simutower

PRELIMINARY
NOT FOR CONSTRUCTION

VISUAL-IMPACT PHOTOSIMULATION

PRELIMINARY — ISSUED FOR REVIEW

SITE ADDRESS
2921 Major Mackenzie Drive West

MUNICIPALITY
Vaughan

PROVINCE / STATE
Ontario

COUNTRY
Canada

COORDINATES (WGS 84)
N 43.850163° W 79.533760°

PROPOSED STRUCTURE
ENABLE STRUCTURE

OVERALL HEIGHT
23.2 m

PUBLIC CONSULTATION
69 m NOTIFICATION RADIUS (3 x HEIGHT)
PER ISED CPC-2-0-03

DATE PRODUCED
2026-10-28

PREPARED BY
SIMUTOWER

SHEETS IN THIS SET

PS-002	SITE CONTEXT	PS-007	PHOTOSIMULATION V4
PS-003	VIEWPOINT KEY	PS-008	TERRAIN & LINE OF SIGHT
PS-004	PHOTOSIMULATION V1	PS-009	COMPOUND ISOMETRIC
PS-005	PHOTOSIMULATION V2	PS-010	METHOD & VALIDATION
PS-006	PHOTOSIMULATION V3		

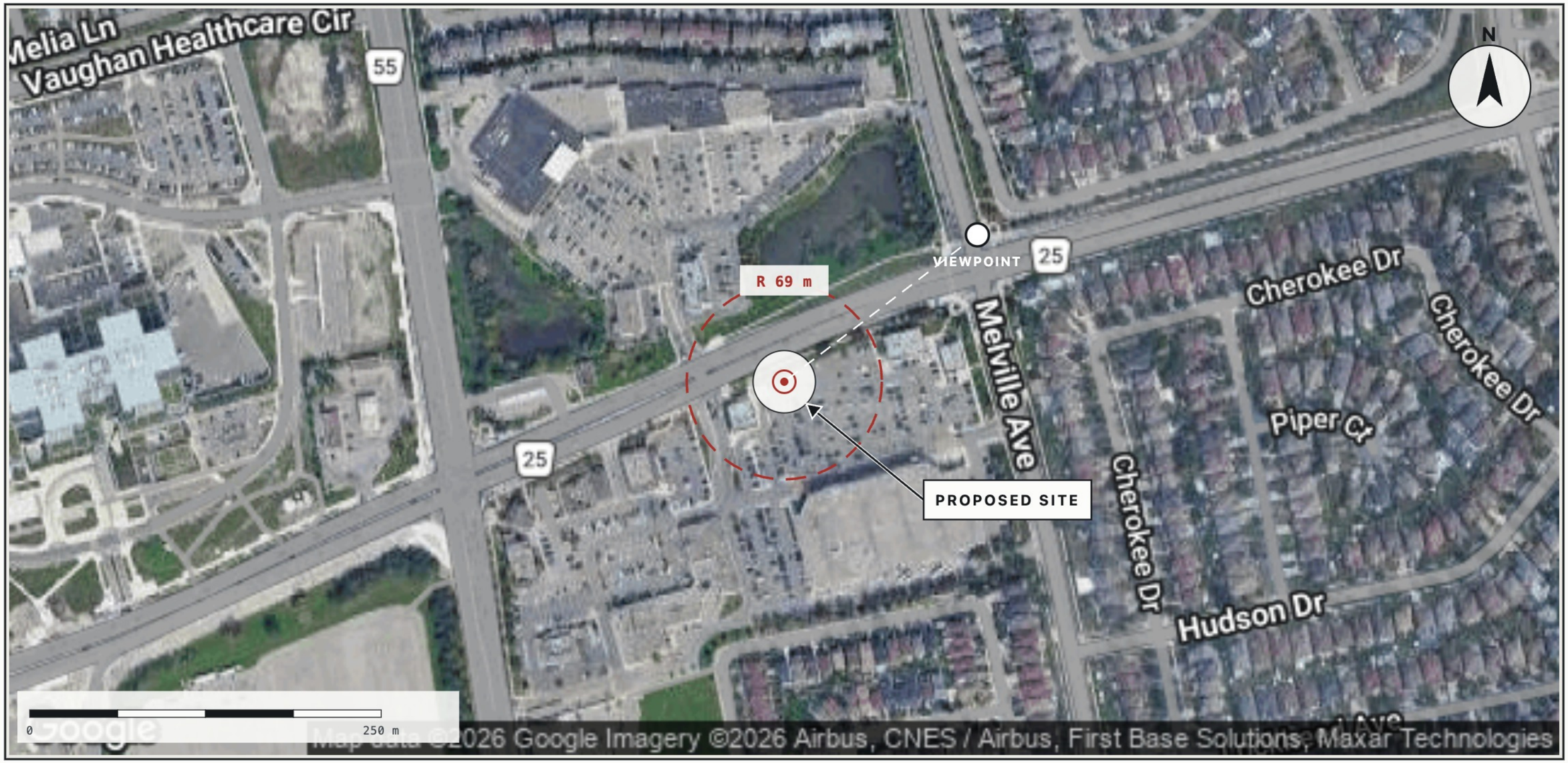
PRELIMINARY — ISSUED FOR REVIEW. NOT A SURVEY, AN ENGINEERING DRAWING OR A LEGAL INSTRUMENT.
DO NOT RELY ON THIS SET FOR CONSTRUCTION, PROPERTY-LINE OR SAFETY DETERMINATIONS.

REV DESCRIPTION		PROJECT	DRAWING TITLE	SCALE	DATE
A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower ...** 2921 Major Mackenzie Drive West Vaughan, ON	**TITLE SHEET** PRELIMINARY - NOT FOR CONSTRUCTION	— @ A3 DRAWN SIMUTOWER REV A	2026-10-28 DWG No PS-001

PRELIMINARY
NOT FOR CONSTRUCTION

SITE CONTEXT

2921 MAJOR MACKENZIE DRIVE WEST



MUNICIPALITY	PROVINCE / STATE	COORDINATES	PROPOSED
Vaughan	Ontario	43.85016, -79.53376	ENABLE STRUCTURE · 23 m

REV DESCRIPTION		PROJECT	DRAWING TITLE	SCALE / DRAWN / REV	DATE / DWG No
A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower ...** 2921 Major Mackenzie Drive West Vaughan, ON	**SITE CONTEXT** PRELIMINARY - NOT FOR CONSTRUCTION	1:2917 @ A3 SIMUTOWER A	2026-10-28 PS-002

PRELIMINARY
NOT FOR CONSTRUCTION

VIEWPOINT KEY

SITE
2921 Major Mackenzie Drive West

PROPOSED STRUCTURE
ENABLE STRUCTURE · 23.2 m

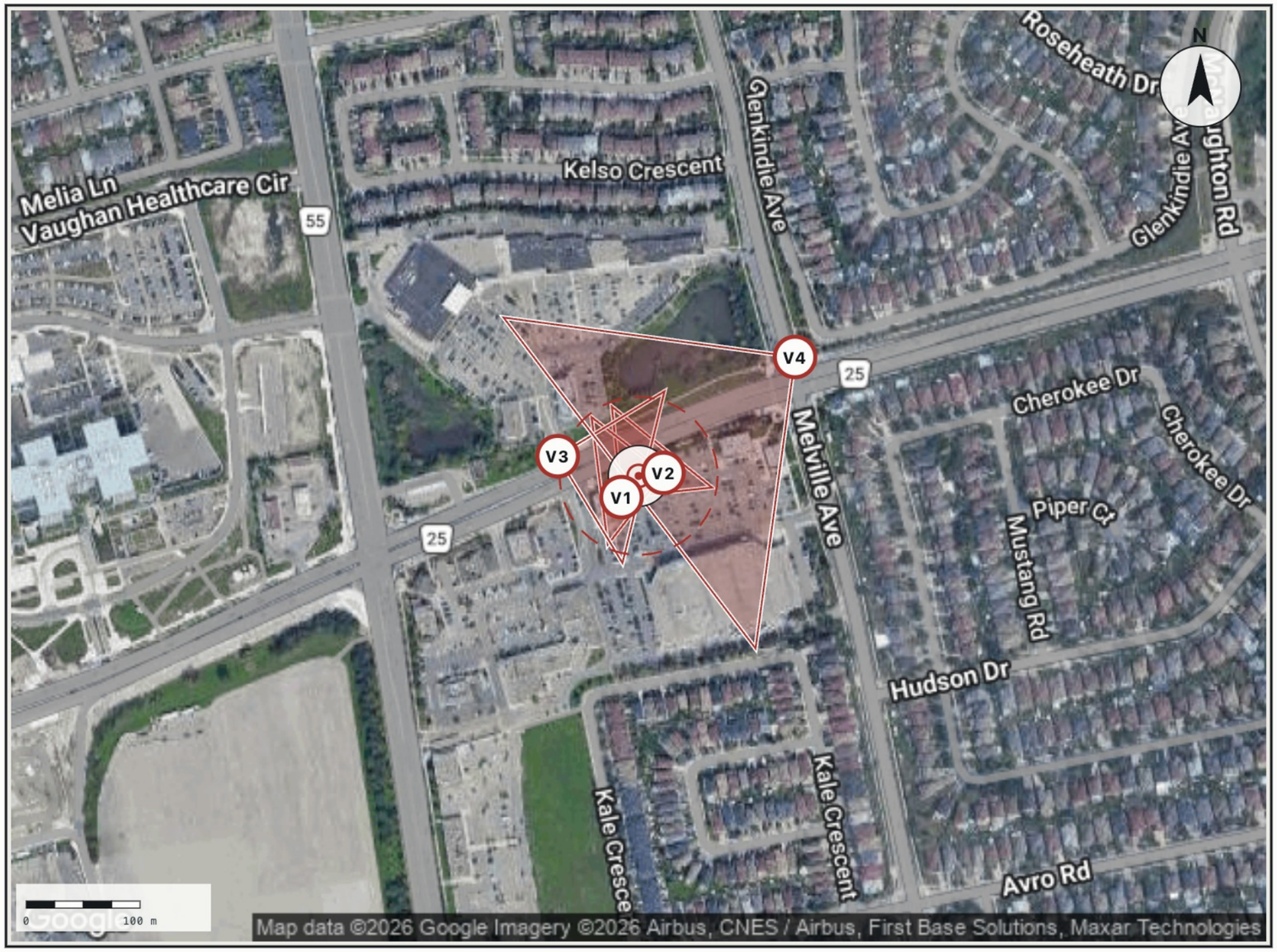
VIEWPOINTS

V1 · VIEWPOINT 1
24 m · 039° · EYE 2.5 m

V2 · VIEWPOINT 2
22 m · 263° · EYE 2.5 m

V3 · VIEWPOINT 3
73 m · 104° · EYE 2.5 m

V4 · VIEWPOINT 4
172 m · 233° · EYE 2.5 m



BEARINGS ARE TRUE NORTH. CONES SHOW THE HORIZONTAL FIELD OF VIEW OF EACH PHOTOGRAPH, NOT A VISIBILITY EXTENT.

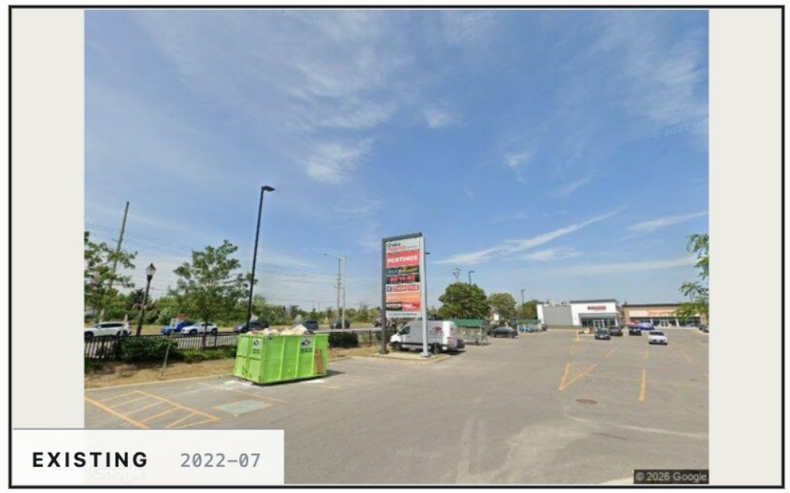
REV DESCRIPTION		PROJECT	DRAWING TITLE	SCALE	DATE
A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower ...** 2921 Major Mackenzie Drive West Vaughan, ON	**VIEWPOINT KEY** PRELIMINARY - NOT FOR CONSTRUCTION	1:4445 @ A3 DRAWN SIMUTOWER REV A	2026-10-28 DWG No PS-003

PRELIMINARY
NOT FOR CONSTRUCTION

PHOTOSIMULATION — VIEWPOINT 1

VIEWPOINT 1 · 24 M FROM STRUCTURE · BEARING 039° · IN-FRAME: 100% UNMASKED







NOTES:

1. THE STRUCTURE IS PLACED AT ITS SURVEYED COORDINATES, SCALED TO ITS REAL HEIGHT AND PROJECTED BY A DETERMINISTIC PINHOLE CAMERA AT A KNOWN FIELD OF VIEW. APPARENT SIZE IS DERIVED FROM GEOMETRY, NOT ARTISTIC JUDGEMENT.
2. IN-FRAME PERCENTAGE MEASURES UNMASKED RENDERED PIXELS. IT DOES NOT CONFIRM THAT THE WHOLE STRUCTURE FITS IN THE PHOTO.
3. ANTENNAS, APPURTENANCES, LIGHTING AND FINISHES ARE INDICATIVE AND MAY DIFFER IN FINAL DESIGN. FOREGROUND OCCLUSION IS APPROXIMATE.

REV	DESCRIPTION	
A	ISSUED FOR REVIEW	2026-10-28

simutower
VISUAL-IMPACT PHOTOSIMULATION

PROJECT
Proposed 23.1521m northward hybrid tower
2921 Major Mackenzie Drive West
Vaughan, ON

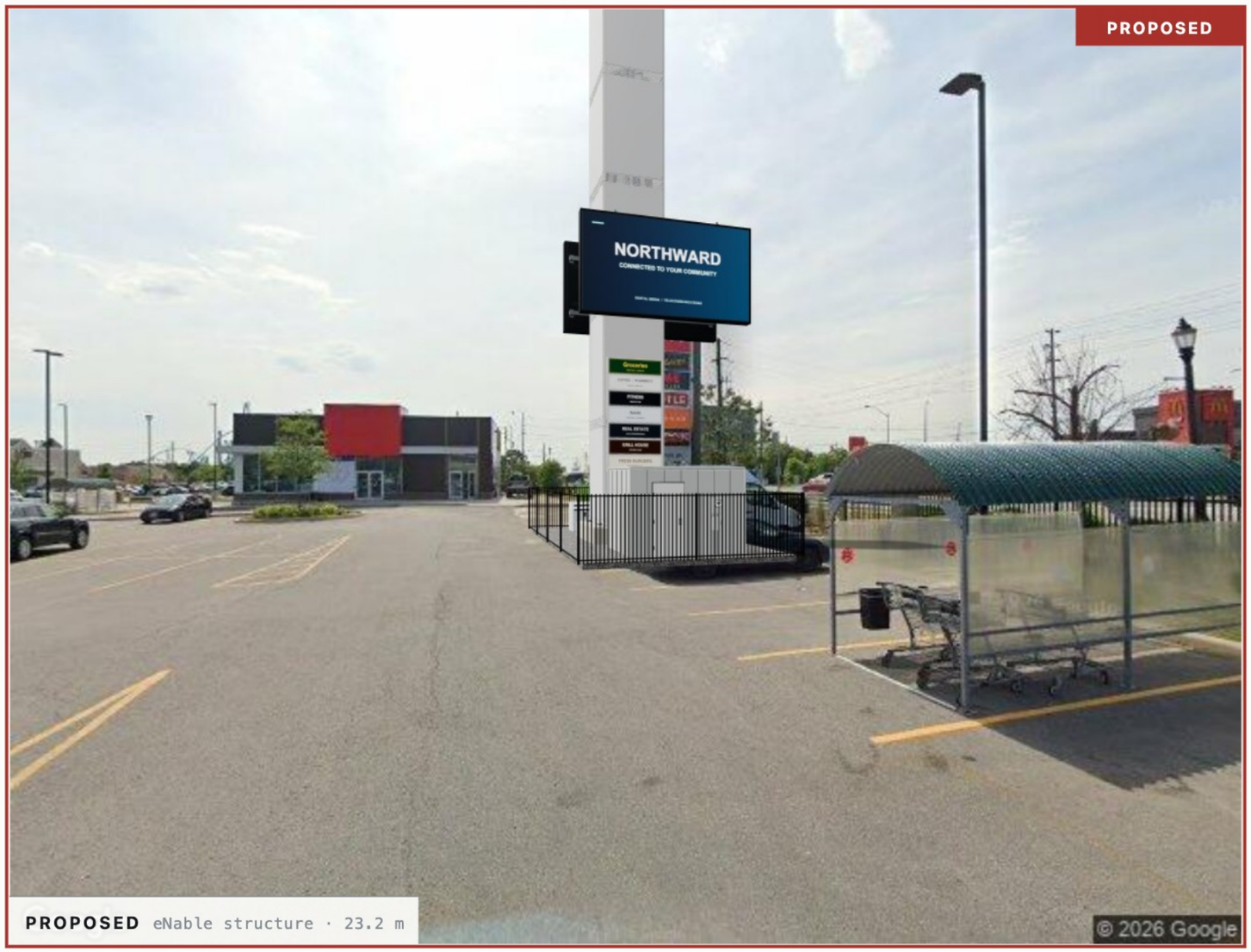
DRAWING TITLE
PHOTOSIMULATION V1
PRELIMINARY - NOT FOR CONSTRUCTION

SCALE: NTS @ A3
DRAWN: SIMUTOWER
REV: A
DATE: 2026-10-28
DWG No: PS-004

PRELIMINARY
NOT FOR CONSTRUCTION

PHOTOSIMULATION — VIEWPOINT 2

VIEWPOINT 2 · 22 M FROM STRUCTURE · BEARING 263° · IN-FRAME: 100% UNMASKED







NOTES:

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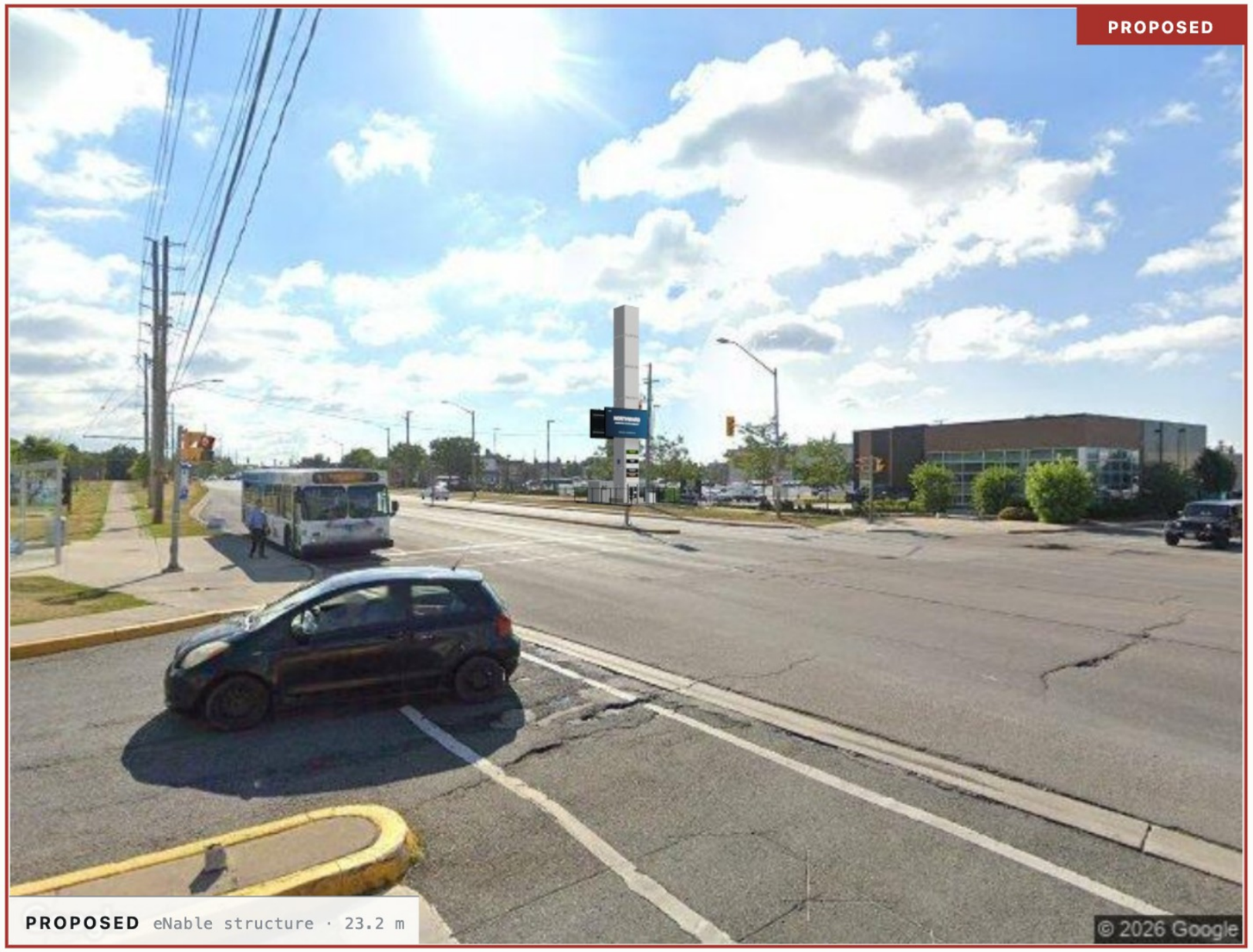
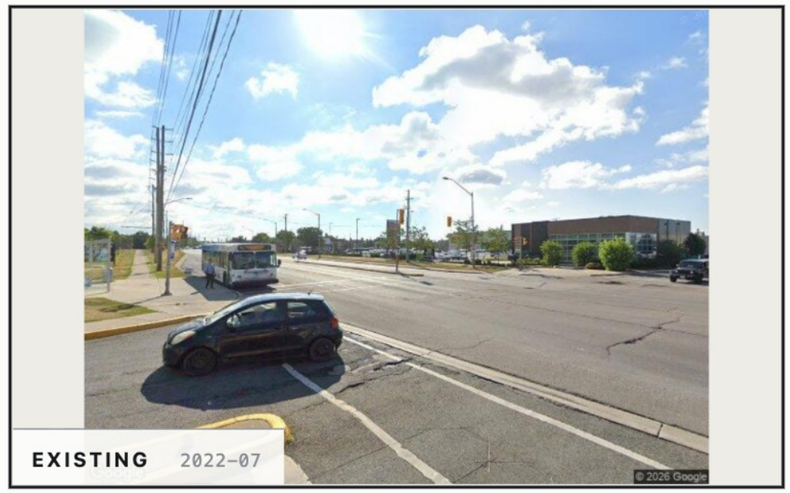
REV DESCRIPTION		PROJECT	DRAWING TITLE	SCALE	DATE
A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower ...** 2921 Major Mackenzie Drive West Vaughan, ON	**PHOTOSIMULATION V2** PRELIMINARY - NOT FOR CONSTRUCTION	NTS @ A3 DRAWN SIMUTOWER REV A	2026-10-28 DWG No PS-005

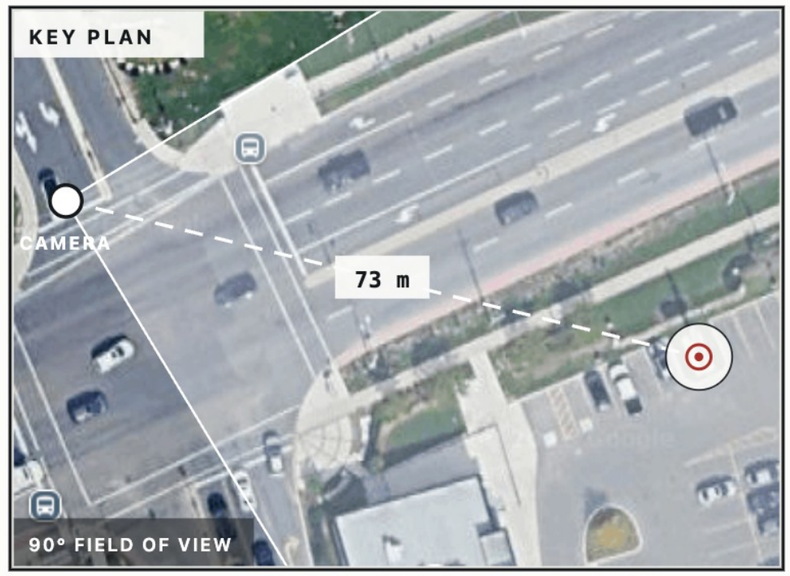
PRELIMINARY
NOT FOR CONSTRUCTION

PHOTOSIMULATION — VIEWPOINT 3

VIEWPOINT 3 · 73 M FROM STRUCTURE · BEARING 104° · IN-FRAME: 100% UNMASKED







NOTES:

1. THE STRUCTURE IS PLACED AT ITS SURVEYED COORDINATES, SCALED TO ITS REAL HEIGHT AND PROJECTED BY A DETERMINISTIC PINHOLE CAMERA AT A KNOWN FIELD OF VIEW. APPARENT SIZE IS DERIVED FROM GEOMETRY, NOT ARTISTIC JUDGEMENT.
2. IN-FRAME PERCENTAGE MEASURES UNMASKED RENDERED PIXELS. IT DOES NOT CONFIRM THAT THE WHOLE STRUCTURE FITS IN THE PHOTO.
3. ANTENNAS, APPURTENANCES, LIGHTING AND FINISHES ARE INDICATIVE AND MAY DIFFER IN FINAL DESIGN. FOREGROUND OCCLUSION IS APPROXIMATE.

REV DESCRIPTION		PROJECT	DRAWING TITLE	SCALE	DATE
A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower** 2921 Major Mackenzie Drive West Vaughan, ON	**PHOTOSIMULATION V3** PRELIMINARY - NOT FOR CONSTRUCTION	NTS @ A3 DRAWN SIMUTOWER REV A	2026-10-28 DWG No PS-006

PRELIMINARY
NOT FOR CONSTRUCTION

PHOTOSIMULATION — VIEWPOINT 4

VIEWPOINT 4 · 172 M FROM STRUCTURE · BEARING 233° · IN-FRAME: 100% UNMASKED







NOTES:

1. THE STRUCTURE IS PLACED AT ITS SURVEYED COORDINATES, SCALED TO ITS REAL HEIGHT AND PROJECTED BY A DETERMINISTIC PINHOLE CAMERA AT A KNOWN FIELD OF VIEW. APPARENT SIZE IS DERIVED FROM GEOMETRY, NOT ARTISTIC JUDGEMENT.
2. IN-FRAME PERCENTAGE MEASURES UNMASKED RENDERED PIXELS. IT DOES NOT CONFIRM THAT THE WHOLE STRUCTURE FITS IN THE PHOTO.
3. ANTENNAS, APPURTENANCES, LIGHTING AND FINISHES ARE INDICATIVE AND MAY DIFFER IN FINAL DESIGN. FOREGROUND OCCLUSION IS APPROXIMATE.

REV	DESCRIPTION	DATE
A	ISSUED FOR REVIEW	2026-10-28

simutower
VISUAL-IMPACT PHOTOSIMULATION

PROJECT
Proposed 23.1521m northward hybrid tower
2921 Major Mackenzie Drive West
Vaughan, ON

DRAWING TITLE
PHOTOSIMULATION V4
PRELIMINARY - NOT FOR CONSTRUCTION

SCALE
NTS @ A3

DRAWN
SIMUTOWER

REV
A

DATE
2026-10-28

DWG No
PS-007

PRELIMINARY
NOT FOR CONSTRUCTION

TERRAIN & LINE OF SIGHT

CROSS-SECTION · LiDAR DTM + DSM · CAMERA → STRUCTURE

PHOTO MASK ESTIMATE

IN-FRAME: 100% UNMASKED

PATH LENGTH
24.221 m

CAMERA GROUND
232.0 m AMSL

STRUCTURE GROUND
231.9 m AMSL

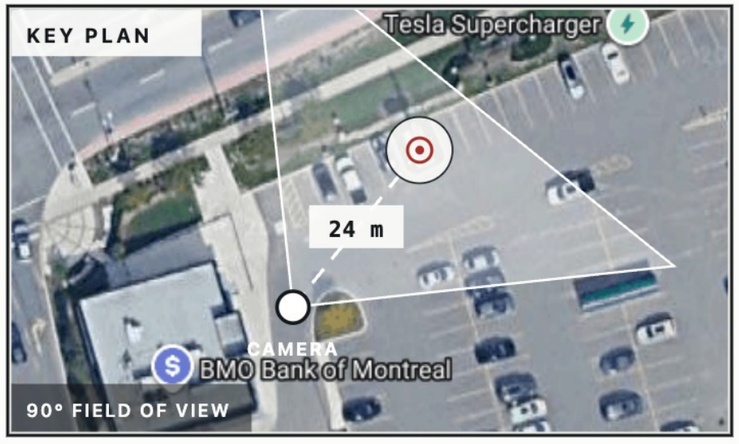
TERRAIN OFFSET
−0.1 m

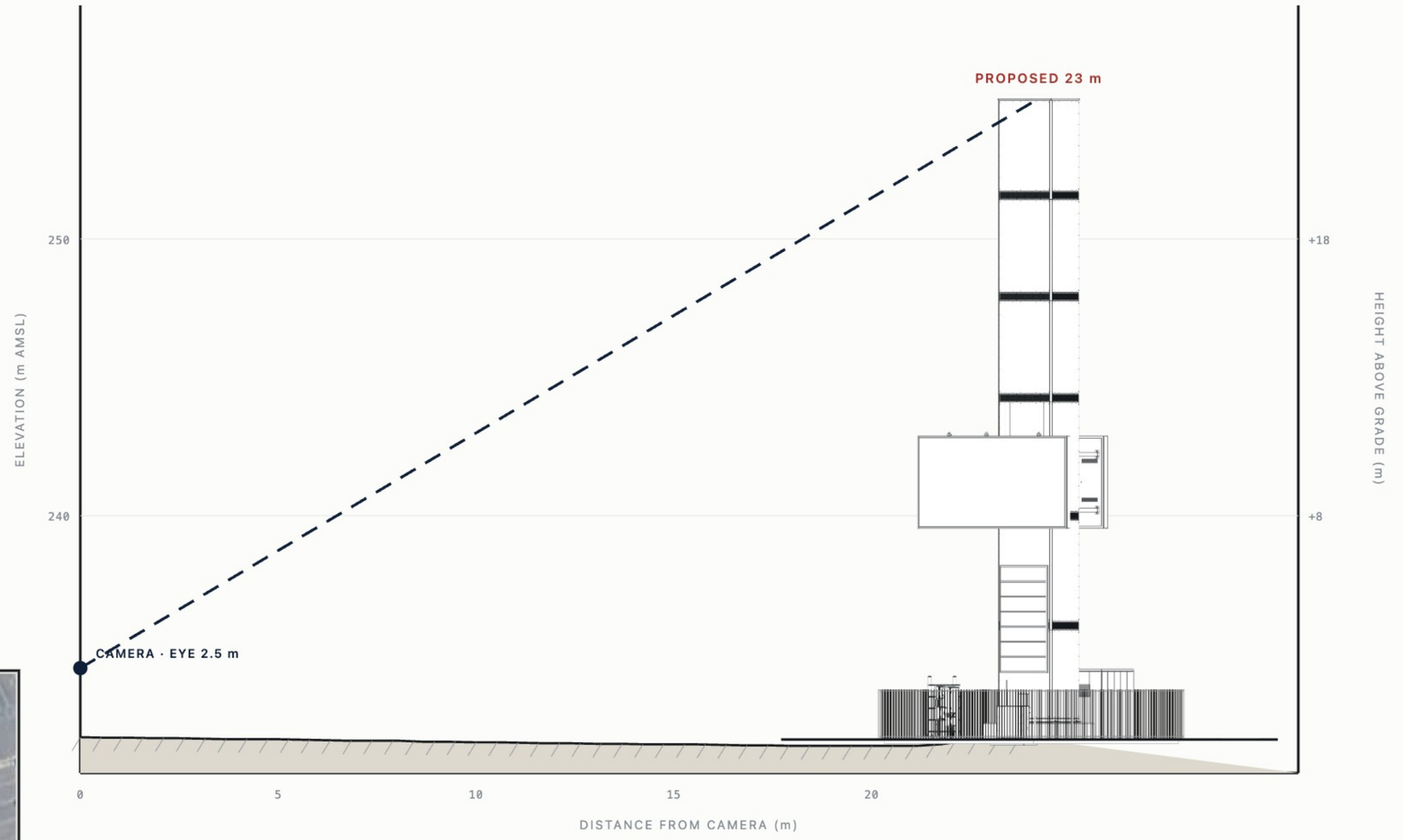
SAMPLES
40 @ 0.62 m

OBSTACLES ON PATH
NONE

SOURCE
Ontario LiDAR DTM+DSM (0.5 m, centre-line) · OSM footprints

SECTION LINE





TERRAIN (DTM) · POLE · LINE OF SIGHT · PROPOSED ASSEMBLY

NOTES:

1. RIGHT AXIS: HEIGHT ABOVE STRUCTURE GRADE. OBSTACLE LABELS: LOCAL HEIGHTS.
2. BUILDING VERSUS VEGETATION IS CLASSIFIED FROM OSM FOOTPRINTS AND PROFILE SHAPE.
3. PERCENTAGE IS UNMASKED RENDERED PIXELS IN FRAME, NOT WHOLE-STRUCTURE VISIBILITY. THIS PROFILE PROVIDES TERRAIN CONTEXT.
4. PROPOSED ELEVATION INCLUDES THE STRUCTURE, COMPOUND, FENCE, SHELTERS AND PLACED EQUIPMENT.
5. ELEVATION FACES THE PROFILE CAMERA. OFF-PATH EQUIPMENT IS CONTEXT, NOT SAMPLED TERRAIN.

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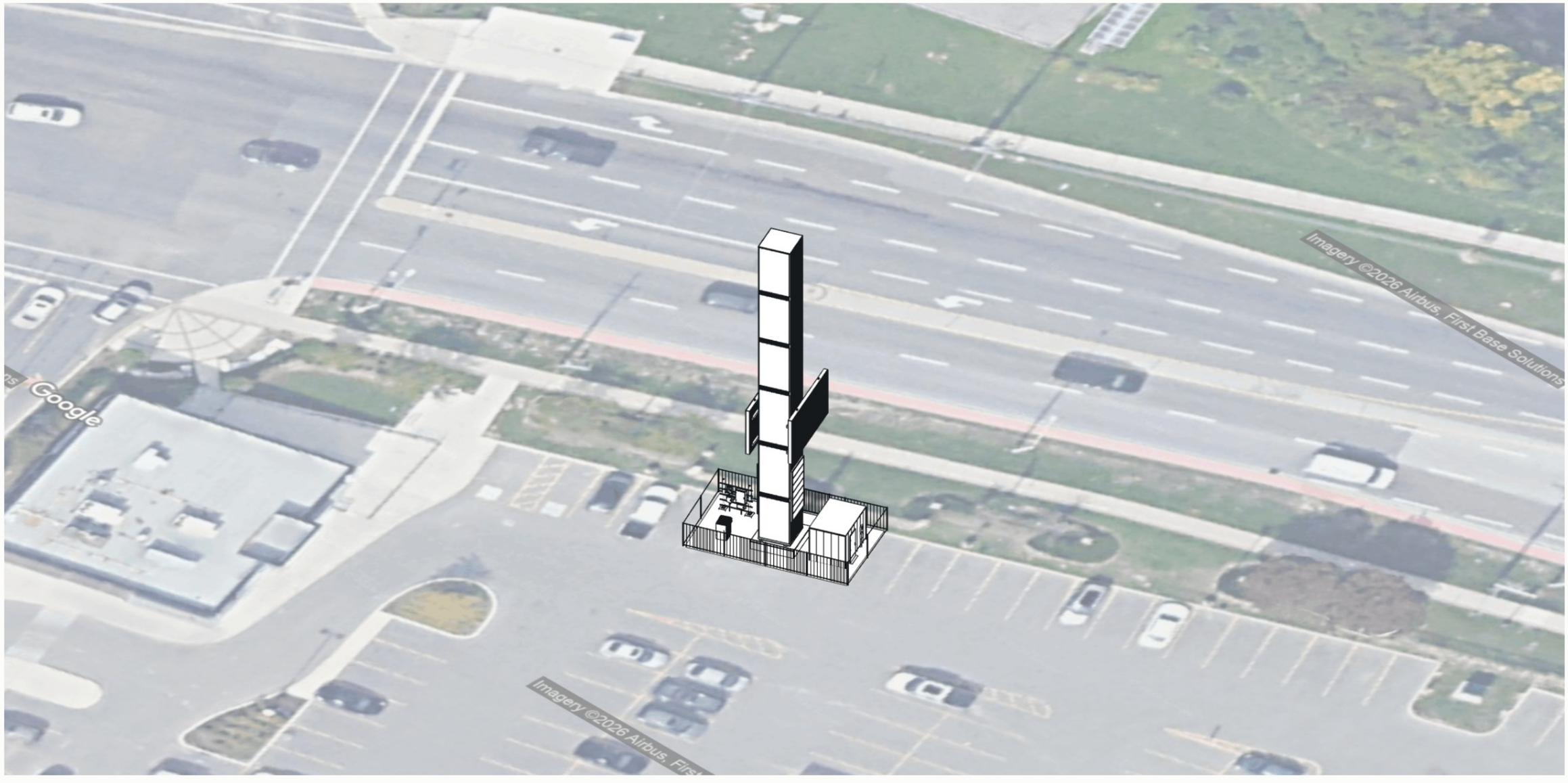
A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower** 2921 Major Mackenzie Drive West Vaughan, ON	**TERRAIN & LINE OF SIGHT** PRELIMINARY - NOT FOR CONSTRUCTION	NTS @ A3 DRAWN SIMUTOWER REV A	2026-10-28 DWG No PS-008

PRELIMINARY
NOT FOR CONSTRUCTION

COMPOUND ISOMETRIC

FROM THE SOUTH-EAST, 35° ABOVE THE HORIZON · NOT TO SCALE · ON THE AERIAL PHOTO



ENABLE STRUCTURE · 23.2 M

PRELIMINARY, MODEL-DERIVED. NOT A CONSTRUCTION DRAWING. AERIAL IMAGERY WARPED TO MATCH THE MODEL'S PROJECTION; NOT A SURVEY.

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A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower ...** 2921 Major Mackenzie Drive West Vaughan, ON	**COMPOUND ISOMETRIC** PRELIMINARY - NOT FOR CONSTRUCTION	NTS @ A3 DRAWN SIMUTOWER REV A	2026-10-28 DWG No PS-009

PRELIMINARY
NOT FOR CONSTRUCTION

PROJECTION METHOD & VALIDATION STATUS

DERIVED GEOMETRY USES THE RECORDED INPUTS SHOWN HERE; THIS IS NOT A MEASURED ACCURACY RESULT

NOT YET VALIDATED

WHAT THIS SHEET ESTABLISHES

Recorded coordinates, height and camera inputs

Reproducible distance, bearing and projection math

No measured height-error or placement-accuracy claim

Visual review only; verify against project survey data

DERIVATION

Distance C → S (Haversine) $D = 2R \cdot \arcsin \sqrt{\sin^2(\Delta\varphi/2) + \cos\varphi_1 \cos\varphi_2 \sin^2(\Delta\lambda/2)}$	**24.194 m**
Bearing C → S (true north) $\beta = \operatorname{atan2}(\sin\Delta\lambda \cos\varphi_2 , \cos\varphi_1 \sin\varphi_2 - \sin\varphi_1 \cos\varphi_2 \cos\Delta\lambda)$	**38.919°**
Terrain offset $\Delta z = z_s - z_c$ (Manual override (fine-tune slider))	**+0.1 m**
Field of view (rectilinear) $FOV_v = 2 \cdot \arctan(\tan(FOV_h/2) \cdot h/w)$, $FOV_h = 90.0°$	**74.4° V**
Subtended angle of structure $\theta = \arctan((H-e)/D) + \arctan(e/D) = \arctan(20.7/24.2) + \arctan(2.5/24.2)$	**46.384°**
Projected height (fraction of frame) $\theta / FOV_v = 46.4° / 74.4°$	**62.3%**
Sun position (lighting) (az, alt) — shadow-matched	**194° / 67°**

INPUTS

STRUCTURE (Φ, Λ)	43.850163, −79.533760
CAMERA (Φ, Λ)	43.849994, −79.533950
STRUCTURE HEIGHT H	23.152 m
CAMERA EYE HEIGHT e	2.500 m
PANORAMA	y-lxPcxRWaIjYl9ytZAcXg
MODEL · DATUM	northward-hybrid-tower · WGS-84

METHOD

The structure is placed at user-selected map coordinates, set to the entered height, and projected by a deterministic pinhole camera at a known field of view onto rectified street-level imagery. Derived geometry is reproducible from the inputs above. Rendered height has not yet been empirically validated.

Validation cases and review status: simutower.com/validation

VIEWPOINT SCHEDULE

	DISTANCE	BEARING	FOV H	SUBTENDED	FRAME	EYE	CAMERA (Φ, Λ)	IMAGERY	VISIBILITY
V1	24.2 m	38.9°	90°	46.38°	62.3%	2.50 m	43.84999, −79.53395	2022-07	IN-FRAME: 100% UNMASKED
V2	22.0 m	262.7°	90°	49.69°	66.8%	2.50 m	43.85019, −79.53349	2022-07	IN-FRAME: 100% UNMASKED
V3	73.3 m	103.8°	90°	17.70°	23.8%	2.50 m	43.85032, −79.53465	2022-07	IN-FRAME: 100% UNMASKED
V4	172.3 m	232.7°	90°	7.66°	10.3%	2.50 m	43.85110, −79.53205	2025-07	IN-FRAME: 100% UNMASKED

LIMITATIONS Preliminary visualisation for planning review. The representative model uses the entered height; antennas, appurtenances, lighting and finishes are indicative. No empirical height-error or placement-accuracy bound is established. Panorama, terrain, model and user-selected coordinate limitations apply. Foreground masking is estimated from imagery, not measured. Not a survey, engineering drawing or legal instrument; do not rely on it for construction, property-line or safety determinations.

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A ISSUED FOR REVIEW 2026-10-28	simutower VISUAL-IMPACT PHOTOSIMULATION	**Proposed 23.1521m northward hybrid tower ...** 2921 Major Mackenzie Drive West Vaughan, ON	METHOD & VALIDATION PRELIMINARY - NOT FOR CONSTRUCTION	NTS @ A3 DRAWN SIMUTOWER REV A	2026-10-28 DWG No PS-010