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2510 St. Laurent Boulevard, Ottawa

Noise Impact Feasibility Report

2510 St. Laurent Boulevard

City of Ottawa

Noise Impact Feasibility Report

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

Novatech File: 122040
Ref: R-2022-190

Submitted: November 1, 2022
Revised: September 29, 2023
Revised: October 31, 2025

NOVATECH
Engineers, Planners & Landscape Architects

October 31, 2025

City of Ottawa
Planning and Infrastructure Approvals
110 Laurier Street West, 4th Floor
Ottawa, ON, K1P 1J1

Attention: **Kelby Lodoen Unseth, Planner II**

Reference: **2510 St. Laurent Blvd**
Noise Impact Feasibility Report
Our File No.: 122040

Please find enclosed the 'Noise Impact Feasibility Report' for the above-noted development located in the City of Ottawa. This report is being submitted in support of the site plan application for the proposed development.

This report evaluates the environmental impact of noise from traffic and assesses the feasibility of mitigation measures to attenuate noise to acceptable levels.

Please contact the undersigned should you have any questions or comments pertaining to the enclosed report.

Yours truly,

NOVATECH

Greg MacDonald, P. Eng.
Director, Land Development and Public Sector Infrastructure

cc: Vincent Denomme, Claridge

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Appendices

Tables

Figures

1.0 INTRODUCTION

This report is submitted on behalf of the developer, Claridge Homes, as part of Zoning By-Law Amendment, Site Plan Control, and Draft Plan of Condominium applications for the property located at 1900-1920 Walkley Road, 2425 Don Reid Drive, 2510 St. Laurent Boulevard, and 2990-3000 Conroy Road (referred to as 2510 St. Laurent Boulevard in this report). This report assesses the environmental impact of noise on the proposed development and outlines the recommended mitigation measures.

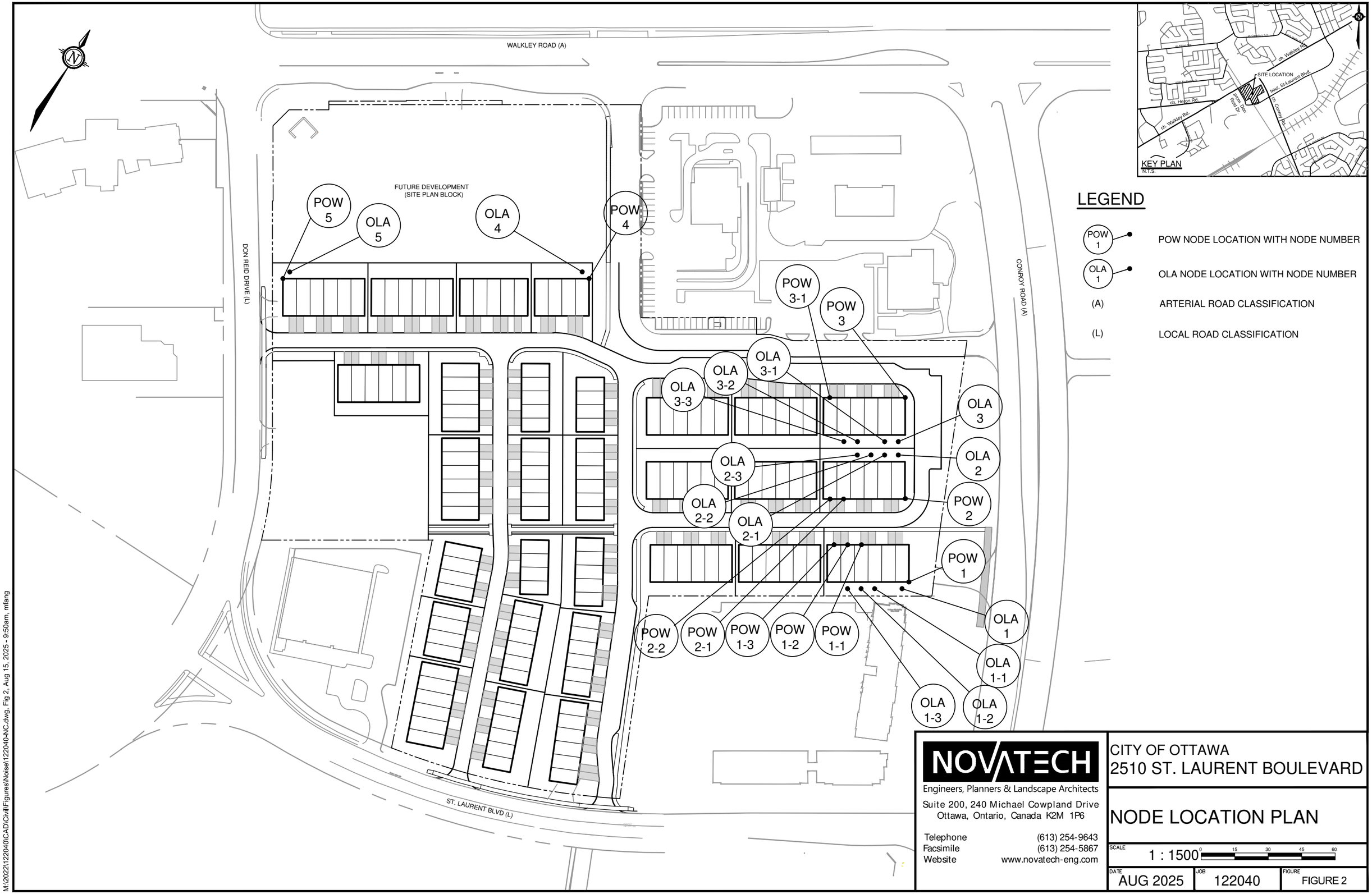
The subject site 5.89ha and is surrounded by the following roads:

- Walkley Road to the north,
- St. Laurent Boulevard to the south,
- Conroy Road to the east, and
- Don Reid Drive to the west.

An aerial of the subject site is provided in **Figure 1 – Key Plan – 2510 St. Laurent.**

Figure 1: Key Plan – St. Laurent`

The proposed development is 4.61ha and consists of 155 townhouse units including seventy-one (66) - 3 storey town homes and eighty-nine (89) - standard 2 storey town homes. The locations of all nodes used to confirm the noise levels are included in **Figure 2 – Node Location Plan**.



LEGEND

- POW 1 — POW NODE LOCATION WITH NODE NUMBER
- OLA 1 — OLA NODE LOCATION WITH NODE NUMBER
- (A) — ARTERIAL ROAD CLASSIFICATION
- (L) — LOCAL ROAD CLASSIFICATION

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CITY OF OTTAWA
2510 ST. LAURENT BOULEVARD

NODE LOCATION PLAN

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE AUG 2025
JOB 122040
FIGURE FIGURE 2

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This report follows recommendations of the City of Ottawa's Environmental Nosie Control Guidelines (ENCG) and MOEE NPC-300 Environmental Noise Guideline.

2.0 NOISE CRITERIA AND NOISE SOURCES

The permitted sound levels for the subject site are per Tables 2.2a and 2.2b of the ENCG and are summarized in **Table 1** bellow. Refer to **Appendix A** for all ENCG excerpts.

Table 1: Permitted Noise Levels

Time Period	Receiver Location	Noise Level Criteria (Leq)
Daytime (7:00-23:00)	Outdoor Living Area (OLA)	55 dBA
Daytime (7:00-23:00)	Plane of Window (POW) Living/Dining Room	45 dBA
Nighttime (23:00-7:00)	Plane of Window (POW) Bedroom/Sleeping Quarter	40 dBA

The outdoor living area (OLA) is defined as the outdoor amenity provided for quiet enjoyment of the outdoor environment during the daytime (i.e., backyards, terraces, and patios). OLA noise levels are considered 3.0m from the building façade, 1.5m above grade.

The plane of window (POW) is defined as the center of the window of a noise sensitive place (i.e., living room or bedroom). POW noise levels are considered inside the building, 1.5m above the ground for the daytime and 4.5m above the ground for nighttime.

When sound levels are predicted to be less than the specified criteria listed in **Table 1**, no attenuation measures are required. As the noise criteria is exceeded, noise attenuation measures are recommended. These attenuation measures may include:

- Distance setback with soft ground;
- Insertion of noise insensitive land uses between the source and sensitive receptor;
- Orientation of building to provide sheltered zones;
- Construction of sound or acoustic barriers;
- Installation of air conditioning and ventilation; and
- Enhanced construction techniques and construction quality.

Due to site density, adjusting the setback, the insertion of noise insensitive lands, and reorienting the building are not feasible. Therefore, excessive noise for the subject site will be mitigated through the installation of acoustic barriers and air conditioning and enhanced construction techniques.

When predicted noise levels exceed the specified criteria, the City of Ottawa and the MOE recommend warning clauses be registered as a notice on title and incorporated into the lease/rental/sale agreements to warn potential purchaser/buyers/tenants of the possible elevated noise levels.

Typical warning clauses should be registered as shown below. Warning clauses are extracted from Part 4, Appendix A of the City of Ottawa ENCG and excerpts have been provided in **Appendix A** of this report**.** As stated in the City of Ottawa ENCG, due to the variation of noise impacts for any given site, it may be necessary to amend the example warning clauses to recognize the site conditions in each development.

Type A

> "Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some outdoor activities as the sound levels may exceed the sound level limits of the City and Ministry of the Environment."
>
> "To help address the need for sound attenuation this development has been designed so as to provide an outdoor amenity area and indoor environment that is within provincial guidelines. Measures for sound attenuation include:
>
> - An acoustic barrier"
>
> "To ensure that provincial sound level limits are not exceeded it is important to maintain sound attenuation features."
>
> "The acoustic barrier shall be maintained and kept in good repair by the property owner. Any maintenance, repair or replacement is the responsibility of the owner and shall be with the same material or to the same standards, having the same colour, appearance and function of the original."

Additionally, if a tolerance of 5 dBA is being considered in some areas, it is recommended an additional noise clause be registered on title and incorporated into the agreement of purchase and sales:

Type B

> "Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road/rail/Light Rail/transitway traffic may, on occasion, interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the City and the Ministry of the Environment by up to 5 dBA."
>
> "To help address the need for sound attenuation this development has been designed so as to provide an outdoor amenity area and indoor environment that is within provincial guidelines. Measures for sound attenuation include:
>
> - An acoustic barrier"
>
> "To ensure that provincial sound level limits are not exceeded it is important to maintain sound attenuation features."
>
> "The acoustic barrier shall be maintained and kept in good repair by the property owner. Any maintenance, repair or replacement is the responsibility of the owner and shall be with the same material or to the same standards, having the same colour, appearance and function of the original."

Type C

"Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some outdoor activities as the sound levels may exceed the sound level limits of the City and Ministry of the Environment."

"To help address the need for sound attenuation this development has been designed so as to provide an outdoor amenity area and indoor environment that is within provincial guidelines. Measures for sound attenuation may include:

- Multi-pane glass
- Double brick veneer"

"To ensure that provincial sound level limits are not exceeded it is important to maintain sound attenuation features."

"This dwelling unit has also been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City and the Ministry of the Environment"

Type D

"Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some outdoor activities as the sound levels may exceed the sound level limits of the City and Ministry of the Environment."

"To help address the need for sound attenuation this development has been designed so as to provide an outdoor amenity area and indoor environment that is within provincial guidelines. Measures for sound attenuation may include:

- Multi-pane glass
- Double brick veneer
- High sound transmission class walls"

"To ensure that provincial sound level limits are not exceeded it is important to maintain sound attenuation features."

"This dwelling unit has also been supplied with a central air conditioning system and other measures which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City and the Ministry of the Environment"

For units with multiple types of warning clauses, similar/identical wording can be combined as to not duplicate wording/information.

Table 2 outlines the noise mitigation requirements when noise levels are calculated to be more than the levels stated in **Table 1.**

Table 2: Noise Attenuation Requirements

Assessment Location	L_{eq} (dBA)	Outdoor Control Measures	Indoor Control Measures		Warning Clause
			Ventilation Requirements	Building Components	
Outdoor Living Area (OLA)	Less than 55	None required	N/A	N/A	None required
	Between 55 and 60	Control measures (barriers) may not be required but should be considered	N/A	N/A	Required if resultant L_{eq} exceeds 55 dBA Type A* or Type B**
	More than 60	Barriers required	N/A	N/A	Required if resultant L_{eq} exceeds 55 dBA Type A* or Type B*
Plane of Living Room Window (POW)	Less than 55	N/A	None Required	None Required	None Required
	Between 55 and 65	N/A	Forced air heating with provision for central air conditioning	None Required	Required Type C
	More Than 65	N/A	Central Air Conditioning	Acoustical performance of the windows and walls should be specified	Required Type D
Plane of Bedroom Window (POW)	Less than 50	N/A	None Required	None Required	None Required
	Between 50 and 60	N/A	Forced air heating with provision for central air conditioning	None Required	Required Type C
	More than 60	N/A	Central Air Conditioning	Acoustical performance of the windows and walls should be specified	Required Type D

* Type A warning clause refers to units requiring a noise barrier that mitigates noise below 55dBA

**Type B warning clause refers to units requiring a noise barrier but is technically or economically not feasible to reduce levels below 55dBA and a tolerance of up to 5dBA can be granted by the City

The City of Ottawa Official Plan stipulates that a noise study shall be prepared when a new development is proposed within 100 metres of an arterial, major collector or collector roadway, or a rapid-transit corridor. There are no railway, airport, or stationary noise sources that affect this site. **Table 3** confirms the road noise sources for the site.

Table 3: Noise Sources

Roadway Classification						
Name	**Classification**	**Lane**	**Identifier**	**AADT**	**Lanes**	**Speed Limit**
Walkley Road	Arterial	Eastbound & Westbound	4-UAD	35,000	4	50 KPM
Conroy* Road	Arterial	Southbound	4-UAD	35,000	2	60 KPM
	Arterial	Northbound	6-UAD	50,000	3	60 KPH

* The average Conroy Road AADT assumed in this report is the average of the northbound and southbound lanes, AADT = 42,500.

The northbound and southbound lanes of Conroy Road are different and can not be best identified as any one road type in Appendix B: Table of Traffic and Road Parameters to Be Used for Sound Predictions of the ENCG. This report assumes the southbound lane is best classified as 4 Lane Urban Arterial Divided (4-UAD) with an AADT of 35,000 vehicles and the northbound lane is best described as 6 Lane-Urban Arterial-divided (6-UAD) with an AADT of 50,000 vehicles. This report assumes the average AADT of the Conroy Road southbound and northbound lanes, 42,500 vehicles.

St. Laurent Boulevard, a major collector, was not considered in this report because the expected AADT is anticipated to be on par with a local road, rather than 12,000 vehicles per day the ENCG predicts for a 2-lane urban major collector. The portion of St. Laurent nearest the site is approximately 300m long, is located between Don Reid Dr and Conroy Road and includes accesses to 4 small parking lots. Most of the St. Laurent Boulevard traffic is likely to come from the residents using the St. Laurent Boulevard as a thruway between Don Reid Drive and Conroy Rd. The portion on St. Laurent Boulevard nearest the site functions as an extension of the Don Reid Drive, a local road, and does not warrant a collector designation.

3.0 PREDICTED NOISE LEVELS

Noise levels were analyzed using Version 5.03 of the STAMSON computer program. The predicted noise levels are listed in **Table 4 & 5.**

Table 4: Predicted Noise Levels and Proposed Mitigation Measures – Outdoor Living Areas

Receiver Location*	Calculated Noise Level (dBA) 7:00-23:00		Outdoor Mitigation Method
	Un-attenuated	Attenuated	
OLA 1	62.20	59.95	2.5m Noise Wall, Warning Clause Type B
OLA 1-1	-	56.08	2.5m Noise Wall, Warning Clause Type B
OLA 1-2	55.62	54.29	2.5m Noise Wall, Warning Clause Type A
OLA 1-3	54.03	-	N/A
OLA 2	62.17	56.01	2.5m Noise Wall, Warning Clause Type B
OLA 2-1	-	53.99	2.5m Noise Wall, Warning Clause Type A
OLA 2-2	55.11	52.35	2.5m Noise Wall, Warning Clause Type A
OLA 2-3	53.33	-	N/A
OLA 3	62.17	56.09	2.5m Noise Wall, Warning Clause Type B
OLA 3-1	-	54.16	2.5m Noise Wall, Warning Clause Type A
OLA 3-2	55.33	49.22	2.5m Noise Wall, Warning Clause Type A
OLA 3-3	53.97	-	N/A
OLA 4	55.62	-	Warning Clause Type B (Revised)
OLA 5	55.50	-	Warning Clause Type B (Revised)

Locations correspond to receivers found in **Figure 2 – Receiver Location Plan**

The predicted noise levels for OLA4 and OLA5 may require noise mitigation (noise barrier), but because the noise levels are very close to the permitted 55dBA, and considering the future development of the site plan block will act as a noise barrier, we recommend noise barrier is not required, but a revised Warning Clause Type B is registered and addressed that the noise may need reassessment when the future site plan block is detailed proposed.

As per C7.1.1 of the NPC-300, OLA noise levels up to 60dBA are permitted if noise control measures are not feasible to reduce noise level below 55dBA. Increasing the size of the noise barrier to reduce OLA 1,2, &3 noise levels below 55dBA was considered but deemed not feasible, due to the excessive height of at least 5.5m.

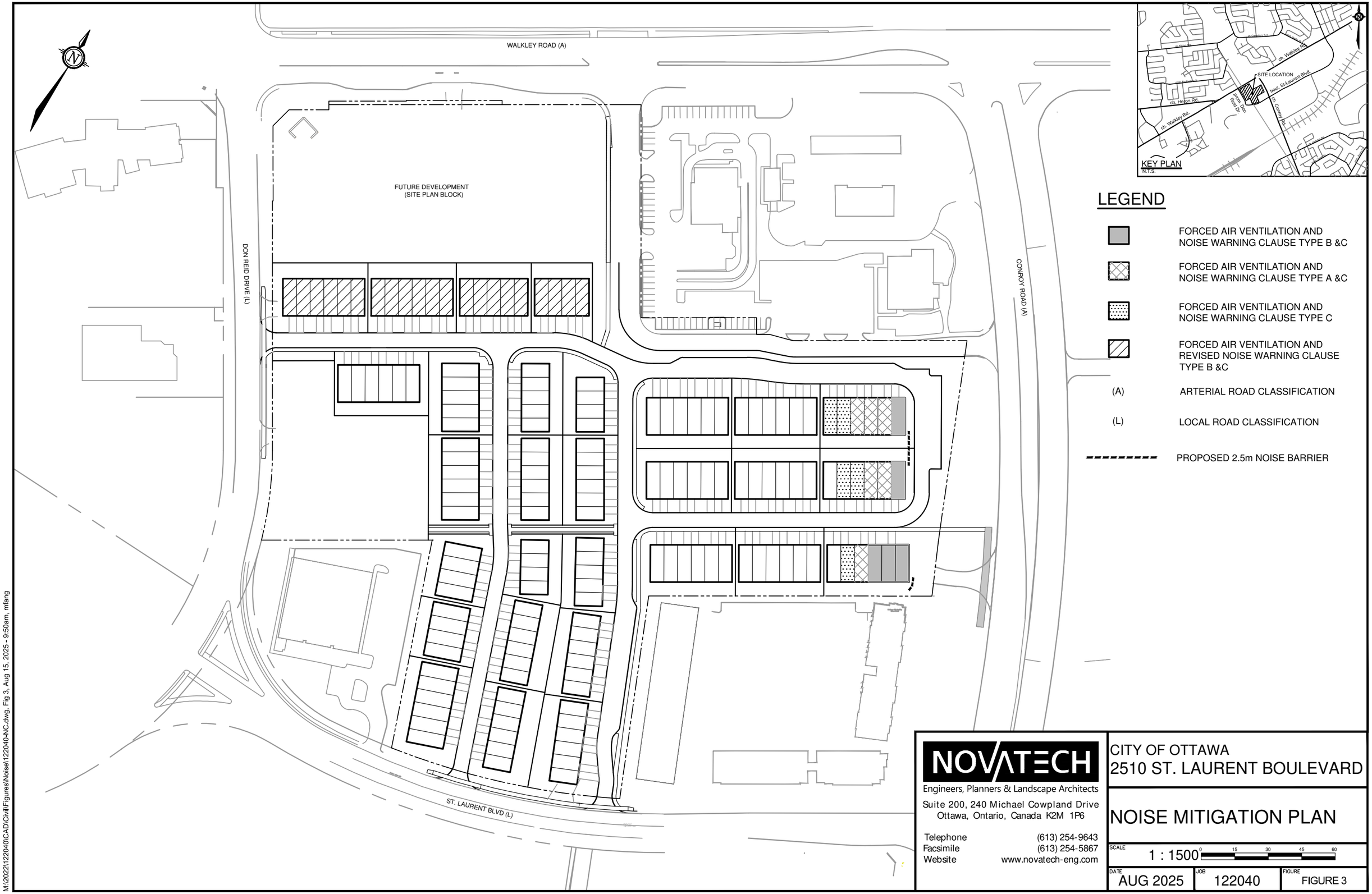
Table 5. Predicted Noise Levels and Proposed Mitigation Measures – Plain of Windows

Receiver Location*	Noise Level(dBA)		Mitigation Method
	Daytime (7:00-23:00)	Nighttime (23:00-7:00)	
POW1	63.67	56.72	Forced Air Ventilation, Warning Clause Type C
POW1-1	56.58	49.86	Forced Air Ventilation, Warning Clause Type C
POW1-2	55.14	48.54	Forced Air Ventilation, Warning Clause Type C
POW1-3	54.17	47.62	N/A
POW2	63.36	56.46	Forced Air Ventilation, Warning Clause Type C
POW2-1	55.15	49.14	Forced Air Ventilation, Warning Clause Type C
POW2-2	54.10	48.31	N/A
POW3	63.44	56.49	Forced Air Ventilation, Warning Clause Type C
POW3-1	55.08	48.73	Forced Air Ventilation, Warning Clause Type C
POW4	55.53	50.32	Forced Air Ventilation, Warning Clause Type C (Revised)
POW5	55.23	49.70	Forced Air Ventilation, Warning Clause Type C (Revised)

Locations correspond to receivers found in **Figure 2 – Receiver Location Plan**

Based on the results above, we recommend Forced Air Ventilation and the inclusion of Noise Clause Type C be registered as a notice on title and incorporated into the lease/rental/sale agreements of the effected units. The noise levels for POW 4&5 are close to the permitted 55 dBA (Daytime) and 50 dBA (Nighttime), and the future development of the site plan block will act as a noise barrier. Therefore, we recommend a revised Warning Clause Type C is registered and addressed that the noise level may need reassessment when the future site plan block is detailed proposed.

Refer to **Figure 3 – Noise Mitigation Plan** for all proposed noise mitigation measures. Refer to **Appendix B** for all noise calculations.



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CITY OF OTTAWA
2510 ST. LAURENT BOULEVARD

NOISE MITIGATION PLAN

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE AUG 2025
JOB 122040
FIGURE FIGURE 3

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4.0 CONCLUSION

This report recommends:

1. Installation of 2.5m high noise walls between the 3 row easternmost town homes and the Conroy Road as outlined in **Figure 3– Noise Mitigation Plan**.
2. Installation of forced air ventilation and the inclusion of Noise Clause Type A, or B, or C to be registered as a notice on title and incorporated into the lease/rental/sale agreements of some of the units the 3 row easternmost town homes. The exact units and mitigation methods refer to **Figure 3– Noise Mitigation Plan.**
3. Installation of forced air ventilation and the inclusion of revised Noise Clause Type B and C to be registered as a notice on title and incorporated into the lease/rental/sale agreements of all the 4 row northernmost town homes. (Refer to **Figure 3– Noise Mitigation Plan)**

NOVATECH

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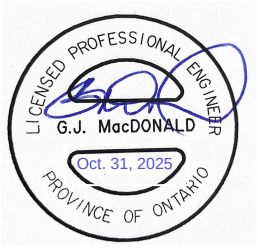
Revised By:

Ming Fang, C.E.T., B. Eng.
Design Technologist

Reviewed By:



Greg MacDonald, P. Eng.
Director - Land Development and
Public Sector Infrastructure

APPENDIX A:

EXCERPTS FROM THE CITY OF OTTAWA ENVIRONMENTAL NOISE CONTROL GUIDELINES, THE MOE'S NPC-300, THE CITY OF OTTAWA'S TRANSPORTATION MASTER PLAN AND OFFICIAL PLAN

PLANNING AND GROWTH MANAGEMENT
URBANISME ET GESTION DE LA CROISSANCE

ENVIRONMENTAL NOISE CONTROL GUIDELINES: Introduction and Glossary

January 2016

Table 2.2a: Sound Level Limit for Outdoor Living Areas - Road and Rail
(from NPC-300, 2013 Table C-1)

Time Period	Required L_{eq} (16) (dBA)
16-hour, 07:00 – 23:00	55

Table 2.2b: Sound Level Limit for Indoor Living Areas Road and Rail
(from NPC-300, 2013 Table C-2)

		Required L_{eq} (dBA)	
Type of Space	Time Period	Road	Rail
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	07:00 – 23:00	45	40
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	23:00 – 07:00	45	40
Sleeping quarters	07:00 – 23:00	45	40
	23:00 – 07:00	40	35

The Province also provides for supplementary indoor sound level limits for land uses not generally considered noise sensitive (see Table 2.2c below). These good practice design objectives should be addressed in any noise study prepared for the City. These supplementary sound level limits are based on the windows and doors to an indoor space being closed.

Table 2.2c: Supplementary Sound Level Limits for Indoor Spaces - Road and Rail (adapted from NPC-300 Table C-9)

		Required L_{eq} (dBA)	
Type of Space	Time Period	Road	Rail
General offices, reception areas, retail stores, etc.	16 hours between 07:00 – 23:00	50	45
Theatres, places of worship, libraries, individual or semi- private offices, conference rooms, reading rooms, etc.	16 hours between 07:00 – 23:00	45	40
Sleeping quarters of hotels/motels	8 hours between 23:00 – 07:00	45	40
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	8 hours between 23:00 – 07:00	40	35

Appendix B: Table of Traffic and Road Parameters To Be Used For Sound Level Predictions

Table B1 Traffic And Road Parameters To Be Used For Sound Level Predictions

Row Width (m)	Implied Roadway Class	AADT Vehicles/Day	Posted Speed Km/Hr	Day/Night Split %	Medium Trucks %	Heavy Trucks % [1]
NA [2]	Freeway, Queensway, Highway	18,333 per lane	100	92/8	7	5
37.5-44.5	6-Lane Urban Arterial-Divided (6 UAD)	50,000	50-80	92/8	7	5
34-37.5	4-Lane Urban Arterial-Divided (4-UAD)	35,000	50-80	92/8	7	5
23-34	4-Lane Urban Arterial-Undivided (4-UAU)	30,000	50-80	92/8	7	5
23-34	4-Lane Major Collector (4-UMCU)	24,000	40-60	92/8	7	5
30-35.5	2-Lane Rural Arterial (2-RAU)	15,000	50-80	92/8	7	5
20-30	2-Lane Urban Arterial (2-UAU)	15,000	50-80	92/8	7	5
20-30	2-Lane Major Collector (2-UMCU)	12,000	40-60	92/8	7	5
30-35.5	2-Lane Outer Rural Arterial (near the extremities of the City) (2-RAU)	10,000	50-80	92/8	7	5
20-30	2-Lane Urban Collector (2-UCU)	8,000	40-50	92/8	7	5

[1] The MOE Vehicle Classification definitions should be used to estimate automobiles, medium trucks and heavy trucks.

[2] The number of lanes is determined by the future mature state of the roadway.

Road	From	To	ROW to be Protected	Classification	Sector
Colonnade	Merivale	Prince of Wales	26	major collector	urban
Colonnade S.	Colonnade N.	Colonnade N.	24	collector	urban
Conroy	Walkley	Greenbelt boundary	44.5	arterial	urban
Conroy	Greenbelt boundary	Bank	G	arterial	urban
Constance Bay	Dunrobin	Bayview	20	arterial	village
Constellation	Centrepointe	Baseline	24	collector	urban
Cope	Entire Length		24	collector	urban
Cordova	Withrow	Baseline	24	collector	urban
Corkstown	March	Moodie	G	arterial	urban
Corkstown	Moodie	Carling	24	collector	urban
Cousineau	East-west segment only		18	local	urban
Coventry	Vanier Parkway	Belfast	30	arterial	urban
Coventry	Belfast	St. Laurent	30	arterial	urban
Cresthaven	Strandherd	Crestway	26	major collector	urban
Crystal Beach	Corkstown	Carling	24	collector	urban
Cumberland	George	Rideau	20	local	urban
Cumberland	Rideau	Besserer	20 Note: Maximum land requirement from property abutting existing ROW (1.0 m). Subject to widening/easement policy.	arterial	urban
Cummings	Montreal	Donald	24	collector	urban
Cummings	Donald	Ogilvie	26	major collector	urban
Cummings	Ogilvie	Cyrville	37.5	arterial	urban
Cyrville	Cummings	100m north of Maxime	37.5	arterial	urban
Cyrville	100m north of Maxime	Innes	37.5 Note: Subject to unequal widening: North side 15.0 m, South side 22.5 m	arterial	urban
Cyrville [Amendment #113, July 30, 2013]	St. Laurent	Cummings	26	collector	urban

Road	From	To	ROW to be Protected	Classification	Sector
Trim	Innes	East Urban Community-south limit	37.5 Note: An additional 5.0 m on the rural side may be required to construct a rural cross-section.	arterial	urban
Trim	Hydro corridor/Frank Kenny extension	Existing Trim	37.5	arterial	urban
Trim	Ottawa Road 174	Frank Kenny extension	46	arterial	urban
Trim	South of hydro corridor/Frank Kenny extension	Innes	37.5 Note: Refer to North South Link ESR	arterial	urban
Trim	North Service	Ottawa Road 174	26	major collector	urban
Triole	North of Tremblay		20	local	urban
Triole	All sections south of Tremblay		18	local	urban
Vaan	Entire length		24	collector	urban
Valin	Charlemagne	Trim	26	major collector	urban
Varley	Beaverbrook	Beaverbrook	24	collector	urban
Vaughn	Crichton	Mackay	15	local	urban
Victoria	Glen	Glenwood	23	arterial	village
Viewmount	Meadowlands	Fisher	24	collector	urban
Virgil	Stinson	Lynhar	24	collector	urban
Viseneau	Boyer	Innes	26	collector	urban
Walkley	Riverside	Bank	26	arterial	urban
Walkley	Bank	Heron	37.5	arterial	urban
Walkley	Heron	Greenbelt boundary	44.5	arterial	urban
Walkley	Greenbelt boundary	Ramsayville	G	arterial	urban
Waller	Rideau	Laurier East	23 Note: Maximum land requirement from property abutting existing ROW (1.54 m).	arterial	urban
Waterbridge	Cresthaven	Prince of Wales	24	collector	urban

Environmental Noise Guideline

Stationary and Transportation Sources – Approval and Planning

Publication NPC-300

Ontario

Table C-10
Supplementary Indoor Aircraft Noise Limits
(Applicable over 24-hour period)

Type of Space	Indoor NEF/NEP*
General offices, reception areas, retail stores, etc.	15
Individual or semi-private offices, conference rooms, etc.	10
Living/dining areas of residences, sleeping quarters of hotels/motels, theatres, libraries, schools, daycare centres, places of worship, etc.	5
Sleeping quarters of residences, hospitals, nursing/retirement homes, etc.	0

* The indoor NEF/NEP values listed in Table C-10 are not obtained from NEF/NEP contour maps. The values are representative of the indoor sound levels and are used as assessment criteria for the evaluation of acoustical insulation requirements.

C7 Noise Control Measures

The following sections provide MOE guidance for appropriate noise control measures. These sections constitute requirements that are applied to MOE approvals for stationary sources. This information is also provided as guidance which land use planning authorities may consider adopting.

The definition in Part A describes the various types and application of noise control measures. All the noise control measures described in the definition are appropriate to address the impact of noise of transportation sources (road, rail and aircraft) on planned sensitive land uses. Only some of the noise control measures described in the definition are appropriate to address the noise impact of stationary sources on planned sensitive land uses.

C7.1 Road Noise Control Measures

C7.1.1 Outdoor Living Areas

If the 16-Hour Equivalent Sound Level, L_{eq} (16) in the OLA is greater than 55 dBA and less than or equal to 60 dBA, noise control measures may be applied to reduce the sound level to 55 dBA. If measures are not provided, prospective purchasers or tenants should be informed of potential noise problems by a warning clause Type A.

If the 16-Hour Equivalent Sound Level, L_{eq} (16) in the OLA is greater than 60 dBA, noise control measures should be implemented to reduce the level to 55 dBA. Only in cases where the required noise control measures are not feasible for technical, economic or administrative reasons would an excess above the limit (55 dBA) be acceptable with a warning clause Type B. In the above situations, any excess above the limit will not be acceptable if it exceeds 5 dBA.

C7.1.2 Plane of a Window – Ventilation Requirements

C7.1.2.1 Daytime Period, 07:00 – 23:00 Hours

Noise control measures may not be required if the L_{eq} (16) daytime sound level in the plane of a bedroom or living/dining room window is less than or equal to 55 dBA. If the sound level in the plane of a bedroom or living/dining room window is greater than 55 dBA and less than or equal to 65 dBA, the dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion. Warning clause Type C is also recommended.

If the daytime sound level in the plane of a bedroom or living/dining room window is greater than 65 dBA, installation of central air conditioning should be implemented with a warning clause Type D. In addition, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in Table C-2. The location and installation of the outdoor air conditioning device should comply with sound level limits of Publication NPC-216, Reference [32], and guidelines contained in Environmental Noise Guidelines for Installation of Residential Air Conditioning Devices, Reference [6], or should comply with other criteria specified by the municipality.

C7.1.2.2 Nighttime Period, 23:00 – 07:00 Hours

Noise control measures may not be required if the L_{eq} (8) nighttime sound level in the plane of a bedroom or living/dining room window is less than or equal to 50 dBA. If the sound level in the plane of a bedroom or living/dining room window is greater than 50 dBA and less than or equal to 60 dBA, the dwelling should be designed with a provision for the installation of central air conditioning in the future, at the occupant's discretion. Warning clause Type C is also recommended.

If the nighttime sound level in the plane of a bedroom or living/dining room window is greater than 60 dBA, installation of central air conditioning should be implemented, with a warning clause Type D. In addition, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the sound level limits in Table C-2. The location and installation of the outdoor air conditioning device should comply with sound level limits of Publication NPC-216, Reference [32], and guidelines contained in Environmental Noise Guidelines for Installation of Residential Air Conditioning Devices, Reference [6], or should comply with other criteria specified by the municipality.

C7.1.3 Indoor Living Areas – Building Components

If the nighttime sound level outside the bedroom or living/dining room windows exceeds 60 dBA or the daytime sound level outside the bedroom or living/dining area windows exceeds 65 dBA, building components including windows, walls and doors, where applicable, should be designed so that the indoor sound levels comply with the

sound level limits in Table C-2. The acoustical performance of the building components (windows, doors and walls) should be specified.

C7.2 Rail Noise Control Measures

C7.2.1 Outdoor Living Areas

Whistle noise is not included in the determination of the outdoor daytime sound level due to railway trains. All the provisions of Section C7.1.1 apply also to noise control requirements for rail noise.

C7.2.2 Plane of a Window – Ventilation Requirements

Whistle noise is not included in the determination of the sound level in the plane of a window. All the provisions of Section C7.1.2 apply also to noise control requirements for rail noise.

C7.2.3 Indoor Living Areas – Building Components

The sound level, L_{eq}, during the daytime (16-hour) and nighttime (8-hour) periods is determined using the prediction method STEAM, Reference [34], immediately outside the dwelling envelope. Whistle noise is included in the determination of the sound level.

If the nighttime sound level outside the bedroom or living/dining room windows exceeds 55 dBA or the daytime sound level outside the bedroom or living/dining area windows exceeds 60 dBA, building components including windows, walls and doors, where applicable, need to be designed so that the indoor sound levels comply with the sound level limits in Table C-2. The acoustical performance of the building components (windows, doors and walls) needs to be specified.

In addition, the exterior walls of the first row of dwellings next to railway tracks are to be built to a minimum of brick veneer or masonry equivalent construction, from the foundation to the rafters when the rail traffic L_{eq} (24-hour), estimated at a location of a nighttime receptor, is greater than 60 dBA, and when the first row of dwellings is within 100 metres of the tracks.

C7.3 Combination of Road and Rail Noise

The noise impact in the OLA and in the plane of a window, and the requirements for outdoor measures, ventilation measures and warning clauses, should be determined by combining road and rail traffic sound levels.

The assessment of the indoor sound levels and the resultant requirement for the acoustical descriptors of the building components should be done separately for road

In Class 4 areas, where windows for noise sensitive spaces are assumed to be closed, the use of central air conditioning may be acceptable if it forms an essential part of the overall building designs.

C7.9 Verification of Noise Control Measures

It is recommended that the implementation of noise control measures be verified by qualified individuals with experience in environmental acoustics.

C8 Warning Clauses

The use of warning clauses or easements in respect of noise are recommended when circumstances warrant. Noise warning clauses may be used to warn of potential annoyance due to an existing source of noise and/or to warn of excesses above the sound level limits. Direction on the use of warning clauses should be included in agreements that are registered on title to the lands in question. The warning clauses would be included in agreements of Offers of Purchase and Sale, lease/rental agreements and condominium declarations. Alternatively, the use of easements in respect of noise may be appropriate in some circumstances. Additional guidance on the use of noise warning clauses is provided in Section C7.1.1, Section C7.1.2.1, Section C7.1.2.2, Section C7.3 and Section C7.4.

C8.1 Transportation Sources

The following warning clauses may be used individually or in combination:

TYPE A: (see Section C7.1.1)

> "Purchasers/tenants are advised that sound levels due to increasing road traffic (rail traffic) (air traffic) may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."

TYPE B: (see Section C7.1.1 and Section C7.4)

> "Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic (rail traffic) (air traffic) may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment."

TYPE C: (see Section C7.1.2.1, Section C7.1.2.2 and Section C7.4)

> "This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of

central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

TYPE D: (see Section C7.1.2.1, Section C7.1.2.2 and Section C7.4)

"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment."

C8.2 Stationary Sources

It is not acceptable to use warning clauses in place of physical noise control measures to identify an excess over the MOE sound level limits. Warning clause (Type E) for stationary sources may identify a potential concern due to the proximity of the facility but it is not acceptable to justify exceeding the sound level limits.

TYPE E: (see Section C7.6)

"Purchasers/tenants are advised that due to the proximity of the adjacent industry (facility) (utility), noise from the industry (facility) (utility) may at times be audible."

C8.3 Class 4 Area Notification

TYPE F: (see Section B9.2 and Section C4.4.2)

"Purchasers/tenants are advised that sound levels due to the adjacent industry (facility) (utility) are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a ventilation/air conditioning system which will allow windows and exterior doors to remain closed."

Appendix A: Warning Clauses

Under the Official Plan and this guideline warning clauses may be required to be incorporated into development through development agreements, registration on title and inclusion in Agreements of Purchase and Sale. This requirement may be included in any development, regardless of whether it is considered a noise sensitive land use.

A warning clause provides recognition for the City, Province landowner or tenants that noise may be a concern, that noise may be audible at times or even quite loud, and, depending on the type of development, provincial guidelines for noise may be exceeded. Warning clauses also recognize that environmental noise is a potential health hazard that does impact people and neighbourhoods. It is for this reason that, unless a non-noise sensitive land use is established, a warning clause should also include noise mitigation.

A warning clause is not considered a form of noise mitigation. It is not acceptable therefore to use warning clauses in place of physical noise control measures to identify an excess over the MOE or City noise limits. The reason for a warning clause on all development is twofold. Firstly, it is important to note that a land use that although the development may not be considered noise sensitive it may include employees or tenants that are personally sensitive to noise. A warning clause provides protection against complaints to the ministry of Environment should provincial guidelines be exceeded. Secondly, a warning clause on title could obviate the need for a new noise study in the future. In a redevelopment scenario the warning clause would provide recognition of the extent noise conditions.

Given the variation in potential intensity and impact of noise it will often be necessary to amend warning clauses to recognize the site specific conditions in each development. Final wording of any warning clause is to be approved by the City.

The following subsections provide example text to be adapted into warning clauses.

Surface Transportation Warning Clauses

Table A1 Surface Transportation Warning Clauses

Type	Example	Notes
Generic	*Purchasers/tenants are advised that sound levels due to increasing road/rail/Light Rail/transitway traffic may occasionally interfere with some outdoor activities as the sound levels may exceed the sound level limits of the City and the Ministry of the Environment.* *To help address the need for sound attenuation this development has been designed so as to provide an outdoor amenity area that is within provincial guidelines. Measures for sound attenuation include:* • *A setback of buildings from the noise source and* • *An acoustic barrier.* *To ensure that provincial sound level limits are not exceeded it is important to maintain sound attenuation features.* *The acoustic barrier shall be maintained and kept in good repair by the property owner. Any maintenance, repair or replacement is the responsibility of the owner and shall be with the same material or to the same standards, having the same colour, appearance and function of the original.* *Additionally this development includes trees and shrubs to screen the source of noise from occupants.*	The generic warning clause outlines that MOE sound levels may be exceeded but the indoor environment and outdoor amenity areas are within guidelines. Mitigation measures are described including urban design features. Mention is also made of landscaping to screen the development visually from the source of noise.
Extensive mitigation of indoor and	*"Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units,*	The warning clause makes reference to MOE sound levels

Table A1 Surface Transportation Warning Clauses

Type	Example	Notes
outdoor amenity area	*sound levels due to increasing road/rail/Light Rail/transitway traffic may, on occasion, interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the City and the Ministry of the Environment.* *To help address the need for sound attenuation this development includes:* • *multi-pane glass;* • *double brick veneer;* • *an earth berm; and* • *an acoustic barrier.* *To ensure that provincial sound level limits are not exceeded it is important to maintain these sound attenuation features.* *The acoustic barrier shall be maintained and kept in good repair by the property owner. Any maintenance, repair or replacement is the responsibility of the owner and shall be with the same material or to the same standards, having the same colour, appearance and function of the original.* *This dwelling unit has also been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City and the Ministry of the Environment.*	being exceeded from time to time and that there are sound attenuation features and landscaping within the development that should be maintained. An option for air conditioning is noted as well as landscaping to screen the source of noise.

Table A1 Surface Transportation Warning Clauses

Type	Example	Notes
	Additionally this development includes trees and shrubs to screen the source of noise from occupants.	
No outdoor amenity area	*Purchasers/tenants are advised that sound levels due to increasing road/rail/Light Rail/transitway traffic will interfere with outdoor activities as the sound levels exceed the sound level limits of the City and the Ministry of the Environment.* *To help address the need for sound attenuation this development includes:* • *multi-pane glass;* • *double brick veneer;* • *high sound transmission class walls.* *To ensure that provincial sound level limits are not exceeded it is important to maintain these sound attenuation features.* *This dwelling unit has been supplied with a central air conditioning system and other measures which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the City and the Ministry of the Environment*	This warning clause notes that only an indoor environment is being provided for.

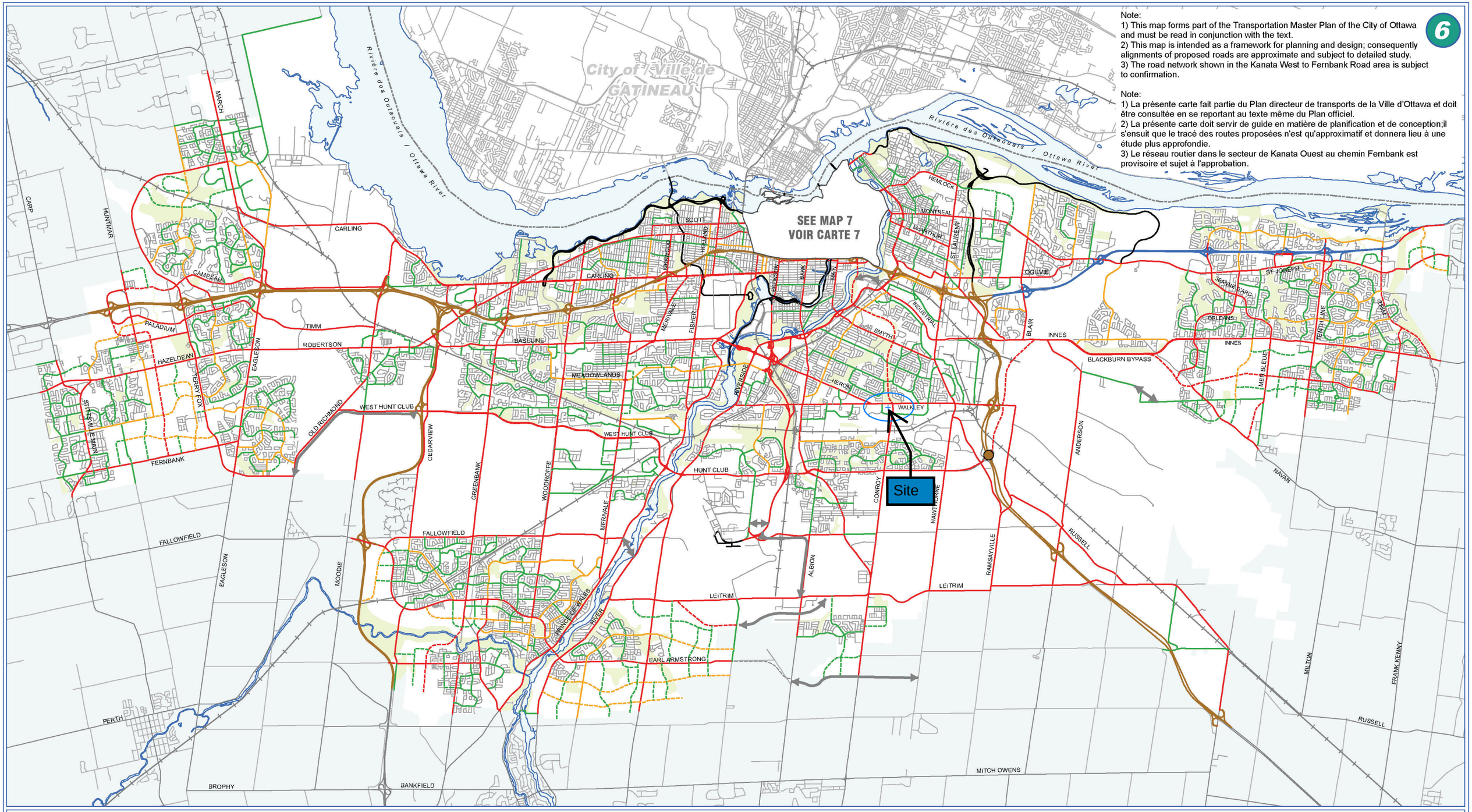
Stationary Source Warning Clauses

The Province notes that it is not acceptable to use warning clauses in place of physical noise control measures to identify an excess over the MOE sound level limits for stationary sources. The generic warning clause for stationary sources (called Type E in NPC-300) may identify a potential concern due to the proximity of the facility but it is not possible to justify exceeding the sound level limits.
The wording of the generic stationary noise warning clause may also be used as the basis for new development adjacent to areas licensed for mineral aggregate extraction.

6

Note:
1) This map forms part of the Transportation Master Plan of the City of Ottawa and must be read in conjunction with the text.
2) This map is intended as a framework for planning and design; consequently alignments of proposed roads are approximate and subject to detailed study.
3) The road network shown in the Kanata West to Fernbank Road area is subject to confirmation.

Note:
1) La présente carte fait partie du Plan directeur de transports de la Ville d'Ottawa et doit être consultée en se reportant au texte même du Plan officiel.
2) La présente carte doit servir de guide en matière de planification et de conception;il s'ensuit que le tracé des routes proposées n'est qu'approximatif et donnera lieu à une étude plus approfondie.
3) Le réseau routier dans le secteur de Kanata Ouest au chemin Fernbank est provisoire et sujet à l'approbation.



Provincial Highway — Chemins de propriété fédéral
Federally Owned Road — Route provinciale
City Freeway — Autoroute de ville

Arterial - Existing — Artère - Établie
Arterial - Proposed (alignment defined) — Artère - Proposé (alignement déterminée)
Arterial - Conceptual (alignment undefined) — Artère - Conceptuelle (alignement à déterminée)
Major Collector - Existing — Grande collectrice - Établie
Major Collector - Proposed — Grande collectrice - Proposé
Collector - Existing — Collectrice - Établie
Collector - Proposed — Collectrice - Proposé
New Interchange — Nouvel échangeur

1 0.5 0 1 2 3 km

Prepared by: Planning and Growth Management Department, Mapping & Graphics Unit, 2015 Revision
Préparé par: Service de l'urbanisme et de la gestion de la croissance, Unité de la cartographie et des graphiques, Révision 2015

TRANSPORTATION MASTER PLAN - Map 6
ROAD NETWORK - URBAN

PLAN DIRECTEUR DES TRANSPORTS - Carte 6
RÉSEAU ROUTIER - URBAIN

APPENDIX B

Sound Level Calculations

STAMSON 5.0 SUMMARY REPORT Date: 19-07-2023 10:24:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola1.te Time Period: Day/Night 16/8 hours
Description: Outdoor Living Area

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -84.00 deg 66.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 59.00 / 59.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -84.00 deg Angle2 : -48.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.55 m
Barrier elevation : 86.22 m
Reference angle : 0.00

↟
Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	66.00 deg	90.00 deg
Wood depth	0	(No woods.)
No of house rows	0 / 0	
Surface	1	(Absorptive ground surface)
Receiver source distance	59.00 / 59.00	m
Receiver height	1.50 / 1.50	m
Topography	2	(Flat/gentle slope; with barrier)
Barrier angle1	66.00 deg	Angle2 : 90.00 deg
Barrier height	6.00 m	
Barrier receiver distance	3.00 / 3.00	m
Source elevation	85.10 m	
Receiver elevation	85.55 m	
Barrier elevation	85.80 m	
Reference angle	0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	62.15	62.15
2.Conroy	1.50	42.80	42.80
Total			62.20 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	54.55	54.55

2.Conroy	1.50	35.21	35.21
Total			54.60 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.20
(NIGHT): 54.60

STAMSON 5.0 SUMMARY REPORT Date: 25-11-2024 10:50:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol1w.te Time Period: Day/Night 16/8 hours
Description: OLA1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -84.00 deg -48.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 59.00 / 59.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -84.00 deg Angle2 : -48.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.60 m
Barrier elevation : 86.72 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -48.00 deg   -18.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  59.00 / 59.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -48.00 deg   Angle2 : -18.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :   4.30 / 4.30   m
Source elevation          :  85.10 m
Receiver elevation        :  85.60 m
Barrier elevation         :  85.60 m
Reference angle           :   0.00

♠
Road data, segment # 3: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -18.00 deg   72.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  59.00 / 59.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -18.00 deg   Angle2 : 7.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  85.60 m
Barrier elevation         :  85.55 m
Reference angle           :   0.00
```



```
Road data, segment # 4: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  72.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  59.00 / 59.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  72.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  85.60 m
Barrier elevation         :  85.80 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	40.39	40.39
2.Conroy	1.50	48.28	48.28
3.Conroy	1.50	59.51	59.51
4.Conroy	1.50	42.10	42.10
Total			59.95 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	32.79	32.79
2.Conroy	1.50	40.68	40.68
3.Conroy	1.50	51.92	51.92
4.Conroy	1.50	34.51	34.51
Total			52.36 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.95
(NIGHT): 52.36

STAMSON 5.0 SUMMARY REPORT Date: 25-11-2024 13:02:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol11w.te Time Period: Day/Night 16/8 hours
Description: OLA1-1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -81.00 deg -16.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 70.00 / 70.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -81.00 deg Angle2 : -16.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.60 m
Barrier elevation : 86.72 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -16.00 deg   -9.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  70.00 / 70.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -16.00 deg   Angle2 : -9.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :  16.00 / 16.00  m
Source elevation          :  85.10 m
Receiver elevation        :  85.60 m
Barrier elevation         :  85.60 m
Reference angle           :   0.00

↟
Road data, segment # 3: Conroy (day/night)
----------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  -9.00 deg   25.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  70.00 / 70.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -9.00 deg   Angle2 : -3.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  85.60 m
Barrier elevation         :  85.55 m
Reference angle           :   0.00
```



```
Road data, segment # 4: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  25.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  70.00 / 70.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  25.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  85.60 m
Barrier elevation         :  85.80 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	41.46	41.46
2.Conroy	1.50	43.09	43.09
3.Conroy	1.50	55.36	55.36
4.Conroy	1.50	44.45	44.45
Total			56.08 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	33.86	33.86
2.Conroy	1.50	35.50	35.50
3.Conroy	1.50	47.77	47.77
4.Conroy	1.50	36.85	36.85
Total			48.49 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.08
(NIGHT): 48.49

STAMSON 5.0 SUMMARY REPORT Date: 17-08-2023 13:20:00
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol12.te Time Period: Day/Night 16/8 hours
Description: OLA 1-2 No Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -81.00 deg -14.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 75.00 / 75.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -81.00 deg Angle2 : -14.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.55 m
Barrier elevation : 86.72 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	: -14.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 0 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 75.00 / 75.00	m
Receiver height	: 1.50 / 4.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 16.00 deg	Angle2 : 90.00 deg
Barrier height	: 6.00 m	
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.10 m	
Receiver elevation	: 85.55 m	
Barrier elevation	: 85.80 m	
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	41.19	41.19
2.Conroy	1.50	55.46	55.46
Total			55.62 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	38.13	38.13

2.Conroy	1.50	49.20	49.20
	Total		49.53 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.62
(NIGHT): 49.53

STAMSON 5.0 SUMMARY REPORT Date: 25-11-2024 15:13:44
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol12w.te Time Period: Day/Night 16/8 hours
Description: OLA1-2 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -80.00 deg -13.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 77.00 / 77.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -80.00 deg Angle2 : -13.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.67 m
Barrier elevation : 86.72 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -13.00 deg   -7.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  77.00 / 77.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -13.00 deg   Angle2 : -7.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :  22.00 / 22.00  m
Source elevation          :  85.10 m
Receiver elevation        :  85.67 m
Barrier elevation         :  85.60 m
Reference angle           :   0.00

↟
Road data, segment # 3: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  -7.00 deg   17.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  77.00 / 77.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -7.00 deg   Angle2 : -3.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  85.67 m
Barrier elevation         :  85.55 m
Reference angle           :   0.00
```



```
Road data, segment # 4: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 4: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  17.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  77.00 / 77.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  17.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  85.67 m
Barrier elevation         :  85.80 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	41.02	41.02
2.Conroy	1.50	42.26	42.26
3.Conroy	1.50	53.26	53.26
4.Conroy	1.50	44.31	44.31
Total			54.29 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	33.42	33.42
2.Conroy	1.50	34.67	34.67
3.Conroy	1.50	45.67	45.67
4.Conroy	1.50	36.71	36.71
Total			46.69 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.29
(NIGHT): 46.69

STAMSON 5.0 SUMMARY REPORT Date: 17-08-2023 13:56:23
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol13.te Time Period: Day/Night 16/8 hours
Description: OLA 1-3 No Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -80.00 deg -12.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 82.00 / 82.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -80.00 deg Angle2 : -12.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.68 m
Barrier elevation : 86.72 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	: -12.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 0 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 82.00 / 82.00	m
Receiver height	: 1.50 / 1.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 11.00 deg	Angle2 : 90.00 deg
Barrier height	: 6.00 m	
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.10 m	
Receiver elevation	: 85.68 m	
Barrier elevation	: 85.80 m	
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	40.74	40.74
2.Conroy	1.50	53.82	53.82
Total			54.03 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	33.14	33.14

2.Conroy	1.50	46.22	46.22
Total			46.43 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.03
(NIGHT): 46.43

STAMSON 5.0 SUMMARY REPORT Date: 19-07-2023 10:21:11
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola2.te Time Period: Day/Night 16/8 hours
Description: Outdoor Living Area

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -75.00 deg 45.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 59.00 / 59.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -75.00 deg Angle2 : -70.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.96 m
Barrier elevation : 86.89 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	45.00 deg	90.00 deg
Wood depth	0	(No woods.)
No of house rows	2 / 0	
Surface	1	(Absorptive ground surface)
Receiver source distance	59.00 / 59.00	m
Receiver height	1.50 / 1.50	m
Topography	2	(Flat/gentle slope; with barrier)
Barrier angle1	45.00 deg	Angle2 : 90.00 deg
Barrier height	6.00 m	
Barrier receiver distance	3.00 / 3.00	m
Source elevation	85.10 m	
Receiver elevation	85.96 m	
Barrier elevation	86.74 m	
Reference angle	0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	62.11	62.11
2.Conroy	1.50	43.83	43.83
Total			62.17 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	54.51	54.51

2.Conroy	1.50	36.24	36.24
Total			54.57 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.17
(NIGHT): 54.57

STAMSON 5.0 SUMMARY REPORT Date: 26-11-2024 09:17:54
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol2w.te Time Period: Day/Night 16/8 hours
Description: OLA2 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -75.00 deg -70.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 60.00 / 60.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -75.00 deg Angle2 : -70.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.04 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -70.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -65.00 deg   Angle2 : 45.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :   4.70 / 4.70   m
Source elevation          :  85.10 m
Receiver elevation        :  86.04 m
Barrier elevation         :  85.78 m
Reference angle           :   0.00

♠
Road data, segment # 3: Conroy (day/night)
----------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  45.00 deg   90.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      2 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  60.00 / 60.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  45.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  86.04 m
Barrier elevation         :  87.05 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	31.56	31.56
2.Conroy	1.50	55.74	55.74
3.Conroy	1.50	43.55	43.55
Total			56.01 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	23.97	23.97
2.Conroy	1.50	48.14	48.14
3.Conroy	1.50	35.96	35.96
Total			48.41 dBA

```
TOTAL Leq FROM ALL SOURCES (DAY): 56.01
                           (NIGHT): 48.41
```

STAMSON 5.0 SUMMARY REPORT Date: 27-11-2024 13:50:31
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol21w.te Time Period: Day/Night 16/8 hours
Description: OLA2-1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -74.00 deg -44.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 66.00 / 66.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -74.00 deg Angle2 : -44.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.11 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -44.00 deg   18.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  66.00 / 66.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -44.00 deg   Angle2 : 18.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :  10.80 / 10.80  m
Source elevation          :  85.10 m
Receiver elevation        :  86.11 m
Barrier elevation         :  85.78 m
Reference angle           :   0.00

♠
Road data, segment # 3: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  18.00 deg   90.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      2 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  66.00 / 66.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  18.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  86.11 m
Barrier elevation         :  87.05 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	38.01	38.01
2.Conroy	1.50	53.35	53.35
3.Conroy	1.50	44.46	44.46
Total			53.99 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	30.41	30.41
2.Conroy	1.50	45.75	45.75
3.Conroy	1.50	36.87	36.87
Total			46.39 dBA

```
TOTAL Leq FROM ALL SOURCES (DAY): 53.99
                           (NIGHT): 46.39
```

STAMSON 5.0 SUMMARY REPORT Date: 17-08-2023 14:13:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola22.te Time Period: Day/Night 16/8 hours
Description: OLA2-2 No Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -72.00 deg -30.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 70.00 / 70.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -72.00 deg Angle2 : -30.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 85.96 m
Barrier elevation : 86.89 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	: -30.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 2 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 70.00 / 70.00	m
Receiver height	: 1.50 / 1.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 12.00 deg	Angle2 : 90.00 deg
Barrier height	: 6.00 m	
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.10 m	
Receiver elevation	: 85.96 m	
Barrier elevation	: 86.74 m	
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	39.12	39.12
2.Conroy	1.50	55.00	55.00
Total			55.11 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	31.53	31.53

2.Conroy	1.50	49.63	49.63
Total			49.70 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.11
(NIGHT): 49.70

STAMSON 5.0 SUMMARY REPORT Date: 28-11-2024 09:00:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol22w.te Time Period: Day/Night 16/8 hours
Description: OLA2-2 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -72.00 deg -30.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 72.00 / 72.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -72.00 deg Angle2 : -30.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.15 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -30.00 deg   11.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  72.00 / 72.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -30.00 deg   Angle2 : 11.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :  17.00 / 17.00  m
Source elevation          :  85.10 m
Receiver elevation        :  86.15 m
Barrier elevation         :  85.78 m
Reference angle           :   0.00

♠
Road data, segment # 3: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  11.00 deg   90.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      2 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  72.00 / 72.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  11.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  86.15 m
Barrier elevation         :  87.05 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	38.97	38.97
2.Conroy	1.50	51.37	51.37
3.Conroy	1.50	44.30	44.30
Total			52.35 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	31.37	31.37
2.Conroy	1.50	43.77	43.77
3.Conroy	1.50	36.70	36.70
Total			44.75 dBA

```
TOTAL Leq FROM ALL SOURCES (DAY): 52.35
                           (NIGHT): 44.75
```

STAMSON 5.0 SUMMARY REPORT Date: 24-09-2024 14:57:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola23.te Time Period: Day/Night 16/8 hours
Description: OLA 2-3 - No Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -70.00 deg -22.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 76.00 / 76.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -70.00 deg Angle2 : -22.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.17 m
Barrier elevation : 87.05 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	: -22.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 2 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 76.00 / 76.00	m
Receiver height	: 1.50 / 1.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 8.00 deg	Angle2 : 90.00 deg
Barrier height	: 6.00 m	
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.10 m	
Receiver elevation	: 86.17 m	
Barrier elevation	: 87.06 m	
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	39.25	39.25
2.Conroy	1.50	53.16	53.16
Total			53.33 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	31.65	31.65

2.Conroy	1.50	47.73	47.73
Total			47.84 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.33
(NIGHT): 47.84

STAMSON 5.0 SUMMARY REPORT Date: 24-07-2023 15:02:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola3.te Time Period: Day/Night 16/8 hours
Description: Backyard OLA

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -74.00 deg 72.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 59.00 / 59.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -74.00 deg Angle2 : -44.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.10 m
Barrier elevation : 86.89 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	72.00 deg	90.00 deg
Wood depth	0	(No woods.)
No of house rows	3 / 0	
Surface	1	(Absorptive ground surface)
Receiver source distance	59.00 / 59.00	m
Receiver height	1.50 / 1.50	m
Topography	2	(Flat/gentle slope; with barrier)
Barrier angle1	72.00 deg	Angle2 : 90.00 deg
Barrier height	6.00 m	
Barrier receiver distance	3.00 / 3.00	m
Source elevation	85.10 m	
Receiver elevation	86.10 m	
Barrier elevation	86.74 m	
Reference angle	0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	62.13	62.13
2.Conroy	1.50	41.64	41.64
Total			62.17 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	54.54	54.54

2.Conroy	1.50	34.04	34.04
Total			54.58 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.17
(NIGHT): 54.58

STAMSON 5.0 SUMMARY REPORT Date: 28-11-2024 10:22:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol3w.te Time Period: Day/Night 16/8 hours
Description: OLA3 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -75.00 deg -44.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 59.00 / 59.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -75.00 deg Angle2 : -44.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.08 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -44.00 deg   66.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  59.00 / 59.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -44.00 deg   Angle2 : 66.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :   4.70 / 4.70   m
Source elevation          :  85.10 m
Receiver elevation        :  86.08 m
Barrier elevation         :  85.78 m
Reference angle           :   0.00

♠
Road data, segment # 3: Conroy (day/night)
----------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  66.00 deg   90.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      2 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  59.00 / 59.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  72.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  86.08 m
Barrier elevation         :  87.05 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	38.80	38.80
2.Conroy	1.50	55.52	55.52
3.Conroy	1.50	46.24	46.24
Total			56.09 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	31.20	31.20
2.Conroy	1.50	47.92	47.92
3.Conroy	1.50	40.39	40.39
Total			48.70 dBA

```
TOTAL Leq FROM ALL SOURCES (DAY): 56.09
                           (NIGHT): 48.70
```

STAMSON 5.0 SUMMARY REPORT Date: 28-11-2024 13:16:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol31w.te Time Period: Day/Night 16/8 hours
Description: OLA3-1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -74.00 deg -18.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 66.00 / 66.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -74.00 deg Angle2 : -18.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.17 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -18.00 deg   45.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  66.00 / 66.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            : -18.00 deg   Angle2 : 45.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :  10.70 / 10.70  m
Source elevation          :  85.10 m
Receiver elevation        :  86.17 m
Barrier elevation         :  85.78 m
Reference angle           :   0.00

♠
Road data, segment # 3: Conroy (day/night)
----------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  45.00 deg   90.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      2 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  66.00 / 66.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  45.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  86.17 m
Barrier elevation         :  87.05 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	40.83	40.83
2.Conroy	1.50	53.58	53.58
3.Conroy	1.50	43.14	43.14
Total			54.16 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	33.23	33.23
2.Conroy	1.50	45.99	45.99
3.Conroy	1.50	35.54	35.54
Total			46.57 dBA

```
TOTAL Leq FROM ALL SOURCES (DAY): 54.16
                       (NIGHT): 46.57
```

STAMSON 5.0 SUMMARY REPORT Date: 17-08-2023 15:09:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol32.te Time Period: Day/Night 16/8 hours
Description: OLA3-2 No Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -70.00 deg -7.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 77.00 / 77.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -70.00 deg Angle2 : -7.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.23 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	-7.00 deg	90.00 deg
Wood depth	0	(No woods.)
No of house rows	0 / 0	
Surface	1	(Absorptive ground surface)
Receiver source distance	77.00 / 77.00	m
Receiver height	1.50 / 1.50	m
Topography	2	(Flat/gentle slope; with barrier)
Barrier angle1	23.00 deg	Angle2 : 90.00 deg
Barrier height	6.00 m	
Barrier receiver distance	3.00 / 3.00	m
Source elevation	85.10 m	
Receiver elevation	86.23 m	
Barrier elevation	87.05 m	
Reference angle	0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	40.45	40.45
2.Conroy	1.50	55.19	55.19
Total			55.33 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	32.86	32.86

2.Conroy	1.50	47.59	47.59
	Total		47.73 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.33
(NIGHT): 47.73

STAMSON 5.0 SUMMARY REPORT Date: 28-11-2024 14:57:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol32w.te Time Period: Day/Night 16/8 hours
Description: OLA3-2 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -70.00 deg -8.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 78.00 / 78.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -70.00 deg Angle2 : -8.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.24 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  -8.00 deg   23.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  78.00 / 78.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  -8.00 deg   Angle2 : 23.00 deg
Barrier height            :   2.50 m
Barrier receiver distance :  23.00 / 23.00  m
Source elevation          :  85.10 m
Receiver elevation        :  86.24 m
Barrier elevation         :  86.78 m
Reference angle           :   0.00

♠
Road data, segment # 3: Conroy (day/night)
------------------------------------------
Car traffic volume  : 34408/2992  veh/TimePeriod  *
Medium truck volume :  2737/238   veh/TimePeriod  *
Heavy truck volume  :  1955/170   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     1 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 3: Conroy (day/night)
----------------------------------------
Angle1   Angle2           :  23.00 deg   90.00 deg
```

```
Wood depth                :      0       (No woods.)
No of house rows          :      3 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  78.00 / 78.00  m
Receiver height           :   1.50 / 1.50   m
Topography                :      2       (Flat/gentle slope; with barrier)
Barrier angle1            :  23.00 deg   Angle2 : 90.00 deg
Barrier height            :   6.00 m
Barrier receiver distance :   3.00 / 3.00   m
Source elevation          :  85.10 m
Receiver elevation        :  86.24 m
Barrier elevation         :  87.05 m
Reference angle           :   0.00
```

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	40.31	40.31
2.Conroy	1.50	47.06	47.06
3.Conroy	1.50	43.42	43.42
Total			49.22 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	32.71	32.71
2.Conroy	1.50	39.46	39.46
3.Conroy	1.50	35.82	35.82
Total			41.62 dBA

```
TOTAL Leq FROM ALL SOURCES (DAY): 49.22
                           (NIGHT): 41.62
```

STAMSON 5.0 SUMMARY REPORT Date: 17-08-2023 15:15:15
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ol33.te Time Period: Day/Night 16/8 hours
Description: OLA3-3 No Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -67.00 deg -5.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 83.00 / 83.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -67.00 deg Angle2 : -5.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.27 m
Barrier elevation : 87.06 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	-5.00 deg	90.00 deg
Wood depth	0	(No woods.)
No of house rows	0 / 0	
Surface	1	(Absorptive ground surface)
Receiver source distance	83.00 / 83.00	m
Receiver height	1.50 / 1.50	m
Topography	2	(Flat/gentle slope; with barrier)
Barrier angle1	19.00 deg	Angle2 : 90.00 deg
Barrier height	6.00 m	
Barrier receiver distance	3.00 / 3.00	m
Source elevation	85.10 m	
Receiver elevation	86.27 m	
Barrier elevation	87.05 m	
Reference angle	0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	39.94	39.94
2.Conroy	1.50	53.80	53.80
Total			53.97 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	32.35	32.35

2.Conroy	1.50	46.20	46.20
Total			46.38 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 53.97
(NIGHT): 46.38

STAMSON 5.0 SUMMARY REPORT Date: 21-07-2023 15:03:32
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola4.te Time Period: Day/Night 16/8 hours
Description: Backyard OLA

Road data, segment # 1: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Walkley (day/night)

Angle1 Angle2 : -90.00 deg -69.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 97.00 / 97.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -82.00 deg Angle2 : -69.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 32.00 / 32.00 m
Source elevation : 85.80 m
Receiver elevation : 86.36 m
Barrier elevation : 86.40 m
Reference angle : 0.00

Road data, segment # 2: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	35000
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Walkley (day/night)

Angle1 Angle2	: -69.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 1 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 97.00 / 97.00	m
Receiver height	: 1.50 / 1.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 47.00 deg	Angle2 : 90.00 deg
Barrier height	: 4.50 m	
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.80 m	
Receiver elevation	: 86.36 m	
Barrier elevation	: 86.00 m	
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	40.88	40.88
2.Walkley	1.50	55.47	55.47
Total			55.62 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	33.63	33.63

2.Walkley	1.50	48.74	48.74
	Total		48.87 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.62
(NIGHT): 48.87

STAMSON 5.0 SUMMARY REPORT Date: 21-07-2023 15:06:58
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: ola5.te Time Period: Day/Night 16/8 hours
Description: Backyard OLA

Road data, segment # 1: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Walkley (day/night)

Angle1 Angle2 : -90.00 deg -36.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 97.00 / 97.00 m
Receiver height : 1.50 / 1.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -74.00 deg Angle2 : -36.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 32.00 / 32.00 m
Source elevation : 85.80 m
Receiver elevation : 86.63 m
Barrier elevation : 86.40 m
Reference angle : 0.00

Road data, segment # 2: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	35000
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Walkley (day/night)

Angle1 Angle2	: -36.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 1 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 97.00 / 97.00	m
Receiver height	: 1.50 / 1.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 75.00 deg	Angle2 : 90.00 deg
Barrier height	: 4.50 m	
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.80 m	
Receiver elevation	: 86.63 m	
Barrier elevation	: 86.00 m	
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	44.84	44.84
2.Walkley	1.50	55.11	55.11
Total			55.50 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	37.68	37.68

2.Walkley	1.50	48.40	48.40
	Total		48.75 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.50
(NIGHT): 48.75

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 11:23:21
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow1w.te Time Period: Day/Night 16/8 hours
Description: POW1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -84.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 55.00 / 55.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -48.00 deg Angle2 : 87.00 deg
Barrier height : 2.50 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.72 m
Barrier elevation : 85.58 m
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)

1.Conroy	1.50	63.67	63.67 *
	Total		63.67 dBA

* Bright Zone !

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	56.72	56.72 *
	Total		56.72 dBA

* Bright Zone !

TOTAL Leq FROM ALL SOURCES (DAY): 63.67
(NIGHT): 56.72

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 12:50:48
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow11.te Time Period: Day/Night 16/8 hours
Description: POW1-1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -78.00 deg -6.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 75.00 / 75.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -78.00 deg Angle2 : -52.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.72 m
Barrier elevation : 87.05 m
Reference angle : 0.00


Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)

1.Conroy	1.50	56.58	56.58
	Total		56.58 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	49.86	49.86
	Total		49.86 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 56.58
(NIGHT): 49.86

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 13:20:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow12.te Time Period: Day/Night 16/8 hours
Description: POW1-2 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -78.00 deg -7.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 82.00 / 82.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -78.00 deg Angle2 : -44.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.72 m
Barrier elevation : 87.05 m
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)

1.Conroy	1.50	55.14	55.14
	Total		55.14 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	48.54	48.54
	Total		48.54 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.14
(NIGHT): 48.54

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 14:05:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow13.te Time Period: Day/Night 16/8 hours
Description: POW1-3 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -74.00 deg -3.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 88.00 / 88.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -74.00 deg Angle2 : -35.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 86.72 m
Barrier elevation : 87.05 m
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)

1.Conroy	1.50	54.17	54.17
	Total		54.17 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	47.62	47.62
	Total		47.62 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.17
(NIGHT): 47.62

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 14:25:12
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow2w.te Time Period: Day/Night 16/8 hours
Description: POW2 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -81.00 deg 82.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 57.00 / 57.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 81.00 deg Angle2 : 82.00 deg
Barrier height : 2.50 m
Barrier receiver distance : 6.00 / 6.00 m
Source elevation : 85.10 m
Receiver elevation : 87.05 m
Barrier elevation : 85.58 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	42500
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Conroy (day/night)

Angle1 Angle2	82.00 deg	90.00 deg
Wood depth	0	(No woods.)
No of house rows	0 / 0	
Surface	1	(Absorptive ground surface)
Receiver source distance	57.00 / 57.00	m
Receiver height	1.50 / 4.50	m
Topography	2	(Flat/gentle slope; with barrier)
Barrier angle1	82.00 deg	Angle2 : 90.00 deg
Barrier height	6.00 m	
Barrier receiver distance	3.00 / 3.00	m
Source elevation	85.10 m	
Receiver elevation	87.05 m	
Barrier elevation	86.72 m	
Reference angle	0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	63.34	63.34 *
2.Conroy	1.50	40.33	40.33
Total			63.36 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	56.40	56.40 *

2.Conroy	1.50	37.66	37.66
Total			56.46 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.36
(NIGHT): 56.46

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 15:31:53
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow21.te Time Period: Day/Night 16/8 hours
Description: POW2-1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -2.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 84.00 / 84.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 33.00 deg Angle2 : 90.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 87.05 m
Barrier elevation : 86.72 m
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)

1.Conroy	1.50	55.15	55.15
	Total		55.15 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	49.14	49.14
	Total		49.14 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 55.15
(NIGHT): 49.14

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 15:28:32
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow22.te Time Period: Day/Night 16/8 hours
Description: POW2-2 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -2.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 90.00 / 90.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 28.00 deg Angle2 : 90.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 87.05 m
Barrier elevation : 86.72 m
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)

1.Conroy	1.50	54.10	54.10
	Total		54.10 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	48.31	48.31
	Total		48.31 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 54.10
(NIGHT): 48.31

STAMSON 5.0 SUMMARY REPORT Date: 02-12-2024 15:50:49
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow3w.te Time Period: Day/Night 16/8 hours
Description: POW3 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -75.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 56.00 / 56.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : 84.00 deg Angle2 : 88.00 deg
Barrier height : 2.50 m
Barrier receiver distance : 3.00 / 3.00 m
Source elevation : 85.10 m
Receiver elevation : 87.06 m
Barrier elevation : 85.94 m
Reference angle : 0.00

Result summary (day)
---

	source height (m)	Road Leq (dBA)	Total Leq (dBA)

1.Conroy	1.50	63.44	63.44 *
	Total		63.44 dBA

* Bright Zone !

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Conroy	1.50	56.49	56.49 *
	Total		56.49 dBA

* Bright Zone !

TOTAL Leq FROM ALL SOURCES (DAY): 63.44
(NIGHT): 56.49

STAMSON 5.0 SUMMARY REPORT Date: 24-09-2024 11:12:56
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow31.te Time Period: Day/Night 16/8 hours
Description: POW3-1 - 2.5m Wall

Road data, segment # 1: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 42500
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Conroy (day/night)

Angle1 Angle2 : -62.00 deg -39.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 89.00 / 89.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -62.00 deg Angle2 : -39.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 24.00 / 24.00 m
Source elevation : 85.10 m
Receiver elevation : 87.06 m
Barrier elevation : 85.92 m
Reference angle : 0.00

Road data, segment # 2: Conroy (day/night)

Car traffic volume : 34408/2992 veh/TimePeriod *
Medium truck volume : 2737/238 veh/TimePeriod *
Heavy truck volume : 1955/170 veh/TimePeriod *
Posted speed limit : 60 km/h
Road gradient : 1 %

```
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  42500
    Percentage of Annual Growth        :   0.00
    Number of Years of Growth          :   0.00
    Medium Truck % of Total Volume     :   7.00
    Heavy Truck  % of Total Volume     :   5.00
    Day (16 hrs) % of Total Volume     :  92.00

Data for Segment # 2: Conroy (day/night)
----------------------------------------
Angle1   Angle2           : -39.00 deg   0.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  :  89.00 / 89.00  m
Receiver height           :   1.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

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```
Result summary (day)
--------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.Conroy           !     1.50 !    42.82 !    42.82
 2.Conroy           !     1.50 !    54.81 !    54.81
--------------------+----------+----------+----------
                      Total                   55.08 dBA
```

↟

```
Result summary (night)
----------------------

                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+----------+----------+----------
 1.Conroy           !     1.50 !    40.95 !    40.95
 2.Conroy           !     1.50 !    47.94 !    47.94
--------------------+----------+----------+----------
                      Total                   48.73 dBA
```

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TOTAL Leq FROM ALL SOURCES (DAY): 55.08
(NIGHT): 48.73

STAMSON 5.0 SUMMARY REPORT Date: 21-07-2023 15:10:39
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow4.te Time Period: Day/Night 16/8 hours
Description: Daytime 1.5m Nighttime 4.5m

Road data, segment # 1: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Walkley (day/night)

Angle1 Angle2 : -90.00 deg -68.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -81.00 deg Angle2 : -68.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 35.00 / 35.00 m
Source elevation : 85.80 m
Receiver elevation : 97.34 m
Barrier elevation : 86.40 m
Reference angle : 0.00

Road data, segment # 2: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	35000
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Walkley (day/night)

Angle1 Angle2	: -68.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 1 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 100.00 / 100.00	m
Receiver height	: 1.50 / 4.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 44.00 deg	Angle2 : 90.00 deg
Barrier height	: 4.50	m
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.80	m
Receiver elevation	: 87.34	m
Barrier elevation	: 86.00	m
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	43.48	43.48 *
2.Walkley	1.50	55.25	55.25
Total			55.53 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	38.14	38.14 *

```
 2.Walkley          !     1.50 !    50.05 !    50.05 *
--------------------+----------+----------+----------
                      Total                  50.32 dBA

  * Bright Zone  !

↑



TOTAL Leq FROM ALL SOURCES (DAY): 55.53
                         (NIGHT): 50.32
↑
↑
```

STAMSON 5.0 SUMMARY REPORT Date: 21-07-2023 15:13:29
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: pow5.te Time Period: Day/Night 16/8 hours
Description: Daytime 1.5m Nighttime 4.5m

Road data, segment # 1: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %
Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT): 35000
Percentage of Annual Growth : 0.00
Number of Years of Growth : 0.00
Medium Truck % of Total Volume : 7.00
Heavy Truck % of Total Volume : 5.00
Day (16 hrs) % of Total Volume : 92.00

Data for Segment # 1: Walkley (day/night)

Angle1 Angle2 : -90.00 deg -30.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1 / 0
Surface : 1 (Absorptive ground surface)
Receiver source distance : 100.00 / 100.00 m
Receiver height : 1.50 / 4.50 m
Topography : 2 (Flat/gentle slope; with barrier)
Barrier angle1 : -68.00 deg Angle2 : -30.00 deg
Barrier height : 6.00 m
Barrier receiver distance : 35.00 / 35.00 m
Source elevation : 85.80 m
Receiver elevation : 87.29 m
Barrier elevation : 86.40 m
Reference angle : 0.00

Road data, segment # 2: Walkley (day/night)

Car traffic volume : 28336/2464 veh/TimePeriod *
Medium truck volume : 2254/196 veh/TimePeriod *
Heavy truck volume : 1610/140 veh/TimePeriod *
Posted speed limit : 50 km/h
Road gradient : 1 %

Road pavement : 1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

24 hr Traffic Volume (AADT or SADT)	35000
Percentage of Annual Growth	0.00
Number of Years of Growth	0.00
Medium Truck % of Total Volume	7.00
Heavy Truck % of Total Volume	5.00
Day (16 hrs) % of Total Volume	92.00

Data for Segment # 2: Walkley (day/night)

Angle1 Angle2	: -30.00 deg	90.00 deg
Wood depth	: 0	(No woods.)
No of house rows	: 1 / 0	
Surface	: 1	(Absorptive ground surface)
Receiver source distance	: 100.00 / 100.00	m
Receiver height	: 1.50 / 4.50	m
Topography	: 2	(Flat/gentle slope; with barrier)
Barrier angle1	: 75.00 deg	Angle2 : 90.00 deg
Barrier height	: 4.50	m
Barrier receiver distance	: 3.00 / 3.00	m
Source elevation	: 85.80	m
Receiver elevation	: 87.29	m
Barrier elevation	: 86.00	m
Reference angle	: 0.00	

Result summary (day)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	46.05	46.05
2.Walkley	1.50	54.67	54.67
Total			55.23 dBA

Result summary (night)

	source height (m)	Road Leq (dBA)	Total Leq (dBA)
1.Walkley	1.50	41.98	41.98

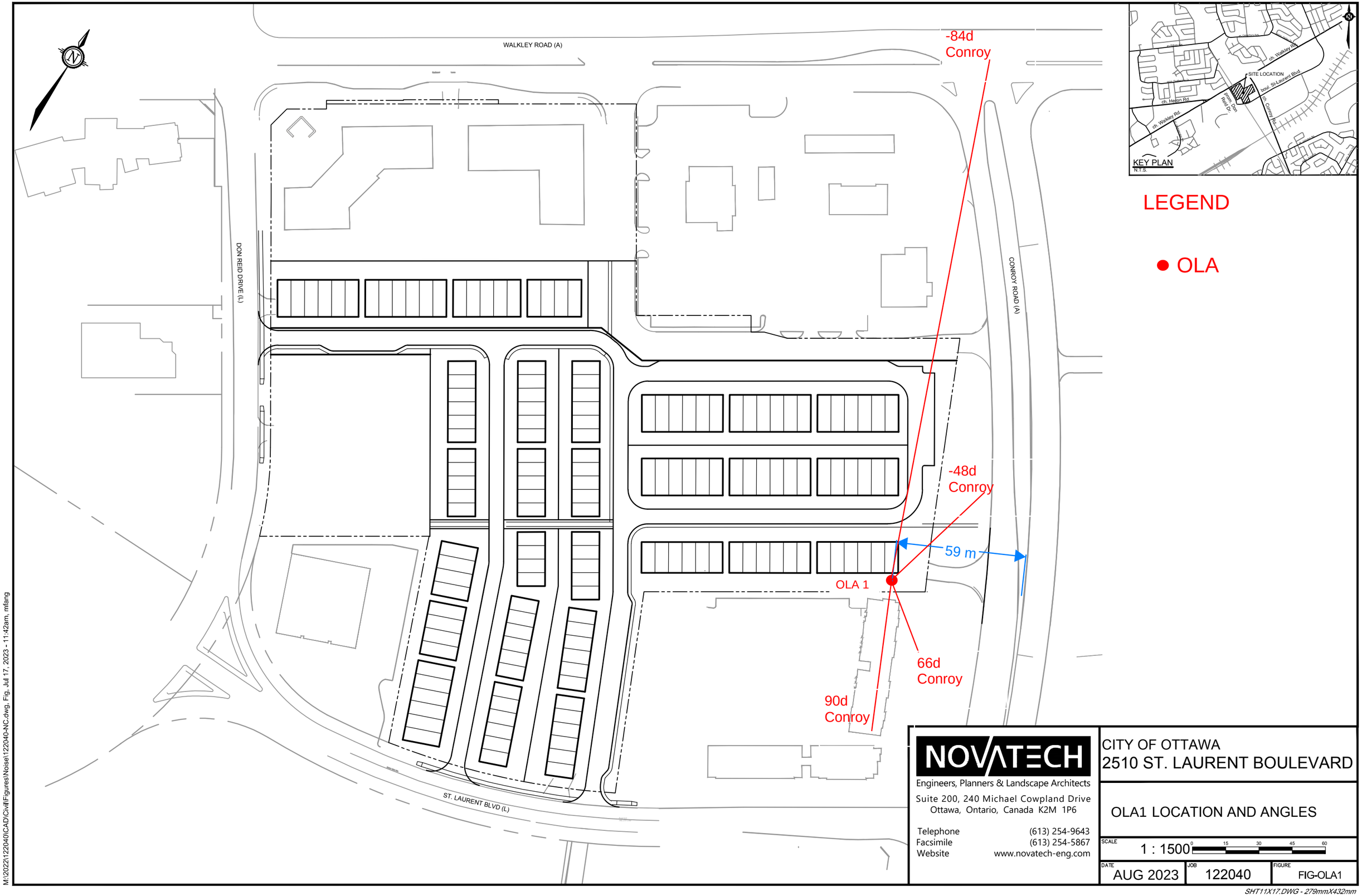
```
 2.Walkley          !     1.50 !    48.89 !    48.89 *
--------------------+----------+----------+----------
                      Total                  49.70 dBA

  * Bright Zone  !
```

↟

```
TOTAL Leq FROM ALL SOURCES (DAY): 55.23
                           (NIGHT): 49.70
```

↟
↟



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CITY OF OTTAWA
2510 ST. LAURENT BOULEVARD

OLA1 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE	JOB	FIGURE
AUG 2023	122040	FIG-OLA1

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WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-84d Conroy

59 m

-48d Conroy

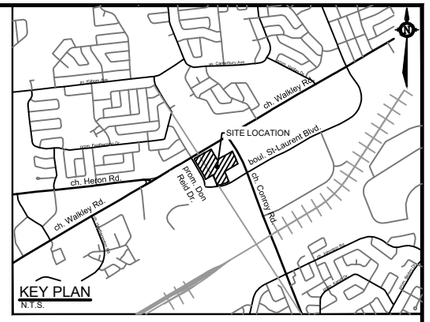
-18d Conroy

7d Conroy

OLA 1

72d Conroy

90d Conroy



LEGEND

● OLA1

▪▪▪▪▪▪ 2.5m Noise Wall

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CITY OF OTTAWA
2510 ST. LAURENT BOULEVARD

OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-OLA1

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WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-81d
Conroy

-16d
Conroy

-9d
Conroy

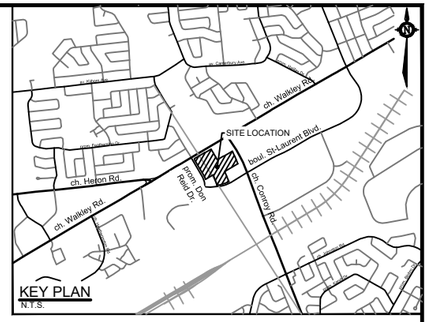
-3d
Conroy

25d
Conroy

90d
Conroy

70 m

OLA 1-1



LEGEND

● OLA1-1

▪▪▪▪▪▪ 2.5m Noise Wall

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CITY OF OTTAWA
2510 ST. LAURENT BOULEVARD

OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-OLA1-1

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm

WALKLEY ROAD (A)

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-81d
Conroy

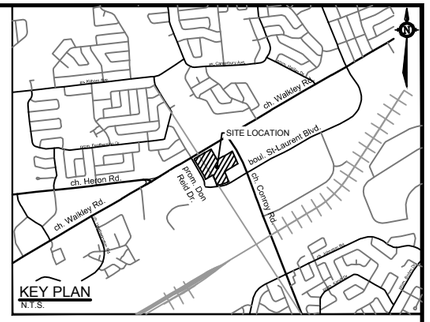
-14d
Conroy

75 m

OLA 1-2

16d
Conroy

90d
Conroy



LEGEND

● OLA

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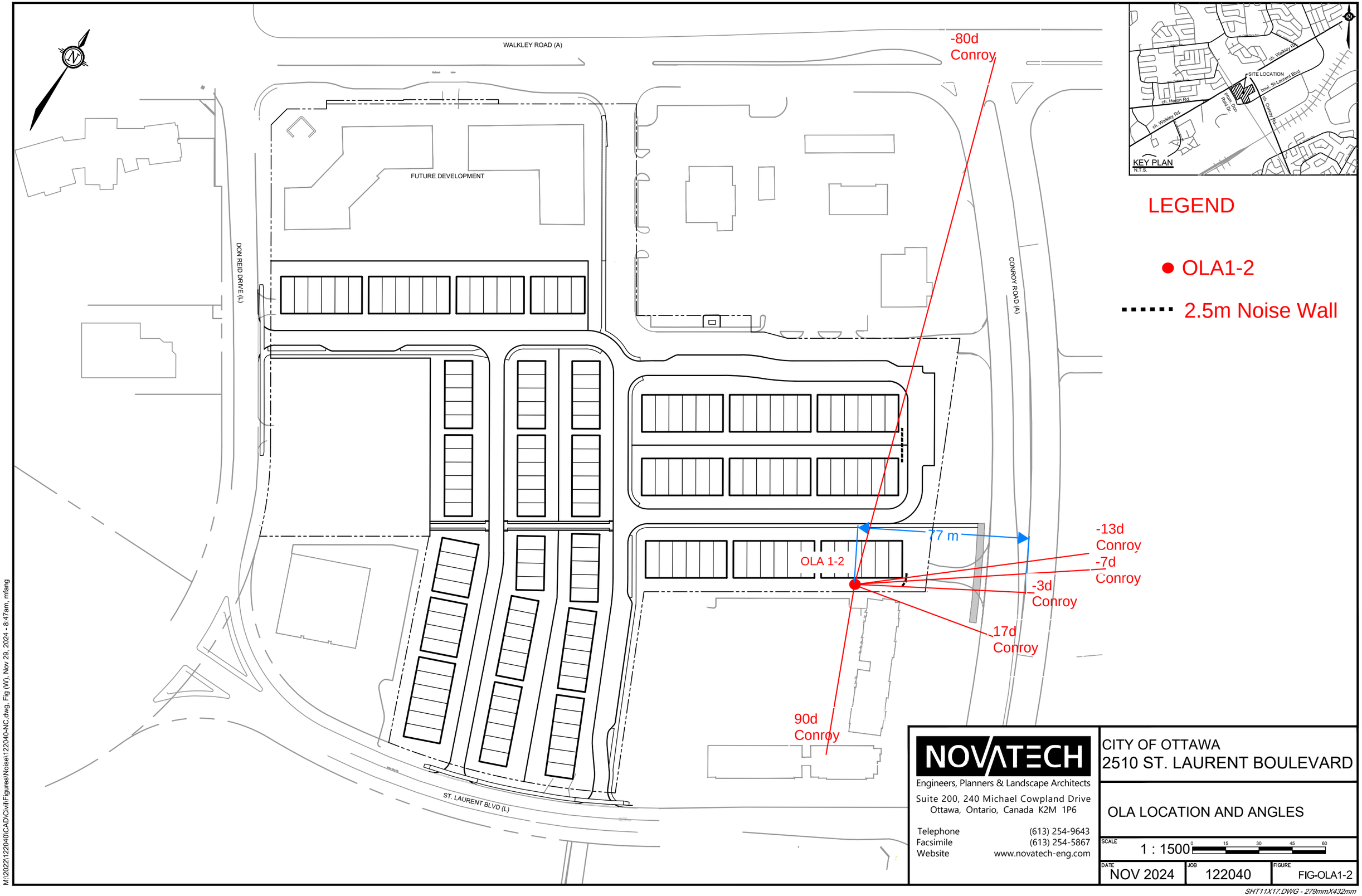
OLA1-2 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE AUG 2023 | JOB 122040 | FIGURE FIG-OLA1

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig, Jul 17, 2023 - 11:42am, mfang

SHT11X17.DWG - 279mmX432mm



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OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-OLA1-2

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm

WALKLEY ROAD (A)

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-80d
Conroy

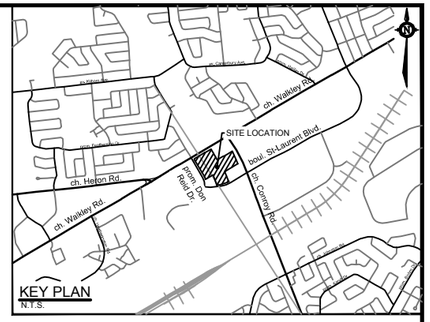
OLA 1-3

82 m

-12d
Conroy

11d
Conroy

90d
Conroy



LEGEND

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OLA1-3LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE AUG 2023 | JOB 122040 | FIGURE FIG-OLA1

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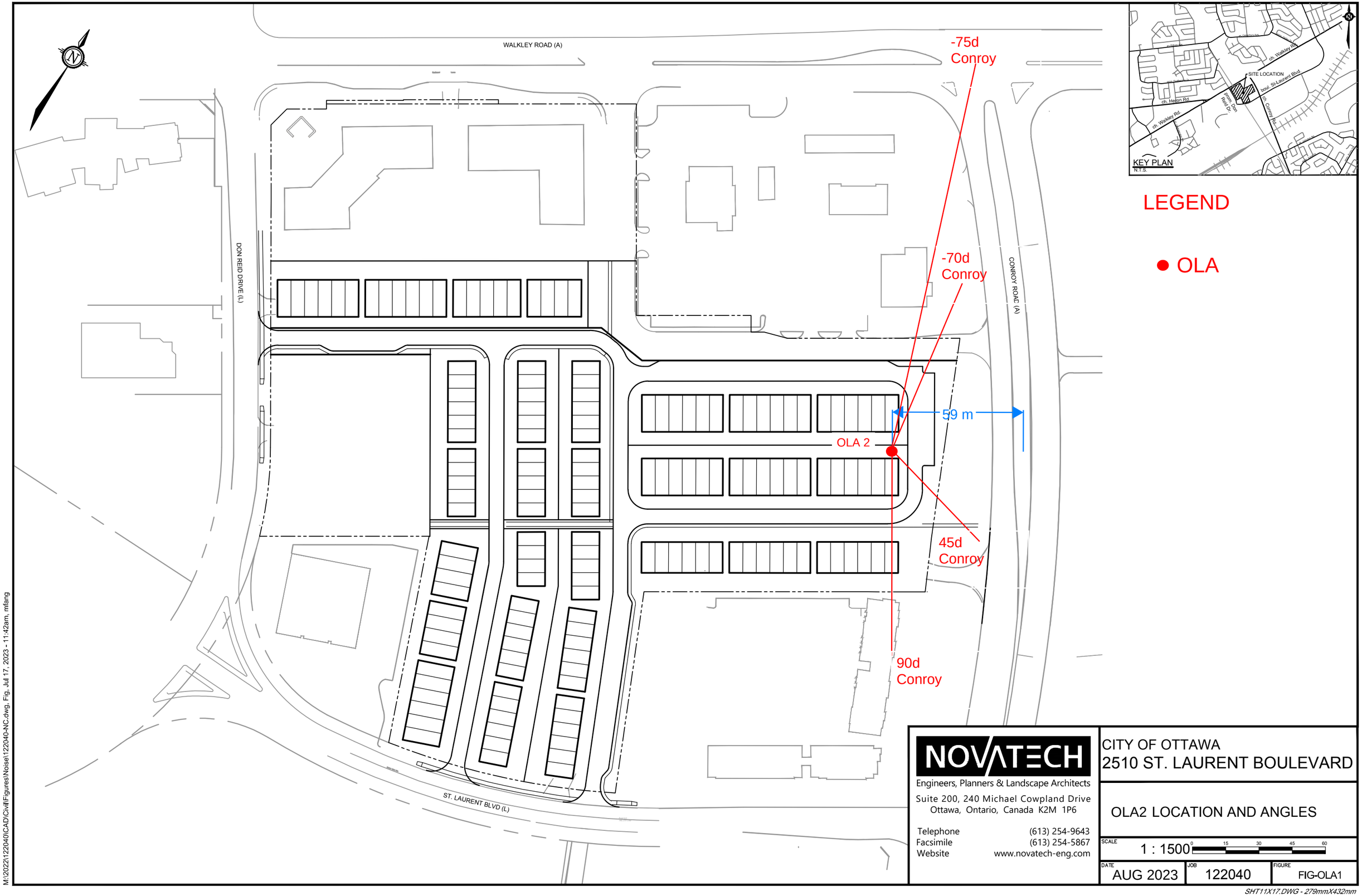
SHT11X17.DWG - 279mmX432mm



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OLA2 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE AUG 2023
JOB 122040
FIGURE FIG-OLA1

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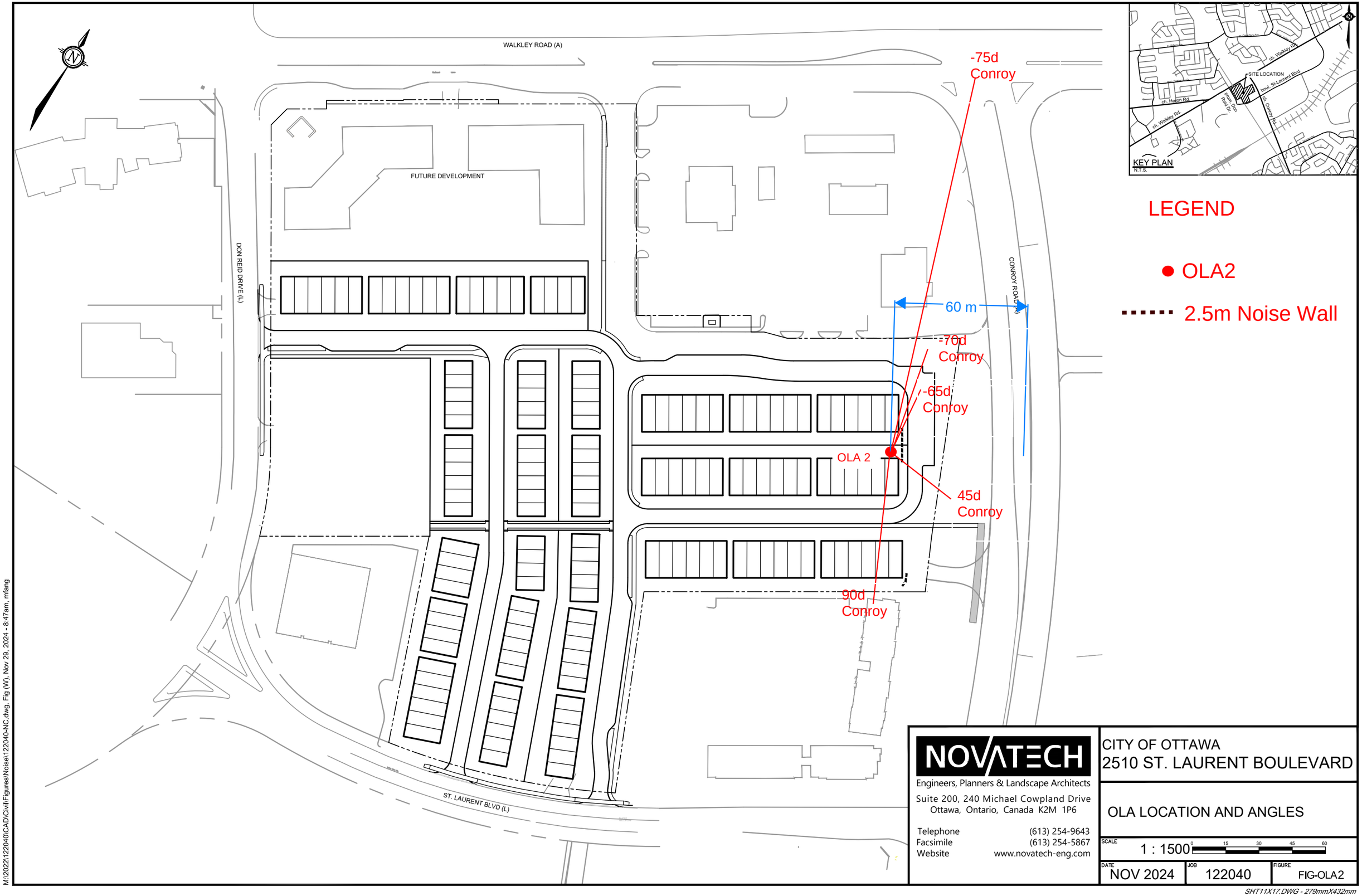
SHT11X17.DWG - 279mmX432mm



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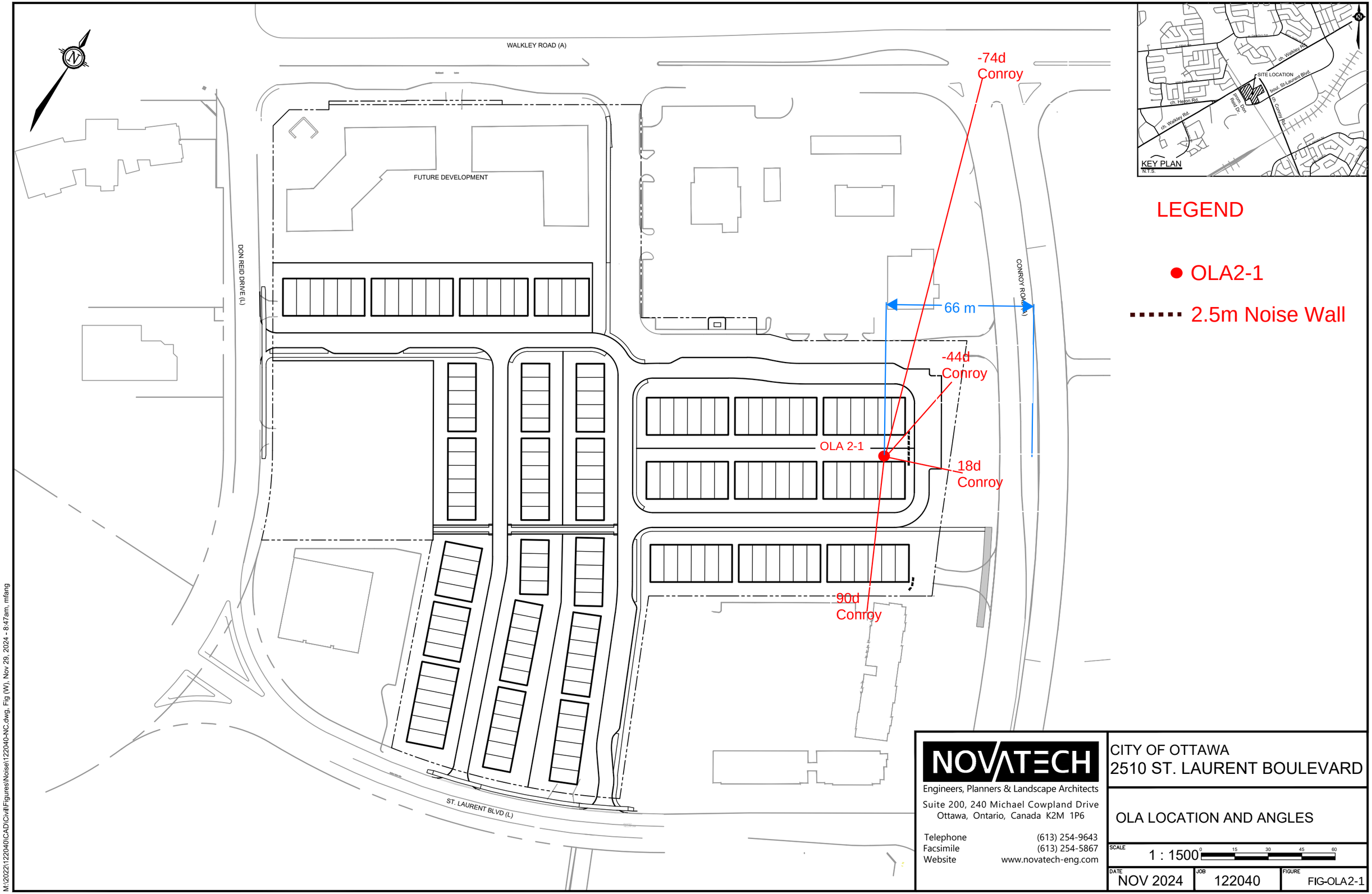
OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-OLA2

SHT11X17.DWG - 279mmX432mm



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OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-OLA2-1

SHT11X17.DWG - 279mmX432mm

WALKLEY ROAD (A)

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-72
Conroy

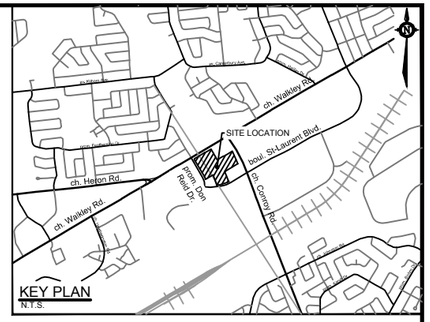
-30d
Conroy

OLA 2-2

70 m

12d
Conroy

90d
Conroy



LEGEND

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OLA2-2 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE AUG 2023 | JOB 122040 | FIGURE FIG-OLA1

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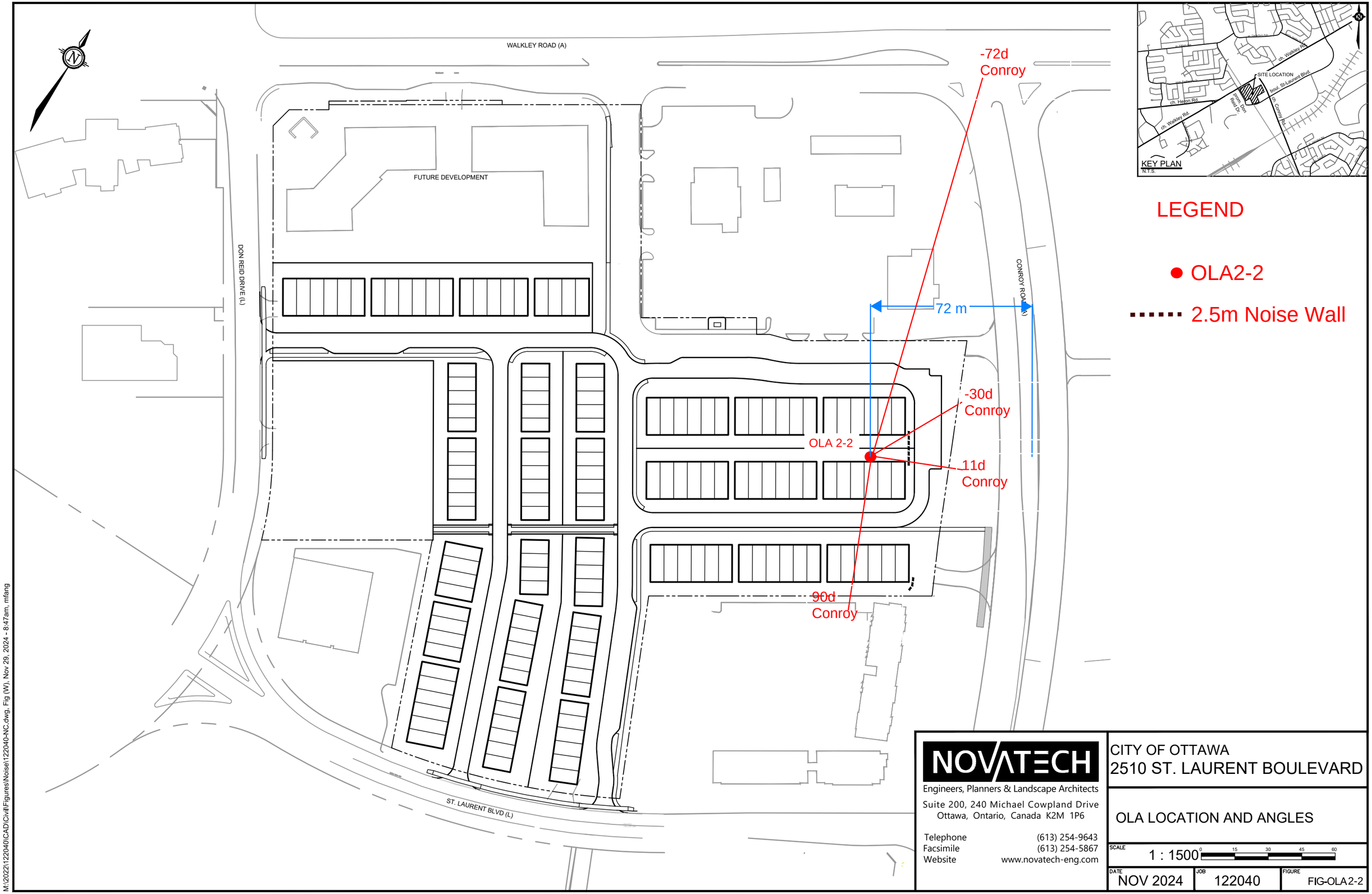
SHT11X17.DWG - 279mmX432mm



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OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE	JOB	FIGURE
NOV 2024	122040	FIG-OLA 2-2

SHT11X17.DWG - 279mmX432mm

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

WALKLEY ROAD (A)

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-70
Conroy

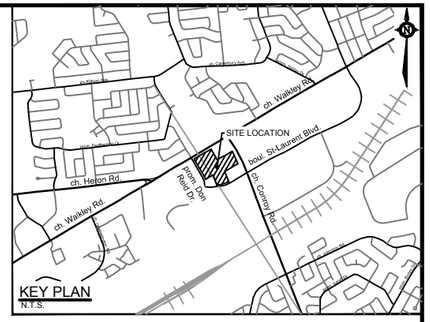
-22
Conroy

OLA 2-3

76 m

8d
Conroy

90d
Conroy



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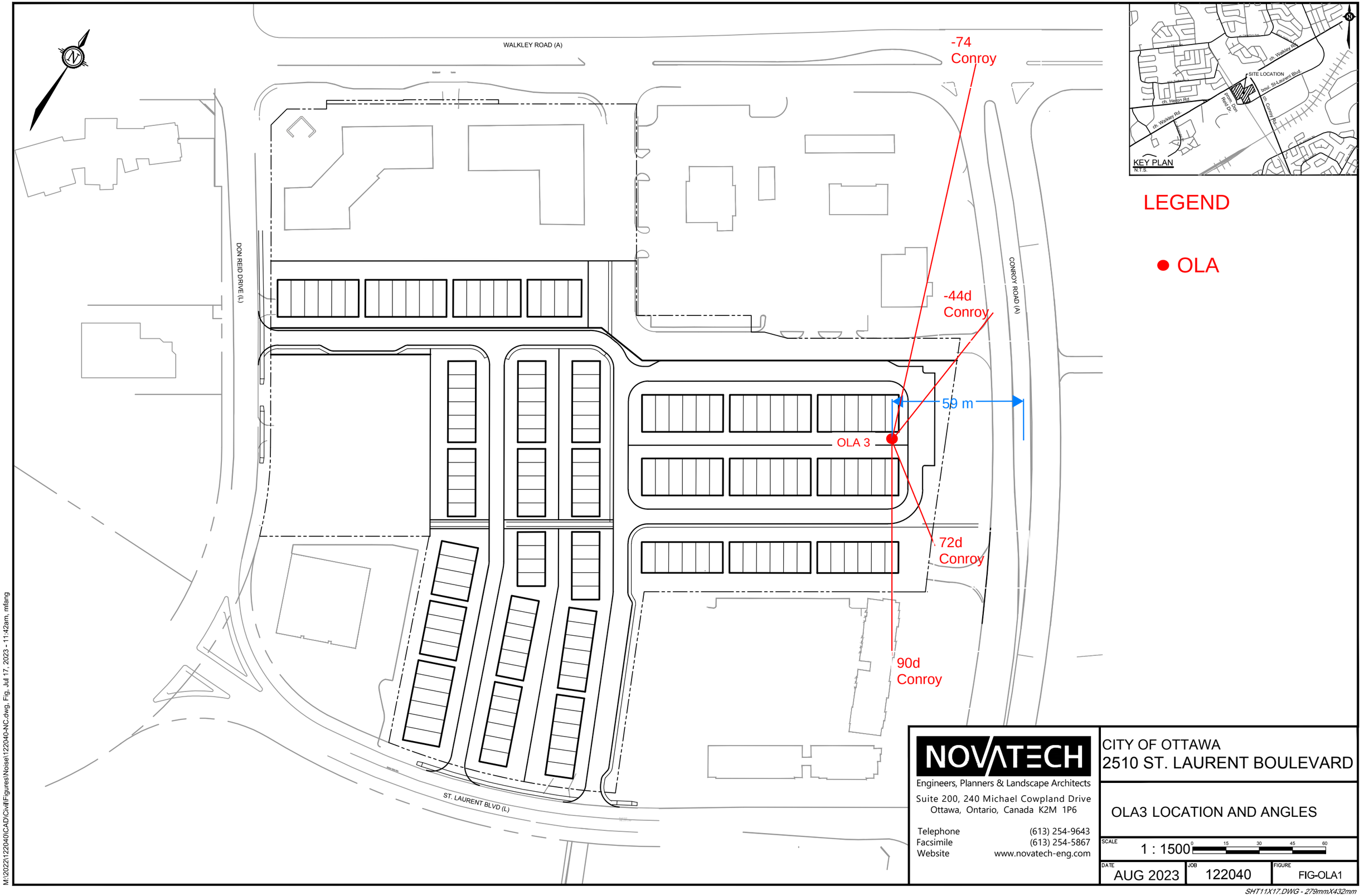
OLA2-2 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE AUG 2023 | JOB 122040 | FIGURE FIG-OLA1

SHT11X17.DWG - 279mmX432mm



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OLA3 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE AUG 2023
JOB 122040
FIGURE FIG-OLA1

SHT11X17.DWG - 279mmX432mm

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig, Jul 17, 2023 - 11:42am, mfang

WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

ST. LAURENT BLVD (L)

CONROY ROAD (A)

OLA 3

-75d Conroy

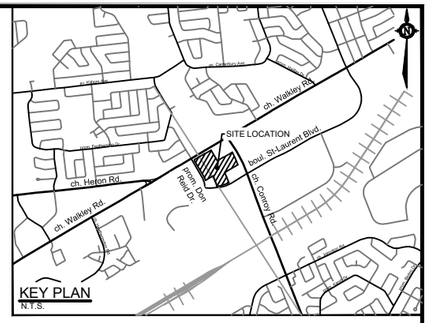
59 m

-44d Conroy

66d Conroy

72d Conroy

90d Conroy



LEGEND

● OLA3

▪▪▪▪▪▪ 2.5m Noise Wall

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OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-OLA3

SHT11X17.DWG - 279mmX432mm

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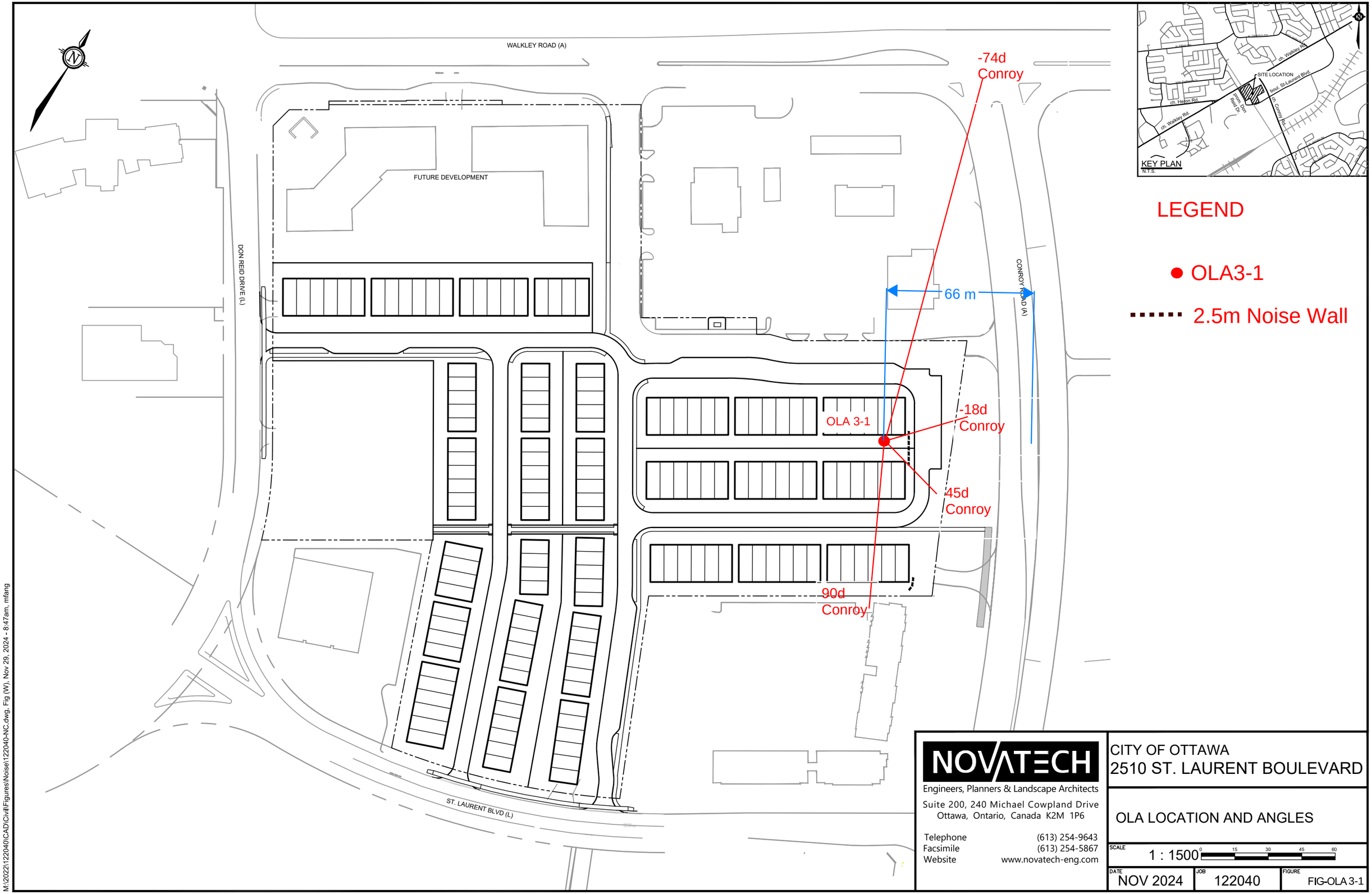

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CITY OF OTTAWA
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OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-OLA 3-1

WALKLEY ROAD (A)

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-70d
Conroy

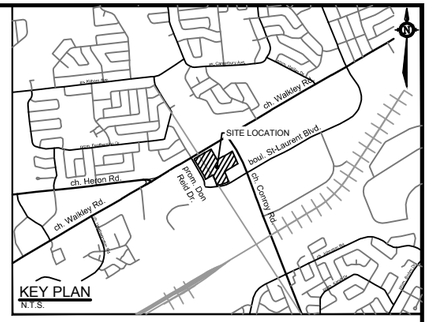
-7d
Conroy

OLA 3-2

23d
Conroy

77 m

90d
Conroy



LEGEND

● OLA

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OLA3-3LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE AUG 2023 | JOB 122040 | FIGURE FIG-OLA3-2

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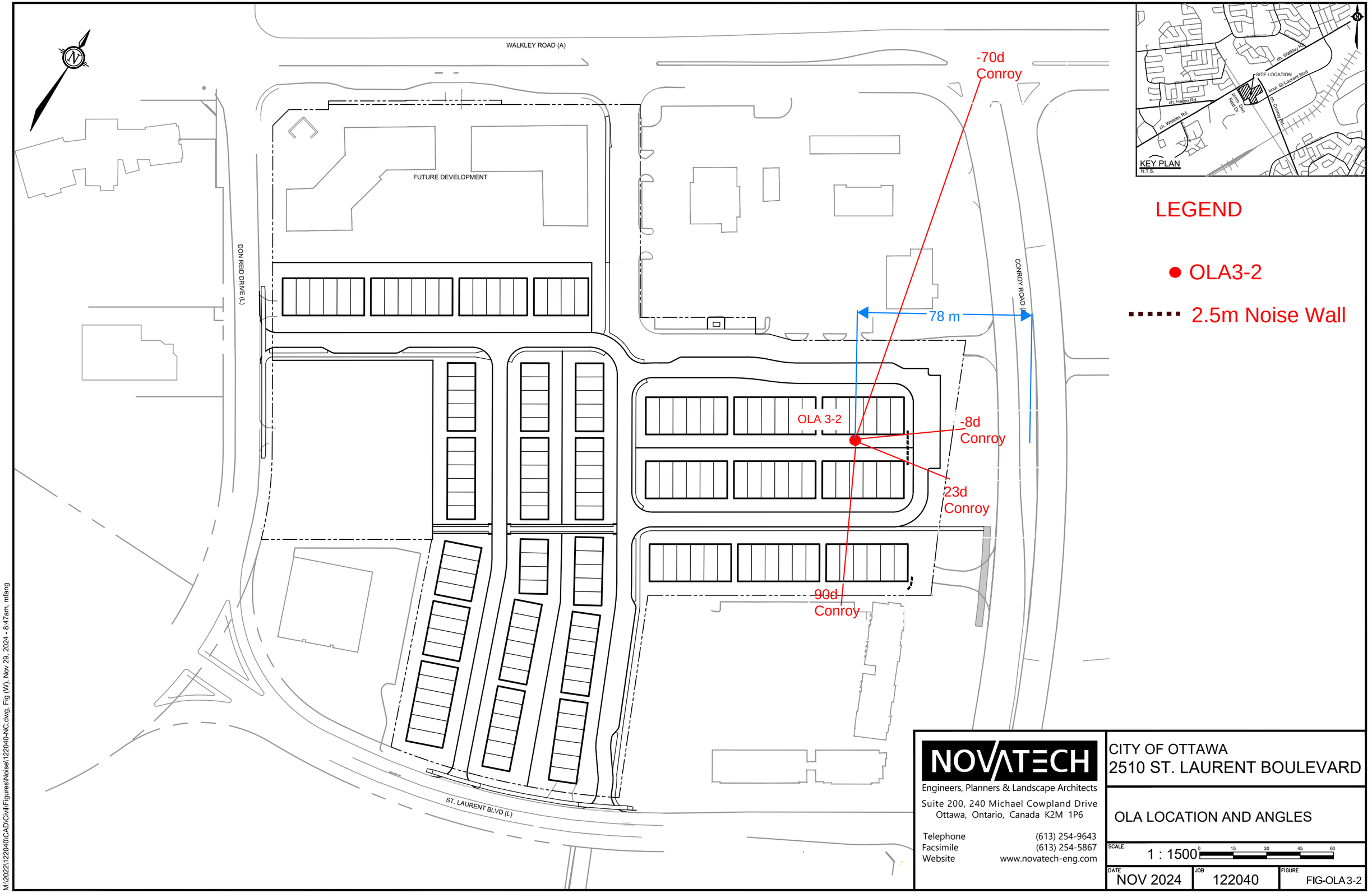
SHT11X17.DWG - 279mmX432mm



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OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-OLA3-2

SHT11X17.DWG - 279mmX432mm

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

WALKLEY ROAD (A)

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-67
Conroy

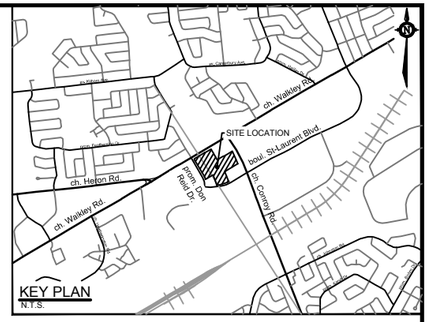
-5d
Conroy

OLA 3-3

19d
Conroy

83 m

90d
Conroy



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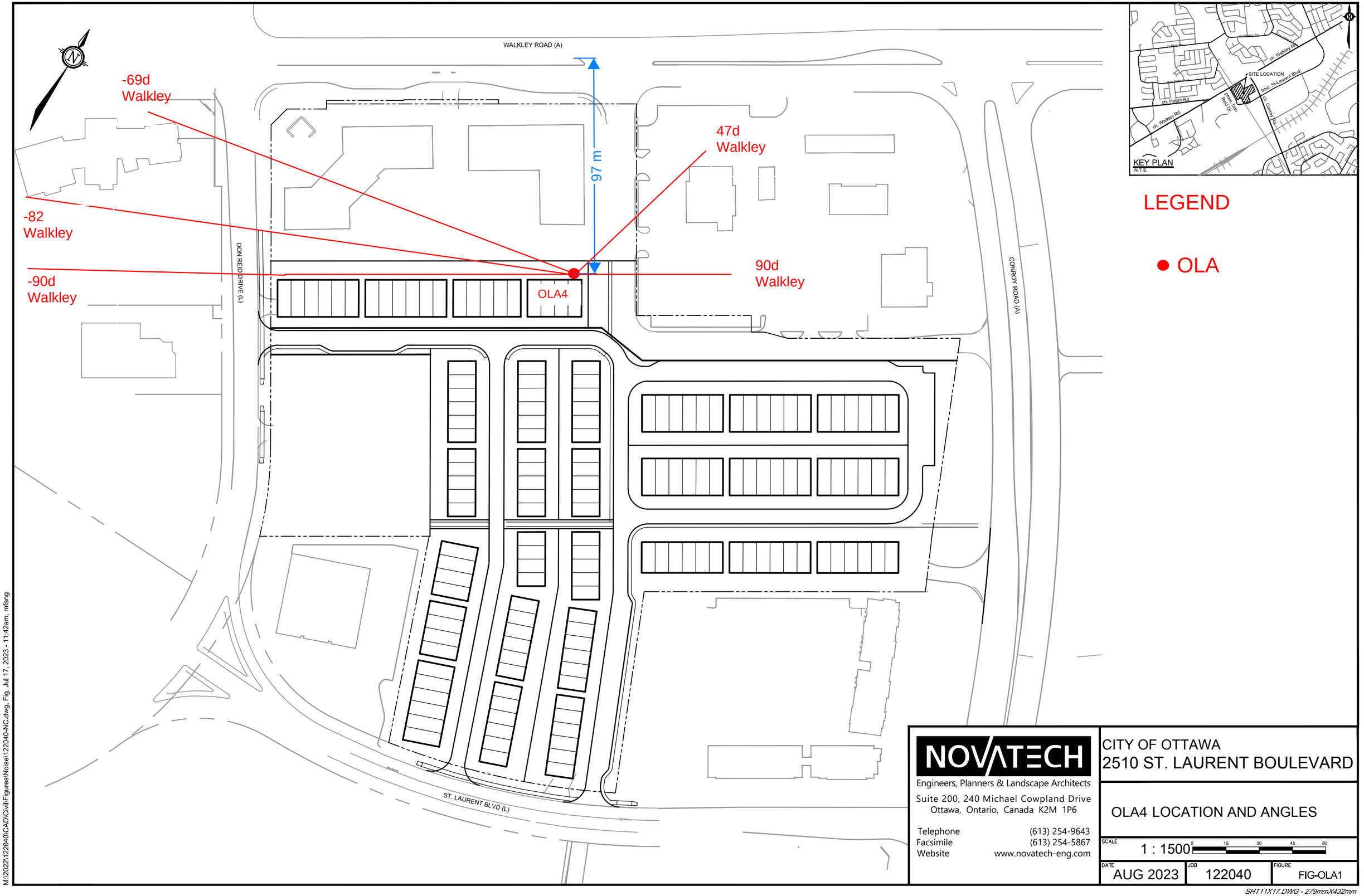
OLA3-4 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE AUG 2023 | JOB 122040 | FIGURE FIG-OLA3-3

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig, Jul 17, 2023 - 11:42am, mfang

SHT11X17.DWG - 279mmX432mm



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CITY OF OTTAWA
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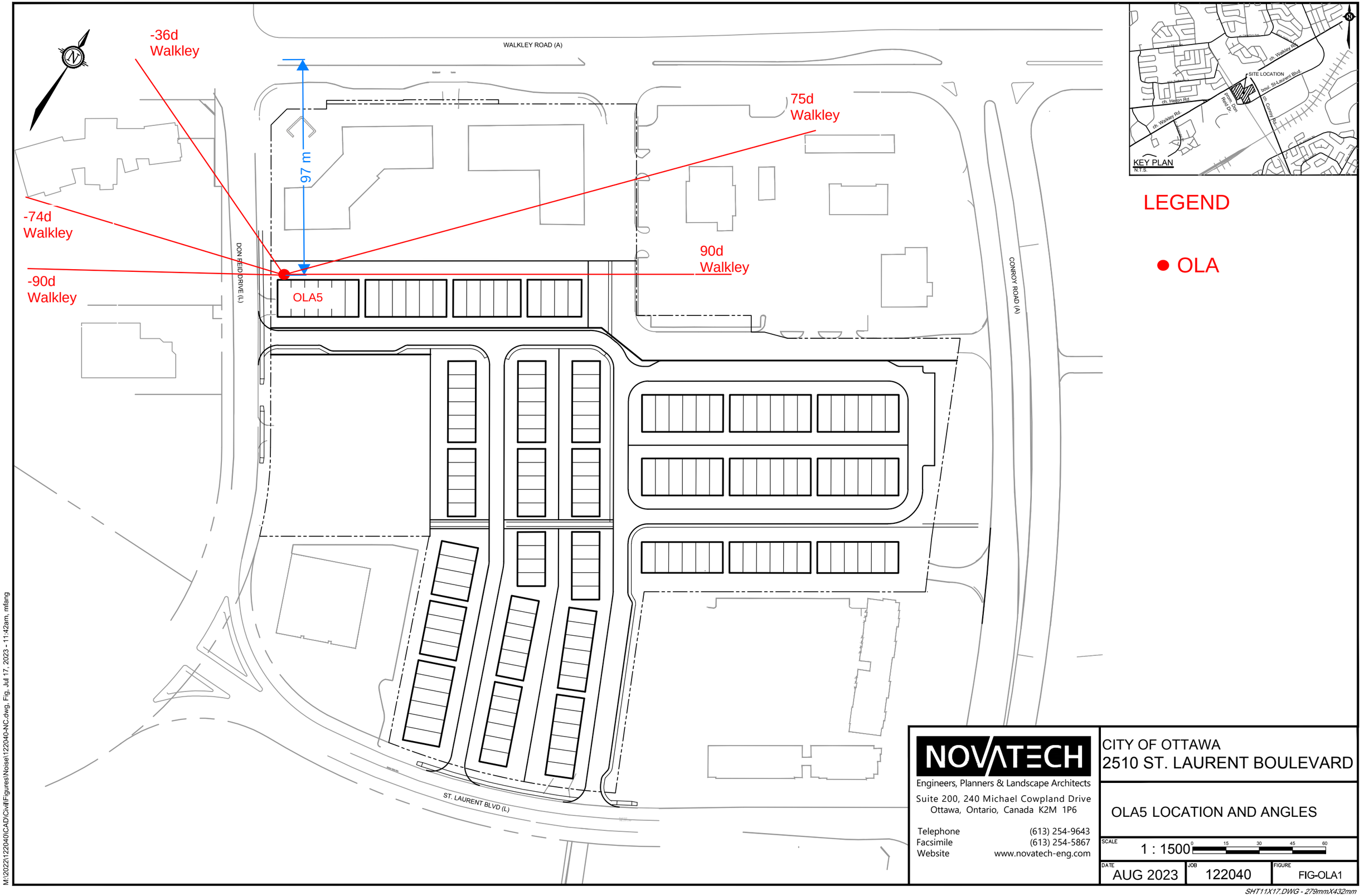
OLA4 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE	JOB	FIGURE
AUG 2023	122040	FIG-OLA1

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig, Jul 17, 2023 - 11:42am, mfang

SHT11X17.DWG - 279mmX432mm



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CITY OF OTTAWA
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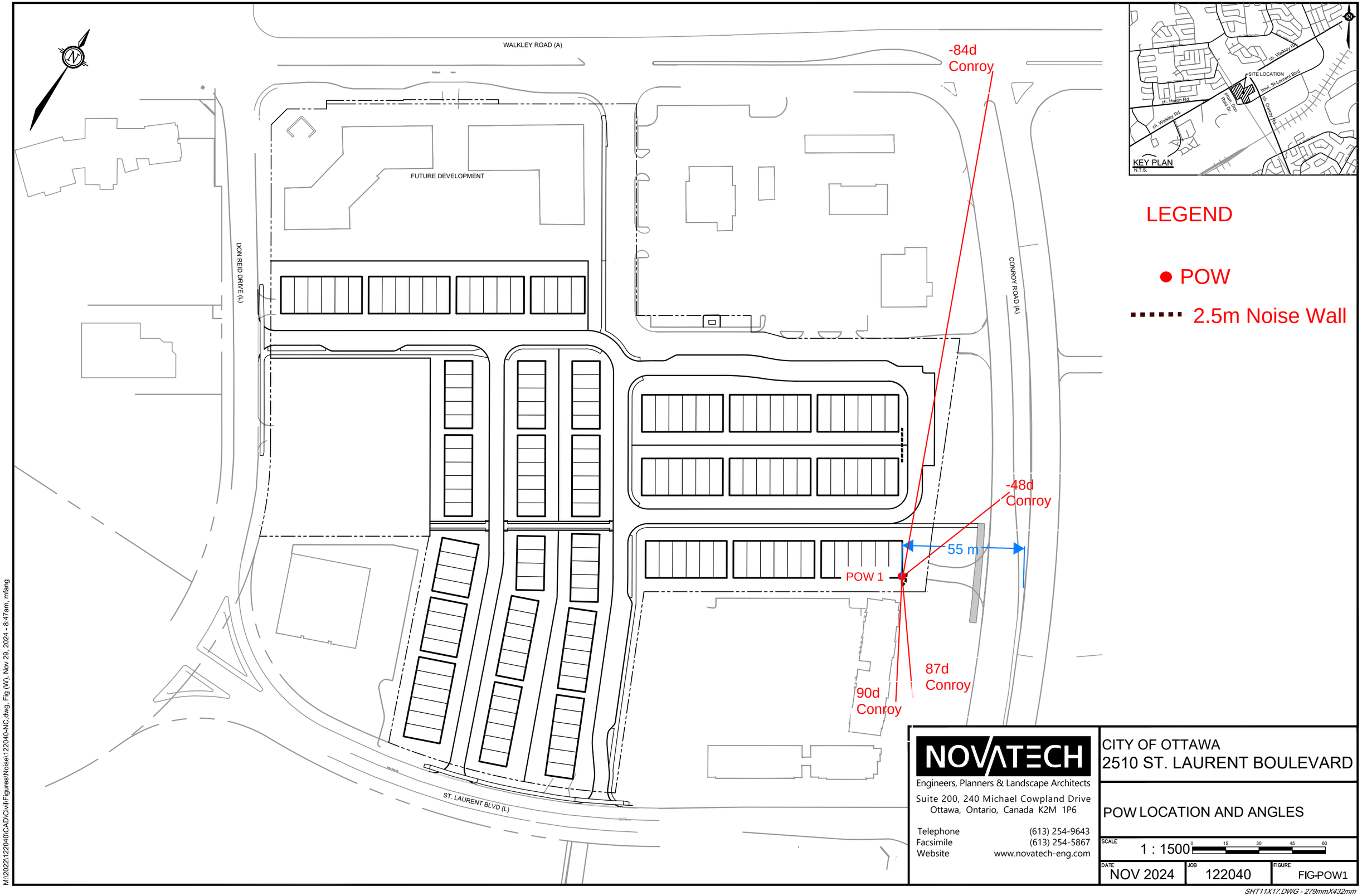
OLA5 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE	JOB	FIGURE
AUG 2023	122040	FIG-OLA1

SHT11X17.DWG - 279mmX432mm

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig, Jul 17, 2023 - 11:42am, mfang



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CITY OF OTTAWA
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POW LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-POW1

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm

WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

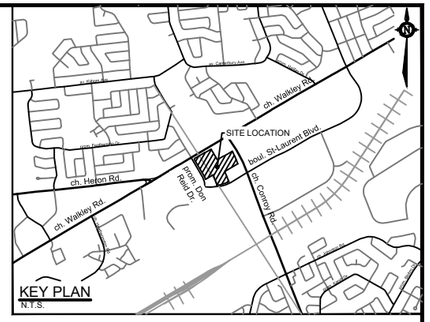
-78d Conroy

-52d Conroy

-6d Conroy

POW 1-1

75 m



LEGEND

● POW

▪▪▪▪▪▪ 2.5m Noise Wall

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POW LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-POW1-1

SHT11X17.DWG - 279mmX432mm

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

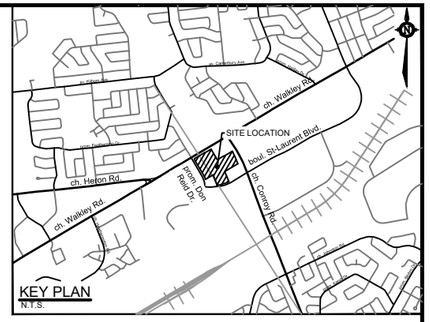
-78d Conroy

-44d Conroy

POW 1-2

-7d Conroy

82 m



LEGEND

● POW

▪▪▪▪▪▪ 2.5m Noise Wall

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POW LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-POW1-2

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm

WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

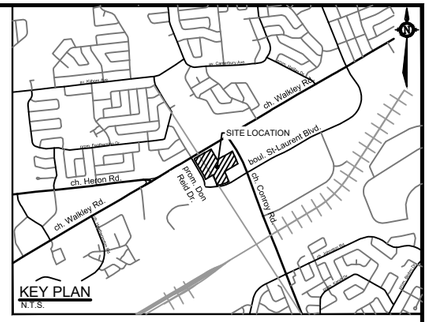
-74d
Conroy

-35d
Conroy

POW 1-3

-3d
Conroy

88 m



LEGEND

● POW

▪▪▪▪▪▪ 2.5m Noise Wall

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CITY OF OTTAWA
2510 ST. LAURENT BOULEVARD

POW LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-POW1-3

SHT11X17.DWG - 279mmX432mm

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

-81d
Conroy

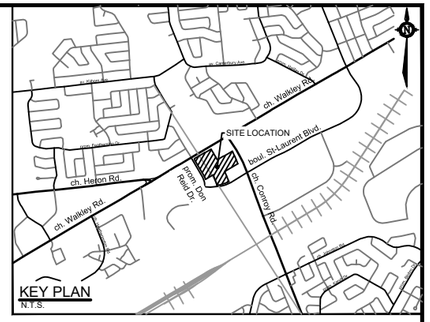
POW 2

57 m

81d
Conroy

82d
Conroy

90d
Conroy



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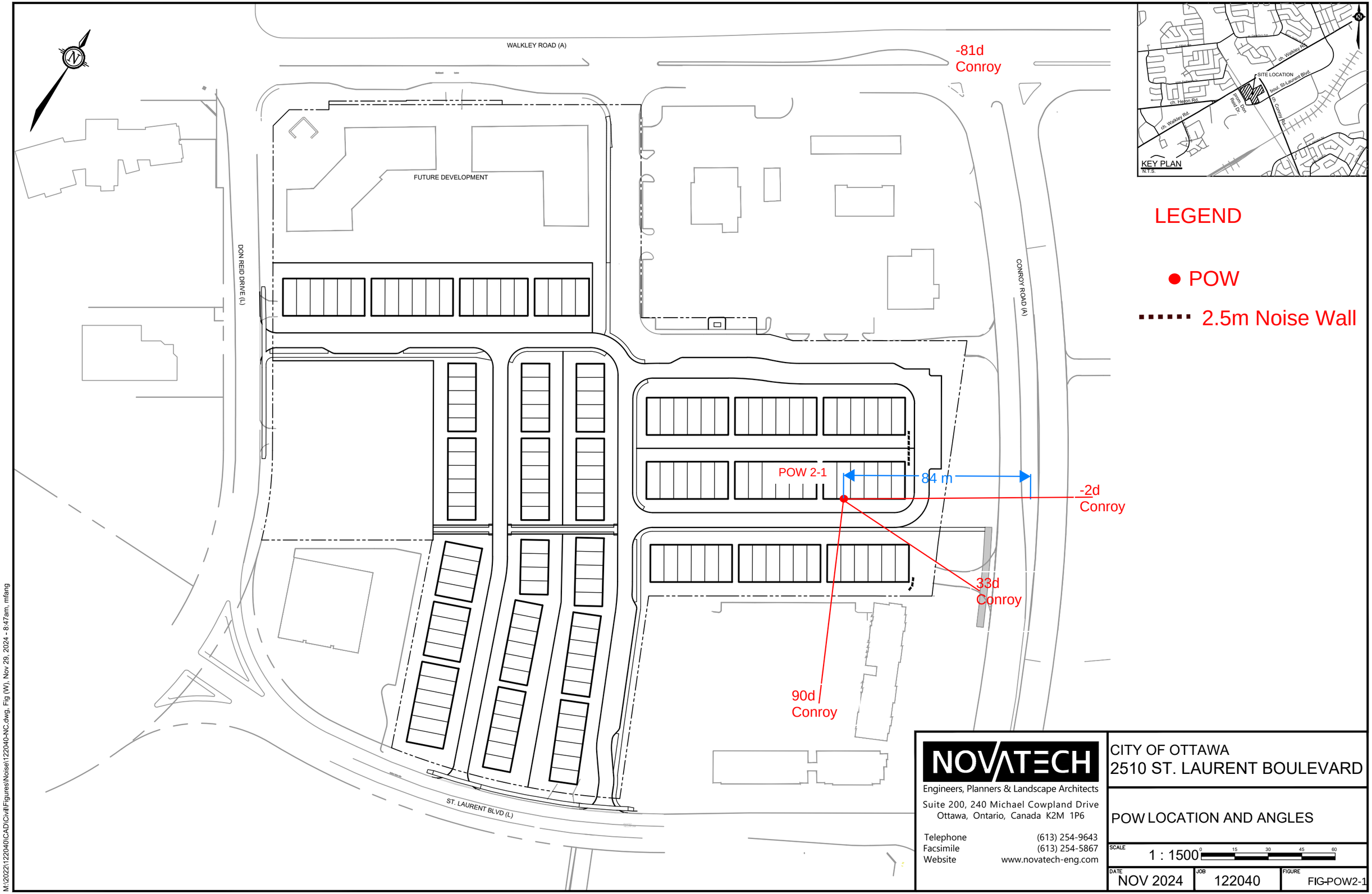
SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE NOV 2024 | JOB 122040 | FIGURE FIG-POW2

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm



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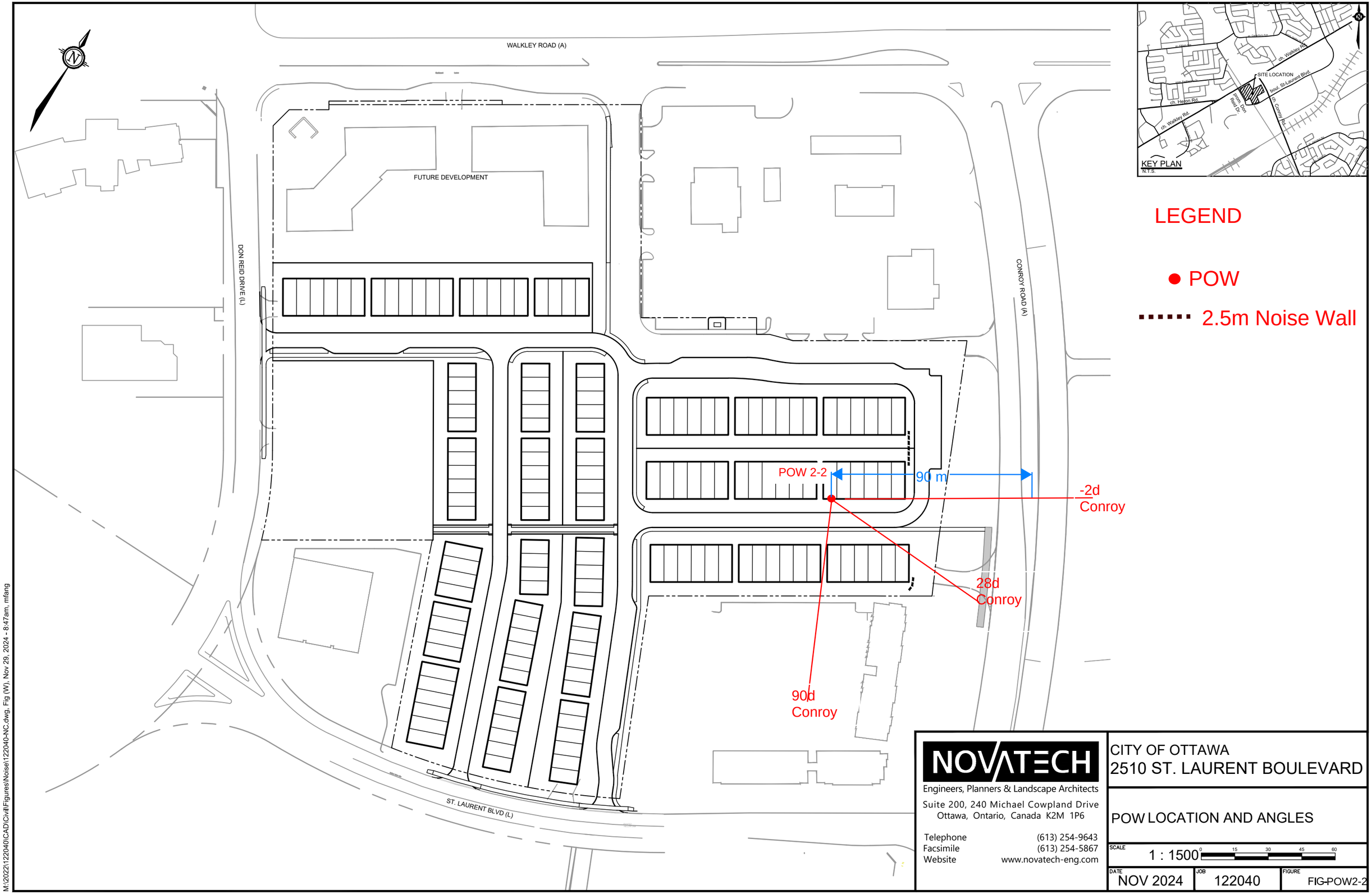
POW LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-POW2-1

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm



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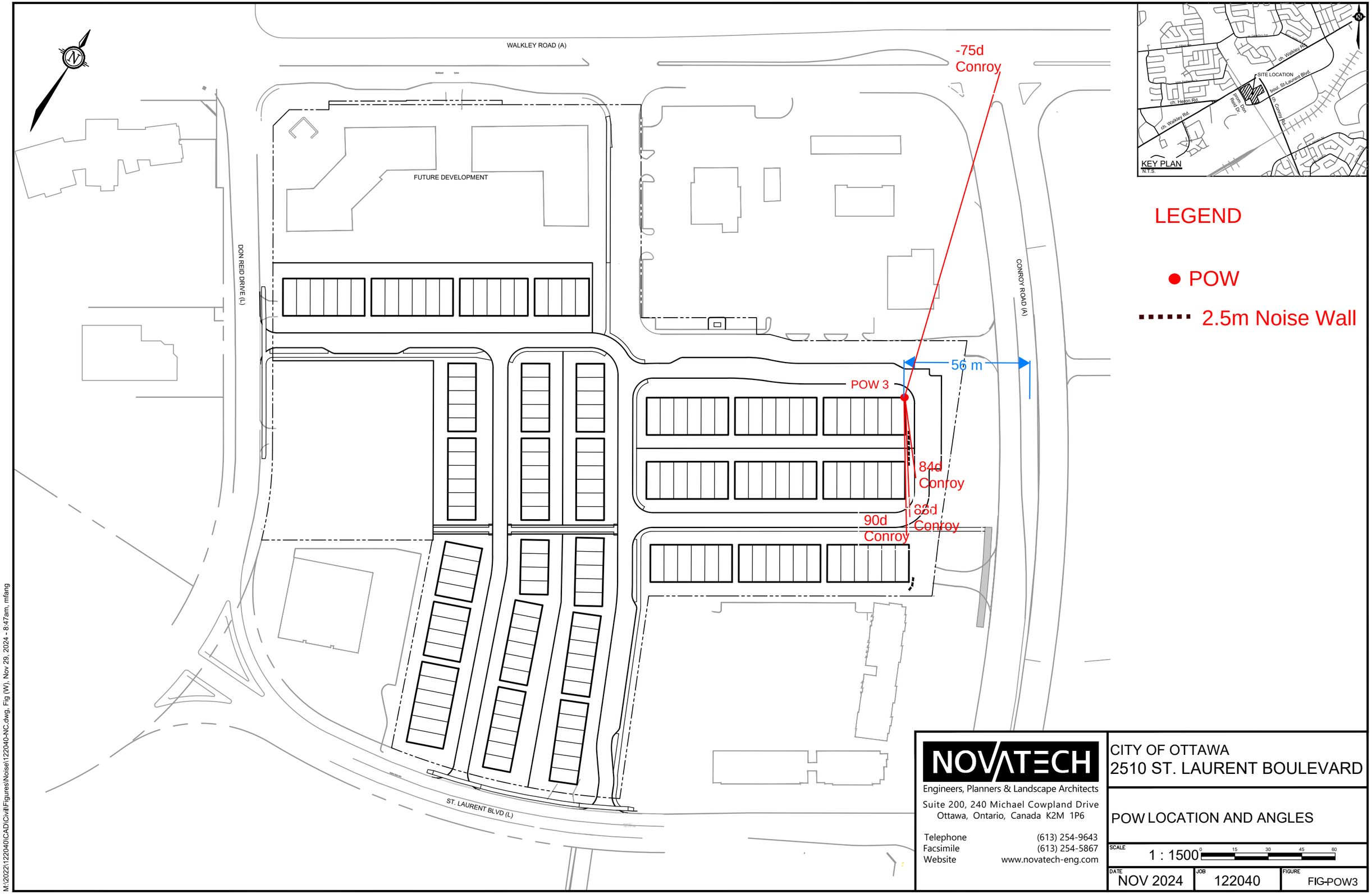
POW LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-POW2-2

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm



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POW LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)
DATE NOV 2024
JOB 122040
FIGURE FIG-POW3

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Nov 29, 2024 - 8:47am, mfang

SHT11X17.DWG - 279mmX432mm

WALKLEY ROAD (A)

FUTURE DEVELOPMENT

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)

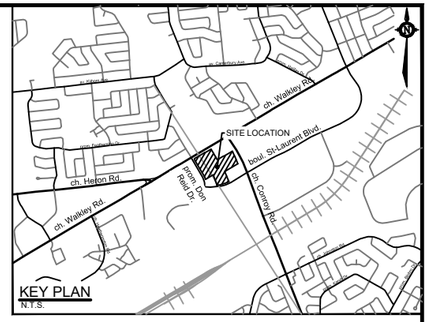
POW3-1

-61d
Conroy

-39d
Conroy

89 m

0d
Conroy



LEGEND

● POW

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CITY OF OTTAWA
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OLA LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE SEP 2024 | JOB 122040 | FIGURE FIG-OLA1

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig (W), Sep 05, 2024 - 3:35pm, mfang

SHT11X17.DWG - 279mmX432mm

-68d
Walkley

WALKLEY ROAD (A)

100 m

44d
Walkley

-81
Walkley

-90d
Walkley

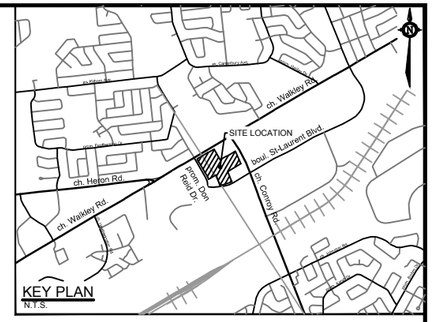
90d
Walkley

POW4

DON REID DRIVE (L)

CONROY ROAD (A)

ST. LAURENT BLVD (L)



LEGEND

● POW

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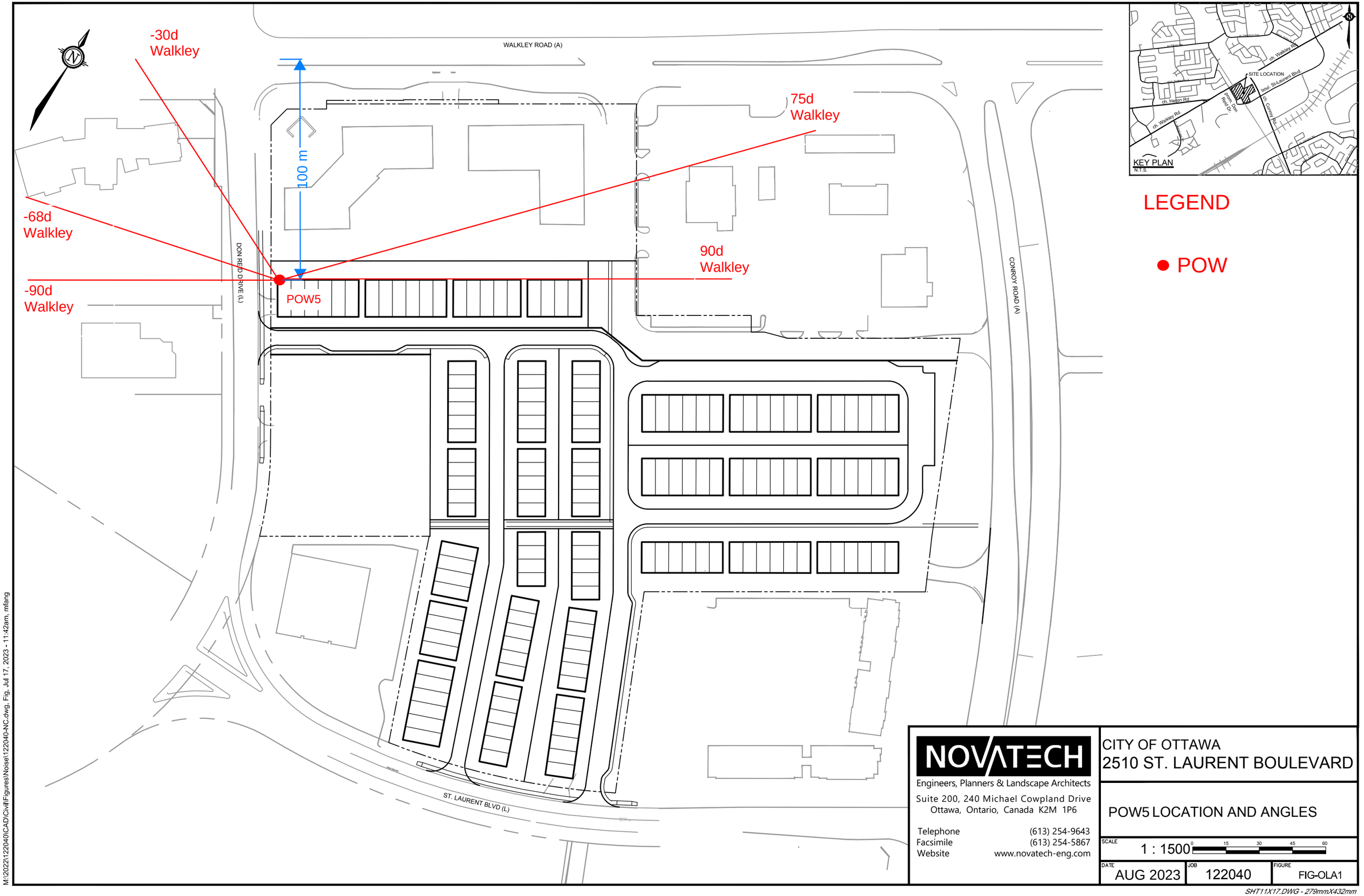
POW4 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE AUG 2023 | JOB 122040 | FIGURE FIG-OLA1

SHT11X17.DWG - 279mmX432mm

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig, Jul 17, 2023 - 11:42am, mfang



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POW5 LOCATION AND ANGLES

SCALE 1 : 1500 (0, 15, 30, 45, 60)

DATE	JOB	FIGURE
AUG 2023	122040	FIG-OLA1

M:\2022\122040\CAD\Civil\Figures\Noise\122040-NC.dwg, Fig, Jul 17, 2023 - 11:42am, mfang

SHT11X17.DWG - 279mmX432mm