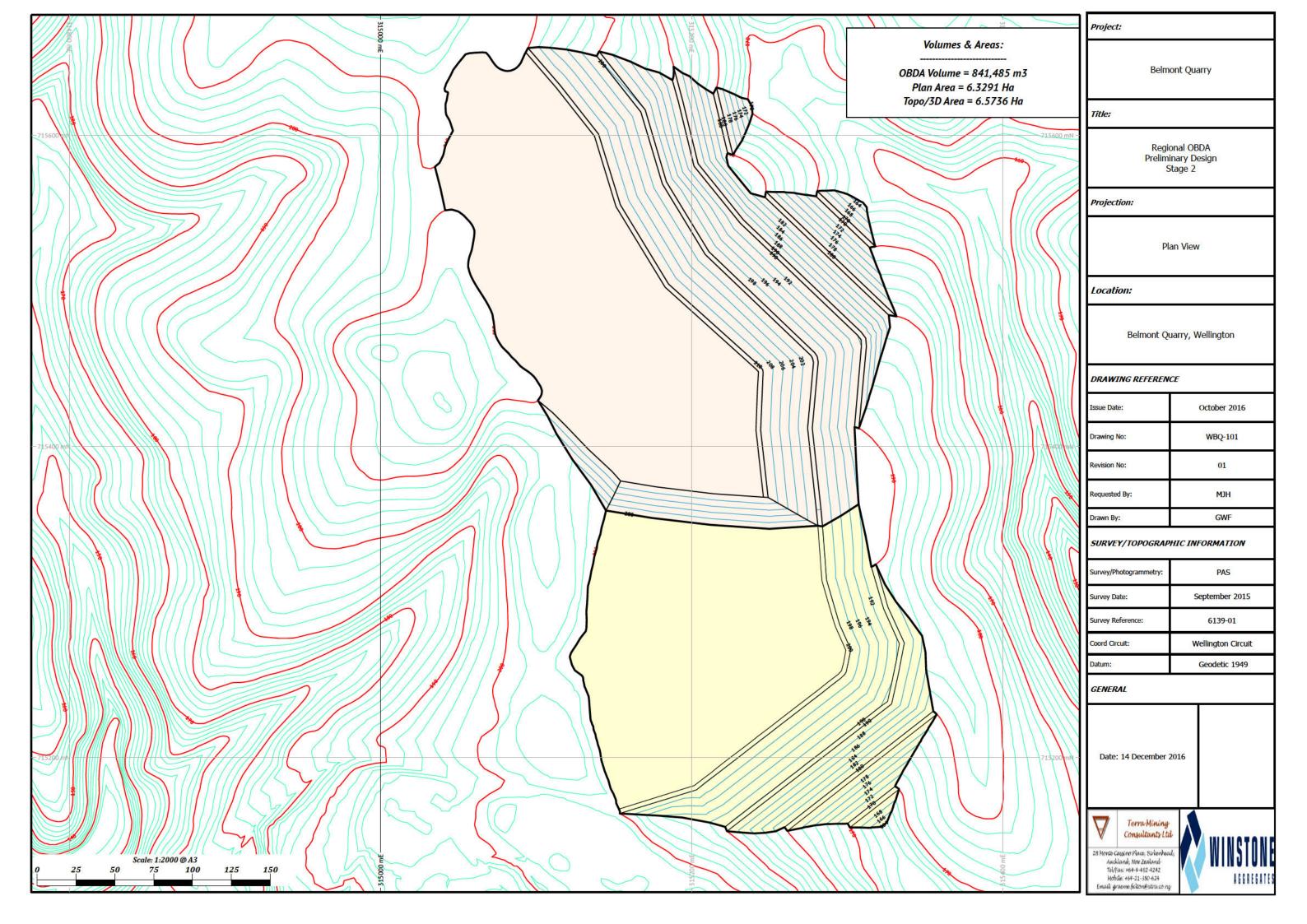


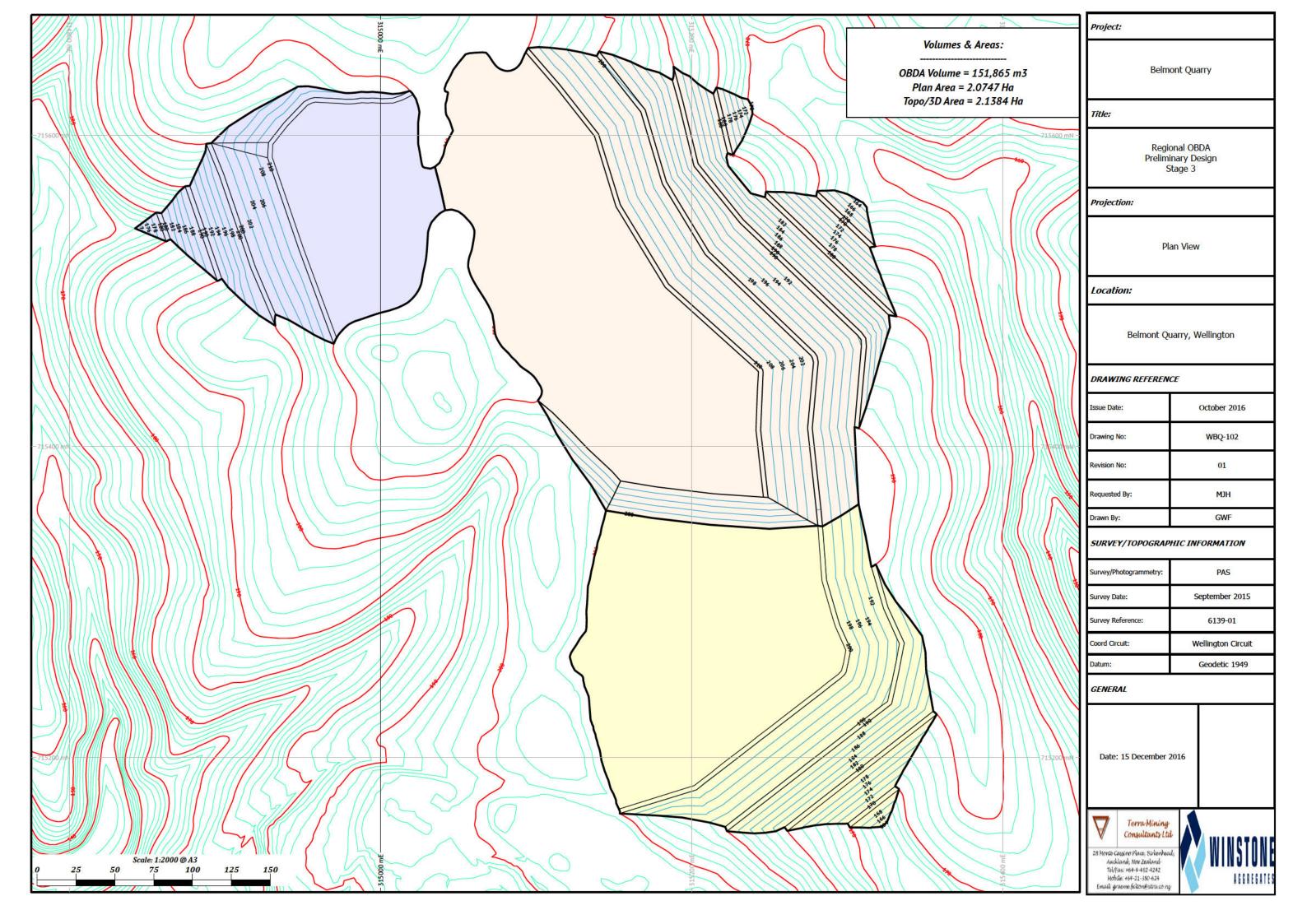


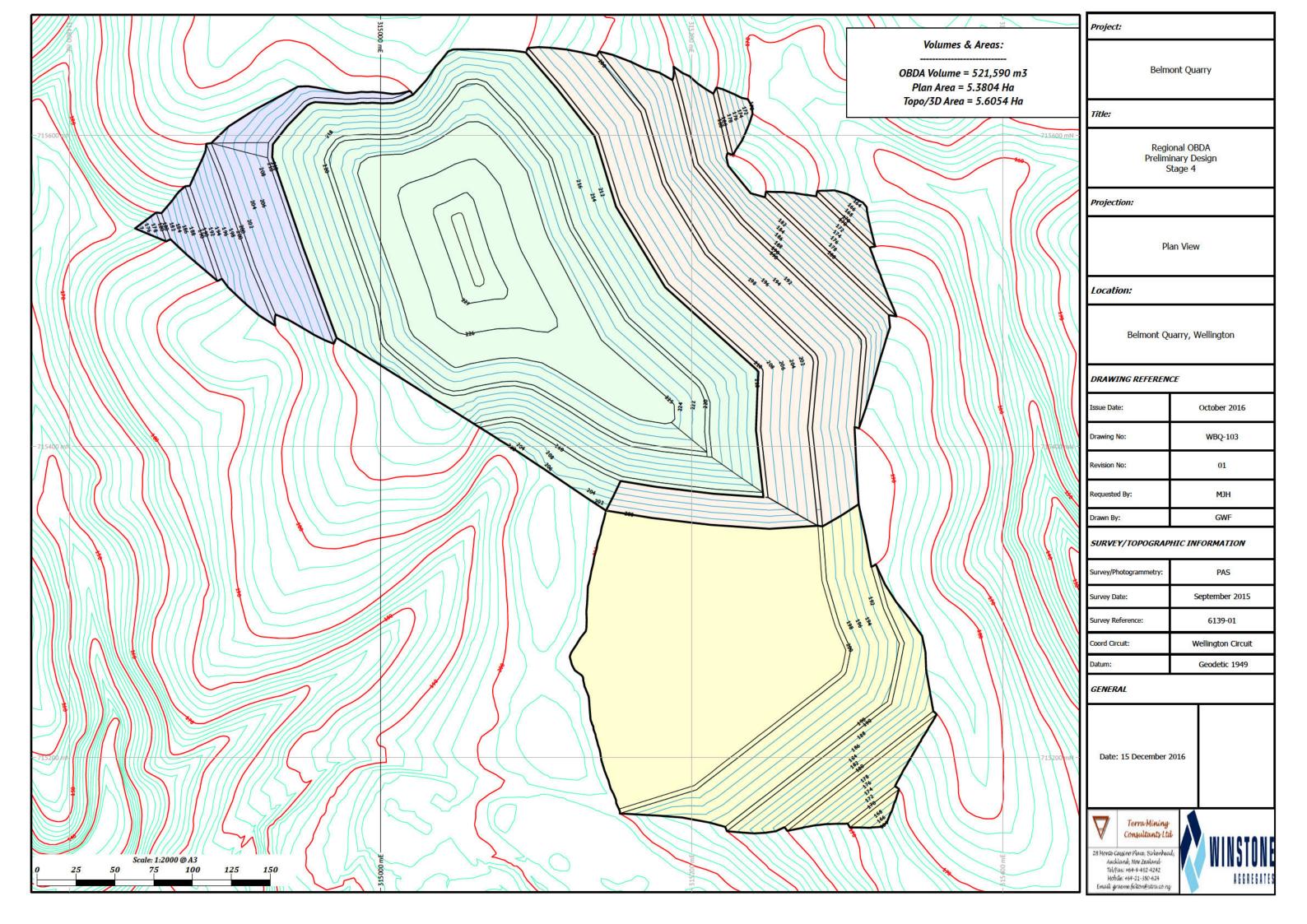
## **Appendix D: Engineering drawings**

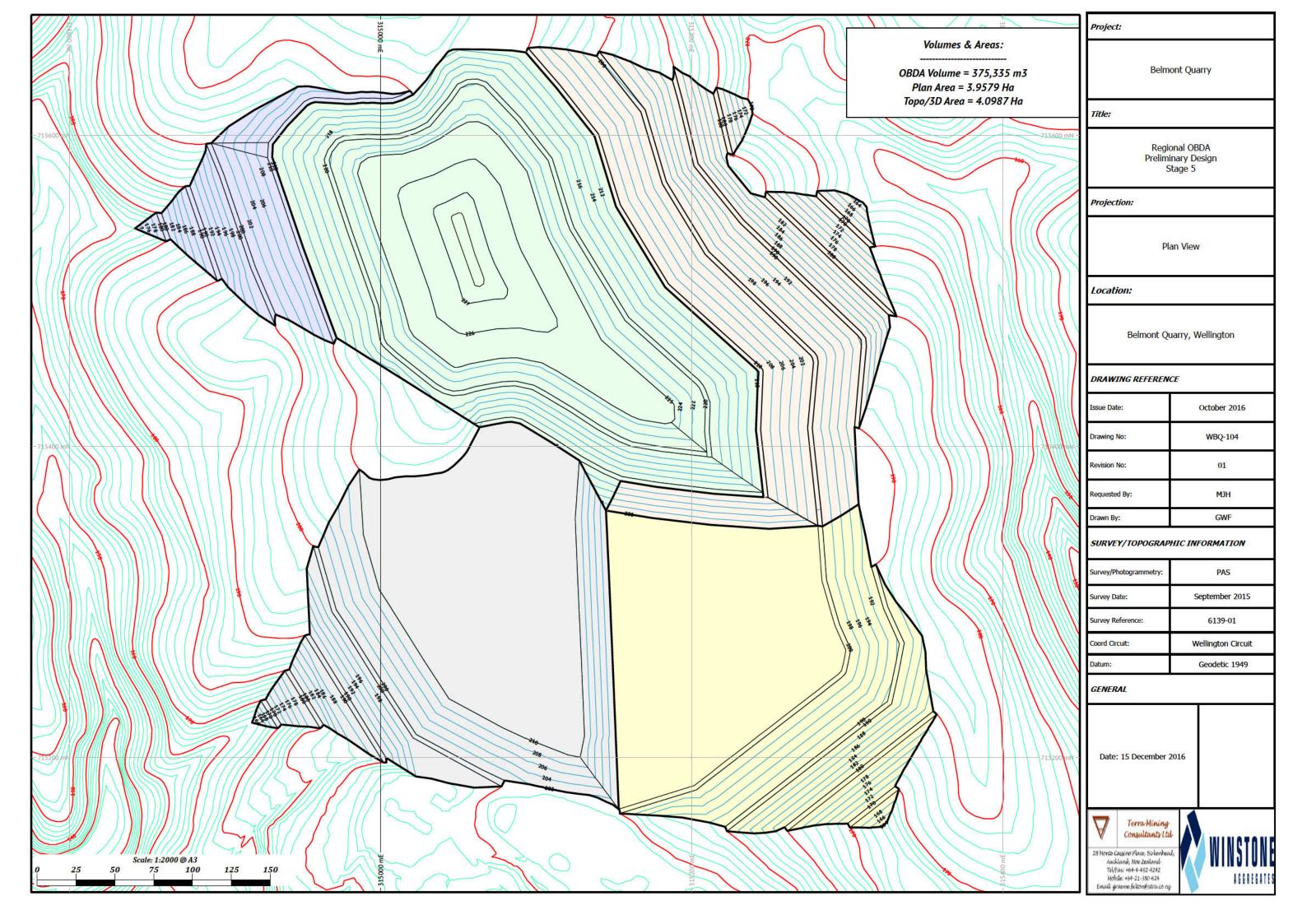


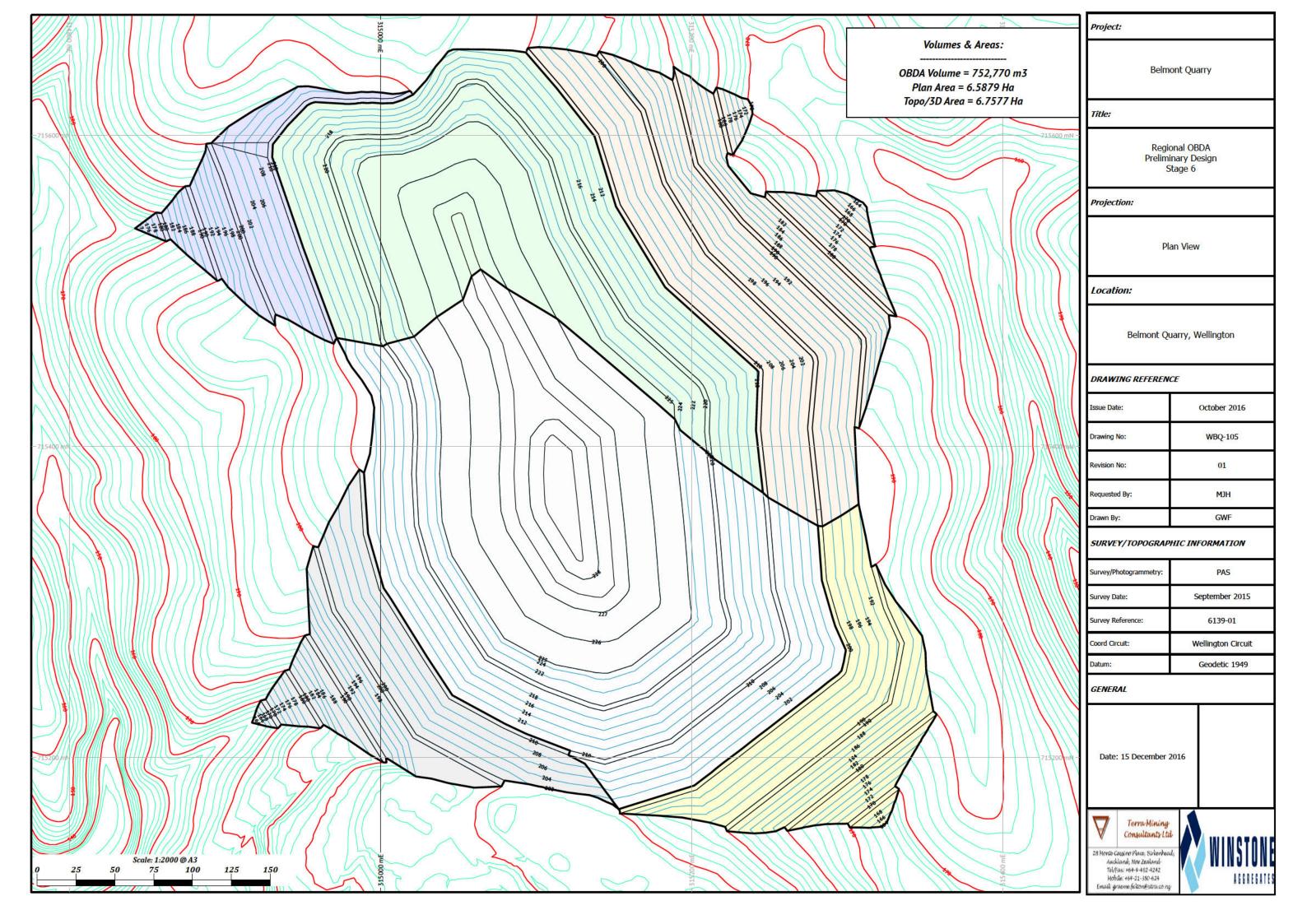














## **Definitions**

### Overburden:

Overburden is material overlying the greywacke resource and comprises topsoil, clay, greensand, limestone, and highly weathered greywacke and contains less than 1% of vegetation. Due to the physical and chemical characteristics of overburden, it is generally not suitable for any large scale commercial uses such as engineered fill. There is very low demand for the use of this material and presently only very small volumes of overburden are used off-site for bulk fill from Belmont quarry.

### Overburden Campaigns/Seasons:

Overburden campaigns involve the placement of overburden over a concentrated period of time, to maximise efficiency. It is estimated that  $300,000 \, \mathrm{m}^3$  of overburden will likely be placed in an individual overburden campaign, depending on market demand and the overburden volume to be removed. Overburden campaigns typically last 6 to 8 months and are timed to coincide with the summer months. Phasing of campaigns is determined by a number of factors (available resource, market demand & development plans), typically once every 2-3 years.