



Appendix 8.5: Accurate Visual Representations and Methodology

AVR LONDON VERIFIED VIEW METHODOLOGY

Project: Jersey
Date: December 2022

AVR London were commissioned to produce a number of verified views of the proposals in St Helier, Jersey. The AVR positions were identified by Gillespies.

2D plans, Ordnance Survey Mapping, local survey data, and the 3D model for the proposed development were provided by the architect.

Photography

Equipment

Canon 5DSR
 Canon TS-E 24mm f/3.5L II
 Canon EF 50mm f/ 1.4

1.1 All photography is undertaken by AVR London's in-house professional photographers.

1.2 In professional architectural photography, having the camera level with the horizon is desirable in order to prevent three point perspective being introduced to the image and to ensure the verticals within the photographed scene remain parallel. This is standard practice and more realistically reflects the viewing experience.

1.3 The lens used by the photographer has the ability, where necessary, to shift up or down while remaining parallel to the sensor, allowing for the horizon in the image to be above, below or central within the image whilst maintaining two point perspective. This allows the photographer to capture the top of a taller proposed development which would usually be cropped, without introducing three point perspective.

When the shift capability of the lens is not used the image FOV and dimensions are the same as a prime lens of equal focal length.

1.4 Once the view positions are confirmed by the townscape consultant, AVR London takes professional photography from each location. At each location the camera is set up over a defined ground point using a plumb line to ensure the position can be identified later.

1.5 The centre of the camera lens is positioned at a height of 1.60 metres above the ground to simulate average viewing height. For standard verified photography, each view is taken with a lens that gives a 68 degree field of view, approximately, a standard which has emerged for verified architectural photography. The nature of digital photography means that a record of the time and date of each photograph is embedded within the photo file; this metadata allows accurate lighting timings to be recreated within the computer model.

VIEW	EASTING	NORTHING	HEIGHT	POINT DESCRIPTION
9	41798.118	65320.308	6.418	Camera position at ground height
901	41687.291	65274.185	20.071	Corner window
902	41697.657	65294.015	20.057	Corner window
903	41704.419	65306.930	18.997	Corner window
904	41665.501	65332.513	24.531	Corner glazing
905	41613.437	65371.804	23.480	Corner building
906	41565.721	65412.951	25.317	Corner building
907	41558.828	65420.714	19.798	Corner window
908	41726.367	65366.270	21.584	Corner window
909	41778.303	65336.143	14.747	Corner Coping
910	41788.485	65330.699	13.397	Corner Coping
911	41788.177	65330.495	9.952	Corner stonework
912	41794.462	65322.845	6.400	Corner stop valve
913	41792.292	65323.073	6.417	Corner gully
914	41793.069	65319.066	6.408	Corner white line
915	41784.712	65315.534	14.716	Top centre lamp post below collar
916	41784.682	65315.567	7.103	Corner panel on lamp post
917	41756.955	65329.106	8.808	Centre road sign

Table 1: Surveying data

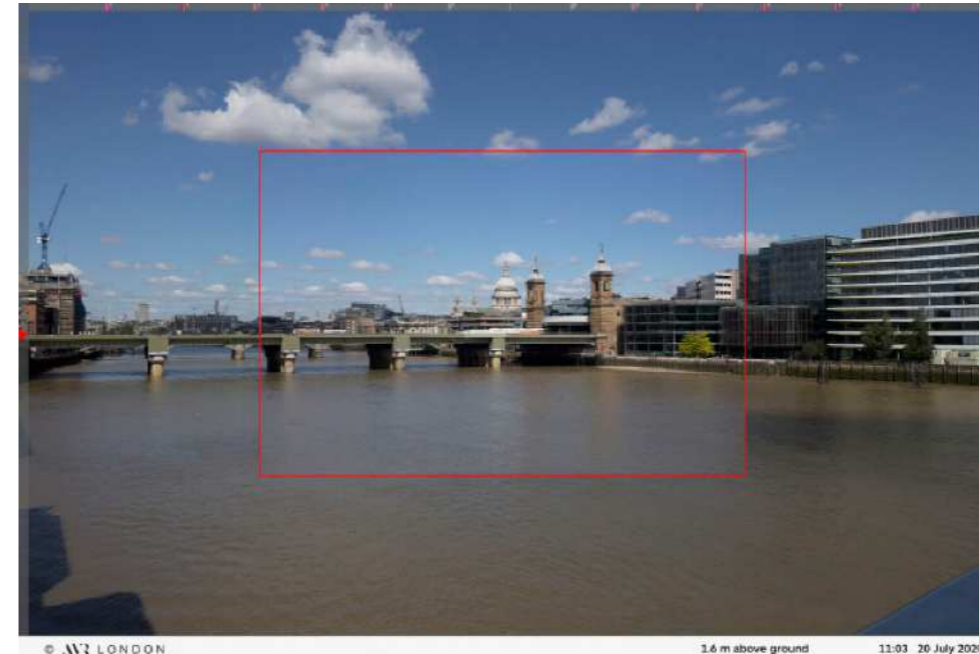


Fig 01: 24mm photograph with 50mm photograph overlaid

1.6 Once the image is taken, the photographer records the tripod location by photographing it in position to ensure the position can be accurately located for surveying (Fig 02).

1.7 Each image is processed by the photographer to ensure it visually matches the conditions on site when the photograph is taken.

Regarding 24mm focal length in an urban environment

1.8 When we observe a scene, we can focus on 6-10 degrees, however, without moving our head, the scene beyond is observed using our peripheral vision. Once we move our eyes we



Fig 02: Tripod location as documented by photographer

can observe almost 180 degrees without moving our head. In reality we do not view the world through one fixed position, we move our eyes around a scene and observe, height, width and depth.

This is acknowledged by the Landscape Institute's Technical Guidance Note, Visual Representation of Development Proposals. The appreciation of the wider context seen through peripheral vision or by moving our eyes (changing the focal point) is key to our experience of a scene.

While photography cannot replicate the human experience entirely, it is widely acknowledged that the use of a 24mm lens in an urban environment allows the viewer a more realistic experience than a 50mm lens. For this reason the 24mm lens is used as standard in the creation of urban photo montage as outlined by the London View Management Framework (2012).

50mm Lens/Crop

1.9 It should also be stressed that if you were to centrally crop into an image taken with a 24mm lens to the same HFOV as a 50mm lens, the resulting image is identical to that produced by taking it directly with a 50mm lens.



Fig 03: Survey points as highlighted by surveyor

AVR LONDON VERIFIED VIEW METHODOLOGY

An image with a 70 degree HFOV (24mm lens) is geometrically and perspectively identical to an image showing a HFOV of 40 degrees (50mm lens), the 24mm lens purely gives more context to all sides (Fig 01). Further, all of our images allow this 50mm equivalent HFOV to be seen, read and understood on the image itself. The reader and in particular an experienced inspector can then make a judgment with the benefit of both fields of view.

Survey

Equipment

Leica Total Station Electronic Theodolite which has 1" angle measuring accuracy and 2mm + 2ppm distance accuracy.

Leica Geosystems DGPS Zeno 20.

2.1 The photographer briefs the surveyor, sending across the prepared photographs, ground positions and appropriate data.

2.2 The surveyor establishes a line of sight, two station baseline, coordinated and levelled

by real time kinetic GPS observations, usually with one of the stations being the camera location. The eastings and northings are aligned to the Government of Jersey Differential GPS Coordinate System (ETRS89 / Jersey Transverse Mercator).

2.3 Once the baseline is established, a bearing is determined and a series of clearly identifiable static points across the photograph are observed using the total station. These observations are taken throughout the depth of field of the photograph and at differing heights within the image.

2.4 The survey control stations are resected from the OS base mapping and wherever possible, linked together to form a survey network. This means that survey information is accurate to tolerances quoted by GPS survey methods in plan and commensurate with this in level.

2.5 Horizontal and vertical angle observations from the control stations allow the previously

identified points within the view to be surveyed using line of sight surveying and the accurate coordination of these points determined using an intersection program. These points are then related back to the Ordnance Survey grid and provided in a spreadsheet format showing point number, easting, northing and level of each

point surveyed, together with a reference file showing each marked up image (Fig 03 and Table 1).

2.6 The required horizon line within the image is established using the horizontal collimation of the theodolite (set to approximately above the ground) to identify 3 or 4 features that fall along the horizon line.

2.7 Using the surveyed horizon points as a guide, each photograph is checked and rotated, if necessary, in proprietary digital image manipulation software to ensure that the horizon line on the photograph is level and coincident with the information received from the surveyor.

Accurate Visual Representation Production

Process

3.1 The 3D computer model is precisely aligned to a site plan on the OS coordinate grid system.

3.2 Within the 3D software a virtual camera is set up using the coordinates provided by the surveyor along with the previously identified points within the scene. The virtual camera is verified by matching the contextual surveyed points with matching points within the overlaid photograph. As the surveyed data points, virtual camera and 3D model all relate to the same 3-dimensional coordinate system, there is only one position, viewing direction and field of view where all these points coincide with the actual photograph from site. The virtual camera is now verified against the site photograph.

3.3 For fully-rendered views a lighting simulation (using accurate latitude, longitude and time) is established within the proprietary 3D modelling

software matching that of the actual site photograph. Along with the virtual sunlight, virtual materials are applied to the 3D model to match those advised by the architects. The proprietary 3D modelling software then uses the verified virtual camera, 3D digital model, lighting and material setup to produce a computer generated render of the proposed building.

3.4 The proposal is masked where it is obscured behind built form or street furniture.

3.5 Using the surveyed information and verification process described above, the scale and position of a proposal with a scene can be objectively calculated. However, using the proprietary software currently available the exact response of proposed materials to their environment is subjective so the exact portrayal of a proposal is a collaboration between illustrator and architect. The final computer generated image of the proposed building is achieved by combining the computer-generated render and the site photography within proprietary digital compositing software.

Presentation

Graticule

4.1 Each Accurate Visual Representation is framed by a graticule which provides further information including time and date of photography, horizon markers and field of view of the lens (Fig 04).

4.2 The Field of View is represented along the top of the image in the form of markers with degrees written at the correct intervals.

4.3 The horizon markers indicate where the horizontal plane of view from the camera lies, this is defined as described above, by the surveyor.

4.4 The date and time stamp documents the time the photograph was taken and this information is taken directly from the EXIF data of the camera.



Fig 04: Example AVR London graticule

References:

GLA - London View Management Framework: Supplementary Planning Guidance (2012) Appendix C: Accurate Visual Representations
Landscape Institute - Visual Representation of Development Proposals - Technical Guidance Note (September 2019)
Landscape Institute - Guidelines for Landscape and Visual Impact Assessment: 3rd edition (April 2013)



G:\2001_PP_Jersey_ST2\0903

© **AVR** LONDON

1.6 m above ground

14:04 20 October 2022

Grid Reference: E 40828.651 N 64852.945 (Government of Jersey Differential GPS Coordinate System)
Elevation: 16.571m AOD
Direction of View: 42°
Distance to site boundary: 820m

Baseline Photo - Viewpoint 01



G:\2001_PP_Jersey_ST2\0900

© AVR LONDON

1.6 m above ground

14:04 20 October 2022

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



© AR LONDON

1.6 m above ground

18:49 10 August 2021

Grid Reference: E 41290.960 N 66003.984 (Government of Jersey Differential GPS Coordinate System)
Elevation: 38.200m AOD
Direction of View: 147°
Distance to site boundary: 145m

Baseline Photo - Viewpoint 03



© AVR LONDON

1.6 m above ground

18:49 10 August 2021

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



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1.6 m above ground

16:35 20 October 2022

Grid Reference: E 37504.255 N 65915.422 (Government of Jersey Differential GPS Coordinate System)
Elevation: 6.987m AOD
Direction of View: 95°
Distance to site boundary: 3800m

Baseline Photo - Viewpoint 05



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© AVR LONDON

1.6 m above ground

16:35 20 October 2022

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



012001_Plan_Jersey_ST210902

© AR LONDON

1.6 m above ground

12:36 20 October 2022

Grid Reference: E 42040.525 N 65116.254 (Government of Jersey Differential GPS Coordinate System)
Elevation: 44.874m AOD
Direction of View: 305°
Distance to site boundary: 432m

Baseline Photo - Viewpoint 08



012001_Plan_Jersey_ST210902

© **AVR** LONDON

1.6 m above ground

12:36 20 October 2022

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



012001_P01_Jersey_ST210902

© AR LONDON

1.6 m above ground

11:39 10 August 2021

Grid Reference: E 41798.118 N 65320.308 (Government of Jersey Differential GPS Coordinate System)
Elevation: 6.418m AOD
Direction of View: 288°
Distance to site boundary: 124m

Baseline Photo - Viewpoint 09



012001_Pt_Jersey_ST210902

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1.6 m above ground

11:39 10 August 2021

Horizontal Field of View: 68° (planar projection)
 Vertical Field of View: 49.8°
 Paper Size: 420 x 297mm (A3)
 Correct printed image size: 670x 480mm (inner frame 390 x 260mm which represents 50mm equivalent 39.6° x 27° FOV)

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



012001_PP_Jersey_ST210902

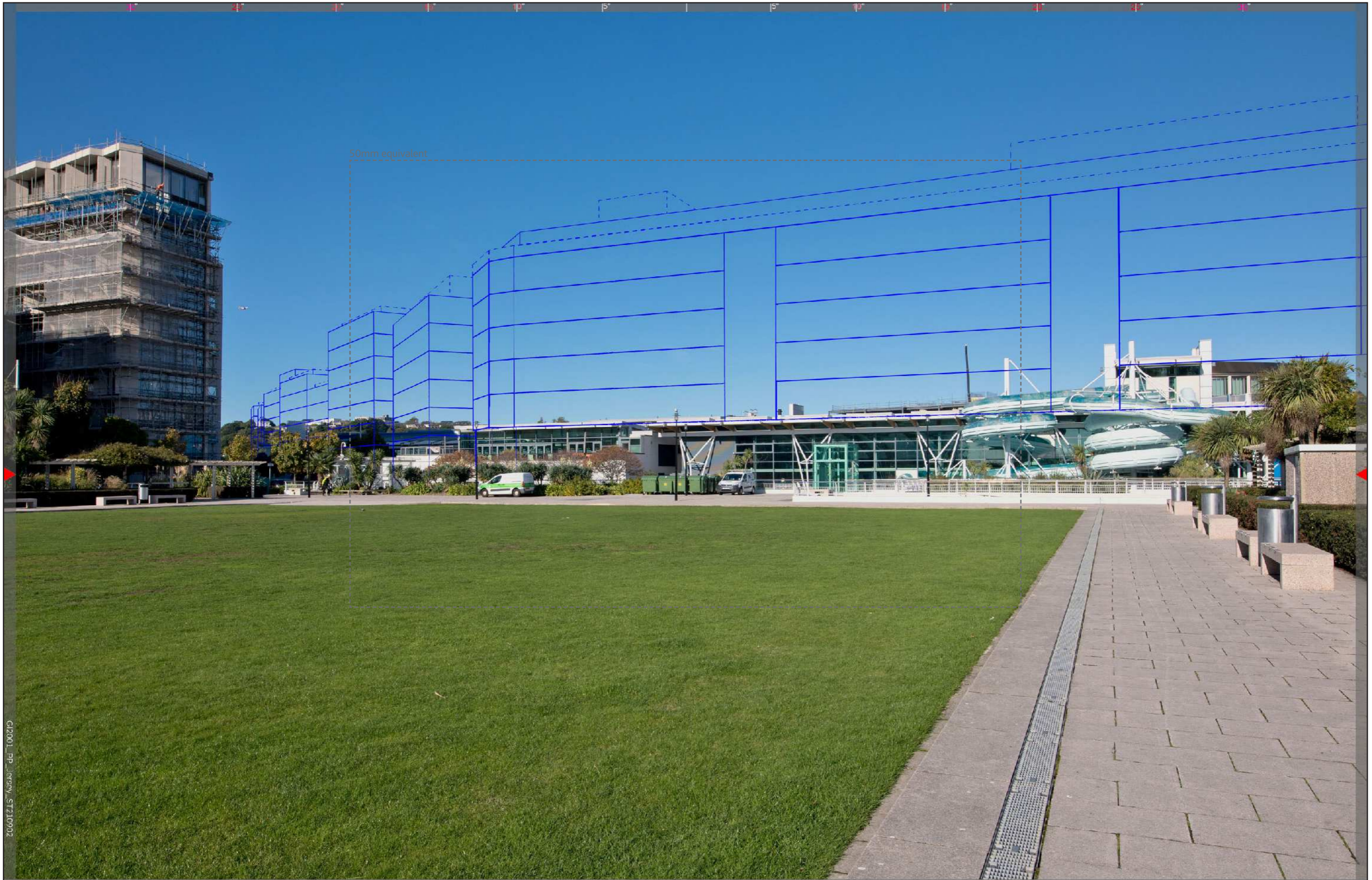
© AR LONDON

1.6 m above ground

14:56 20 October 2022

Grid Reference: E 41535.258 N 65241.129 (Government of Jersey Differential GPS Coordinate System)
Elevation: 11.583m AOD
Direction of View: 3°
Distance to site boundary: 65m

Baseline Photo - Viewpoint 10



G12001_PP_Jersey_ST210902

© **AVR** LONDON

1.6 m above ground

14:56 20 October 2022

Horizontal Field of View: 68° (planar projection)
 Vertical Field of View: 49.8°
 Paper Size: 420 x 297mm (A3)
 Correct printed image size: 670x 480mm (inner frame 390 x 260mm which represents 50mm equivalent 39.6° x 27° FOV)

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



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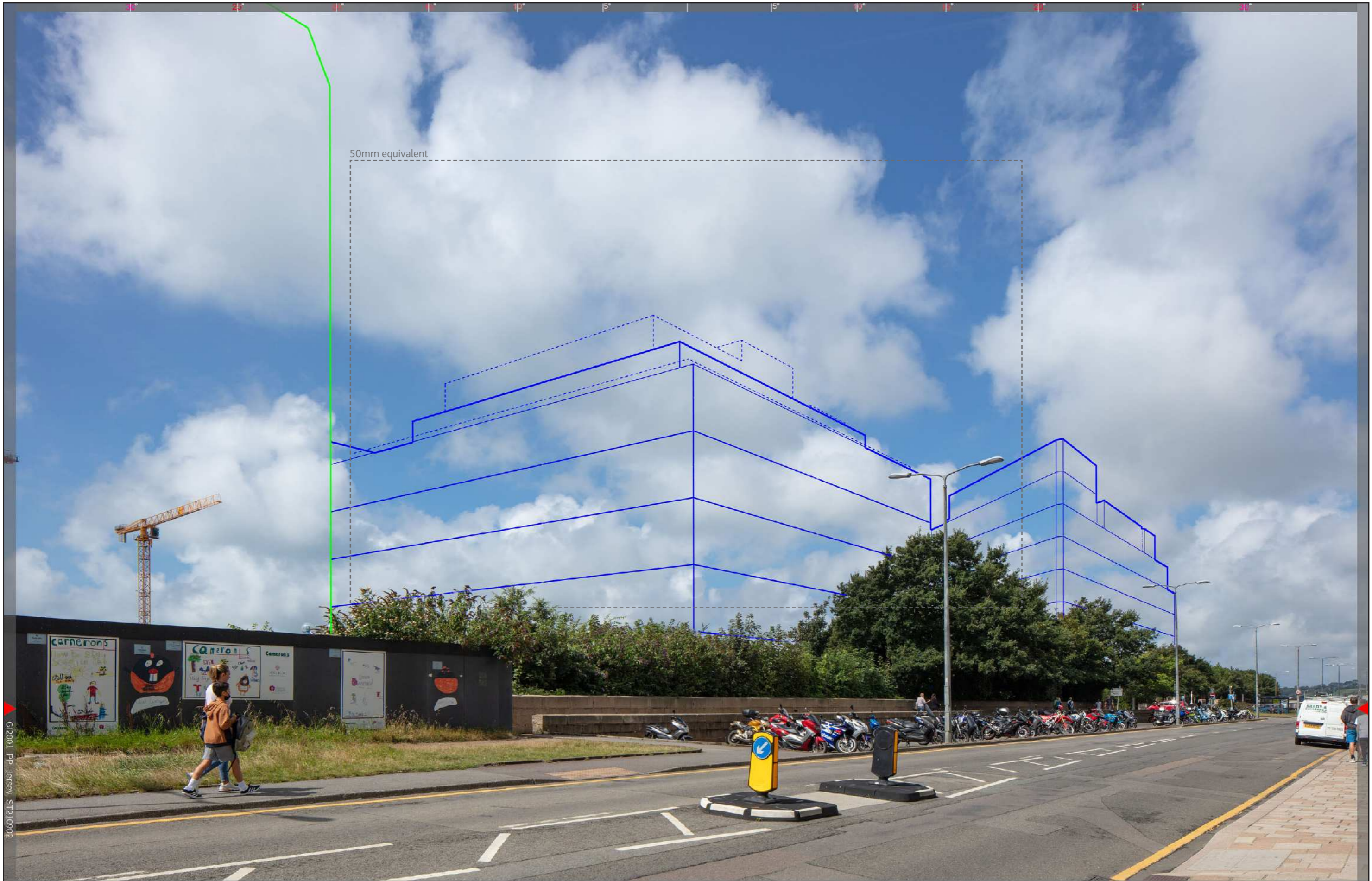
© AR LONDON

1.6 m above ground

12:08 10 August 2021

Grid Reference: E 41680.152 N 65534.721 (Government of Jersey Differential GPS Coordinate System)
Elevation: 6.895m AOD
Direction of View: 284°
Distance to site boundary: 19m

Baseline Photo - Viewpoint 14



CI2001_Pa_Jersey_ST210902

© **AVR** LONDON

1.6 m above ground

12:08 10 August 2021

Horizontal Field of View: 68° (planar projection)
 Vertical Field of View: 49.8°
 Paper Size: 420 x 297mm (A3)
 Correct printed image size: 670x 480mm (inner frame 390 x 260mm which represents 50mm equivalent 39.6° x 27° FOV)

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Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



G 2001_PP_101969_S72.0902

© AR LONDON

1.6 m above ground

13:08 20 October 2022

Grid Reference: E 41880.465 N 64614.040 (Government of Jersey Differential GPS Coordinate System)
Elevation: 46.657m AOD
Direction of View: 338°
Distance to site boundary: 740m

Baseline Photo - Viewpoint 17



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1.6 m above ground

13:08 20 October 2022

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



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1.6 m above ground

18:24 10 August 2021

Grid Reference: E 41502.306 N 65690.594 (Government of Jersey Differential GPS Coordinate System)
Elevation: 7.420m AOD
Direction of View: 183°
Distance to site boundary: 25m

Baseline Photo - Viewpoint 18



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1.6 m above ground

18:24 10 August 2021

Horizontal Field of View: 68° (planar projection)
 Vertical Field of View: 49.8°
 Paper Size: 420 x 297mm (A3)
 Correct printed image size: 670x 480mm (inner frame 390 x 260mm which represents 50mm equivalent 39.6° x 27° FOV)

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



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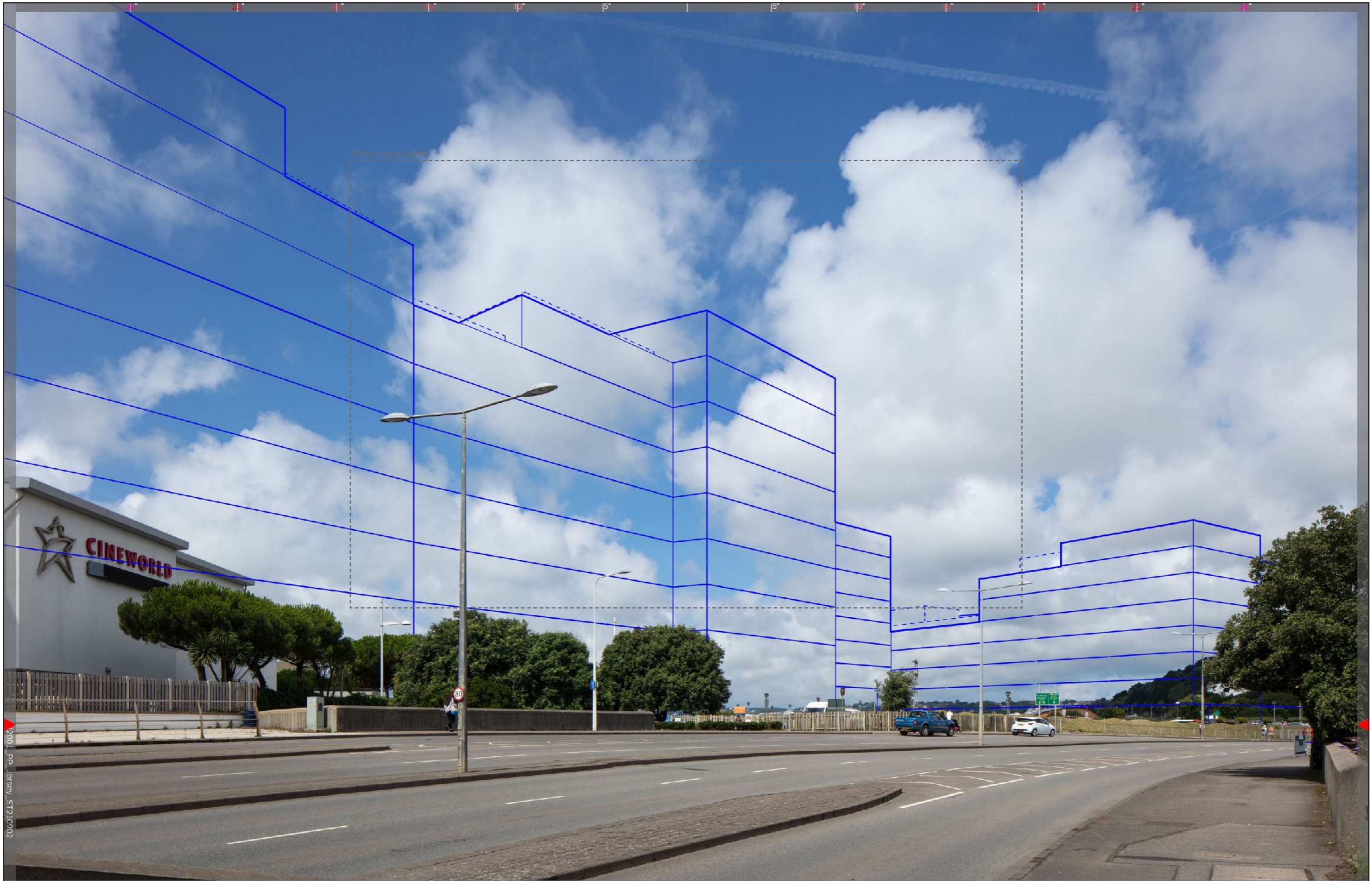
© AR LONDON

1.6 m above ground

12:16 10 August 2021

Grid Reference: E 41567.348 N 65460.903 (Government of Jersey Differential GPS Coordinate System)
Elevation: 8.508m AOD
Direction of View: 305°
Distance to site boundary: 0m (within boundary)

Baseline Photo - Viewpoint 19



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1.6 m above ground

12:16 10 August 2021

Horizontal Field of View: 68° (planar projection)
 Vertical Field of View: 49.8°
 Paper Size: 420 x 297mm (A3)
 Correct printed image size: 670x 480mm (inner frame 390 x 260mm which represents 50mm equivalent 39.6° x 27° FOV)

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Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



012001_Pb_Jersey_ST210902

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1.6 m above ground

11:43 10 August 2021

Grid Reference: E 41686.299 N 65379.256 (Government of Jersey Differential GPS Coordinate System)
Elevation: 9.040m AOD
Direction of View: 272°
Distance to site boundary: 0m (on site boundary)

Baseline Photo - Viewpoint 20



G12001_PP_Jersey_ST1210902

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1.6 m above ground

11:43 10 August 2021

Horizontal Field of View: 68° (planar projection)
 Vertical Field of View: 49.8°
 Paper Size: 420 x 297mm (A3)
 Correct printed image size: 670x 480mm (inner frame 390 x 260mm which represents 50mm equivalent 39.6° x 27° FOV)

This visualisation presents the Development (in blue) and other committed Jersey Development Corporation developments (in green) which are in close proximity to the site. Floors shown as dashed lines represent the maximum height for M&E plant.

Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



012001_PP_Jersey_ST210902

© AR LONDON

1.6 m above ground

11:58 10 August 2021

Grid Reference: E 41724.290 N 65448.934 (Government of Jersey Differential GPS Coordinate System)
Elevation: 7.759m AOD
Direction of View: 223°
Distance to site boundary: 70m

Baseline Photo - Viewpoint 24



CI2001_PP_Jersey_ST210902

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1.6 m above ground

11:58 10 August 2021

Horizontal Field of View: 68° (planar projection)
 Vertical Field of View: 49.8°
 Paper Size: 420 x 297mm (A3)
 Correct printed image size: 670x 480mm (inner frame 390 x 260mm which represents 50mm equivalent 39.6° x 27° FOV)

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Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



© AVR LONDON

1.6 m above ground

15:53 20 October 2022

Grid Reference: E 40494.708 N 66507.205 (Government of Jersey Differential GPS Coordinate System)
Elevation: 8.545m AOD
Direction of View: 135°
Distance to site boundary: 1020m

Baseline Photo - Viewpoint 26



G:\2001_PP_Jersey_S\2-0903

© AVR LONDON

1.6 m above ground

15:53 20 October 2022

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

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Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



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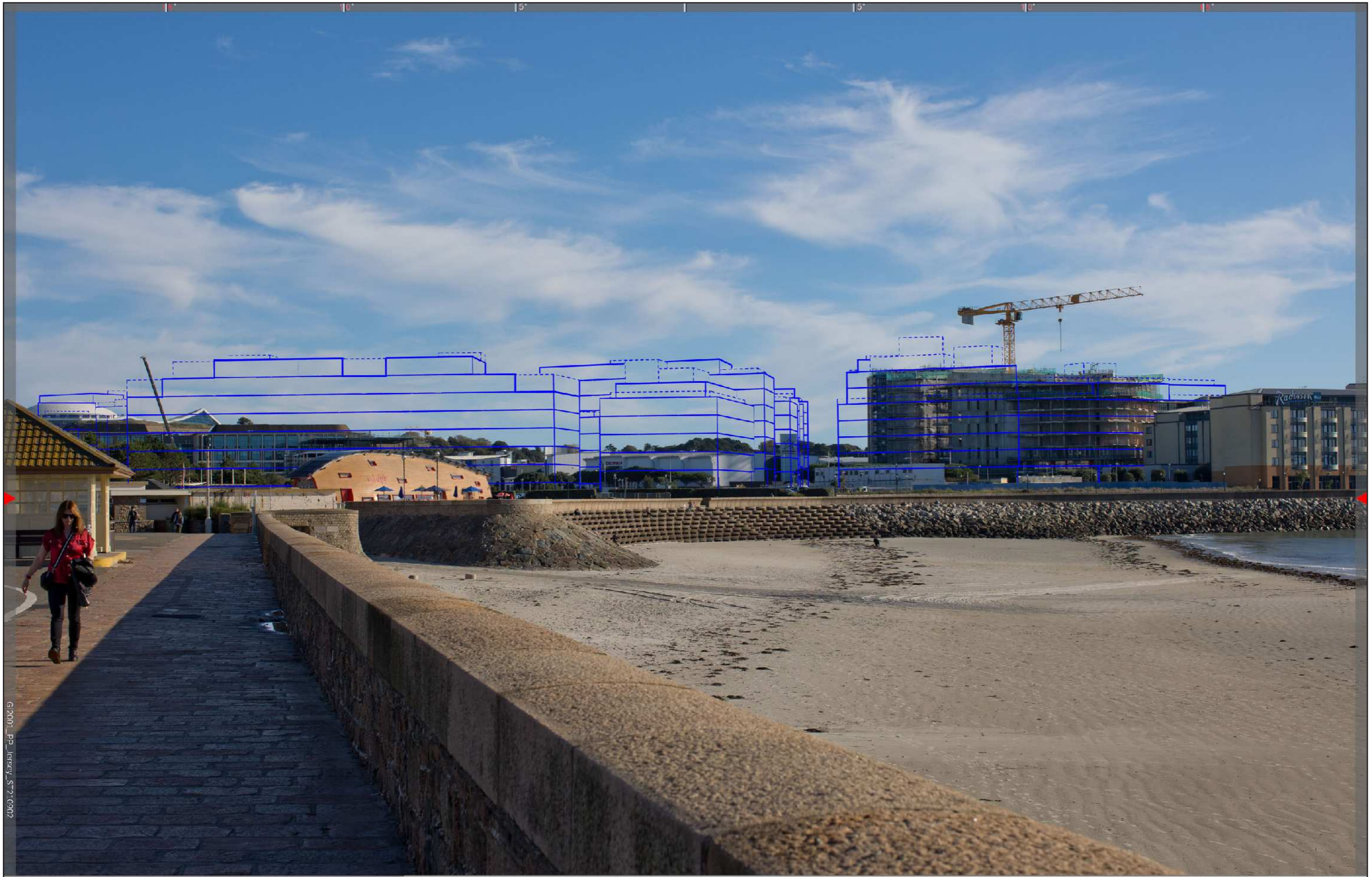
© AVR LONDON

1.6 m above ground

15:21 20 October 2022

Grid Reference: E 41219.435 N 65892.977 (Government of Jersey Differential GPS Coordinate System)
Elevation: 8.220m AOD
Direction of View: 140°
Distance to site boundary: 40m

Baseline Photo - Viewpoint 27



G:\2001_PP_Jersey_ST2-0903

© AVR LONDON

1.6 m above ground

15:21 20 October 2022

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

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Visualisation - Type 3 AVR Level 1 (Refer to LI TGN 06/19 for further details)



G:\2001_PP_Jersey_S\21-0903

© AVR LONDON

1.6 m above ground

10:56 29 October 2022

Grid Reference: E 41745.966 N 41745.966 (Government of Jersey Differential GPS Coordinate System)
Elevation: 34.660m AOD
Direction of View: 202°
Distance to site boundary: 755m

Baseline Photo - Viewpoint 29



G:\2001_PP_Jersey_S17\0903

© AVR LONDON

1.6 m above ground

10:56 29 October 2022

Horizontal Field of View: 39.6° (planar projection)
Vertical Field of View: 27°
Paper Size: 420 x 297mm (A3)
Correct printed image size: 390 x 260mm

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