



COMMUNITY DEVELOPMENT DEPARTMENT

45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
(248) 735-5600 Facsimile
www.cityofnovi.org

ZONING BOARD OF APPEALS STAFF REPORT

FOR: City of Novi Zoning Board of Appeals

MEETING DATE: May 14, 2023 (postponed)
June 11, 2024

REGARDING: 22650, 22700, 22750 Venture Drive, # 50-22-26-401-031, 50-22-26-401-032, 50-22-26-401-033 (PZ24-0012)

BY: Alan Hall, Deputy Director Community Development

I. GENERAL INFORMATION:

Applicant

Pickleball Novi

Variance Type

Dimensional Variance

Property Characteristics

Zoning District: This property is zoned Light Industrial (I-1)

Location: north of Nine Mile Road, west of Meadowbrook Road

Parcel #: 50-22-26-401-031, 50-22-26-401-032, 50-22-26-401-033

Request

The applicant is requesting a variance from the City of Novi Zoning Ordinance Section 3.14.5.B.ii to allow off-street parking to be 61 ft. from the boundary of a residential district (100 ft. minimum, variance of 39 ft.); Section 5.2.12.E for a reduction in required parking spaces to 142 (151 parking spaces required, variance of 9 parking spaces).

II. STAFF COMMENTS:

The applicant is seeking (2) dimensional variances for their parking lot. One for a 39' rear yard setback variance (next to a residential R-4 zoning district) and the other for a (9) parking space reduction. The site is tightly designed to allow for the programed activities and stipulated pickleball court space limitations.

III. RECOMMENDATION:

The Zoning Board of Appeals may take one of the following actions:

1. I move that we ***grant*** the variance in Case No. **PZ24-0012**, sought by _____, for _____ because Petitioner has shown practical difficulty requiring _____.

(a) Without the variance Petitioner will be unreasonably prevented or limited with respect to use of the property because _____.

(b) The property is unique because _____.

(c) Petitioner did not create the condition because _____.

(d) The relief granted will not unreasonably interfere with adjacent or surrounding properties because _____.

(e) The relief is consistent with the spirit and intent of the ordinance because _____.

(f) The variance granted is subject to:

1. _____.
2. _____.
3. _____.
4. _____.

2. I move that we **deny** the variance in Case No. **PZ24-0012**, sought by _____, for _____ because Petitioner has not shown practical difficulty requiring _____.

(a) The circumstances and features of the property including _____ are not unique because they exist generally throughout the City.

(b) The circumstances and features of the property relating to the variance request are self-created because _____.

(c) The failure to grant relief will result in mere inconvenience or inability to attain higher economic or financial return based on Petitioners statements that _____.

(d) The variance would result in interference with the adjacent and surrounding properties by _____.

(e) Granting the variance would be inconsistent with the spirit and intent of the ordinance to _____.

Should you have any further questions with regards to the matter please feel free to contact me at (248) 347-0417.

Alan Hall – Deputy Director Community Development - City of Novi



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ZONING BOARD OF APPEALS APPLICATION

RECEIVED

APR 01 2024

CITY OF NOVI
COMMUNITY DEVELOPMENT

APPLICATION MUST BE FILLED OUT COMPLETELY

I. PROPERTY INFORMATION (Address of subject ZBA Case)				Application Fee: \$330.00 Meeting Date: 5-14-24 ZBA Case #: PZ 24-0012	
PROJECT NAME / SUBDIVISION Pickleball Novi					
ADDRESS 22650, 22700, 22750 Venture Drive		LOT/SIUTE/SPACE # 19, 20, 21			
SIDWELL # 50-22-26 4U1 - UZ1,2,3		May be obtain from Assessing Department (248) 347-0485			
CROSS ROADS OF PROPERTY South of Novi Rd, East of Nine Mile Road					
IS THE PROPERTY WITHIN A HOMEOWNER'S ASSOCIATION JURISDICTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			REQUEST IS FOR: <input type="checkbox"/> RESIDENTIAL <input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> VACANT PROPERTY <input type="checkbox"/> SIGNAGE		
DOES YOUR APPEAL RESULT FROM A NOTICE OF VIOLATION OR CITATION ISSUED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
II. APPLICANT INFORMATION					
A. APPLICANT		EMAIL ADDRESS william@fbarch.com		CELL PHONE NO. (248) 867-8883	
NAME William Finnicum AIA NCARB		TELEPHONE NO. (248) 867-8883			
ORGANIZATION/COMPANY Finnicum Brownlie Architects		FAX NO.			
ADDRESS 25885 German Mill Road		CITY Franklin		STATE MI	ZIP CODE 48025
B. PROPERTY OWNER <input type="checkbox"/> CHECK HERE IF APPLICANT IS ALSO THE PROPERTY OWNER					
Identify the person or organization that owns the subject property:		EMAIL ADDRESS 2001dempsey@gmail.com		CELL PHONE NO. (248) 767-1962	
NAME Dan Dempsey		TELEPHONE NO. (248) 767-1962			
ORGANIZATION/COMPANY Pickleball Novi		FAX NO.			
ADDRESS 43643 Nine Mile Road		CITY Novi		STATE MI	ZIP CODE 48167
III. ZONING INFORMATION					
A. ZONING DISTRICT					
<input type="checkbox"/> R-A <input type="checkbox"/> R-1 <input type="checkbox"/> R-2 <input type="checkbox"/> R-3 <input type="checkbox"/> R-4 <input type="checkbox"/> RM-1 <input type="checkbox"/> RM-2 <input type="checkbox"/> MH <input checked="" type="checkbox"/> I-1 <input type="checkbox"/> I-2 <input type="checkbox"/> RC <input type="checkbox"/> TC <input type="checkbox"/> TC-1 <input type="checkbox"/> OTHER _____					
B. VARIANCE REQUESTED					
INDICATE ORDINANCE SECTION (S) AND VARIANCE REQUESTED:					
1. Section <u>3.14.5.B</u>		Variance requested <u>38.5' variance to allow parking less than 100' to res. dist.</u>			
2. Section <u>5.2.12.E</u>		Variance requested <u>Variance of 9 parking spaces: 151 req, 142 proposed</u>			
3. Section _____		Variance requested _____			
4. Section _____		Variance requested _____			
IV. FEES AND DRAWINGS					
A. FEES					
<input type="checkbox"/> Single Family Residential (Existing) \$220 <input type="checkbox"/> (With Violation) \$275 <input type="checkbox"/> Single Family Residential (New) \$275 <input checked="" type="checkbox"/> Multiple/Commercial/Industrial \$330 <input type="checkbox"/> (With Violation) \$440 <input type="checkbox"/> Signs \$330 <input type="checkbox"/> (With Violation) \$440 <input type="checkbox"/> House Moves \$330 <input type="checkbox"/> Special Meetings (At discretion of Board) \$660					
B. DRAWINGS 1-COPY & 1 DIGITAL COPY SUBMITTED AS A PDF					
<input type="checkbox"/> Dimensioned Drawings and Plans <input type="checkbox"/> Site/Plot Plan <input type="checkbox"/> Existing or proposed buildings or addition on the property <input type="checkbox"/> Number & location of all on-site parking, if applicable			<input type="checkbox"/> Existing & proposed distance to adjacent property lines <input type="checkbox"/> Location of existing & proposed signs, if applicable <input type="checkbox"/> Floor plans & elevations <input type="checkbox"/> Any other information relevant to the Variance application		



ZONING BOARD OF APPEALS APPLICATION

V. VARIANCE

A. VARIANCE (S) REQUESTED

DIMENSIONAL USE SIGN

There is a five-(5) hold period before work/action can be taken on variance approvals.

B. SIGN CASES (ONLY)

Your signature on this application indicates that you agree to install a **Mock-Up Sign ten-(10) days** before the schedule ZBA meeting. Failure to install a mock-up sign may result in your case not being heard by the Board, postponed to the next schedule ZBA meeting, or cancelled. A mock-up sign is **NOT** to be actual sign. Upon approval, the mock-up sign must be removed within five-(5) days of the meeting. If the case is denied, the applicant is responsible for all costs involved in the removal of the mock-up or actual sign (if erected under violation) within five-(5) days of the meeting.

C. ORDINANCE

City of Novi Ordinance, Section 3107 – Miscellaneous

No order of the Board permitting the erection of a building shall be valid for a period longer than one-(1) year, unless a building permit for such erection or alteration is obtained within such period and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

No order of the Board permitting a use of a building or premises shall be valid for a period longer than one-hundred and eighty-(180) days unless such use is establish within such a period; provided, however, where such use permitted is dependent upon the erection or alteration or a building such order shall continue in force and effect if a building permit for such erection or alteration is obtained within one-(1) year and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

D. APPEAL THE DETERMINATION OF THE BUILDING OFFICIAL

PLEASE TAKE NOTICE:

The undersigned hereby appeals the determination of the Building Official / Inspector or Ordinance made

CONSTRUCT NEW HOME/BUILDING ADDITION TO EXISTING HOME/BUILDING SIGNAGE

ACCESSORY BUILDING USE OTHER _____

VI. APPLICANT & PROPERTY SIGNATURES

A. APPLICANT

William J. Finnicum
Applicant Signature

April 1, 2024
Date

B. PROPERTY OWNER

If the applicant is not the owner, the property owner must read and sign below:

The undersigned affirms and acknowledges that he, she or they are the owner(s) of the property described in this application, and is/are aware of the contents of this application and related enclosures.

David Denney
Property Owner Signature

4-1-24
Date

VII. FOR OFFICIAL USE ONLY

DECISION ON APPEAL:

GRANTED

DENIED

The Building Inspector is hereby directed to issue a permit to the Applicant upon the following and conditions:

Chairperson, Zoning Board of Appeals

Date



Community Development Department

45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
(248) 735-5600 Facsimile
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**REVIEW STANDARDS
DIMENSIONAL VARIANCE**

The Zoning Board of Appeals (ZBA) will review the application package and determine if the proposed Dimensional Variance meets the required standards for approval. In the space below, and on additional paper if necessary, explain how the proposed project meets each of the following standards. (Increased costs associated with complying with the Zoning Ordinance will not be considered a basis for granting a Dimensional Variance.)

Standard #1. Circumstances or Physical Conditions.

Explain the circumstances or physical conditions that apply to the property that do not apply generally to other properties in the same zoning district or in the general vicinity. Circumstances or physical conditions may include:

- a. **Shape of Lot.** Exceptional narrowness, shallowness or shape of a specific property in existence on the effective date of the Zoning Ordinance or amendment.

Not Applicable Applicable If applicable, describe below:

See Attached Sheet.

and/or

- b. **Environmental Conditions.** Exceptional topographic or environmental conditions or other extraordinary situations on the land, building or structure.

Not Applicable Applicable If applicable, describe below:

See Attached Sheet.

and/or

- c. **Abutting Property.** The use or development of the property immediately adjacent to the subject property would prohibit the literal enforcement of the requirements of the Zoning Ordinance or would involve significant practical difficulties.

Not Applicable Applicable If applicable, describe below:

Standard #2. Not Self-Created.

Describe the immediate practical difficulty causing the need for the Dimensional Variance, that the need for the requested variance is not the result of actions of the property owner or previous property owners (i.e., is not self-created).

See attached response.

Standard #3. Strict Compliance.

Explain how the Dimensional Variance in strict compliance with regulations governing area, setback, frontage, height, bulk, density or other dimensional requirements will unreasonably prevent the property owner from using the property for a permitted purpose, or will render conformity with those regulations unnecessarily burdensome.

See attached response.

Standard #4. Minimum Variance Necessary.

Explain how the Dimensional Variance requested is the minimum variance necessary to do substantial justice to the applicant as well as to other property owners in the district.

See attached response.

Standard #5. Adverse Impact on Surrounding Area.

Explain how the Dimensional Variance will not cause an adverse impact on surrounding property, property values, or the use and enjoyment of property in the neighborhood or zoning district.

See attached response.



PICKLEBALL NOVI – Response to Variance Review Standards

Date: April 1, 2024

Project Name: JSP23-15 Pickleball Novi

Submitted to: City of Novi Staff

Submitted by:

Finnicum Brownlie Architects, Project Architect

Dan Dempsey, Owner

Nowak & Fraus Engineers, Civil Engineer

Variations Requested:

Section 3.14.5.B, 38.5' variance to allow parking less than 100' from a residential zoning district; 100' required, 61.5' proposed.

Section 5.2.12.E, Variance of 9 parking spaces; 151 required, 142 proposed.

Standard #1

a. Shape of Lot

A practical hardship exists because of the strict dimensional requirements of the pickleball courts and the site proportions. Unlike other uses such as offices, stores, or repair shops or research labs, a pickleball court is an exact size and cannot be bent or molded into a different shape to fit the circumstances. Measuring 20' x 44' with an additional 10' safety buffer on all sides, the pickleball courts are efficiently laid out flanking each side of a central core with service activities.

- The building is set on the front setback line because if it were repositioned at the required 100' rear setback line, there would still not be adequate space for parking in the front yard and 15 parking spaces would be lost.
- The shape of the property will not allow the building to be reconfigured longer and thinner because doing so would result in less parking to the north and south, with none gained to the east or west.
- If the proposed parking were to be single-loaded, a 21'-6" parking encroachment would still exist, and 15 parking spaces would be sacrificed.
- Moving the parking area westward to comply with the 100' parking setback requirement would mean the building must shrink by nearly 9000SF, and 20 parking spaces would be lost. Most critically, three pickleball courts would be eliminated due to lack of space. It would be of no benefit in the quest for parking compliance. The parking requirement would drop by 24, 18 for courts and 6 because the restaurant would also be reduced. The resulting parking requirement would be 127 and the remaining proposed parking would be 122, a 5 space deficit.

- Losing 20% of the courts to gain 4 parking spaces would be highly detrimental to the club's viability.

b. Environmental Conditions

See Standard 1a, above. A practical hardship exists because the strict dimensional requirements of the pickleball courts uniquely constrain how the courts are configured and organized on the rectilinear site, dictating the building's size and shape. Moving the parking area to within a 100' setback would doom the project.

c. Abutting Property

Not applicable

Standard #2: Not Self-Created

In the broad sense for a new, from-the-ground-up project like Pickleball Novi, it is difficult to argue a hardship is not self-created. However, as described in Standard 1a above, it is the site proportions and dimensional demands of the building, dictated by the zoning requirements, that drive the shape of the building and how it fits on the site. The resultant design, though two small variances are required, is optimal. All possible interventions have been taken to mitigate its impact.

A condition that is not self-created is that the code assigned parking requirements attributed to each building activity are taken at face value. Parking demand should be adjusted for considerations such as: walk-in rate, bicycle use, modal split (employees may ride with colleagues, club members may ride together), shared facilities (those waiting are snacking, dining, shopping), members and members with guests dining, and dwell time.

Standard #3: Strict Compliance

Without the variances being granted, 40 parking spaces would be lost and additional facilities would need to be sacrificed to a point where the project would not be financially viable. Already, to reduce the required parking, the project has been reduced by two bocce courts, 24 seats in the restaurant, 6 seats in the snack bar and the fitness area has been sacrificed. The need for 41 parking spaces has been eliminated and seven parking spaces have been added. The parking deficit has been reduced from 56 to 9, just 6% of the parking demand all due to the sacrificing of amenities. The parking study prepared by Feis & Vandenbrink calculated a peak utilization rate of 81%. At peak demand, 122 spaces will be required; 141 are being provided. The proposed parking capacity is quite adequate to meet its needs. See Parking Data and Feis & Vandenbrink Parking Study August 25, 2023.

Further evidence that Pickleball Novi's parking capacity is adequate is that it is amenity for amenity nearly exactly comparable to Wolverine Pickleball, a club that opened recently in Ann Arbor. The courts create the greatest demand for parking. Pickleball Novi offers 15 pickleball courts with a need for 90 spaces,

with 142 provided. Wolverine Pickleball has 12 pickleball courts, 6 volleyball courts, and 4 bocce courts, for a need for 132 spaces. Wolverine Pickleball has 135 parking spaces, just 3 additional parking spaces for all other activities. Pickleball Novi has 52 spaces beyond the court demand. It is important to note that 6 spaces are attributed to each court on which there are 4 players. That means with 15 courts there are 30 people parked and participating in other club activities while they wait their turn on the court. There is a redundancy due to the overlap of activities in the club setting. Wolverine Pickleball opened with high participation because it is a club with an established membership and loyal following. It is functioning quite smoothly with no parking issues. Pickleball Novi will have fewer courts and greater parking capacity, no parking issues are expected. See Facilities Comparison.

Standard #4: Minimum Variance Necessary

The parking deficit of 9 spaces is the least variance possible without further sacrificing facilities and amenities essential to the success of the Pickleball Novi. The project would lose 40 parking spaces if the 10' parking setback is enforced, increasing the parking deficit to 49. It is not possible to provide 9 spaces without drastically reducing the size of the building but reducing it to accommodate 49 additional spaces is unthinkable. Pickleball Novi is being created to serve the community with a highly sought recreational activity that promotes social interaction and physical fitness – it is the most popular and fastest growing adult sport in the country. There is critical mass necessary to make the club viable and attractive to its membership. If the amenities fall below that threshold, the public will not be served, and the club will fail.

Standard #5: Adverse Impact on Surrounding Area

The building and operations have been designed for Pickleball Novi to be a good neighbor. All traffic and stormwater engineering and fire safety standards are being met; by providing a sound attenuating curtain around the outdoor courts, the sound thresholds at the property lines are met (see Kolano and Saha Engineers Noise Impact Study, 2023-060, July 31, 2023); the number of peak-hour traffic trips are substantially below the ordinance threshold; the existing berm (see photograph) is being enhanced with landscaping far exceeds the minimum ordinance requirements (see Landscape sheets L2, L3); a masonry wall is being constructed at the edge of the east parking to block headlights from the residences (see sheets L3 and A6); and the building is handsome and unique among the ordinary industrial buildings on Venture Drive (see colored renderings). A positive aspect of the project is that it is probable that neighbors on the adjoining residential community will become members and bicycle to the club.

Precedence of parking on an I-1 zoning district closer than 100 feet to an R district exists. Parking on the property next door to Pickleball Novi at the corner of Venture Drive and Nine Mile Road is setback 70'. Parking on parcel 13, east of the beginning of the Venture Drive cul-de-sac is set back 85'. Parking on eight parcels in the I-1 zoning district on the west side of Heslip Drive are set back closer than 100' to the adjoining R zoning district; two are 0', two are 5', one 10', one 15' and two are 20'. See the Aerial photographs Parking 1, 3-6.

No. 22611 ENNISHORE DRIVE
 Owner: MOONSEOK LEE
 APN: 22-26-402-021
 ZONED: R-4

EXISTING R-4
 ZONING-DISTRICT

No. 22601 ENNISHORE DRIV
 Owner: MALOTT TRUST, ROBERT F
 APN: 22-26-402-027
 ZONED: R-4

MEADOWBROOK LAKE
 SUBDIVISION
 LIBER 106, PAGE 6

No. 2260
 Owner: NAT
 APN

PLANT SCHEDULE

KEY	QTY
AR	8
AL	10
BN	4
CC*	16
CF*	11
GB	11
GT	11
LT	10
NS	12



No. 22850 VENTURE DRIVE
 Owner: DOUGHMORE, LLC
 APN: 22-26-401-033
 ZONED: I-1 (LIGHT INDUSTRIAL)

PKG INTERIOR
 236 S.F.

N89°56'30"E 34'

ACCESSWAY
 40 L.F.

ACCESSWAY
 40 L.F.

PKG INTERIOR
 205 S.F.

BLDG FOUNDATION
 200 S.F.

BLDG FOUNDATION
 218 S.F.

PKG INTERIOR
 205 S.F.

PROPOSED
 BUILDING
 FINISH FLOOR 842.00

BLDG FOUNDATION
 360 S.F.

VENTURE DRIVE (60' WIDE)

BLDG FOUNDATION
 260 S.F.

BLDG FOUNDATION
 4,967 S.F.

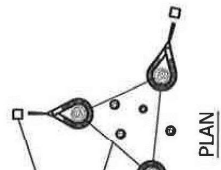
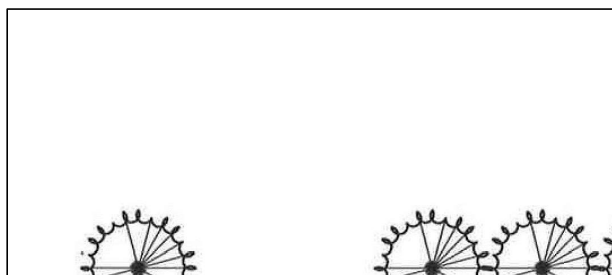
SET STAYS ABOVE FIRST
 BRANCHES, APPROX. HALF-WAY UP
 TREE (SEE DETAIL)

MULCH 3" DEPTH WITH SHREDDED
 HARDWOOD BARK. NATURAL IN
 COLOR. LEAVE 3" CIRCLE OF BARE
 SOIL AT BASE OF TREE TRUNK TO
 EXPOSE ROOT FLARE. REMOVE
 EXCESS SOIL TO EXPOSE ROOT
 FLARE IF NECESSARY.

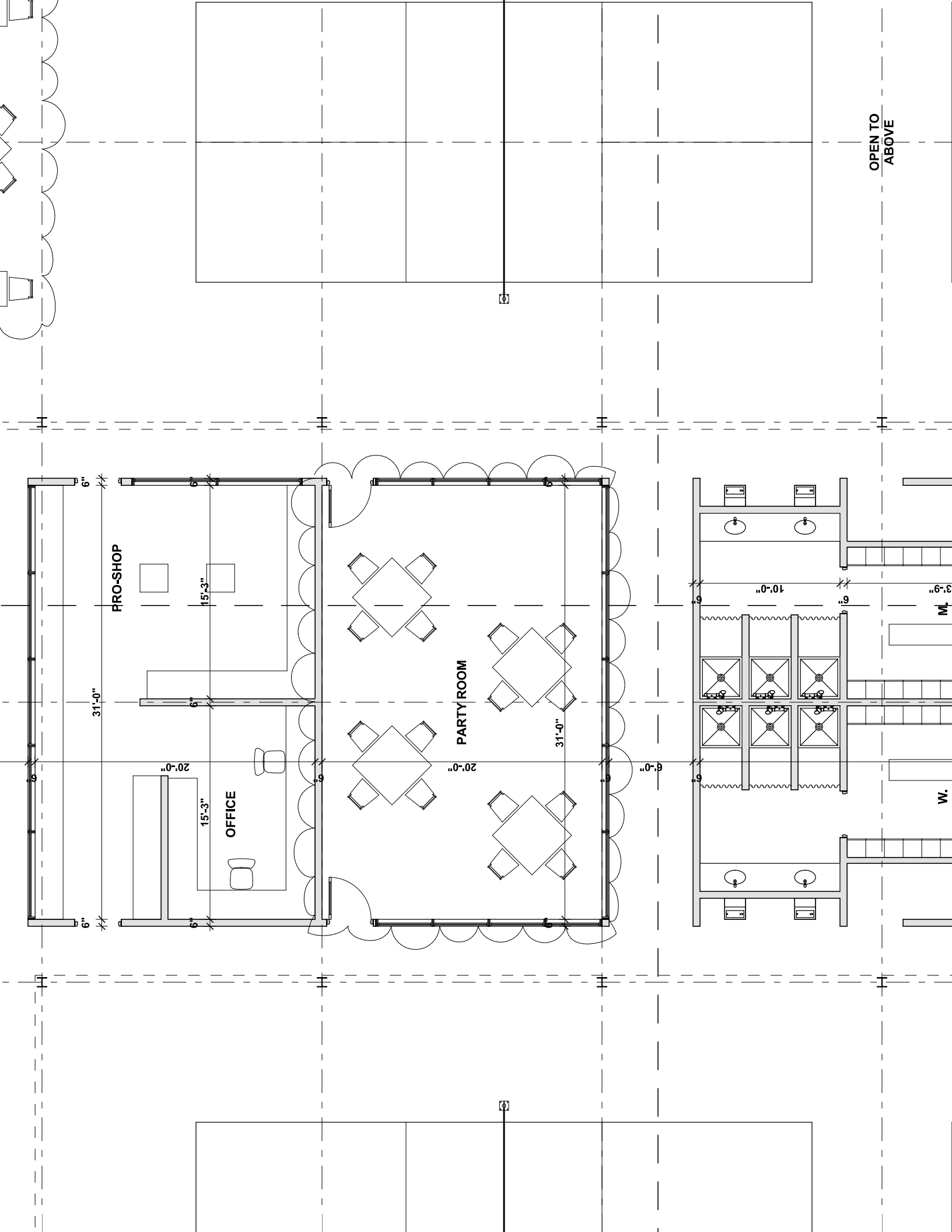
MIN.

TRUNK DETAIL

2-1



PLAN



PRO-SHOP

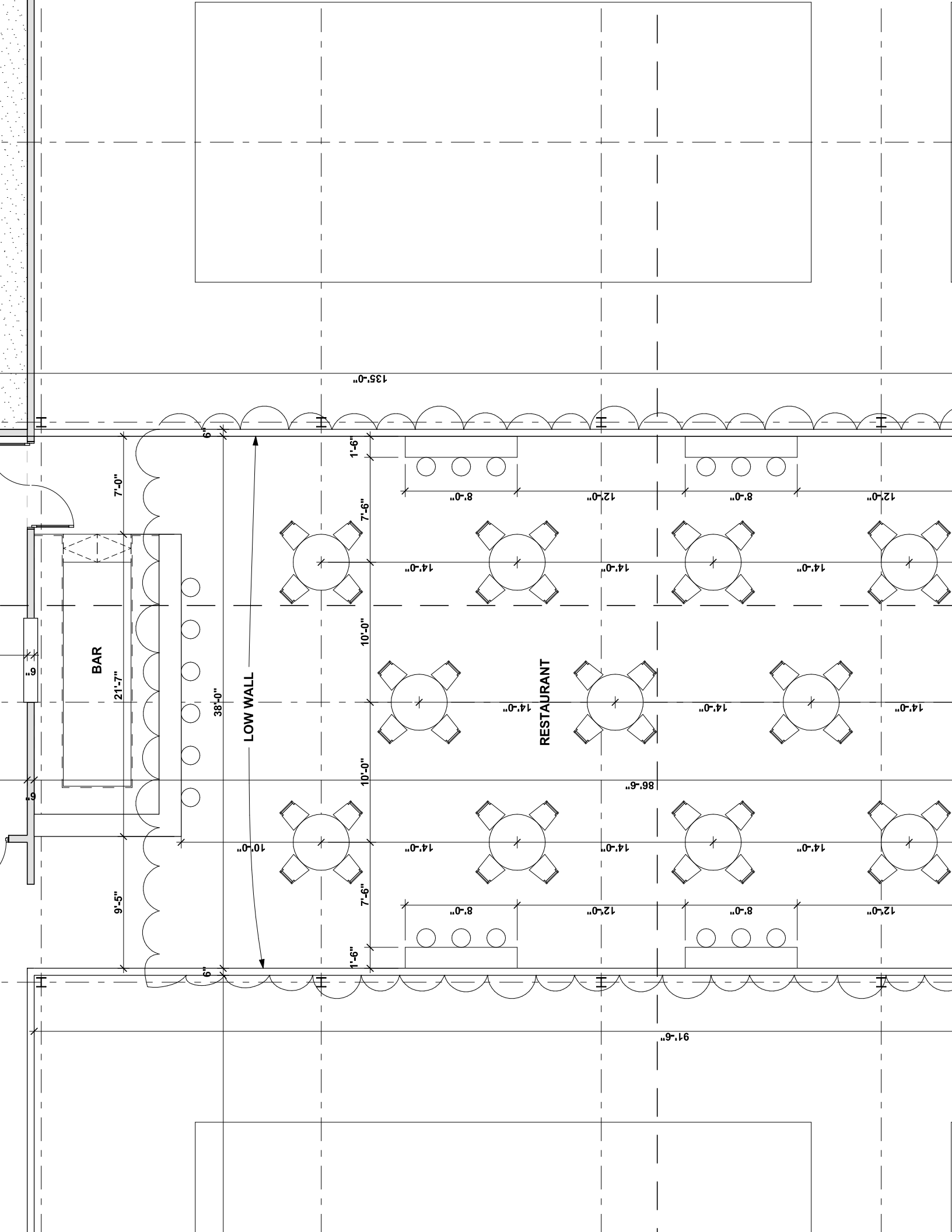
OFFICE

PARTY ROOM

OPEN TO ABOVE

W.

M.



135'-0"

7'-0"

BAR

21'-7"

9'-5"

LOW WALL

38'-0"

10'-0"

1'-6"

7'-6"

10'-0"

10'-0"

7'-6"

1'-6"

8'-0"

12'-0"

8'-0"

12'-0"

14'-0"

14'-0"

14'-0"

14'-0"

14'-0"

14'-0"

14'-0"

86'-6"

14'-0"

14'-0"

14'-0"

14'-0"

8'-0"

12'-0"

8'-0"

12'-0"

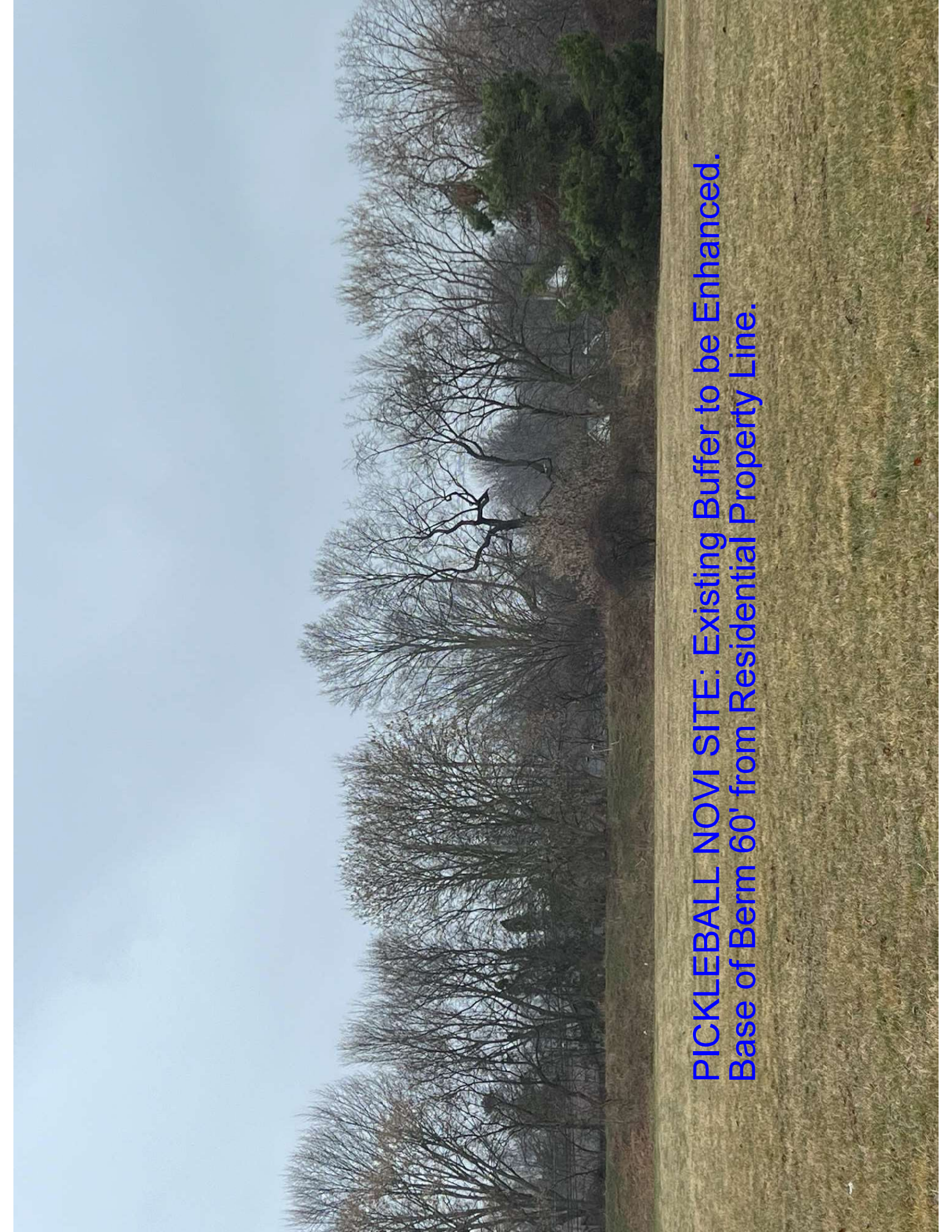
91'-6"

RESTAURANT

AL SCHEDULE

DESCRIPTION	COLOR	% OF FACADE
AN PROFILES / METAL ROOF PANEL, SEAM ROOF, 5" THICK, ALVALUME. EXTERIOR ANTERIOR EMBOSSED	BRITE WHITE / REGAL WHITE STANDARD GLOSS SILICONIZED POLYESTER	ALL ROOFS BELOW 3:12 SLOPE.





PICKLEBALL NOVI SITE: Existing Buffer to be Enhanced.
Base of Berm 60' from Residential Property Line.



HESLIP DRIVE: Parking on
I-1 Adjoining R-M1 Zoning
with as little as 0' Stback.

Parking 1



OAKLAND COUNTY
 Economic Development & Community Affairs
David Coulter
 Oakland County Executive

Date Created: 2/28/2024

NORTH
 1 inch = 100 feet

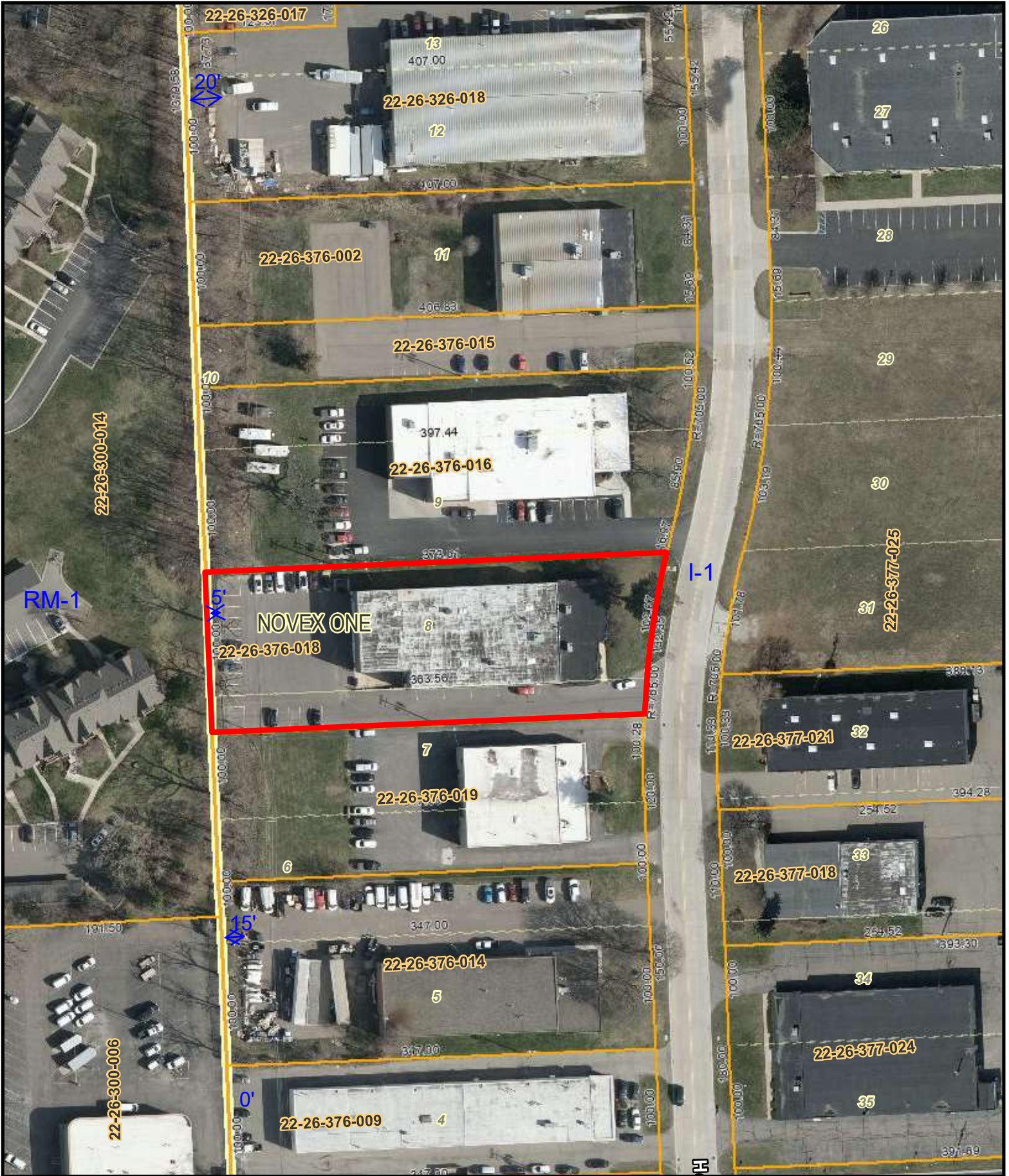
Disclaimer: The information provided herewith has been compiled from recorded deeds, plats, tax maps, surveys and other public records. It is not a legally recorded map or survey and is not intended to be used as one. Users should consult the information sources mentioned above when questions arise. FEMA Floodplain data may not always be present in the map.

2 Foot Contours
 5 Foot Contours
 FEMA Base Flood Elevations
 FEMA Cross Sections

100 yr - FEMA Floodplain
 100 yr (detailed) - FEMA Floodplain
 500 yr - FEMA Floodplain
 FLOODWAY - FEMA Floodplain

Oakland County One Stop Shop 2100 Pontiac Lake Road Bldg. 41 West Waterford, MI 48328 Phone: 248-858-0721 Web: www.advantageoakland.com

Parking 4



	2 Foot Contours		100 yr - FEMA Floodplain
	5 Foot Contours		100 yr (detailed) - FEMA Floodplain
	FEMA Base Flood Elevations		500 yr - FEMA Floodplain
	FEMA Cross Sections		FLOODWAY - FEMA Floodplain

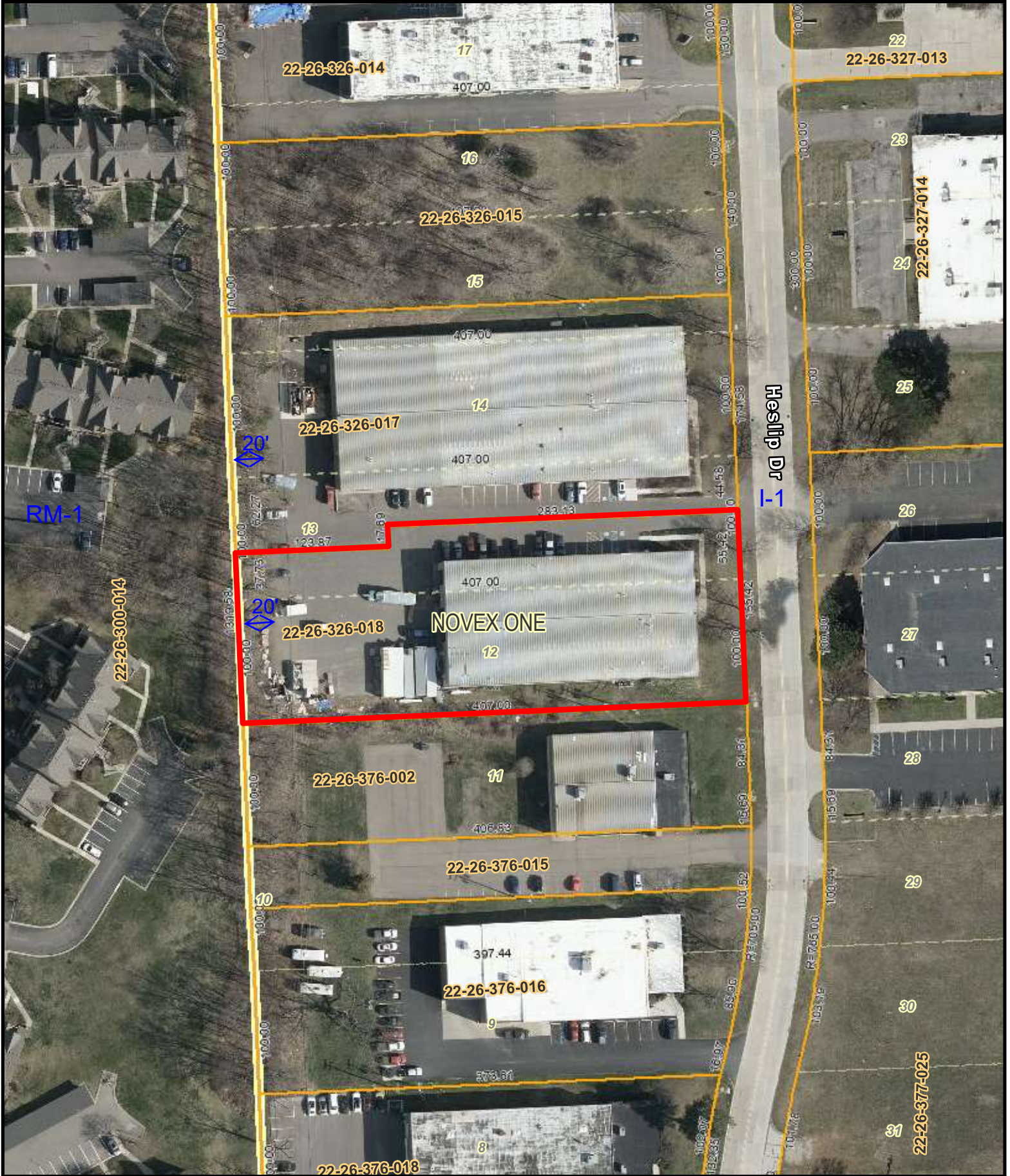
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OAKLAND COUNTY MICHIGAN
 Economic Development & Community Affairs
David Coulter
 Oakland County Executive

Date Created: 2/28/2024

 NORTH
 1 inch = 100 feet

Parking 5



	2 Foot Contours		100 yr - FEMA Floodplain
	5 Foot Contours		100 yr (detailed) - FEMA Floodplain
	FEMA Base Flood Elevations		500 yr - FEMA Floodplain
	FEMA Cross Sections		FLOODWAY - FEMA Floodplain

Disclaimer: The information provided herewith has been compiled from recorded deeds, plats, tax maps, surveys and other public records. It is not a legally recorded map or survey and is not intended to be used as one. Users should consult the information sources mentioned above when questions arise. FEMA Floodplain data may not always be present on the map.









OAKLAND COUNTY MICHIGAN
 Economic Development & Community Affairs
David Coulter
 Oakland County Executive

Date Created: 2/28/2024

 NORTH
 1 inch = 100 feet


Parking 6



 2 Foot Contours	 100 yr - FEMA Floodplain
 5 Foot Contours	 100 yr (detailed) - FEMA Floodplain
 FEMA Base Flood Elevations	 500 yr - FEMA Floodplain
 FEMA Cross Sections	 FLOODWAY - FEMA Floodplain

Disclaimer: The information provided herewith has been compiled from recorded deeds, plats, tax maps, surveys and other public records. It is not a legally recorded map or survey and is not intended to be used as one. Users should consult the information sources mentioned above when questions arise. FEMA Floodplain data may not always be present on the map.


David Coulter
 Oakland County Executive

Date Created: 2/28/2024

 NORTH
 1 inch = 100 feet

MEMO

VIA EMAIL william@fbarch.com

To: William Finnicum, AIA NCARB
Finnicum Brownlie Architects

From: Julie M. Kroll, PE, PTOE
Fleis & VandenBrink

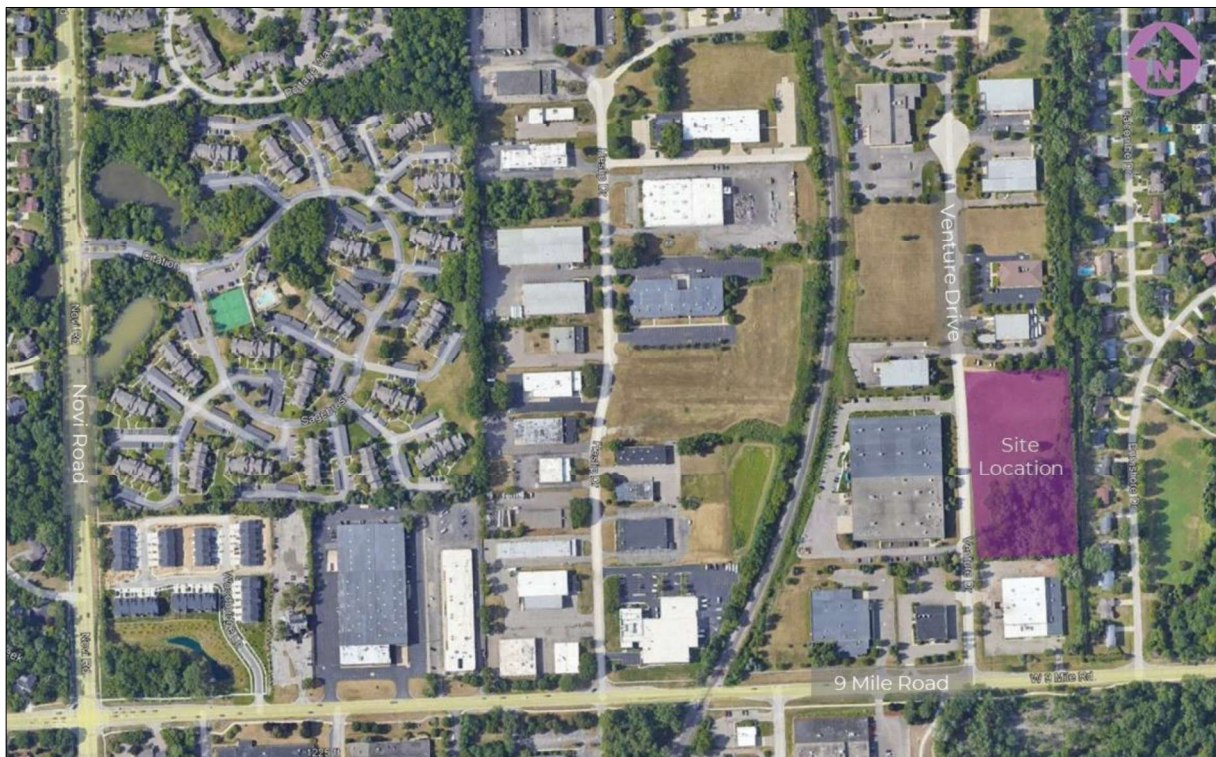
Date: August 25, 2023

Re: Pickleball Novi Sports Facility
22650 Venture Drive, Novi, MI
Parking Study

1 INTRODUCTION

This memorandum presents the results of a Parking Study for the proposed Pickleball Novi sports facility at 22650 Venture Drive, as shown in **Figure 1**. The project includes the development of a 45,000 SF recreational pickleball facility that includes 13 indoor Pickleball courts, two (2) outdoor Pickleball courts, two (2) outdoor Bocce Ball courts, and amenities for members and visitors (locker rooms, pro-shop, snack bar, restaurant/bar, etc.). The City of Novi has required the completion of a parking study to ensure there is adequate parking to accommodate the proposed Pickleball Novi facility.

FIGURE 1: SITE LOCATION MAP



27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

The scope of the parking study was developed based on Fleis & VandenBrink’s (F&V) understanding of the proposed development, accepted traffic engineering practice, and methodologies published by the Institute of Transportation Engineers (ITE). Sources of data for this study include F&V subconsultant Quality Counts (QC), City of Novi, and ITE.

2 PARKING ANALYSIS

A parking analysis is a two-step process. The first step in determining parking needs for a development is to calculate the projected parking *demand*. Parking demand calculations determine how much parking will be generated by the development. The second step in the parking analysis process is to determine if the parking supply is adequate to accommodate the projected parking demand; and if the parking supply is not adequate, provide recommendations to accommodate the projected parking demand.

2.1 Existing Parking Demand

The proposed Pickleball Novi facility includes a total of 17 courts: 13 indoor and 4 outdoor. The facility will have memberships available, and members will be able to reserve court times for 1-2 hour periods. However, the facility is also open to walk-in/non-members who may use the courts when available. The baseline assumptions utilized for determining the peak parking demand for this facility are summarized below.

NUMBER OF COURTS	17 Courts
<i>Indoor Courts</i>	13 Courts, Open Daily 8AM-11PM
<i>Outdoor Courts</i>	4 Courts, Open Seasonally 10AM-8PM
WALK-IN RATE	50% increase for walk-in players
EMPLOYEES	2-8 employees (2 open/close, 8 max with restaurant/bar open)
MODAL SPLIT FACTOR	1.0, assume all customers and employees are single-passenger vehicles
SNACK BAR	8AM-11PM, latent parking demand for before/after game use of snack bar
RESTAURANT & BAR (MEMBERS ONLY)	Noon-10PM, latent parking demand for before/after game use of restaurant

Key Items for consideration:

- **Modal Split:** It is anticipated that visitors, members, and employees will utilize modal split options for accessing this facility, including: carpool, transit, and bicycle. This analysis assumes that all users are single occupant vehicles. This provides a conservative evaluation of the parking demand for the site.
- **Snack Bar/Restaurant & Bar:** The food services uses associated with this site are intended for internal use only. These uses are amenities for visitors and members while using the facility. Therefore, no additional parking is necessary to accommodate these uses, as they are a shared use with the facility.
- **Dwell Time:** The average parking duration for each visitor and member is approximately 2 hours, depending on the court time and amenities utilized while at the site. Therefore the trip generation for the site is relatively low, whereas the parking demand is higher to accommodate users that remain parked for longer periods of time.

The projected daily distribution for the proposed Novi Pickleball facility is summarized in **Chart 1**. *Note: The daily distribution for the Novi Pickleball was determined based upon parking data collection performed by F&V subconsultant Quality Counts (QC) at the Novi SPARC facility which operates in a similar manner to the proposed development.*

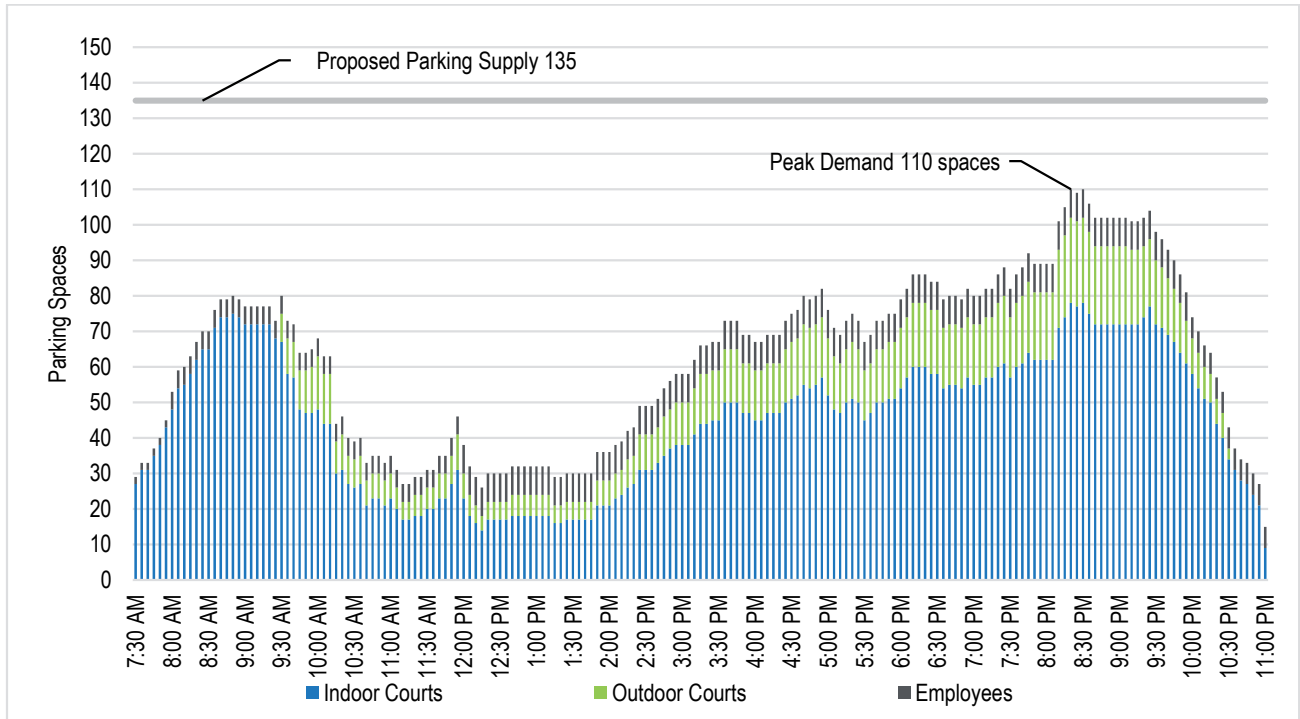
2.2 Parking Supply

A parking lot is typically designed to accommodate 85-95% occupancy, depending on the proposed land use, layout, and parking management (reserved, self-parking, valet, active parking management, etc.). As vehicles are traversing through the parking lot in search for open spaces or wait for vehicles to exit, providing a buffer between supply and demand, allows for easier turnover in the parking lot and less congestion. The existing peak parking occupancy is summarized in **Table 1** and shows a peak utilization rate of 81% with a surplus of 25 parking spaces during the peak period. Therefore, there is adequate parking within the existing parking lot to accommodate the existing parking demand for this site.

TABLE 1: PEAK PARKING LOT UTILIZATION SUMMARY

Peak Parking Demand	110 spaces
Total Parking Supply	135 spaces
Peak Utilization	81%
Parking Surplus	25 spaces

CHART 1: PROJECTED PARKING DEMAND SUMMARY



3 CONCLUSIONS

- The results of the parking study shows that the proposed parking lot supply of 135 spaces will adequately accommodate the proposed site operations.
- The proposed site operations has a peak parking utilization rate of 81% and a surplus of 25 parking spaces.
- The results of the analysis shows that no additional parking is recommended to accommodate the parking demand associated with proposed operations.
- The City Ordinance requirements for this site with 168 parking spaces would overpark this site for the proposed use, therefore a reduction in the parking requirement for this site is recommended to right-size the parking facility for this use.

Any questions related to this memorandum, study, analysis, and results should be addressed to Fleis & VandenBrink.



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

A handwritten signature in blue ink that reads "Julie M. Kroll".

Digitally signed by Julie

M. Kroll

Date: 2023.08.25 13:15:13
-04'00'

Attachments:

Parking Demand Data Summary
Site Plan

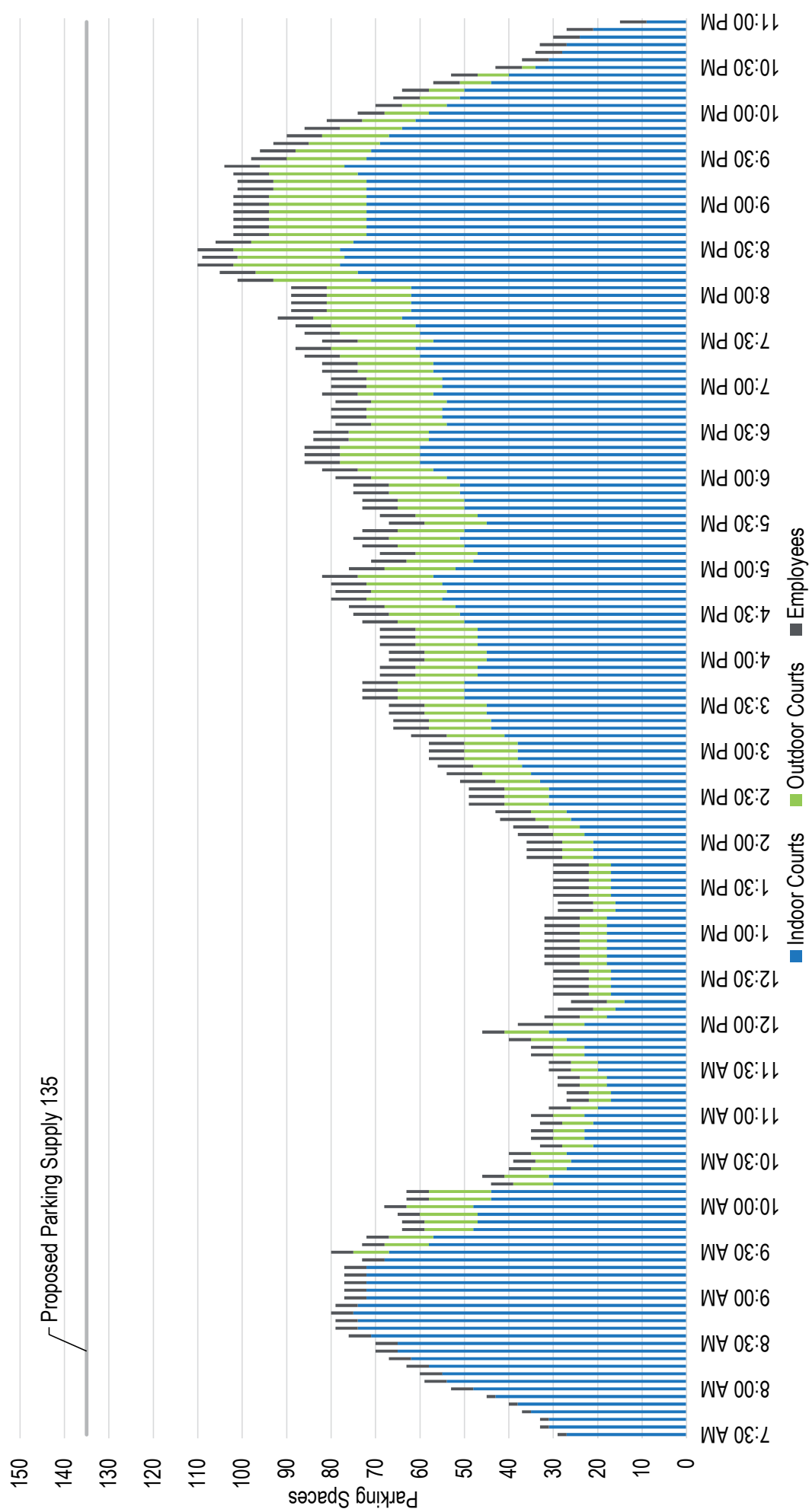
Indoor Courts		Outdoor Courts		Employees	Total Parking Demand	Parking Supply	Difference	Occupancy	
Courts	13	Courts	4						
Reserved Teams	1	Reserved Teams	1						
Walk-in Teams	0.5	Walk-in Teams	0.5						
Peak Parking Demand	78	Peak Parking Demand	24	8	110	135	25	81.5%	
Start Time	Indoor Courts		Outdoor Courts		Employees	Total Parking Demand	Parking Supply	Difference	Occupancy
	Parking Demand Distribution	Parking Demand	Parking Demand Distribution	Parking Demand	Parking Demand				
7:30 AM	35%	27			2	29	135	106	21.5%
7:35 AM	40%	31			2	33	135	102	24.4%
7:40 AM	40%	31			2	33	135	102	24.4%
7:45 AM	45%	35			2	37	135	98	27.4%
7:50 AM	49%	38			2	40	135	95	29.6%
7:55 AM	55%	43			2	45	135	90	33.3%
8:00 AM	62%	48			5	53	135	82	39.3%
8:05 AM	69%	54			5	59	135	76	43.7%
8:10 AM	71%	55			5	60	135	75	44.4%
8:15 AM	75%	58			5	63	135	72	46.7%
8:20 AM	80%	62			5	67	135	68	49.6%
8:25 AM	84%	65			5	70	135	65	51.9%
8:30 AM	84%	65			5	70	135	65	51.9%
8:35 AM	91%	71			5	76	135	59	56.3%
8:40 AM	95%	74			5	79	135	56	58.5%
8:45 AM	95%	74			5	79	135	56	58.5%
8:50 AM	96%	75			5	80	135	55	59.3%
8:55 AM	95%	74			5	79	135	56	58.5%
9:00 AM	93%	72			5	77	135	58	57.0%
9:05 AM	93%	72			5	77	135	58	57.0%
9:10 AM	93%	72			5	77	135	58	57.0%
9:15 AM	93%	72			5	77	135	58	57.0%
9:20 AM	93%	72			5	77	135	58	57.0%
9:25 AM	87%	68			5	73	135	62	54.1%
9:30 AM	85%	67	35%	8	5	80	135	55	59.3%
9:35 AM	75%	58	40%	10	5	73	135	62	54.1%
9:40 AM	73%	57	40%	10	5	72	135	63	53.3%
9:45 AM	62%	48	45%	11	5	64	135	71	47.4%
9:50 AM	60%	47	49%	12	5	64	135	71	47.4%
9:55 AM	60%	47	55%	13	5	65	135	70	48.1%
10:00 AM	62%	48	62%	15	5	68	135	67	50.4%
10:05 AM	56%	44	56%	14	5	63	135	72	46.7%
10:10 AM	56%	44	56%	14	5	63	135	72	46.7%
10:15 AM	38%	30	38%	9	5	44	135	91	32.6%
10:20 AM	40%	31	40%	10	5	46	135	89	34.1%
10:25 AM	35%	27	35%	8	5	40	135	95	29.6%
10:30 AM	33%	26	33%	8	5	39	135	96	28.9%
10:35 AM	35%	27	35%	8	5	40	135	95	29.6%
10:40 AM	27%	21	27%	7	5	33	135	102	24.4%
10:45 AM	29%	23	29%	7	5	35	135	100	25.9%
10:50 AM	29%	23	29%	7	5	35	135	100	25.9%
10:55 AM	27%	21	27%	7	5	33	135	102	24.4%
11:00 AM	29%	23	29%	7	5	35	135	100	25.9%

Start Time	Indoor Courts		Outdoor Courts		Employees	Total Parking Demand	Parking Supply	Difference	Occupancy
	Parking Demand Distribution	Parking Demand	Parking Demand Distribution	Parking Demand	Parking Demand				
11:05 AM	25%	20	25%	6	5	31	135	104	23.0%
11:10 AM	22%	17	22%	5	5	27	135	108	20.0%
11:15 AM	22%	17	22%	5	5	27	135	108	20.0%
11:20 AM	24%	18	24%	6	5	29	135	106	21.5%
11:25 AM	24%	18	24%	6	5	29	135	106	21.5%
11:30 AM	25%	20	25%	6	5	31	135	104	23.0%
11:35 AM	25%	20	25%	6	5	31	135	104	23.0%
11:40 AM	29%	23	29%	7	5	35	135	100	25.9%
11:45 AM	29%	23	29%	7	5	35	135	100	25.9%
11:50 AM	35%	27	35%	8	5	40	135	95	29.6%
11:55 AM	40%	31	40%	10	5	46	135	89	34.1%
12:00 PM	29%	23	29%	7	8	38	135	97	28.1%
12:05 PM	24%	18	24%	6	8	32	135	103	23.7%
12:10 PM	20%	16	20%	5	8	29	135	106	21.5%
12:15 PM	18%	14	18%	4	8	26	135	109	19.3%
12:20 PM	22%	17	22%	5	8	30	135	105	22.2%
12:25 PM	22%	17	22%	5	8	30	135	105	22.2%
12:30 PM	22%	17	22%	5	8	30	135	105	22.2%
12:35 PM	22%	17	22%	5	8	30	135	105	22.2%
12:40 PM	24%	18	24%	6	8	32	135	103	23.7%
12:45 PM	24%	18	24%	6	8	32	135	103	23.7%
12:50 PM	24%	18	24%	6	8	32	135	103	23.7%
12:55 PM	24%	18	24%	6	8	32	135	103	23.7%
1:00 PM	24%	18	24%	6	8	32	135	103	23.7%
1:05 PM	24%	18	24%	6	8	32	135	103	23.7%
1:10 PM	24%	18	24%	6	8	32	135	103	23.7%
1:15 PM	20%	16	20%	5	8	29	135	106	21.5%
1:20 PM	20%	16	20%	5	8	29	135	106	21.5%
1:25 PM	22%	17	22%	5	8	30	135	105	22.2%
1:30 PM	22%	17	22%	5	8	30	135	105	22.2%
1:35 PM	22%	17	22%	5	8	30	135	105	22.2%
1:40 PM	22%	17	22%	5	8	30	135	105	22.2%
1:45 PM	22%	17	22%	5	8	30	135	105	22.2%
1:50 PM	27%	21	27%	7	8	36	135	99	26.7%
1:55 PM	27%	21	27%	7	8	36	135	99	26.7%
2:00 PM	27%	21	27%	7	8	36	135	99	26.7%
2:05 PM	29%	23	29%	7	8	38	135	97	28.1%
2:10 PM	31%	24	31%	7	8	39	135	96	28.9%
2:15 PM	33%	26	33%	8	8	42	135	93	31.1%
2:20 PM	35%	27	35%	8	8	43	135	92	31.9%
2:25 PM	40%	31	40%	10	8	49	135	86	36.3%
2:30 PM	40%	31	40%	10	8	49	135	86	36.3%
2:35 PM	40%	31	40%	10	8	49	135	86	36.3%
2:40 PM	42%	33	42%	10	8	51	135	84	37.8%
2:45 PM	45%	35	45%	11	8	54	135	81	40.0%
2:50 PM	47%	37	47%	11	8	56	135	79	41.5%
2:55 PM	49%	38	49%	12	8	58	135	77	43.0%
3:00 PM	49%	38	49%	12	8	58	135	77	43.0%
3:05 PM	49%	38	49%	12	8	58	135	77	43.0%

Start Time	Indoor Courts		Outdoor Courts		Employees	Total Parking Demand	Parking Supply	Difference	Occupancy
	Parking Demand Distribution	Parking Demand	Parking Demand Distribution	Parking Demand	Parking Demand				
3:10 PM	53%	41	53%	13	8	62	135	73	45.9%
3:15 PM	56%	44	56%	14	8	66	135	69	48.9%
3:20 PM	56%	44	56%	14	8	66	135	69	48.9%
3:25 PM	58%	45	58%	14	8	67	135	68	49.6%
3:30 PM	58%	45	58%	14	8	67	135	68	49.6%
3:35 PM	64%	50	64%	15	8	73	135	62	54.1%
3:40 PM	64%	50	64%	15	8	73	135	62	54.1%
3:45 PM	64%	50	64%	15	8	73	135	62	54.1%
3:50 PM	60%	47	60%	14	8	69	135	66	51.1%
3:55 PM	60%	47	60%	14	8	69	135	66	51.1%
4:00 PM	58%	45	58%	14	8	67	135	68	49.6%
4:05 PM	58%	45	58%	14	8	67	135	68	49.6%
4:10 PM	60%	47	60%	14	8	69	135	66	51.1%
4:15 PM	60%	47	60%	14	8	69	135	66	51.1%
4:20 PM	60%	47	60%	14	8	69	135	66	51.1%
4:25 PM	64%	50	64%	15	8	73	135	62	54.1%
4:30 PM	65%	51	65%	16	8	75	135	60	55.6%
4:35 PM	67%	52	67%	16	8	76	135	59	56.3%
4:40 PM	71%	55	71%	17	8	80	135	55	59.3%
4:45 PM	69%	54	69%	17	8	79	135	56	58.5%
4:50 PM	71%	55	71%	17	8	80	135	55	59.3%
4:55 PM	73%	57	73%	17	8	82	135	53	60.7%
5:00 PM	67%	52	67%	16	8	76	135	59	56.3%
5:05 PM	62%	48	62%	15	8	71	135	64	52.6%
5:10 PM	60%	47	60%	14	8	69	135	66	51.1%
5:15 PM	64%	50	64%	15	8	73	135	62	54.1%
5:20 PM	65%	51	65%	16	8	75	135	60	55.6%
5:25 PM	64%	50	64%	15	8	73	135	62	54.1%
5:30 PM	58%	45	58%	14	8	67	135	68	49.6%
5:35 PM	60%	47	60%	14	8	69	135	66	51.1%
5:40 PM	64%	50	64%	15	8	73	135	62	54.1%
5:45 PM	64%	50	64%	15	8	73	135	62	54.1%
5:50 PM	65%	51	65%	16	8	75	135	60	55.6%
5:55 PM	65%	51	65%	16	8	75	135	60	55.6%
6:00 PM	69%	54	69%	17	8	79	135	56	58.5%
6:05 PM	73%	57	73%	17	8	82	135	53	60.7%
6:10 PM	76%	60	76%	18	8	86	135	49	63.7%
6:15 PM	76%	60	76%	18	8	86	135	49	63.7%
6:20 PM	76%	60	76%	18	8	86	135	49	63.7%
6:25 PM	75%	58	75%	18	8	84	135	51	62.2%
6:30 PM	75%	58	75%	18	8	84	135	51	62.2%
6:35 PM	69%	54	69%	17	8	79	135	56	58.5%
6:40 PM	71%	55	71%	17	8	80	135	55	59.3%
6:45 PM	71%	55	71%	17	8	80	135	55	59.3%
6:50 PM	69%	54	69%	17	8	79	135	56	58.5%
6:55 PM	73%	57	73%	17	8	82	135	53	60.7%
7:00 PM	71%	55	71%	17	8	80	135	55	59.3%
7:05 PM	71%	55	71%	17	8	80	135	55	59.3%
7:10 PM	73%	57	73%	17	8	82	135	53	60.7%

Start Time	Indoor Courts		Outdoor Courts		Employees	Total Parking Demand	Parking Supply	Difference	Occupancy
	Parking Demand Distribution	Parking Demand	Parking Demand Distribution	Parking Demand	Parking Demand				
7:15 PM	73%	57	73%	17	8	82	135	53	60.7%
7:20 PM	76%	60	76%	18	8	86	135	49	63.7%
7:25 PM	78%	61	78%	19	8	88	135	47	65.2%
7:30 PM	73%	57	73%	17	8	82	135	53	60.7%
7:35 PM	76%	60	76%	18	8	86	135	49	63.7%
7:40 PM	78%	61	78%	19	8	88	135	47	65.2%
7:45 PM	82%	64	82%	20	8	92	135	43	68.1%
7:50 PM	80%	62	80%	19	8	89	135	46	65.9%
7:55 PM	80%	62	80%	19	8	89	135	46	65.9%
8:00 PM	80%	62	80%	19	8	89	135	46	65.9%
8:05 PM	80%	62	80%	19	8	89	135	46	65.9%
8:10 PM	91%	71	91%	22	8	101	135	34	74.8%
8:15 PM	95%	74	95%	23	8	105	135	30	77.8%
8:20 PM	100%	78	100%	24	8	110	135	25	81.5%
8:25 PM	98%	77	98%	24	8	109	135	26	80.7%
8:30 PM	100%	78	100%	24	8	110	135	25	81.5%
8:35 PM	96%	75	96%	23	8	106	135	29	78.5%
8:40 PM	93%	72	93%	22	8	102	135	33	75.6%
8:45 PM	93%	72	93%	22	8	102	135	33	75.6%
8:50 PM	93%	72	93%	22	8	102	135	33	75.6%
8:55 PM	93%	72	93%	22	8	102	135	33	75.6%
9:00 PM	93%	72	93%	22	8	102	135	33	75.6%
9:05 PM	93%	72	91%	22	8	102	135	33	75.6%
9:10 PM	93%	72	89%	21	8	101	135	34	74.8%
9:15 PM	93%	72	85%	21	8	101	135	34	74.8%
9:20 PM	95%	74	82%	20	8	102	135	33	75.6%
9:25 PM	98%	77	78%	19	8	104	135	31	77.0%
9:30 PM	93%	72	75%	18	8	98	135	37	72.6%
9:35 PM	91%	71	69%	17	8	96	135	39	71.1%
9:40 PM	89%	69	65%	16	8	93	135	42	68.9%
9:45 PM	85%	67	64%	15	8	90	135	45	66.7%
9:50 PM	82%	64	56%	14	8	86	135	49	63.7%
9:55 PM	78%	61	51%	12	8	81	135	54	60.0%
10:00 PM	75%	58	44%	10	6	74	135	61	54.8%
10:05 PM	69%	54	40%	10	6	70	135	65	51.9%
10:10 PM	65%	51	36%	9	6	66	135	69	48.9%
10:15 PM	64%	50	35%	8	6	64	135	71	47.4%
10:20 PM	56%	44	31%	7	6	57	135	78	42.2%
10:25 PM	51%	40	27%	7	6	53	135	82	39.3%
10:30 PM	44%	34	11%	3	6	43	135	92	31.9%
10:35 PM	40%	31			6	37	135	98	27.4%
10:40 PM	36%	28			6	34	135	101	25.2%
10:45 PM	35%	27			6	33	135	102	24.4%
10:50 PM	31%	24			6	30	135	105	22.2%
10:55 PM	27%	21			6	27	135	108	20.0%
11:00 PM	11%	9			6	15	135	120	11.1%

Pickleball Novi Daily Parking Demand





2023-060
July 31, 2023

Mr. William Finnicum
Sr. Project Manager Design & Compliance
Finnicum Brownlie Architects
P.O. Box 250650
Franklin, MI 48025

Subject: **Recreation Club Community Impact Study of Noise Levels**
re: Pickleball Novi
Novi, MI

Dear Mr. Finnicum:

At your request, Kolano and Saha Engineers, Inc. (K&SE) has conducted an investigation to predict the property line sound levels expected from the operation of the proposed Pickleball Novi club. This includes a review of outdoor pickleball courts, outdoor bocci ball courts, building mechanical equipment, and the parking lot. These sound levels were evaluated against the City of Novi Ordinance noise limits, and compared to local ambient sound levels.

Proposed Site

The location of the proposed pickleball club is on Venture Drive, north of Nine Mile Road. Properties to the east are zoned residential, while all other adjacent properties are zoned industrial. The City of Novi noise code limits apply at all respective property lines for residential and industrial receiving land use. **EXHIBIT 1** provides an aerial view of the site with the proposed building, drives and parking lot, as well as the adjacent properties.

Sound level predictions were based on the location of various site elements including property lines, the building, mechanical equipment, parking lot, topography, and outdoor pickleball and bocci courts. Additionally, the predictions utilized manufacturer sound data for mechanical equipment, and K&SE measured sound levels for pickleball, bocce, and truck activities. The following documents were utilized for the predictions:

- Finnicum Brownlie Architects drawings: Pickleball Novi – Preliminary Site Plan & Architectural Drawings, dated 5/22/2023.
- Nowak & Fraus Engineers drawings: Lots No. 22650, 22700, & 22750 Boundary & Topographic Survey, dated 5/18/2023.

City of Novi Noise Code

The City of Novi Code, Zoning Ordinance, *Section 5.14 Performance Standards, Subsection 10 Noise*, restricts property line noise levels to 75dB(A) daytime and a 70dB(A) nighttime for business and commercial zones. Furthermore, it restricts property line noise levels to 60dB(A) daytime and 55dB(A) nighttime for residential zones. Daytime is defined as 7AM – 10PM with Nighttime occupying 10PM – 7AM.

Based on the information we have been provided, the hours of operation are expected to be:

- Club open from 8 AM to 11 PM (club hours)
- Outdoor courts open from 10 AM to 8 PM
- Restaurant and bar open from Noon to 10 PM.
- Snack bar on the first floor from 8 AM - 11 PM.

It is expected that the roof top mechanical equipment may operate 24 hours a day to maintain building environmental conditions, though equipment specific to the kitchen will only operate during restaurant hours, such as the kitchen exhaust fans.

Furthermore, additional restrictions in the Novi Code of Ordinances help reduce the impact of delivery trucks and other motor vehicles in *Section 22-100*. This ordinance regulates idling, standing and loading/unloading of motor vehicles. The purpose of this section is to limit ‘*exhaust and noise from standing, idling, and loading/unloading of motor vehicles*’ which can present an ‘*unreasonable risk to the general health safety and welfare of the community and otherwise presents a nuisance to residents living in close proximity.*’ Under this ordinance, the period of time between 8PM and 7AM is protected for residents within 400 feet of said activities to enjoy the use of their property without undue impact from idling, standing, loading/unloading of motor vehicles. The proposed loading/unloading zone for the Pickleball Novi club is within 400 feet of a residential property, and therefore will need to operate between 7AM and 8PM.

On-Site Sound Level Measurements

On July 12th and 13th, 2023, we measured the ambient sound levels at the proposed Pickleball Novi site. We used a Brüel & Kjær 2270 environmental noise analyzer with a precision¹ outdoor microphone assembly to record sound levels for a continuous 48-hour period. The equipment was calibrated before and after the measurements using an acoustic calibrator that is traceable to the National Institute for Standards and Technology.

Measurements were conducted along the east side of the site, adjacent to residential properties. The results of these sound level measurements are provided in **EXHIBITS 2 & 3**.

The results of the measurements show that, between the hours of 8AM and 11PM, excluding extraneous events, the ambient sound levels in this area regularly vary between 40 and 50 dB(A). Sound in this area is from local businesses, traffic on Venture Drive, traffic on Nine Mile Road, Trains, local residential activities, and natural sounds (birds, bugs, wind, etc.).

¹ Precision sound level equipment as defined by ANSI S1.4 has Type 1 classification.

Advanced Computer Modeling Noise Prediction

Sound is a physical phenomenon that can be readily predicted with reasonable accuracy. In order to evaluate the sounds created from the proposed pickleball club and determine what noise impact may occur at the site boundaries, we developed an advanced outdoor three-dimensional acoustical model. This model allows accurate prediction of sound levels created by the operation of the pickleball & bocce ball courts, building mechanical systems, and vehicles operations in the parking lot. The computer program we use for this modeling relies on international standards (such as ISO 9613) to properly calculate and predict sound levels. The computer program relies on user inputs of terrain, structures, foliage, obstacles, sound reflective and absorptive surfaces, receiver positions, as well as the type of sound source, including point sources (small individual devices, such as small fans), line sources (numerous sources in a line, such as road traffic), and area sources (sources with large surface areas, such as transformers). By using this predictive tool, we have constructed a virtual acoustic model of the proposed pickleball club site and have developed sound level predictions for it.

Building Rooftop Mechanical Equipment

Building mechanical systems are expected to primarily consist of roof top air handling units and ventilation fans and will be located on the roof of the 2-story central section of the building. Sound level data used for these mechanical systems is based on manufacturer data of typical units for this size and type of building. Our modeling assumes a worst-case scenario with all units operating simultaneously at nighttime on a continuous basis. The predicted sound level contour plots with this equipment operating are shown in **EXHIBIT 4**. The predicted sound level for the rooftop mechanical equipment is expected to be below all applicable ordinance noise limits.

Delivery Trucks Traveling on Site

The pickleball club is expected to receive deliveries at various times during daytime business hours. Cargo vans and box trucks are expected make these periodic deliveries of restaurant, athletic and business supplies. Trucks are expected to enter the site from the south entrance on Venture Drive, travel along the access drive/parking lot to designated loading zone. Trucks will then exit from the north entrance/exit back to Venture Drive. Deliveries are expected to be received adjacent to the northeast corner of the building in a designated loading zone. Utilizing the outdoor computer model and our database of sound levels for delivery truck movements, we used the loudest vehicle expected to enter the Pickleball Novi site and placed these operations in locations where they would be expected to create noise that will impact the adjacent properties.

EXHIBITS 5 & 6 provide the modeled configurations for a worst-case scenario of trucks making deliveries on the site. The noise from these delivery trucks is expected to be below the daytime ordinance limit of 75 dB(A) at the nearby commercial properties and below the daytime limit of 60 dB(A) at residential properties to the east.

Parking Lot Vehicle Noise

Vehicles entering the site, conducting parking maneuvers, and exiting the site are expected to make a moderate level of noise. To assess the potential noise impact due to the parking lot, typical vehicle noise was added to the outdoor computer model as an area source above the parking/driving areas of the parking lot. This source is a function of the number of vehicle operations per hour, as defined by the German standard RLS-90. This standard uses the number of parking spaces factored with the number of operations per parking space per hour. This result yields an average hourly sound level generated by the parking lot area.

As the Novi noise standard is a maximum noise limit, we exaggerated the number of operations to emulate a maximum noise condition. An actual maximum parking lot event condition for the Pickleball Novi facility would likely be one vehicle operation per parking space, per hour for a total of 136 operations per hour. To emulate a worst-case maximum noise condition, we assumed a greatly exaggerated operating condition where all 136 parking spots had eight vehicle operations per hour, for a total of 1088 operations per hour. **EXHIBIT 7** provides the modeling results for this estimated maximum noise scenario. Based on these results we expect typical vehicle noise from the parking lot to be below the ordinance noise limits.

Outdoor Pickleball & Bocci Ball Courts

The Pickleball Novi facility is planned to have two outdoor pickleball and two outdoor bocci ball courts. The pickleball courts are located on the south side of the building toward the southwest building corner. The closest court to the residential properties is approximately 200-feet away. At this distance pickleball sounds are expected to be audible.

The sounds from pickleball activity are distinct due to the impact of the hard plastic ball on the light weight, hard composite paddles. The distinct “pop” sound of pickleball is an impulsive sound that occurs repeatedly thought the course of the game. One court typically produces one impulse per second while the ball is in play. With more courts, more impulses per second can occur. The two outdoor courts proposed for the Pickleball Novi facility are expected to produce two impulses per second while both courts are in play.

The sound level produced by the pickle ball play depends on the speed of the ball and the speed of the paddle when contacting it. Naturally, both of these elements will fluctuate throughout the game and as a result, sound level of the pickleball “pop” will also vary. To model the noise of the pickleball courts, we use the L_1^2 statistical sound level of the pickleball generated sound to ensure the maximum noise of the activity is emulated.

EXHIBIT 8 provides the maximum noise expected to be produced by the two outdoor pickleball courts in play. The bocce ball courts are also included in this model, though the sound from these courts is much lower than that of the pickleball courts. The pickleball courts are expected to produce sound levels up to 65 dB(A) at the adjacent residential properties. This exceeds the Novi daytime residential noise limit by 5 dB.

² L_1 Sound Level – the statistical sound level that is exceeded only 1% of the time. This represents a repeatable maximum sound level quantity.

The best way to reduce the pickleball sound levels at the residences is to put a sound barrier near the pickleball courts. Through modeling trials, we determined that a 10-foot-tall sound barrier to the east and south of the pickleball courts will provide enough shielding to reduce the maximum pickleball noise below the ordinance limits. **EXHIBIT 9** provides the modeling iteration of the pickleball courts with the 10-foot sound barrier.

Conclusions

Based on the findings of our study, and with 10-foot-tall sound barriers to the east and south of the pickleball courts, we expect the proposed Pickleball Novi facility will comply with the City of Novi ordinance noise criteria.

Mr. Finnicum, we hope this summary of our investigation is informative and helpful. Should you need additional information regarding this work or additional assistance, please do not hesitate to ask.

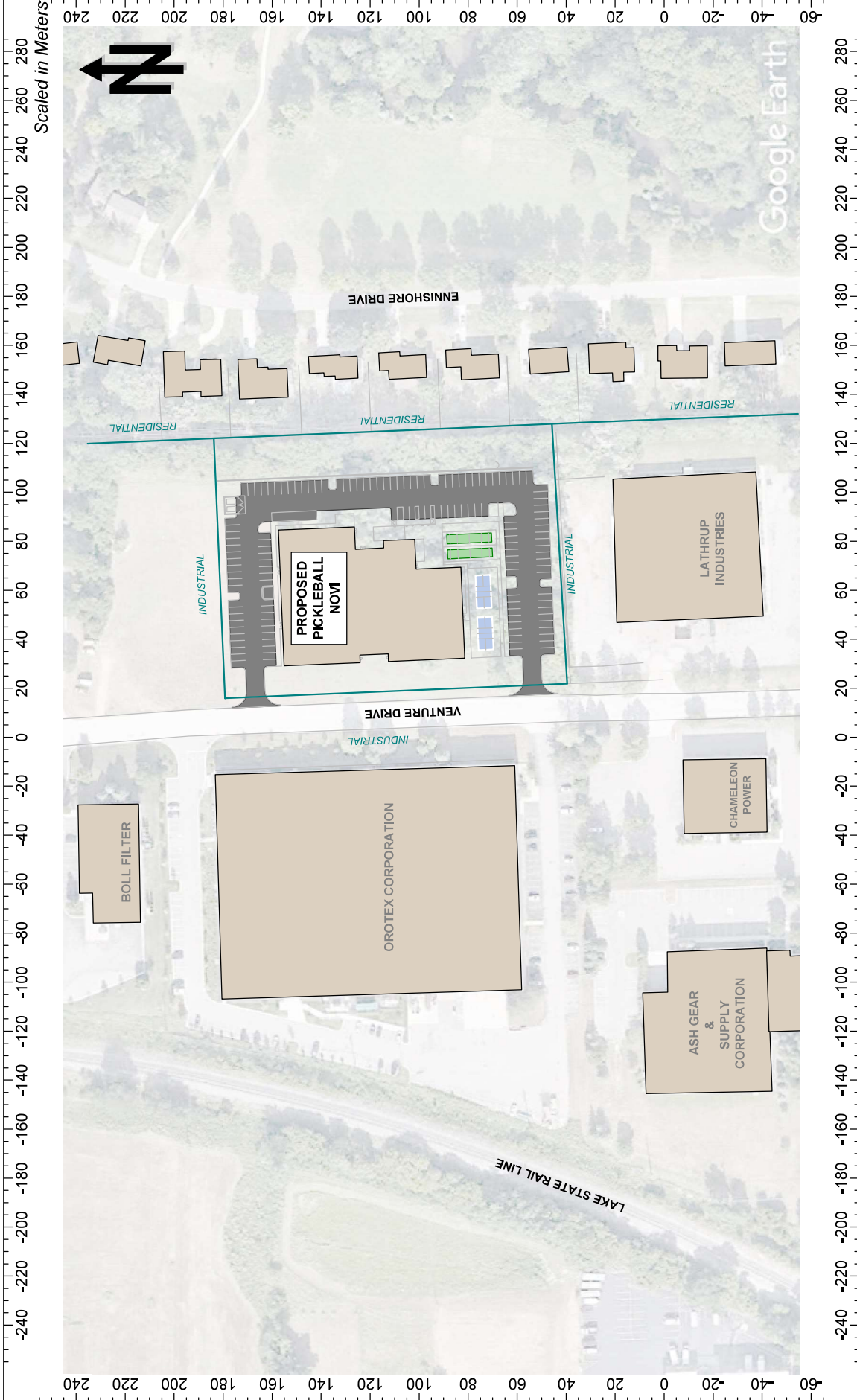
Sincerely,
KOLANO AND SAHA ENGINEERS, INC.



Darren Brown, P.E.
INCE Board Certified
Senior Consultant



EXHIBIT 1
AERIAL PLAN OF THE PROPOSED PICKLEBALL NOVI CLUB
WITH ADJACENT ZONING DISTRICTS




	<p>Kolano and Saha Engineers, Inc. 3559 Sashabaw Road - Waterford, MI 48329 248-674-4100 www.kandse.com</p>	<p>Project Name: Pickleball Novi Study Conducted for: Finnicum Brownlie Architects Project No. : 2023-060 Analysis Date (day.mo.yr): 20.07.23</p>
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EXHIBIT 2

Ambient Sound Levels at the Proposed Pickleball Novi Site

Measured at a Position Along the East Property Line Adjacent to Residential Zoning

Study Conducted For: FINNICUM BROWN LIE ARCHITECTS

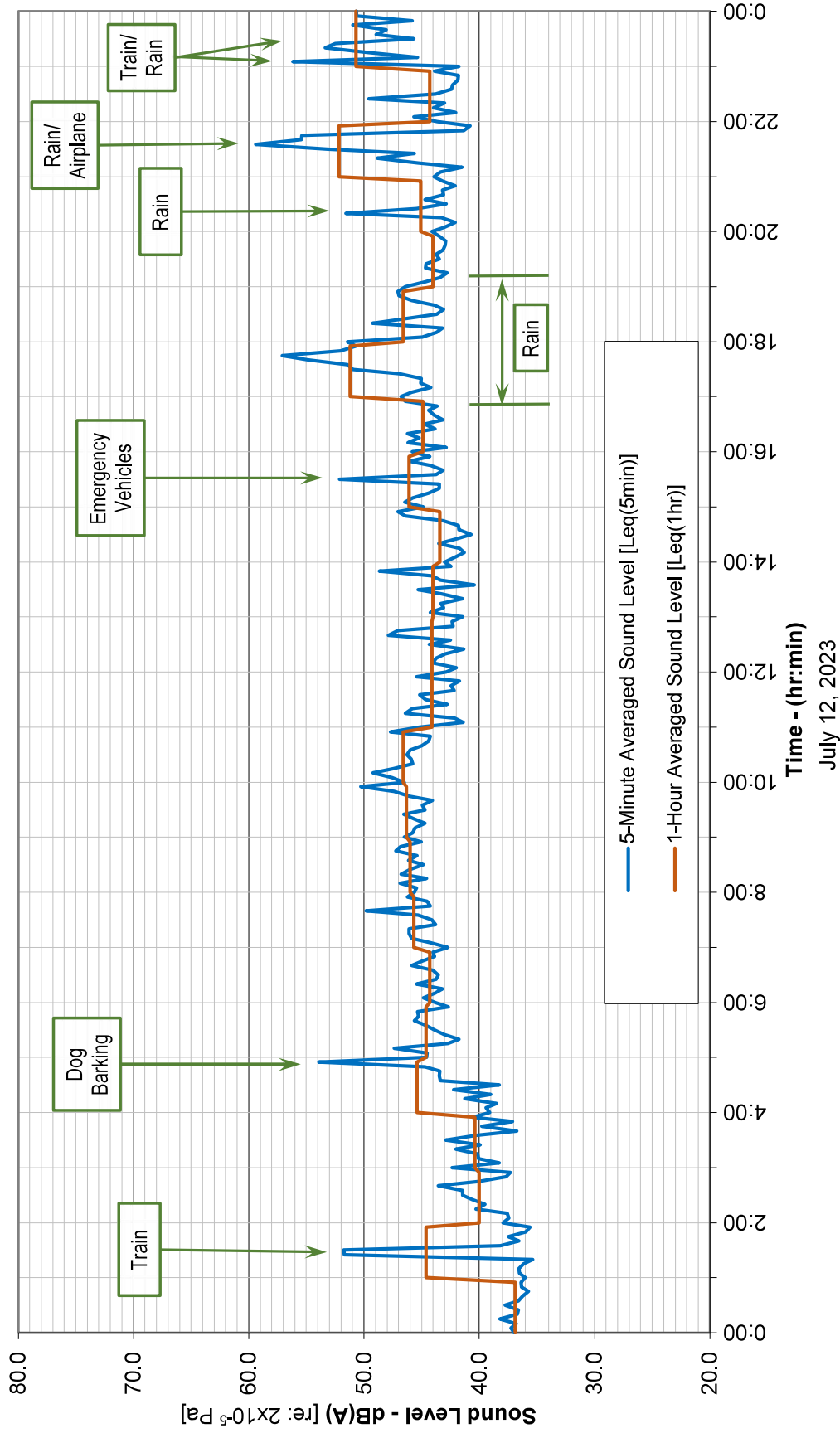


EXHIBIT 3

Ambient Sound Levels at the Proposed Pickleball Novi Site

Measured at a Position Along the East Property Line Adjacent to Residential Zoning

Study Conducted For: FINNICUM BROWN|IE ARCHITECTS

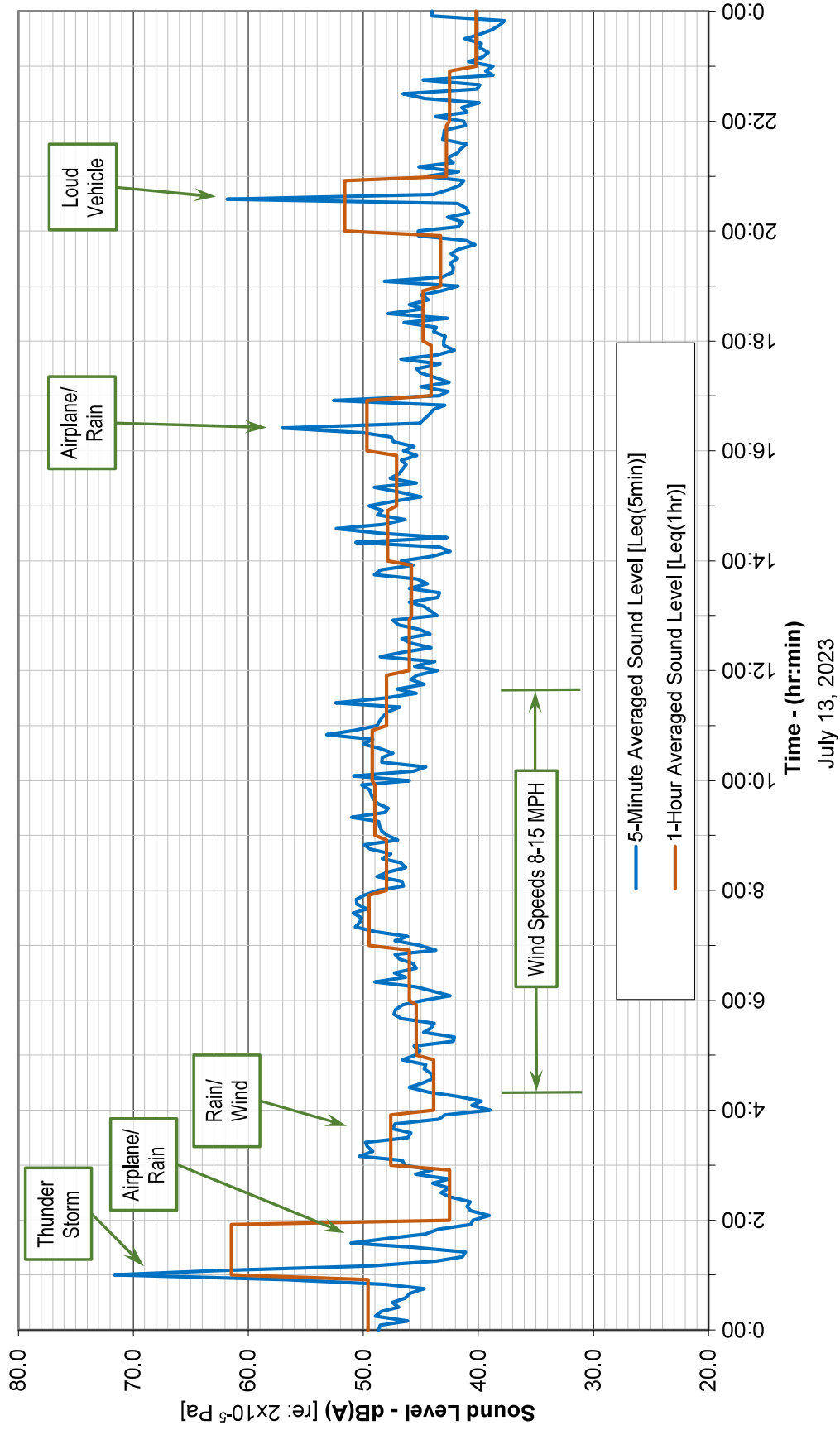
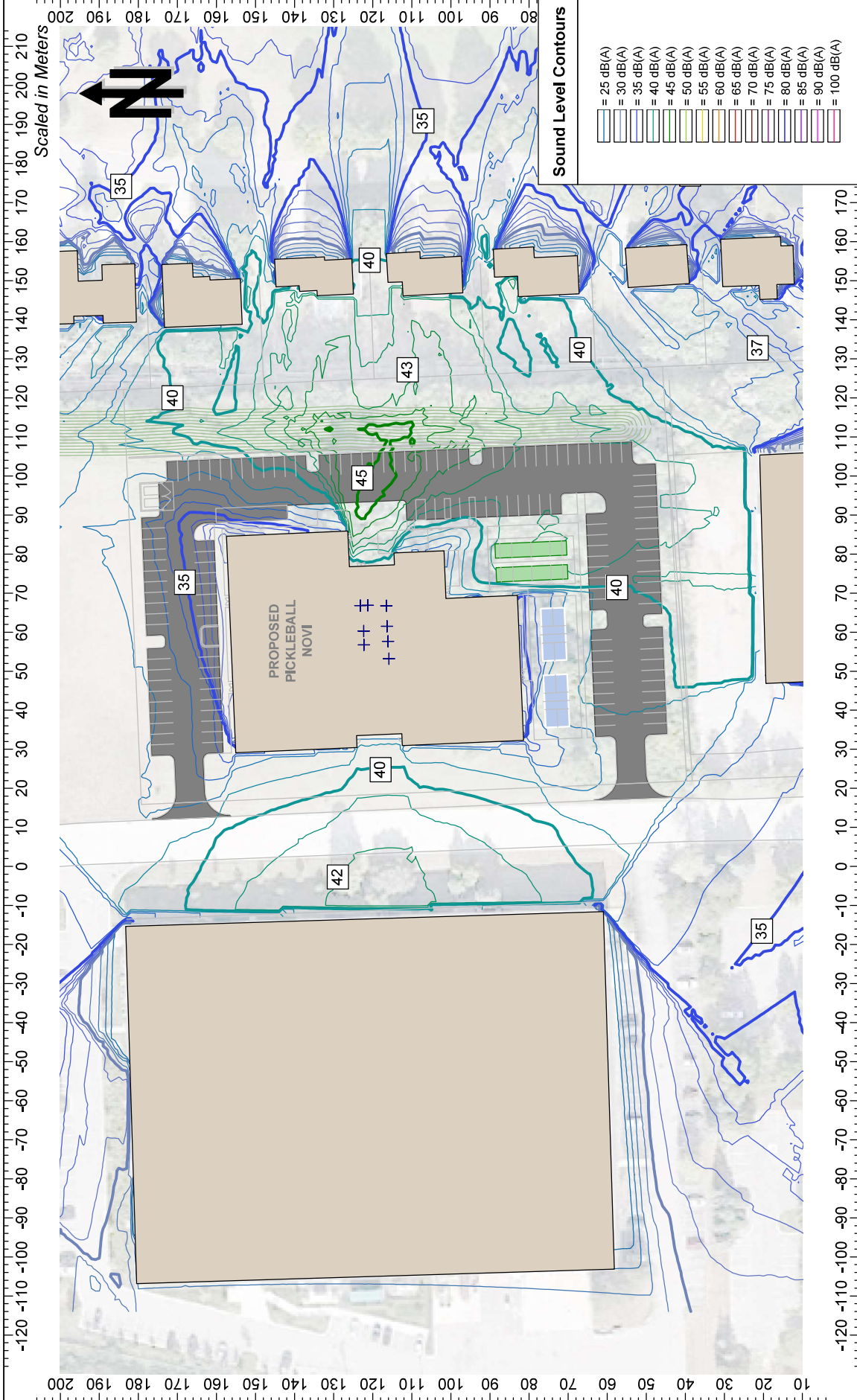


EXHIBIT 4
SOUND LEVEL CONTOUR PLOT OF PROPOSED PICKLEBALL NOVI CLUB
ROOFTOP MECHANICAL EQUIPMENT NOISE



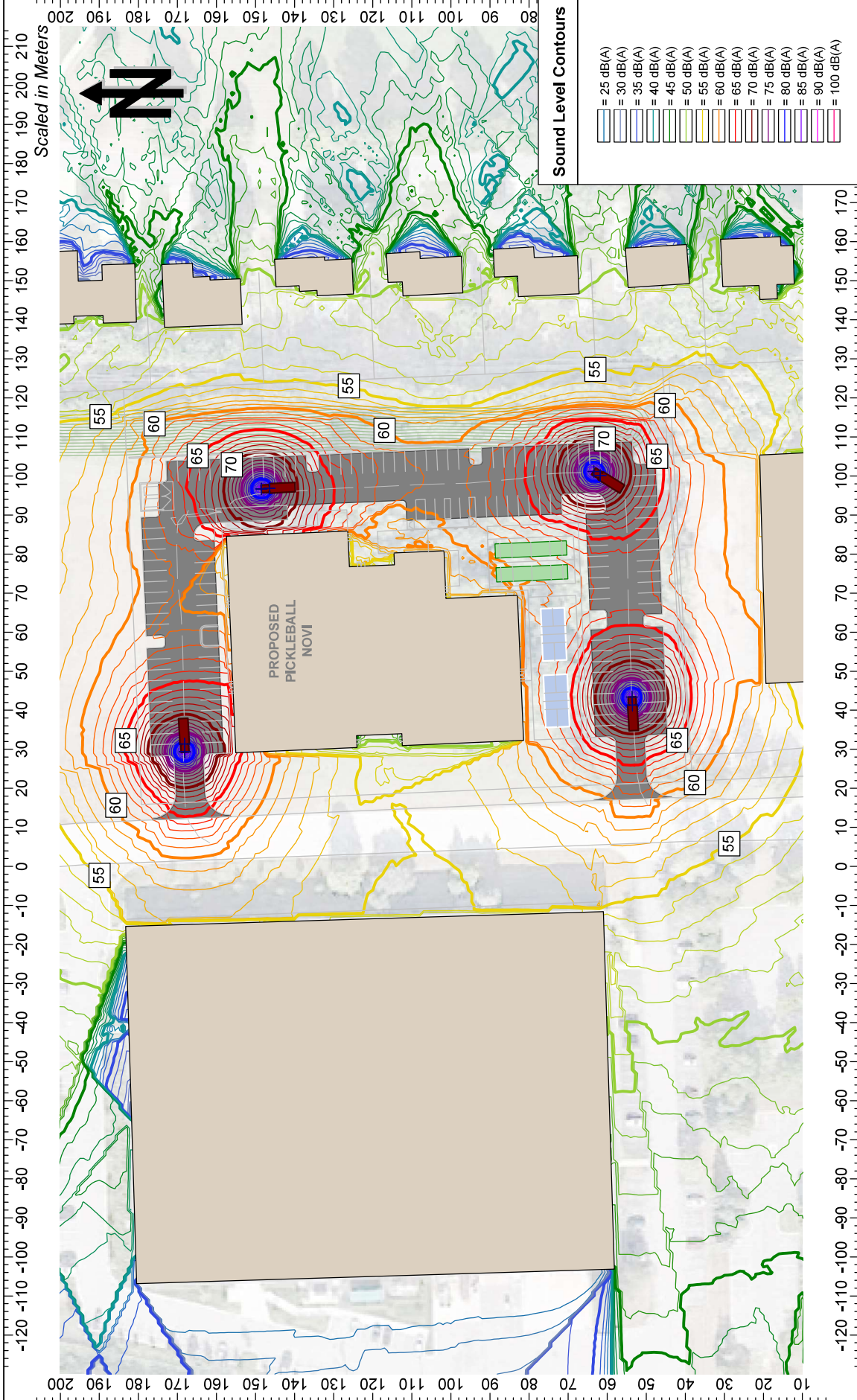
K&S

Kolano and Saha Engineers, Inc.
 3559 Sashabaw Road - Waterford, MI 48329
 248-674-4100 www.kandse.com

Project Name: Pickleball Novi
Study Conducted for: Finnicum Brownlie Architects
Project No. : 2023-060

Analysis Date (day.mo.yr): 20.07.23

EXHIBIT 5
SOUND LEVEL CONTOUR PLOT OF PROPOSED PICKLEBALL NOVI CLUB
DELIVERY TRUCK DRIVING AROUND THE DRIVE/PARKING LOT [MULTIPLE POSITIONS SHOWN]




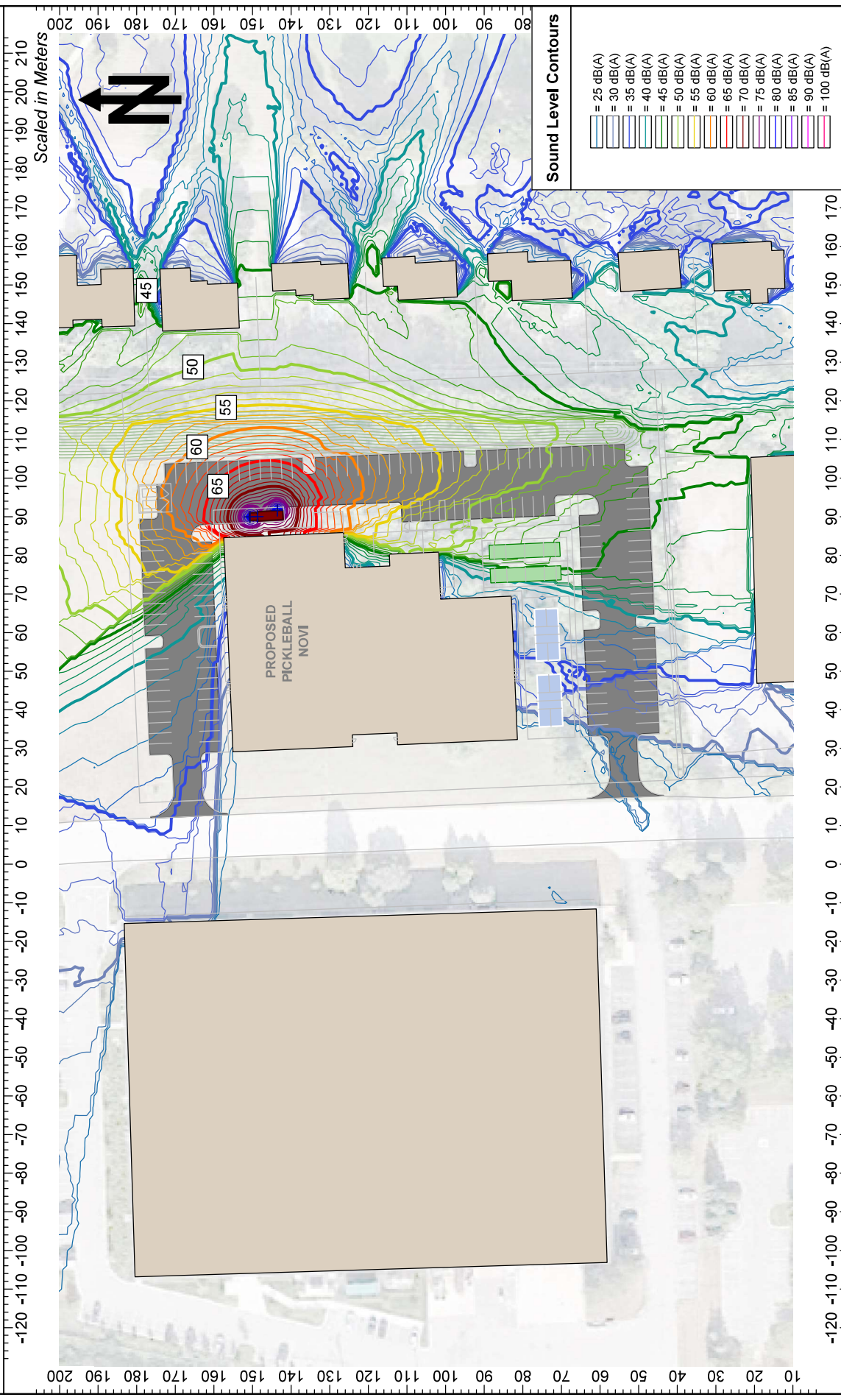
	Kolano and Saha Engineers, Inc. 3559 Sashabaw Road - Waterford, MI 48329 248-674-4100 www.kandse.com	Project Name: Pickleball Novi Study Conducted for: Finnicum Brownlie Architects Project No. : 2023-060
	Analysis Date (day.mo.yr): 31.07.23	

EXHIBIT 6
SOUND LEVEL CONTOUR PLOT OF PROPOSED PICKLEBALL NOVI CLUB
DELIVERY TRUCK LOADING/UNLOADING



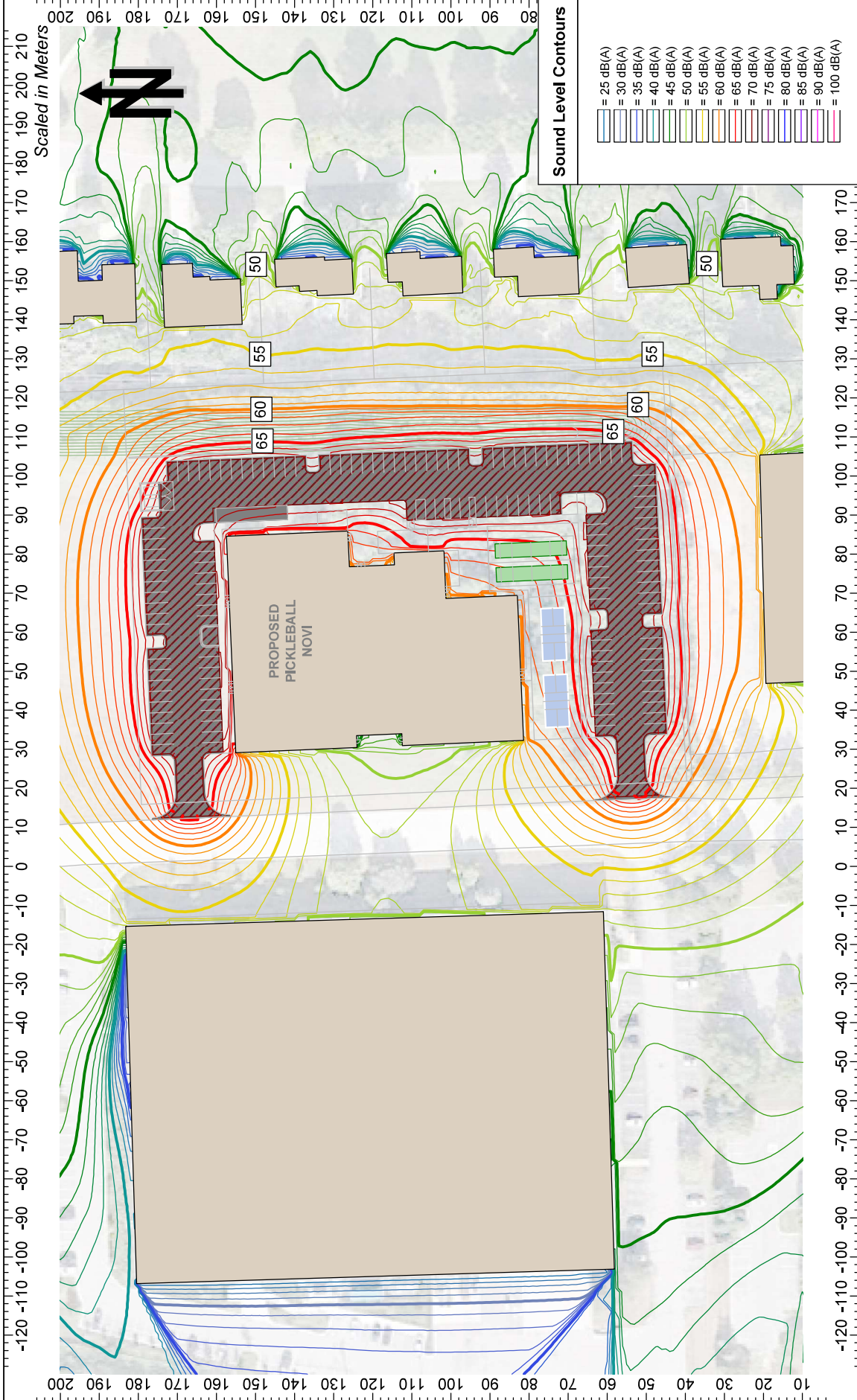
Kolano and Saha Engineers, Inc.
 3559 Sashabaw Road - Waterford, MI 48329
 248-674-4100 www.kandse.com

Project Name: Pickleball Novi
Study Conducted for: Finnicum Brownlie Architects
Project No. : 2023-060

Analysis Date (day.mo.yr): 31.07.23



EXHIBIT 7
SOUND LEVEL CONTOUR PLOT OF PROPOSED PICKLEBALL NOVI CLUB
PARKING LOT VEHICLE NOISE



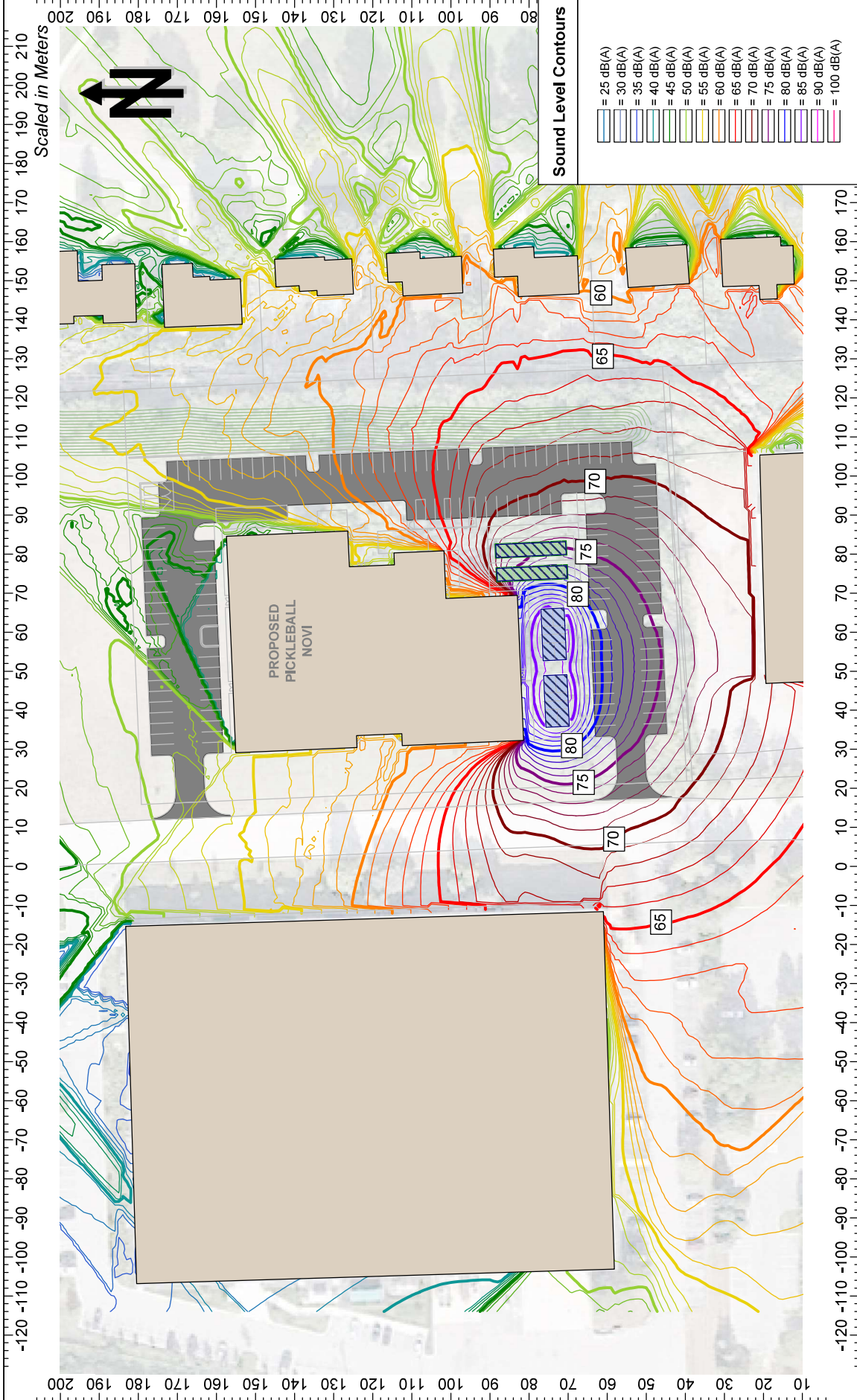
Kolano and Saha Engineers, Inc.
 3559 Sashabaw Road - Waterford, MI 48329
 248-674-4100 www.kandse.com

Project Name: **Pickleball Novi**
 Study Conducted for: Finnicum Brownlie Architects
 Project No. : 2023-060

Analysis Date (day.mo.yr): 20.07.23



EXHIBIT 8
SOUND LEVEL CONTOUR PLOT OF PROPOSED PICKLEBALL NOVI CLUB
PICKLEBALL & BOCCIE BALL COURTS




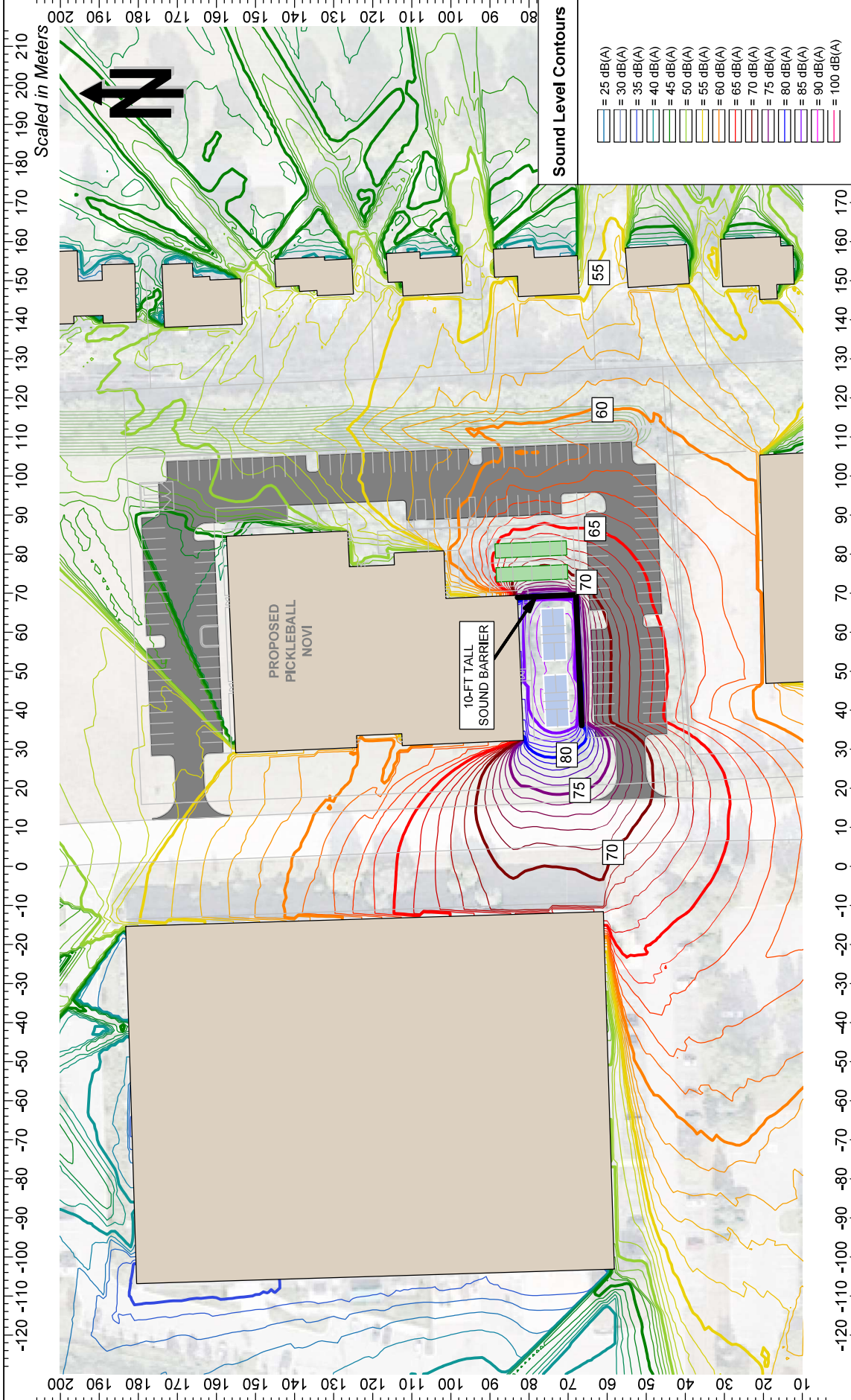
	<p>Kolano and Saha Engineers, Inc. 3559 Sashabaw Road - Waterford, MI 48329 248-674-4100 www.kandse.com</p>	<p>Project Name: Pickleball Novi Study Conducted for: Finnicum Brownlie Architects Project No. : 2023-060 Analysis Date (day.mo.yr): 20.07.23</p>
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EXHIBIT 9

**SOUND LEVEL CONTOUR PLOT OF PROPOSED PICKLEBALL NOVI CLUB
PICKLEBALL COURTS - WITH 10-FT TALL SOUND BARRIERS ALONG THE EAST AND SOUTH SIDE OF THE COURTS**



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 3559 Sashabaw Road - Waterford, MI 48329
 248-674-4100 www.kandse.com

Project Name: Pickleball Novi
Study Conducted for: Finnicum Brownlie Architects
Project No. : 2023-060

Analysis Date (day.mo.yr): 20.07.23

PARKING DATA				
SPACE / FUNCTION	Required Per Site Plan 5-22-2023	Required Per Site Plan 3-18-2024	CHANGE	COMMENTS
Indoor Courts	78	78	0	No Change
Outdoor Courts (Added by Novi)*	*24	12	-12	2 PB Crts / No Bocce
Office / Proshop	3	1	-2	1 Staff
Snack Bar	13	9	-4	1 Staff, 17 Seats
Party Room	10	8	-2	16 Seats
Restaurant	52	40	-12	80 Seats (Was 104)
Kitchen	4	3	-1	6 Staff (Was 8)
Fitness	3	0	-3	Omit Fitness
Staff (Added by Novi)*	*5	0	-5	Staff Included Above
TOTAL REQUIRED PARKING:	192	151	-41	
ON-SITE PARKING:		142		
PARKING DEFICIENCY:		9		VARIANCE REQUIRED

Facilities Comparison: Pickleball Novi and Wolverine Pickleball

Item	Wolverine Pickleball	Pickleball Novi	Comments
Land Area (S.F.)	251,100 S.F.	159,007 S.F.	
Floor Area (Gross S.F.)	39,217 S.F. + Mezzanine	45,089 S.F.	
Size: (Footprint in S.F.)	39,217 S.F.	38,084 S.F.	
Parking Required			
Regular	134	146	
<u>Barrier Free</u>	<u>5</u>	<u>5</u>	
Total Auto Parking	139	151	
Bicycles	7	8	
Parking Provided			
Regular	127	137	
<u>Barrier Free</u>	<u>5</u>	<u>5</u>	
Total Auto Parking	132	142	
Bicycles	8	8	
Number of Operating Courts or Other Sports			
PickleBall Courts, Indoor	12	13	
PickleBall Courts, Outdoor	0	2	Seasonal.
Volleyball Courts, Outdoor	6	0	Seasonal.
Bocceball Courts, Outdoor	4	0	Seasonal.
Facilities			
PickleBall Courts	Y	Y	
Volleyball Courts	Y	X	
Bocceball Courts	Y	Y	
Reception	Y	Y	
Office	Y	Y	
Restaurant	Y	Y	
Snack Bar	Y	Y	
Bar	Y	Y	
Kitchen	Y	Y	
Party Room	Y	Y	
Fitness	X	X	
Locker Rooms	Y	Y	
Restrooms	Y	Y	
Pro Shop	Y	Y	
Food Truck Area	Y	Y	

Restaurant Description	Dining Lounge with Warming Kitchen.	Restaurant for Members & Members' Guests	
Type	Casual Dining	Casual Dining	
Size	1,245 S.F.	3,287 S.F.	Dining Areas.
Seats	40	80	
Tables	Tables 40	Tables 56, Counters 24	
Bar Description	Self-Serve Tap Wall	Combined with Restaurant	
Type	30 Tap Beer Tasting Wall	Full Service Bar	
Size	Included Above	Included Above	
Seats	Included Above	Included Above (8)	
Snack Bar Description	Gourmet Vending Machines for Cold Food.	Fast Snacks, Coffee, Beverage Refreshments Before or After Matches.	
Type	Snack Bar	Snack Bar	
Size	Included Above	1,440 S.F.	
Seats	Included Above	17	
Tables	Included Above	Tables 12, Counter 5	
Hours			
Indoor Courts	7 AM to 11 PM (7 Days)	8 AM to 11 PM (7 Days)	
Outdoor Courts	8 AM to 8 PM	10 AM to 8 PM	
Restaurant / Bar	NOON to 10 PM	NOON to 10 PM	
Snack Bar	7 AM to 11 PM	8 AM to 11 PM	
Pro Shop	7 AM to 11 PM	8 AM to 11 PM	
Locker Rooms	7 AM to 11 PM	8 AM to 11 PM	
Party Room	7 AM to 11 PM	8 AM to 11 PM	
Restaurant Operating Model	Open to all	Members and Guests with Members, Only	