

New Victoria – Generator Application (136952/FO/2023)

This Generator Options Appraisal is put forward further to the Generator Planning Application reference 136952/FO/2023. The purpose of the Appraisal is to assist the LPA in their determination of the application with a particular focus on providing responses to consultee comments, that include justification for the proposed generator location and the inclusion of a roof screen to the area of the generator compound.

Options Appraisal and MCC Responses

LPA Question / Consultee Question	Applicant Response
Car parking layout – will there be a loss of car parking space due to the installation of generator?	It has been confirmed that there is no loss of car parking as a result of the proposed generator.
Vehicle manoeuvres – MCC requires verification that necessary vehicle manoeuvres can be undertaken to access/egress the remaining spaces through vehicle swept path information.	Vehicle tracking has been provided to the LPA (reference SCP drawings VIC-SCP-XX-XX-DR-C-VTG001 - P01 - Generator Vehicle Tracking) submitted to the LPA under email reference 'New Victoria - Generator Application (136952/FO/2023) dated 03 July (from Cameron Radford). It is confirmed that there is no impact on vehicle tracking as a consequence of the introduction of the generator.
Maintenance vehicle parking – MCC requires number of parking space for maintenance visits, their allocation, and parking arrangement to be put in place for those displaced.	Subject to building operator allocation but one car parking space for once yearly maintenance inspection and to be managed by the building operator.
Justification for emergency generator	In terms of timing, the requirement for the incorporation of the emergency generator arose after the scheme had obtained planning consent. The requirement came from the investor, the Pension Insurance Corporation who wished to improve on the overall fire safety provision of the building and ensure the future proofing of the development in response to both the evolving Part B of the Building Regulations and the implementation of the Building Safety Act. The addition of the generator is one part of several life safety enhancements instructed by the investor and will provide the secondary power supply to the life safety installations for both Building 1 and Building 2.

Justification for being external / proposed location

Meetings were held on site on 14th October 2021 and 30th November 2022 with the case officer (Tony Mitchell) in attendance. The purpose of the meeting, amongst other matters, was to progress the pre-application process for the introduction of the emergency generator and from this meeting the case officer provided agreement in principle on the justification for an external generator.

The New Victoria site, whilst appearing generous in area, is extremely constrained, and the applicant sets out below the key considerations and challenges faced by the project team in their careful selection of the proposed generator location.

Location of Generator inside the building.

Please refer to Figure 1. Figure 1 is the site plan and lower ground floor building layout. Each lower ground floor building layout has been annotated to explain the use of each space. It can be seen from the building lower ground floor layout that there is no internal space for a generator and it is therefore necessary to locate the generator external to the Building(s). Justification as to why the generator could not be located underground is given later in this report.

Location of Generator outside of the building.

In considering the options available for the external location of the generator the project team needed to first consider the following inherent site constraints:

- Existing statutory requirements in regard to car parking spaces and cycle parking numbers.
- Underground Network Rail Culvert (culverted River Irk Watercourse) and the associated Network Rail no build zone. Please refer to Figure 2 with the Culvert shown dark red and the culvert exclusion zone (which is basically a zone in which construction of above or below ground structures is heavily restricted) show hatched light blue. It can be seen from this plan that this provides a considerable restriction on options for locating the Generator.
- Network Rail Rights of Access. Figure 3 is a combined site constraints plan and shown hatched brown is the Network Rail Access Plan as appended to the Residential Phase Lease between Network Rail, as freehold landowner and PIC, as long lease holder. It is a strict requirement of the Residential Phase Lease that PIC must keep free of obstructions the route shown coloured brown. It can be seen from this plan that this provides a considerable restriction on options for locating the Generator.
- Figure 3 and the supporting annotation further provides an overview of the alternative options considered for the generator location. The area marked with the "X" is the area of the proposed generator and compound, this same area was then tested in alternative locations. These areas are shown with the dark blue circle and

numbered with the annotation adjacent providing the reasons why these locations were considered not feasible through a combination of operational impact / 3rd party restrictions and amenity.

Below Ground Generator Location

- It is not possible to locate the generator below ground. The constraints discussed above in considering the location of the generator equally apply to any consideration in locating the generator below ground. Furthermore, the functional design of a package generator as proposed for New Victoria is not designed to be below ground. Please refer to Figure 4 – Technical Note; Futureserv MEP Engineers.

Benefits of the Proposed Location

This Options Appraisal has so far, explained the challenges in seeking a suitable location for the generator. It has clearly explained the inherent site constraints, along with those imposed by third party agreements. As a result, the applicant considers that the proposed generator location is the most suitable and beneficial due to:

- The location does not impact on the operational and amenity provisions.
- Cycle and car parking numbers are maintained in accordance with the consented scheme.
- The location of the generator has the least visual impact for the general public. It has some visual impact for a minimal number of residents who occupy the Northern most apartments on Building 2, however this is demonstrably the location which has the least impact on the overall development. This has been set out later in this report. The minimal visual impact of the effected residents is mitigated with the proposed screening set out below. See 'Visual Impact of the proposed Generator'.
- The location does not impede the Network Rail rights of access reserved under the Residential Phase Lease.
- The location does not encroach on to or near to the River Irk Culvert and exclusion zone.

Visual Impact of the proposed Generator

In response to MCC's concerns of the visual impact on the residents of the development from the proposed generator the project team have continued to evaluate the possibility of introducing a roof / screen. The team have undertaken a design appraisal of available options, taking into account the performance requirements of the generator, access for operation and maintenance of the generator and access for Network Rail (See diagram below which helps to explain the proximity of the generator to the Network Rail retaining wall and the vertical access requirements).

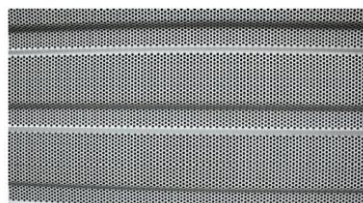


Network Rail
access required for
periodic inspection
of the retaining
wall

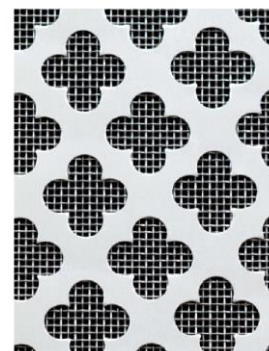
Considering the above factors, several design options were reviewed and below are precedent images of each along with a description on the page over:



Option 1



Option 2



Option 3



Option 4

Option 1 – This is a continuation of the perimeter louvered fencing but applied as a roof / screen over the generator. Whilst providing a consistent approach, the louvre spacing is too dense to allow for the exhaust ventilation.

Option 2 – Perforated steel panel with circular pattern for ventilation. Could be angled to create interest. This was discounted as whilst providing an aesthetically pleasing finish, the perforation is too dense to allow for the exhaust ventilation.

Option 3 – Perforated steel panels with bespoke design and metal mesh backing. Could be PPC to match the development colour scheme. The design was considered too fussy when read in conjunction with the façade design of the buildings and that of the surrounding lower ground floor areas. The perforation is too dense to allow for the exhaust ventilation.

Option 4 – RAL2023 Grey PPC louvred screen – individual blades. This is the preferred design solution as it mitigates the visual impact of the generator from the resident apartments in proximity to the generator and at the same time maintains the external environment and ventilation requirements of the generator exhaust. It will also be designed to allow for the introduction of removable sections thereby ensuring there is no impact on the required access arrangements by Network Rail for inspection of their retaining structure. Please see enclosed Planit drawings reference VIC-PIE-EZ-00L-DR-L-00031 S4-P03 and VIC-PIE-EZ-00L-DR-L-00130 S3-P02.

Generator Options Appraisal Conclusion

Following receipt of instruction from the investor, the project team set out to explore the most suitable location for the standby emergency generator. From the outset it was clear the team needed to determine a location that met the following criteria.

- Ensure resident safety and comfort
- Not to impact upon resident amenities or operational strategies
- Minimise visual impact to residents and public
- Ensuring the technical operation and ongoing maintenance requirements of the generator are not compromised
- Not to contravene any statutory requirements, specifically car parking and cycling provision
- Not to contravene any leasehold agreements with the freehold owner Network Rail.

The team considered several opportunities to locate the generator within the building. At the point of instruction, the building design was well advanced at RIBA Stage 4 and therefore the internal accommodation schedule finalised. Given the size of the generator and the space required for its maintenance and operation, there was simply no space available within the building as the space had been fully utilised.

The team then considered various external locations for the generator all as discussed above.

At the time the team did not consider locating the generator below ground. Asides from this approach being highly unusual, the site is particularly constrained below ground as has been demonstrated through the discussion above. Further technical justification on this point is provided by Futureserv MEP Engineer in Figure 5 below.

In response to the request from the LPA, options for screening the generator have been developed and these are set out above with Option 4 being the teams proposed solution.

Figure 1.0 – Building 1 and Building 2 Lower Ground Floor Layouts – Constraints to Internal Generator Location

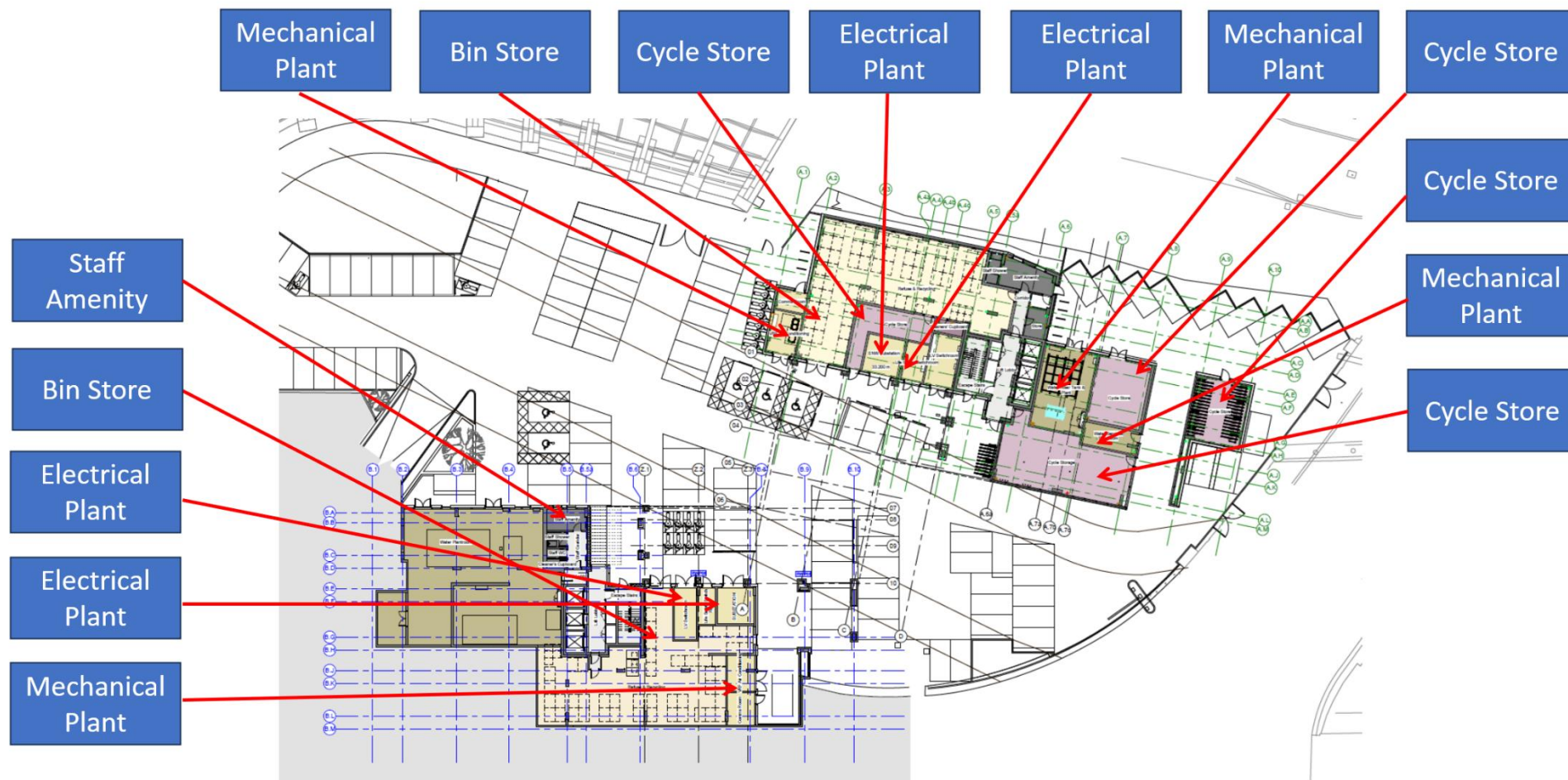


Figure 2 – Culvert and Culvert Exclusion Zone and impact on ability to locate the Generator in alternative location or below ground.

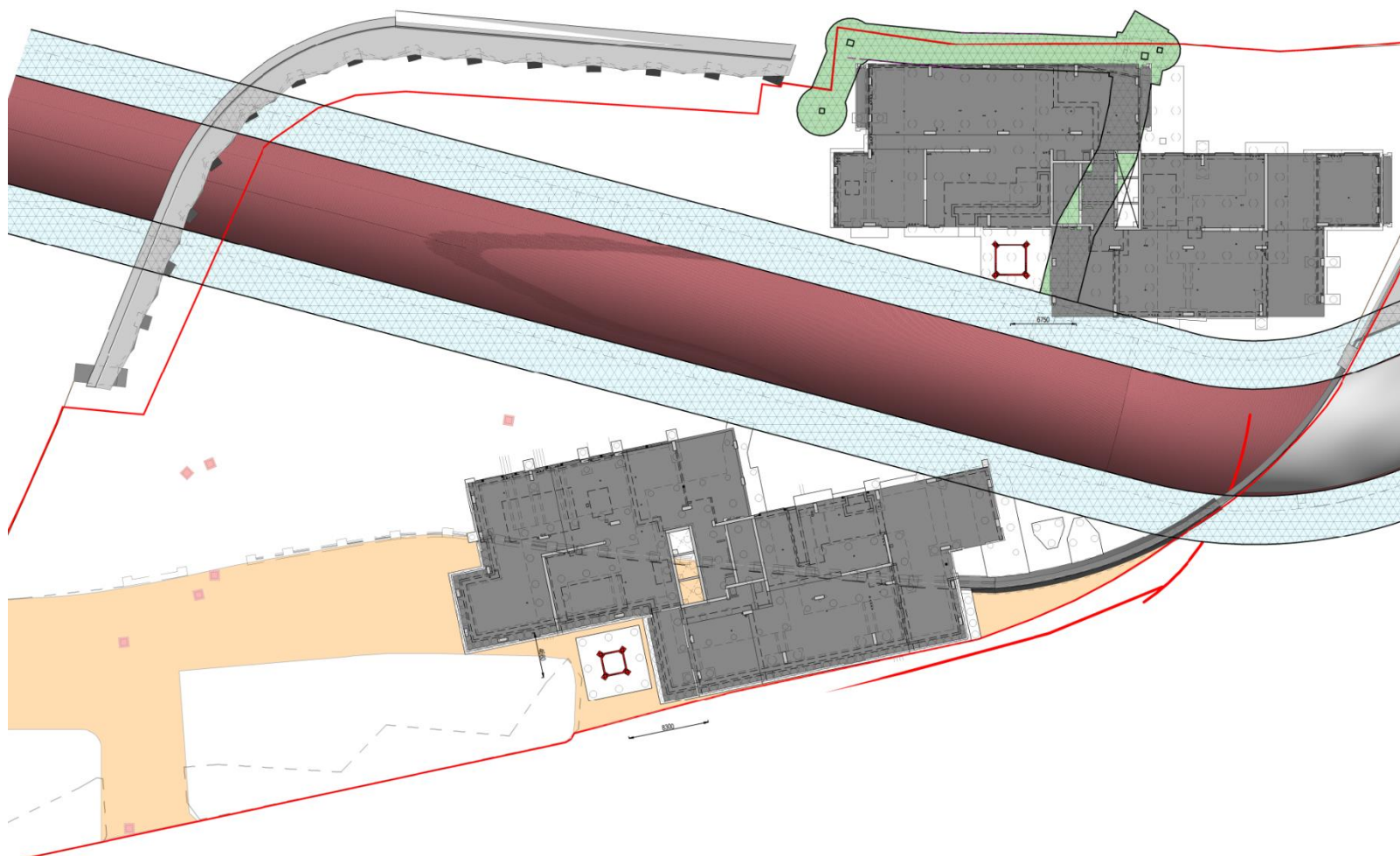


Figure 3 – Combined Site Constraints Plan Including Culvert, NR Access and External Generator Location Options



Location 1:

- Location impacts car parking provision and vehicle swept paths.
- Medium visual impact location for residents.
- Location would impact agreed access strategy for Network Rail.

Location 2:

- Location impacts access route/extents for façade maintenance strategy.
- Location impacts external doors to main building.

Location 3:

- Location impacts access route/extents for façade maintenance strategy.
- Location impacts external doors to main building, notably resident cycle store and staff amenity fire escape route.
- Location clashed with 3rd sub-station plot.
- High visual impact location for residents and public sightlines from station platform.

Location 4:

- Location impacts car parking provision and vehicle swept paths.
- Location impacts Network Rail access for maintenance of Cheetham Hill Bridge.
- High visual impact location for residents and public sightlines from station platform.

Location 5:

- Location impacts car parking provision and vehicle swept paths.
- High visual impact location for residents.
- Prevents access to Network Rail land through arch.

Location 6:

- Location impacts external doors to main building, notably main fire escape routes, fire service access door, bin store doors and sub-station doors.
- High visual impact location for residents.
- Clashes with Amenity Link Bridge Structure.

Conclusion: On the basis of the above options, it is considered that the proposed generator location is the correct location for the development

Figure 4 – Technical Note; Futureserv MEP Engineers

From: Mike Perkins <mperkins@futureserv.co.uk>

Sent: 20 July 2023 13:57

To: Rothwell David <David.Rothwell@vinci-building.co.uk>

Cc: Dean Meredith <dean.meredith@hesimm.co.uk>; Nick Richardson <nick.richardson@hesimm.co.uk>; Simon Cooke <simon.cooke@hesimm.co.uk>

Subject: RE: Generator New Vic

Hi David

Further to our conversation and noting the emails, please find below our response:

Following CRF instruction to include an external standby generator our understanding is that the location for this couldn't have been underground, mainly due to site constraints in terms of the existing culvert management and new capping beam and the subsequent re-direction of below ground services (congested in any case given incoming and interlinking services for the two towers) to accommodate the culvert, leaving no space for a generator room to be created below ground.

Furthermore, the design requirements and challenges for the generator installation if enclosed below ground are much more onerous in terms of dealing with the high volumes of air required for cooling purposes and combustion, with an increased risk of re-circulation.

In order to provide sufficient air intake, attenuation and exhaust air an enclosed room would require a significant volume of space to accommodate these requirements, and an increased headroom to allow suitable mounting of the set, radiator and ductwork. Also if below ground whilst bunding could be provided, there would be an increased flood risk which could affect operation of the generator when required in an emergency. These factors worked against us given the ground conditions referred above.

In addition the generator position should allow easy access for a hi-ab vehicle or crane to offload, which would be extremely difficult if the set was buried underground, and would require a larger footprint to achieve in terms of obstacles for maintenance access / replacement that wasn't possible.

Regards

Mike

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