



iFLY Novi JSP 18-49

iFLY Novi JSP 18-49

Consideration at the request of SkyGroup investments, LLC for JSP 18-49 iFly Novi for Planning Commission's approval of the Preliminary Site Plan and Storm Water Management plan. The applicant is proposing a 6,713 square foot indoor recreational facility; popularly known as iFly that provides an indoor skydiving experience

The property is the subject of a *pending* rezoning request, using the Planned Rezoning Overlay (PRO) process. That rezoning process is not complete. On September 24, 2018, the City Council gave tentative indication that it may approve the rezoning request with PRO Concept Plan associated with the Adell Center site. Final approval of the rezoning request and consideration for approval of the draft PRO Agreement is still pending the City Council's approval (but is tentatively scheduled for the October 22, 2018 City Council meeting). The applicant asked that the Planning Commission be requested to consider the Preliminary Site Plan in advance of the City Council's decision, at the applicant's risk.

Required Action

Approval or denial for Preliminary Site Plan and storm water management plan

REVIEW	RESULT	DATE	COMMENTS
Planning	Recommends Approval contingent upon City Council's approval of the PRO plan and PRO Agreement.	10-16-18	The applicant has provided a revised layout and building elevations as along with the response letter via e-mail dated 10-19-18. Based on a cursory review, it appears to address staff's comments in concept. Further details have to be reviewed at the time of final site plan. However, Planning now recommends approval provided the applicant addresses the following items with final site plan. <ul style="list-style-type: none"> Propose loading, dumpster and bike racks. Relocate Transformer to rear yard. A drop-off may be required based on Traffic consultant's determination Revised building signage information required Additional items to be addressed with Final Site Plan
Engineering	Approval recommended	10-16-18	<ul style="list-style-type: none"> Additional items to be addressed with Final Site Plan
Landscaping	Approval recommended	10-08-18	<ul style="list-style-type: none"> Additional items to be addressed with Final Site Plan
Traffic	Approval not recommended	10-16-18	<ul style="list-style-type: none"> Lack of Loading, dumpster, drop-off and bike racks. Several design elements that require further review
Façade	Approval recommended	10-18-18	<ul style="list-style-type: none"> Drafted elevations required at the time of Final site plan
Fire	Approval recommended with Conditions	10-03-18	<ul style="list-style-type: none"> Additional items to be addressed with Final Site Plan

Motion sheet

Approval

In the matter of the request of **SkyGroup investments, LLC**, for the iFLY Novi JSP 18-49, motion to **approve** the Preliminary Site Plan based on and subject to the following:

1. The-is review and recommendation with respect to approval of the Preliminary Site Plan is being conducted at the applicant's request before the PRO rezoning process has been completed by the City Council. The applicant has acknowledged as part of its submission of this request that the City Council has not yet reviewed its PRO concept Plan and proposal and that there is no PRO Agreement between the City and the applicant. The City Council might or might not approve the rezoning. The following provisions are therefore completely contingent on approval by the City Council of the PRO rezoning through the PRO Concept Plan and PRO Agreement at the City Council as required by the ordinance, and if those approvals do not occur, then any approval of the preliminary site plan is null and void, and of no force or effect whatsoever, as the applicant has been apprised of the fact that the PRO rezoning, which is required in order to allow site plan approval, might not occur, and has determined to bear the risk that such approval might not occur, including but not limited to all of the costs incurred in the preparation of the preliminary plans before rezoning is even granted.
2. Following deviations as underlined, are subject to Planning Commission's approval at the time of Preliminary Site Plan approval, as noted in the draft PRO agreement (shown in *italics*), scheduled for City Council's approval on October 22, 2018:
 - a. *Planning deviation from section 4.19.2.F to allow alternate location for dumpsters, instead of required rear yard for units 1, 5, 6, 7 and 8, provided the proposed location does not impact traffic circulation and appropriate screening is provided at the time of preliminary site plan. The applicant requests dumpsters to be allowed in exterior/interior side yards; Planning Commission's approval to allow dumpster to be located in the interior side yard, based on the revised PDF's shared via e-mail dated October 19, 2018 to the west is hereby granted;*
 - b. *Planning deviation to allow placement of loading areas in alternate locations instead of required rear yard or interior side yard for double frontage lots, as listed below, provided proposed locations do not conflict with traffic circulation and appropriate screening will be provided at the time of Preliminary site plan review:*
 - i. *Unit 1: exterior side yard; The applicant shall provide the required loading zone in the interior/rear yard to the west;*
 - c. *The applicant shall provide supporting data to justify the proposed loading area square footages, to be reviewed and approved by Planning Commission at the time of Preliminary site plan approval; Planning Commission's approval to allow for reduction of minimum required dumpster area is hereby granted; (657 sf required,153 sf provided);*
 - d. *The applicant shall provide revised elevations addressing comments provided in Façade review letter dated August 14, 2018 for Planning Commission's review and consideration for approval of Section 9 waiver at the time of preliminary site plan review; A section 9 waiver for the following is requested at this time based on the revised PDF's shared via e-mail dated October 19, 2018, which is hereby granted;*

- i. exceeding the maximum allowed percentages for flat metal panels (50% maximum allowed, 75% on the front, 80% on both sides, 75% on the rear proposed);
 - ii. not meeting the minimum requirements for brick (30% minimum required, 25% on the front, 20% on both sides, 25% on the rear proposed);
 - iii. not meeting the minimum requirements for combined brick and stone (50% minimum required, 25% on the front, 20% on both sides, 25% on the rear proposed);
3. The applicant shall provide the required bicycle racks at the time of Final Site Plan approval;
4. The applicant shall provide a dedicated drop-off area in an approvable location, as noted in the Traffic review letter;
5. The applicant shall provide a paved access drive through Unit 2 prior to opening for business, if it is not paved by Unit 2 at that time;
6. The applicant shall provide the required loading zone in the interior/rear yard to the west;
7. The applicant shall screen the loading area to meet the landscape requirements at the time final site plan;
8. The applicant shall revise the building signage to conform to or lower the area as noted in the recommended signage deviations in the draft PRO agreement;
9. The applicant shall relocated the Transformer to rear yard;
10. This recommendation for Preliminary Site Plan approval is therefore granted subject to completion of the of the PRO Concept Plan and PRO Agreement process, and any and all requirements that result from such approval, if it is granted; at a minimum, the following deviations would need to be granted as part of the City Council's PRO rezoning process in order for the preliminary site plan to be approved as prepared:
 - a. Planning deviation from section 3.1 .26.D for exceeding the maximum allowable building height of 65 feet and maximum allowable 5 stories, provided they conform to the 2015 International Building Code standards for High-rise (Type I or Type II) construction:
 - i. Unit 1 iFly (70 feet).
 - b. Planning deviation from section 5.12 to allow lack of required frontage on public road for Units 1 through 8. Frontage is proposed via a proposed private drive, built to City standards;
 - c. Planning deviation from section 3.1.25.D to allow reduction of minimum required front parking setback of 20 ft., from the proposed access easement. A maximum of 18 feet is requested;
 - d. Planning deviation from section 3.1.25.D to allow reduction of minimum required interior side parking setback of 20 ft. for the following units as shared access is proposed between parking lots;
 - i. Unit 1: minimum14 ft. along West, 0 ft. along South
 - e. Planning deviation from standards of Sec. 5.12 for up to 5% reduction in minimum required parking(to be established by staff after reviewing the calculations provided) for each unit within the development subject to the individual users providing satisfactory justification for Planning Commission's approval of the parking reduction at the time of respective site plan approval;
 - f. The following deviations from Chapter 28, Signs, from City Code of Ordinances for the two development signs for the Adell Center Development as listed below, provided that such

deviations shall be the maximum amount authorized, and the City may require a lesser deviation at the time of site plan approval if deemed appropriate:

- i. To allow for four additional wall signs for Unit 1: iFly. Five are requested for the entire unit. One wall sign is allowed. The wall signs allowed with the following deviations:
 1. Side Elevations: a size deviation of 88.75 square feet (65 square feet allowed, 153.75 square feet proposed) for two signs.
 2. Front and Back Elevations: a size deviation of 244 square feet (65 square feet allowed, 309 square feet proposed) for two signs.
- g. Planning deviation from the requirement in section 4.02.B Article IV, Appendix C-Subdivision ordinance of City Code of Ordinances that side lot lines be perpendicular or radial to the road, for the lines between Units 6 and 7, Units 4 and 5, and Units 1 and 2, only;
- h. Planning deviation to allow proposing the minimum required Open Space for each Unit as Common element spread within the development boundaries as shown in the Open Space Plan, provided the applicant restores the wetland/woodland on the southerly portion of the site pursuant to a plan meeting City ordinance requirements is submitted and approved at the time of Wetland permit/preliminary site plan approval, and provides the pedestrian walkway through the open space as proposed. (A minimum of 153 of total site area designed as permanently landscaped open areas and pedestrian plazas is required per section 3.27. I .F.);
- i. Planning deviation from Section 5.7.3.K. to allow exceeding the maximum spillover of 1 foot candle along interior side property lines provided the applicant submits a photometric plan that demonstrates that the average to minimum light level ratio is kept to the maximum allowable 4: 1;
- j. Planning deviation to allow exceeding the maximum spillover of 1 foot candle and approvable increase of the average to minimum light level ration from 4: 1 within the Adell Drive pavement areas as listed in Section 5.7 .3.K. along access easements along Adell Drive, at the time of or Preliminary Site Plan review for the individual units;

[Insert any additional conditions]

(This motion is made because the plan is otherwise in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)

-AND-

Approval – Stormwater Management Plan

In the matter of the request of SkyGroup investments, LLC, for the iFLY Novi JSP 18-49, motion to approve the Stormwater Management Plan based on and subject to the following:

- a. The findings of compliance with Ordinance standards in the staff and consultant review letters, and the conditions and items listed in those letters being addressed on the Final Site Plan; and
- b. This recommendation is subject to completion of the of the PRO Concept Plan and PRO Agreement process at the City Council, and any and all requirements that result from such approval, if it is granted; and if those approvals do not occur, then this recommendation is null and void, and of no force or effect whatsoever, as the applicant has been apprised of the fact that the PRO rezoning, which is required in order to allow site plan and other approvals, might not occur, and has determined to bear the risk that

such approval might not occur, including but not limited to all of the costs incurred in the preparation of the preliminary plans before rezoning is even granted.

c. *(additional conditions here if any)*

(This motion is made because the plan is otherwise in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.)

- OR -

Denial – Preliminary Site Plan

In the matter of the request of SkyGroup investments, LLC, for the iFLY Novi JSP 18-49, motion to deny the Preliminary Site Plan based on and subject to the following:

(because the plan is not in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)

-AND-

Denial – Stormwater Management Plan

In the matter of the request of SkyGroup investments, LLC, for the iFLY Novi JSP 18-49, motion to deny the Stormwater Management Plan ...*(because the plan is not in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.*

MAPS

Location

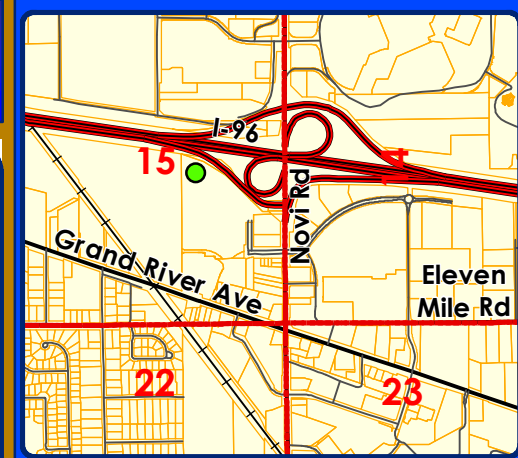
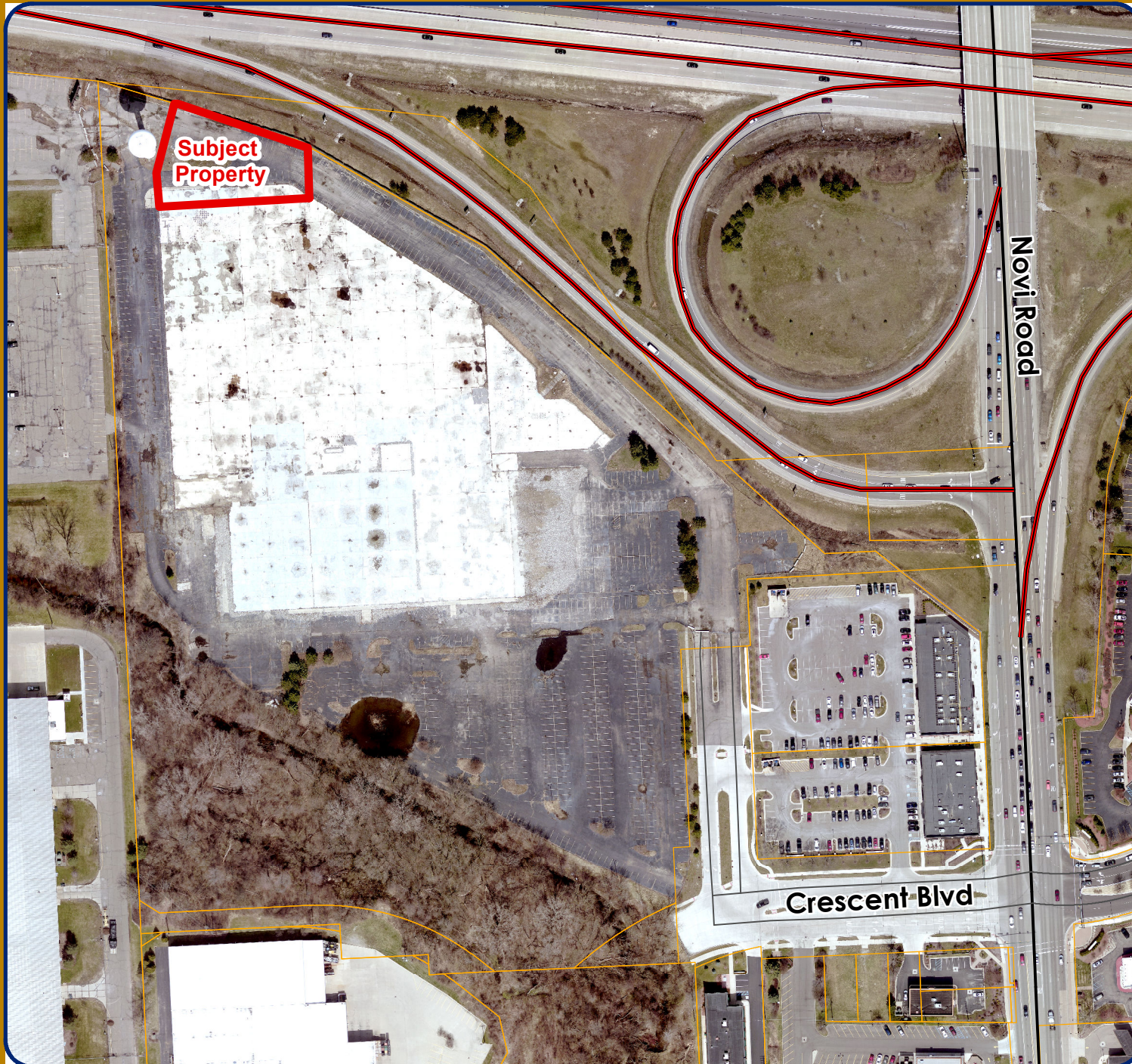
Zoning

Future Landuse

Natural Features

JSP 18-49: iFly NOVI

Location



LEGEND

 Sections



City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

Map Author: Sri Komaragiri
Date: 10/19/18
Project: JSP 18-49: iFly NOVI
Version #: 1



1 inch = 219 feet

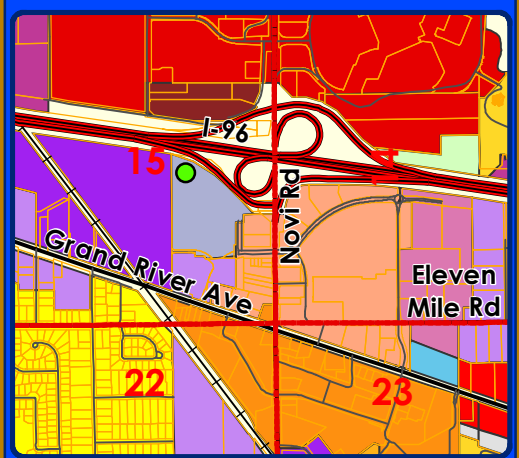
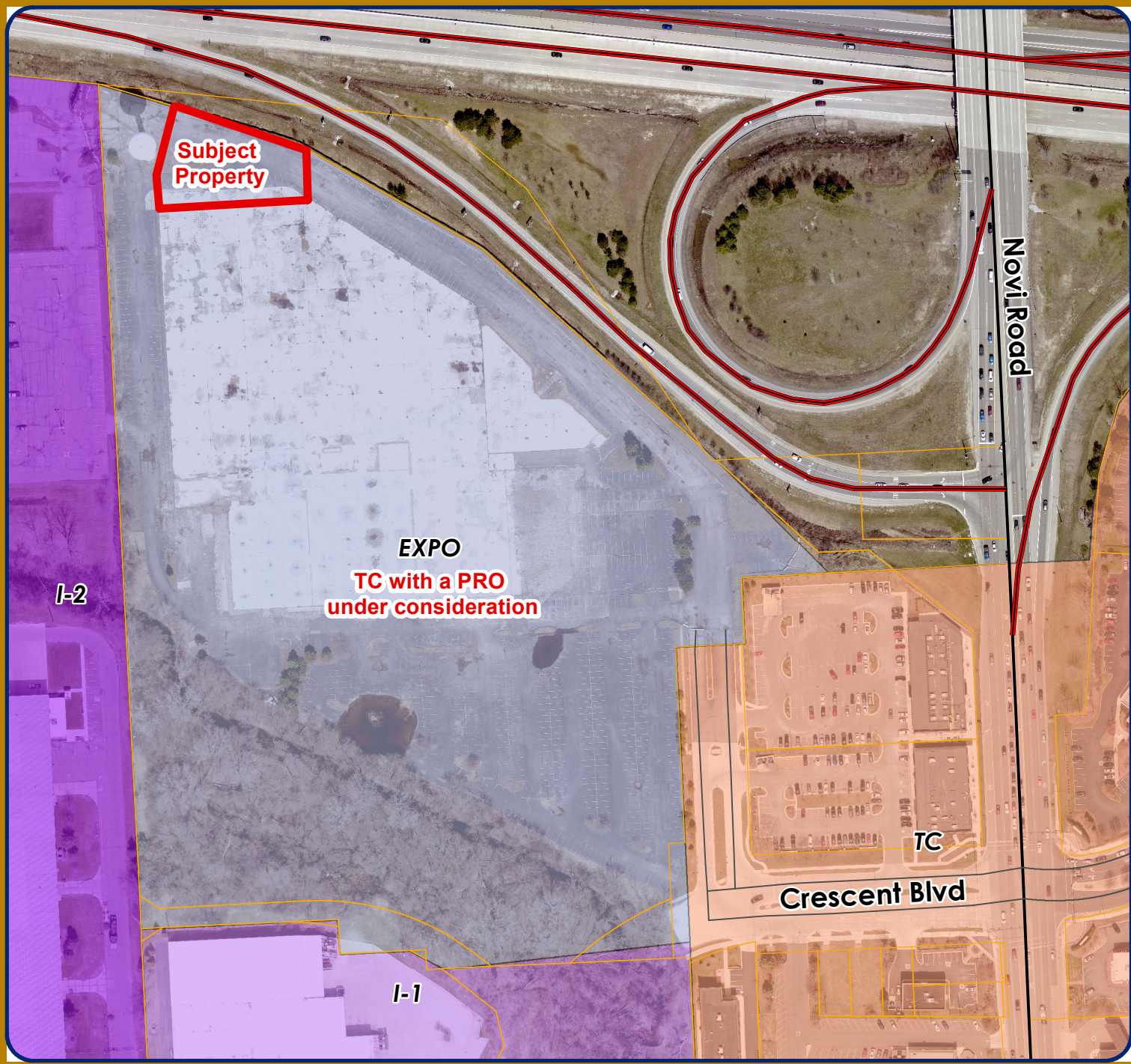


MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

JSP 18-49: iFly NOVI

Zoning



LEGEND

Sections

- R-A: Residential Acreage
- R-4: One-Family Residential District
- RM-1: Low-Density Multiple Family
- RM-2: High-Density Multiple Family
- B-3: General Business District
- C: Conference District
- EXPO: EXPO District
- I-1: Light Industrial District
- I-2: General Industrial District
- OS-1: Office Service District
- OSC: Office Service Commercial
- OST: Office Service Technology
- RC: Regional Center District
- P-1: Vehicular Parking District
- TC: Town Center District
- TC-1: Town Center -1 District



City of Novi
 Dept. of Community Development
 City Hall / Civic Center
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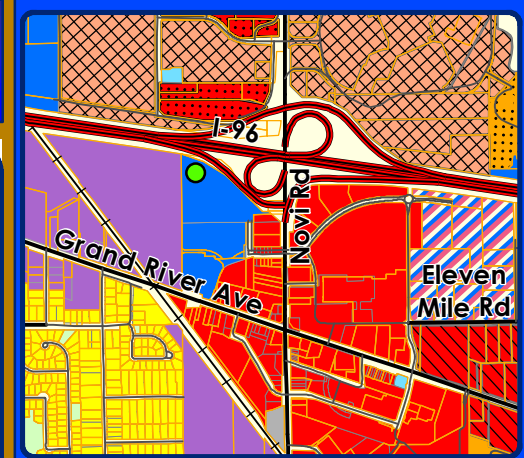
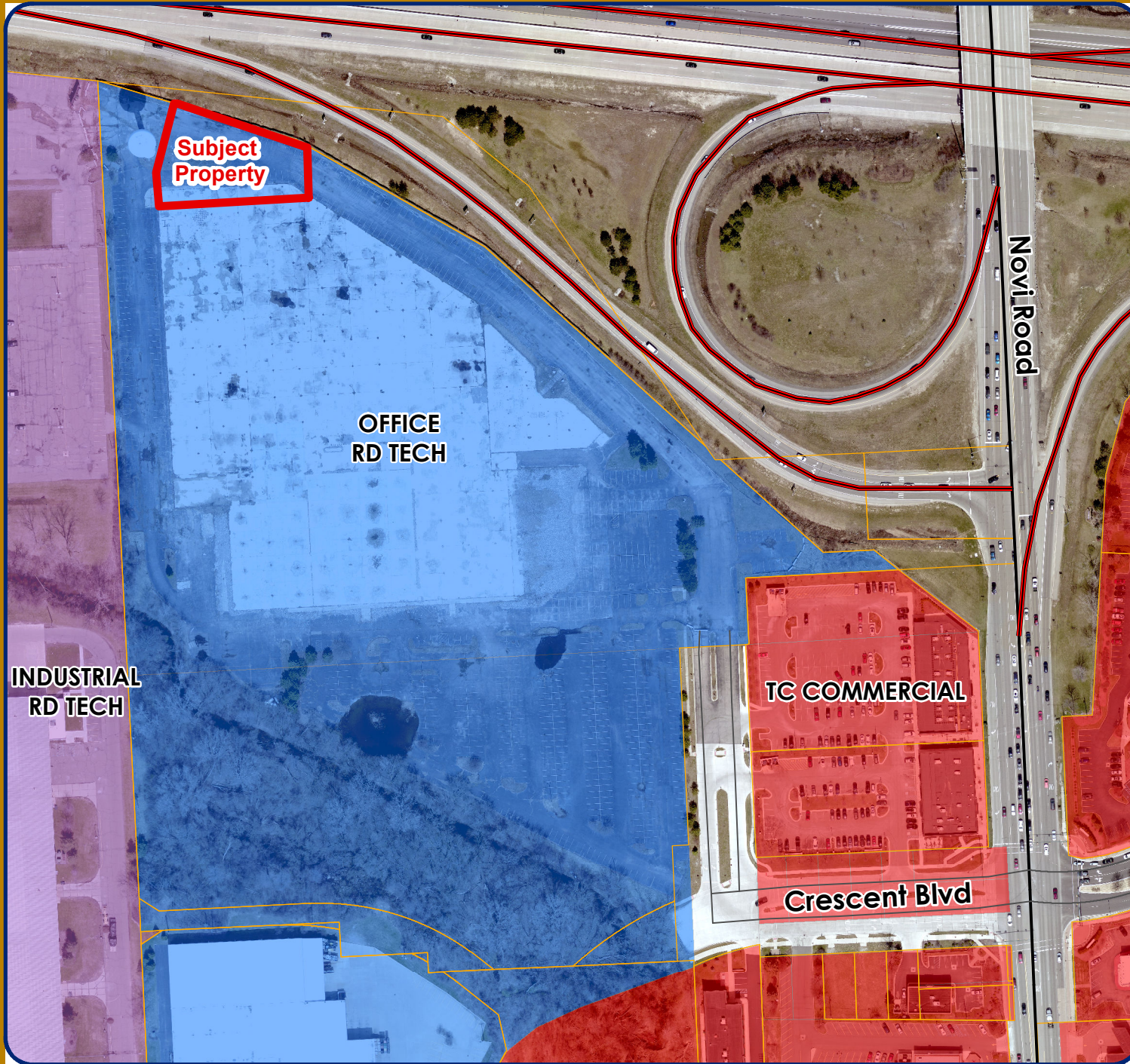


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JSP 18-49: iFly NOVI

Future Landuse



LEGEND

- FUTURE LAND USE
- Single Family
 - Multiple Family
 - PD1
 - Office RD Tech
 - Office Commercial
 - Industrial RD Tech
 - Regional Commercial
 - TC Commercial
 - TC Gateway
 - PD2
 - Public
 - Private Park
 - Cemetery



City of Novi

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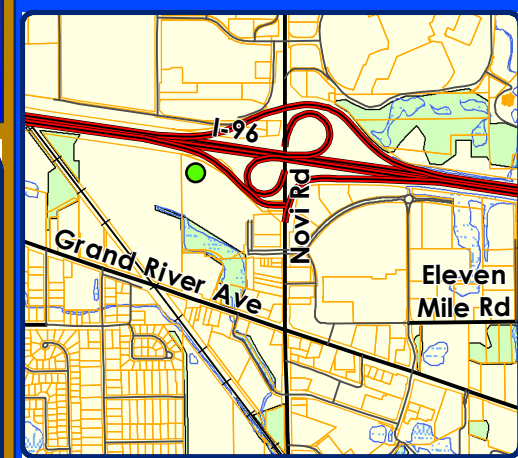
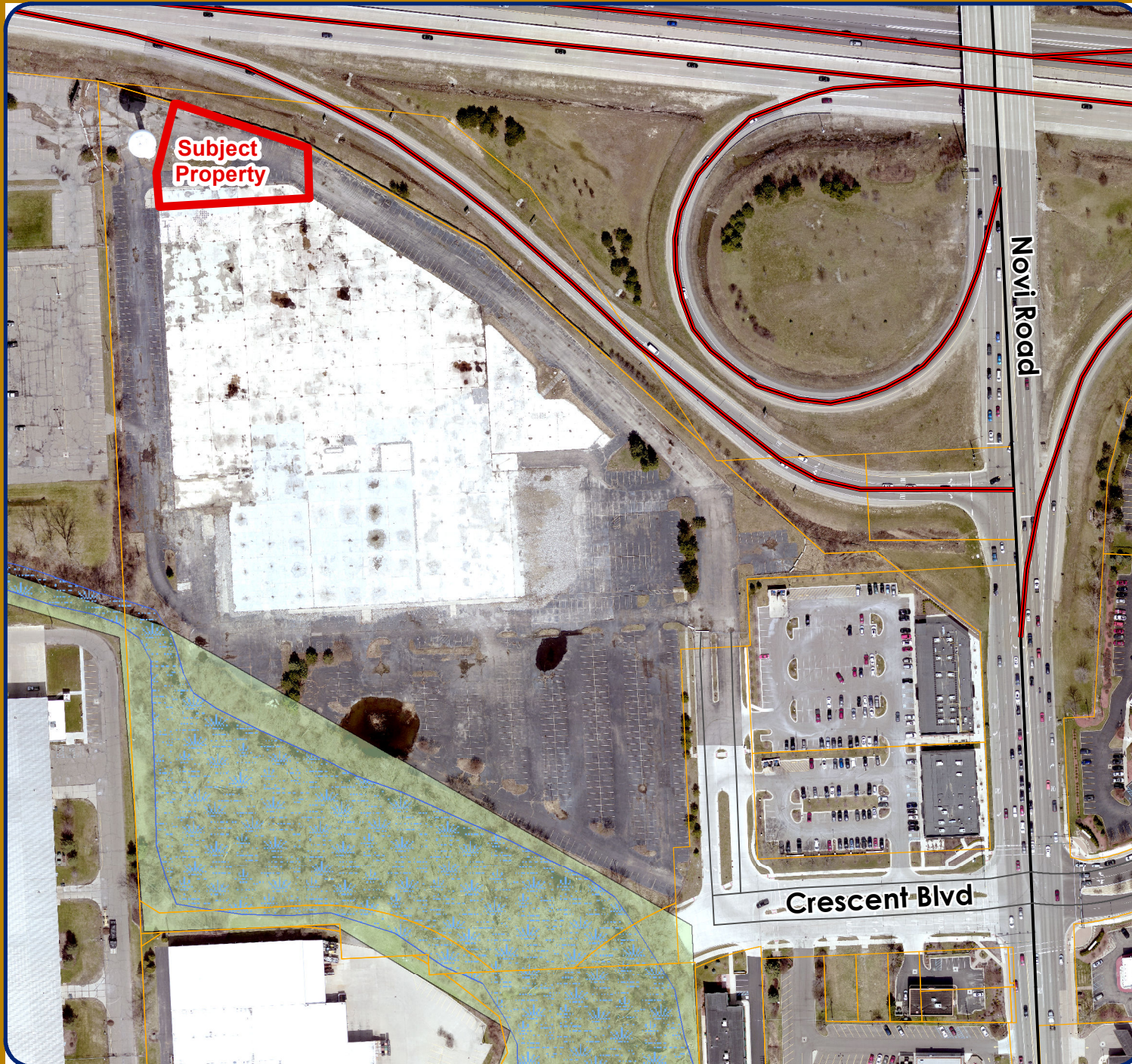


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JSP 18-49: iFly NOVI

Natural Features



LEGEND

- WETLANDS
- WOODLANDS



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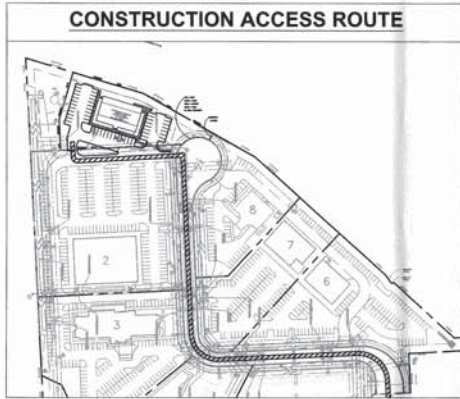


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SITE PLAN

(Full size drawings available for viewing at the Community Development Department)



PRELIMINARY ENGINEERING PLANS

iFLY (DET)

43700 EXPO CENTER DRIVE UNIT 1

NOVI, MI 48375

PIN: 22-15-476-045

UTILITY AND GOVERNING AGENCY CONTACTS

BUILDING DEPARTMENT
CITY OF NOVI BUILDING DIVISION
10000 CENTENNIAL PARKWAY
SANDY, UT 84070
TEL: (248) 347-0430
CONTACT: SARAH MARCHIONI

SANITARY SEWER SERVICE
WATER AND SEWER DIVISION
26300 LEE BEGOLE DRIVE
NOVI, MI 48375
TEL: (248) 735-5661
CONTACT: BEN CROY

STORM SEWER SERVICE
CITY OF NOVI ENGINEERING DEPARTMENT
26300 LEE BEGOLE DRIVE
NOVI, MI 48375
TEL: (248) 735-5632
CONTACT: GEORGE D. MELISTAS

WATER DEPARTMENT
WATER AND SEWER DIVISION
26300 LEE BEGOLE DRIVE
NOVI, MI 48375
TEL: (248) 735-5661
CONTACT: BEN CROY

COMMUNITY DEVELOPMENT
CITY OF NOVI COMMUNITY DEVELOPMENT DEPARTMENT
45175 TEN MILE ROAD
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TEL: (248) 735-5607
CONTACT: SRI KOMARAGIRI

POWER COMPANY
DTE ENERGY
PO BOX 740786
CINCINNATI, OH 45274
TEL: (800) 482-8720

NATURAL GAS COMPANY
CONSUMERS ENERGY
11801 FARMERS ROAD
LIVONIA, MI 48150
TEL: (734) 513-6277
CONTACT: CHRISTOPHER T. SCHNEIDER

TELEPHONE
AT&T
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NOVI, MI 48375
TEL: (248) 449-1779

PROJECT TEAM

PROPERTY OWNER
ORVILLE PROPERTIES LLC
20733 WEST TEN MILE ROAD
SOUTHFIELD, MI 48075
CONTACT: KEVIN ADELL

DEVELOPER
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8200 BRIDGEPOINT PARKWAY,
BUILDING 4, SUITE 400
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TEL: (512) 674-9209
CONTACT: LOU GAMBERTOGGIO

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TEL: (801) 545-8500
CONTACT: RICK L. CHESNUT, P.E., P.G.

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
1001 WARRENVILLE RD, SUITE 350
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PROJECT MANAGER CONTACT: NATHAN GROFF, P.E.
EMAIL: JUSTIN.MULLER@KIMLEY-HORN.COM
PROJECT ENGINEER CONTACT: JUSTIN MULLER, P.E.

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EMAIL: KEITH.DEMCHINSKI@KIMLEY-HORN.COM
CONTACT: KEITH DEMCHINSKI, P.L.A.
EMAIL: TOM.RUNKLE@KIMLEY-HORN.COM
CONTACT: TOM RUNKLE, P.L.A.

SURVEYOR
GREENTECH ENGINEERING INC.
51147 WEST PONTIAC TRAIL
WIXOM, MI 48393
TEL: (248) 668-0700
CONTACT: DAN LECLAIR



PART OF THE SOUTHEAST $\frac{1}{4}$ OF SECTION
15, TOWNSHIP 1N, RANGE 8E, CITY OF
NOVI, OAKLAND COUNTY, MICHIGAN

Sheet List Table	
Sheet Number	Sheet Title
C0.0	TITLE SHEET
C1.0	SITE PLAN
C2.0	EROSION CONTROL PLAN
C3.0	GRADING PLAN
C4.0	UTILITY PLAN
L1.0	LANDSCAPE PLAN



SCALE:	AS NOTED	KIMLEY-HORN ENGINEERS AND ARCHITECTS, INC. 1501 NORTH ALPINE ROAD, SUITE 100 ANN ARBOR, MI 48106-4200 WWW.KIMLEY-HORN.COM	DATE:
DESIGNED BY:	JMM		FIGURES:
DRAWN BY:	JDC		110:
CHECKED BY:	LM		
		TITLE SHEET	
iFLY (DET) 43700 EXPO CENTER DRIVE UNIT 1 NOVI, MI 48375			
ORIGINAL ISSUE: 9/25/18 KHA PROJECT NO. 160895116 SHEET NUMBER C0.0			

PROFESSIONAL ENGINEER'S CERTIFICATION

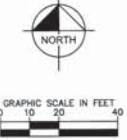
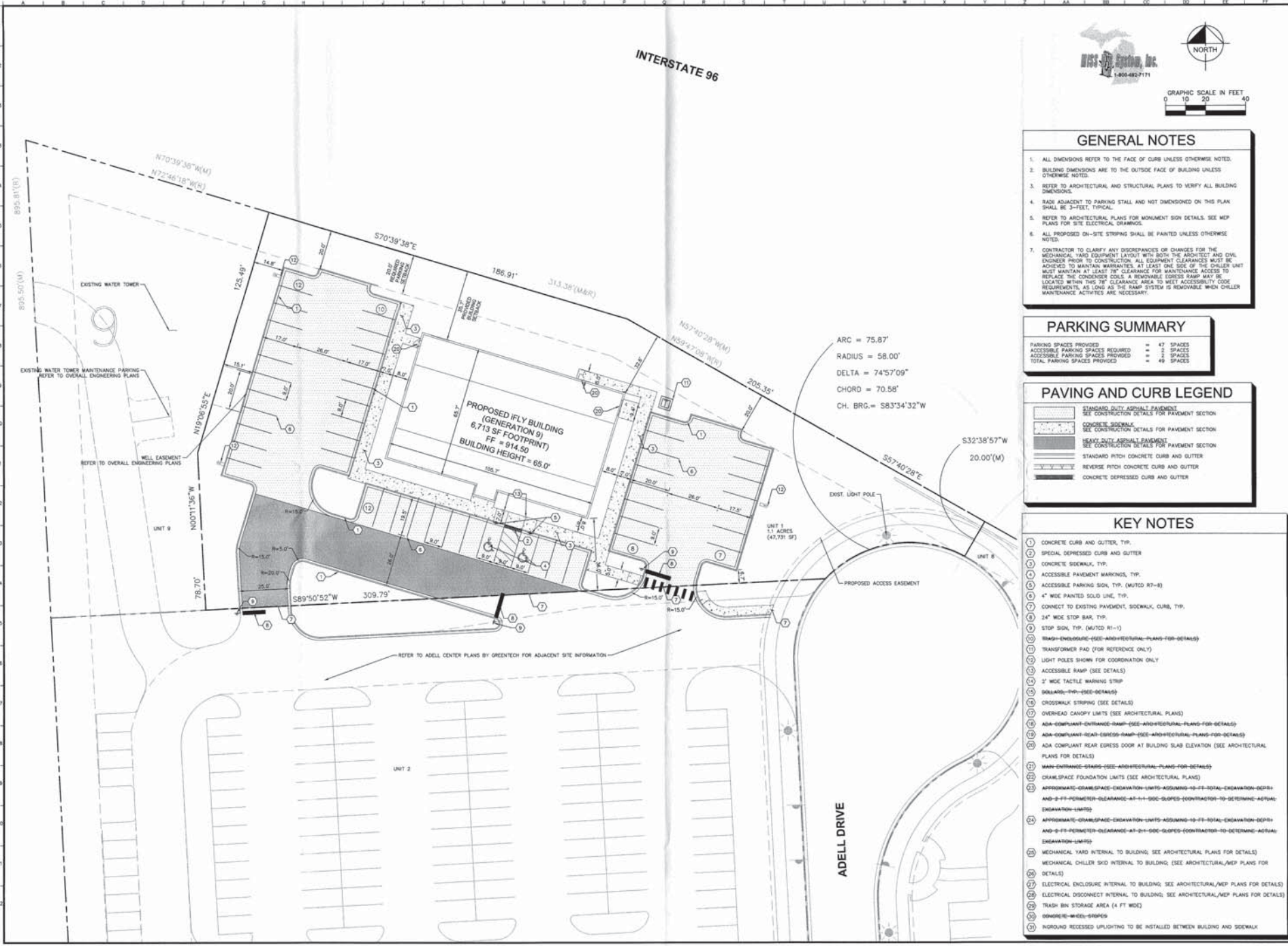
I, JUSTIN MULLER, A LICENSED PROFESSIONAL ENGINEER OF MI, HEREBY CERTIFY THAT THIS SUBMISSION, PERTAINING ONLY TO THE "C" SERIES CIVIL SHEETS LISTED ABOVE, WAS PREPARED ON BEHALF OF SKYGROUP BY KIMLEY-HORN AND ASSOCIATES, INC. UNDER MY PERSONAL DIRECTION. THIS TECHNICAL SUBMISSION IS INTENDED TO BE USED AS AN INTEGRAL PART OF AND IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS.

DATED THIS _____ DAY OF _____, A.D., 2018.

Justin Muller
MI LICENSED PROFESSIONAL ENGINEER 6201055212
MY LICENSE EXPIRES ON OCTOBER 31, 2018



Project Name: IFLY (DET) 43700 EPO CENTER DRIVE UNIT 1
 Date: 09/25/2018
 Drawn By: JAC
 Checked By: NAC
 Scale: AS NOTED
 Record By: TIME
 The document, together with the exhibits and design information herein, is to be read in conjunction with the specific program and other documents.
 This document, together with the exhibits and design information herein, is to be read in conjunction with the specific program and other documents.
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GENERAL NOTES

1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
4. MAKE ADJUSTMENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3'-FEET, TYPICAL.
5. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
6. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.
7. CONTRACTOR TO CLARIFY ANY DISCREPANCIES OR CHANGES FOR THE MECHANICAL YARD EQUIPMENT LAYOUT WITH BOTH THE ARCHITECT AND CHIL ENGINEER PRIOR TO CONSTRUCTION. ALL EQUIPMENT CLEARANCES MUST BE ACHIEVED TO MAINTAIN WARRANTIES. AT LEAST ONE SIDE OF THE CHILLER UNIT MUST MAINTAIN AT LEAST 7' CLEARANCE FOR MAINTENANCE ACCESS TO REPLACE THE CONDENSER COILS. A REMOVABLE COILS RAMP MAY BE LOCATED WITHIN THIS 7' CLEARANCE AREA TO MEET ACCESSIBILITY CODE REQUIREMENTS AS LONG AS THE RAMP SYSTEM IS REMOVABLE WHEN CHILLER MAINTENANCE ACTIVITIES ARE NECESSARY.

PARKING SUMMARY

PARKING SPACES PROVIDED	42	42 SPACES
ACCESSIBLE PARKING SPACES REQUIRED	4	4 SPACES
ACCESSIBLE PARKING SPACES PROVIDED	4	4 SPACES
TOTAL PARKING SPACES PROVIDED	46	46 SPACES

PAVING AND CURB LEGEND

- STANDARD DUTY ASPHALT PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
- CONCRETE SIDEWALK
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
- HEAVY DUTY ASPHALT PAVEMENT
SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
- STANDARD FITCH CONCRETE CURB AND GUTTER
- REVERSE FITCH CONCRETE CURB AND GUTTER
- CONCRETE DEPRESSED CURB AND GUTTER

KEY NOTES

- 1 CONCRETE CURB AND GUTTER, TYP.
- 2 SPECIAL DEPRESSED CURB AND GUTTER
- 3 CONCRETE SIDEWALK, TYP.
- 4 ACCESSIBLE PAVEMENT MARKINGS, TYP.
- 5 ACCESSIBLE PARKING SIGN, TYP. (MUTCD R7-8)
- 6 4" WIDE PAINTED SOLID LINE, TYP.
- 7 CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
- 8 24" WIDE STOP BAR, TYP.
- 9 STOP SIGN, TYP. (MUTCD R1-1)
- 10 RAMP ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
- 11 TRANSFORMER PAD (FOR REFERENCE ONLY)
- 12 LIGHT POLES SHOWN FOR COORDINATION ONLY
- 13 ACCESSIBLE SIGN (SEE DETAILS)
- 14 2" WIDE TACTILE WARNING STRIP
- 15 BOLLARDS, TYP. (SEE DETAILS)
- 16 SIDEWALK STRIPING (SEE DETAILS)
- 17 OVERHEAD CANOPY LIMITS (SEE ARCHITECTURAL PLANS)
- 18 ADA-COMPLIANT-ENTRANCE-RAMP (SEE ARCHITECTURAL PLANS FOR DETAILS)
- 19 ADA-COMPLIANT-REAR-EGRESS-RAMP (SEE ARCHITECTURAL PLANS FOR DETAILS)
- 20 ADA-COMPLIANT-REAR-EGRESS DOOR AT BUILDING SLAB ELEVATION (SEE ARCHITECTURAL PLANS FOR DETAILS)
- 21 MAIN-ENTRANCE-GRABBS (SEE ARCHITECTURAL PLANS FOR DETAILS)
- 22 CHAIRSPACE FOUNDATION LIMITS (SEE ARCHITECTURAL PLANS)
- 23 APPROXIMATE-GRABSPACE-EXHAUSTION-LIMITS-ASSIGNING-10-FEET-TOTAL-EXHAUSTION-DEPTH-AND-0-FEET-PERIMETER-CLEARANCE-AT-4-1-DISC-SLOPES-CONTRADICTION-TO-DETERMINED-ADIRAL-EXHAUSTION-LIMITS)
- 24 APPROXIMATE-GRABSPACE-EXHAUSTION-LIMITS-ASSIGNING-10-FEET-TOTAL-EXHAUSTION-DEPTH-AND-0-FEET-PERIMETER-CLEARANCE-AT-2-1-DISC-SLOPES-CONTRADICTION-TO-DETERMINED-ADIRAL-EXHAUSTION-LIMITS)
- 25 MECHANICAL YARD INTERNAL TO BUILDING (SEE ARCHITECTURAL PLANS FOR DETAILS)
- 26 MECHANICAL CHILLER SKID INTERNAL TO BUILDING (SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
- 27 ELECTRICAL ENCLOSURE INTERNAL TO BUILDING (SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
- 28 ELECTRICAL DISCONNECT INTERNAL TO BUILDING (SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
- 29 TRASH BIN STORAGE AREA (4 FT WIDE)
- 30 BONGHIRE-WHEEL-GROUPS
- 31 INGROUND RECESSED LIGHTING TO BE INSTALLED BETWEEN BUILDING AND SIDEWALK

Kimley-Horn

iFLY INDOOR SKIDIVING

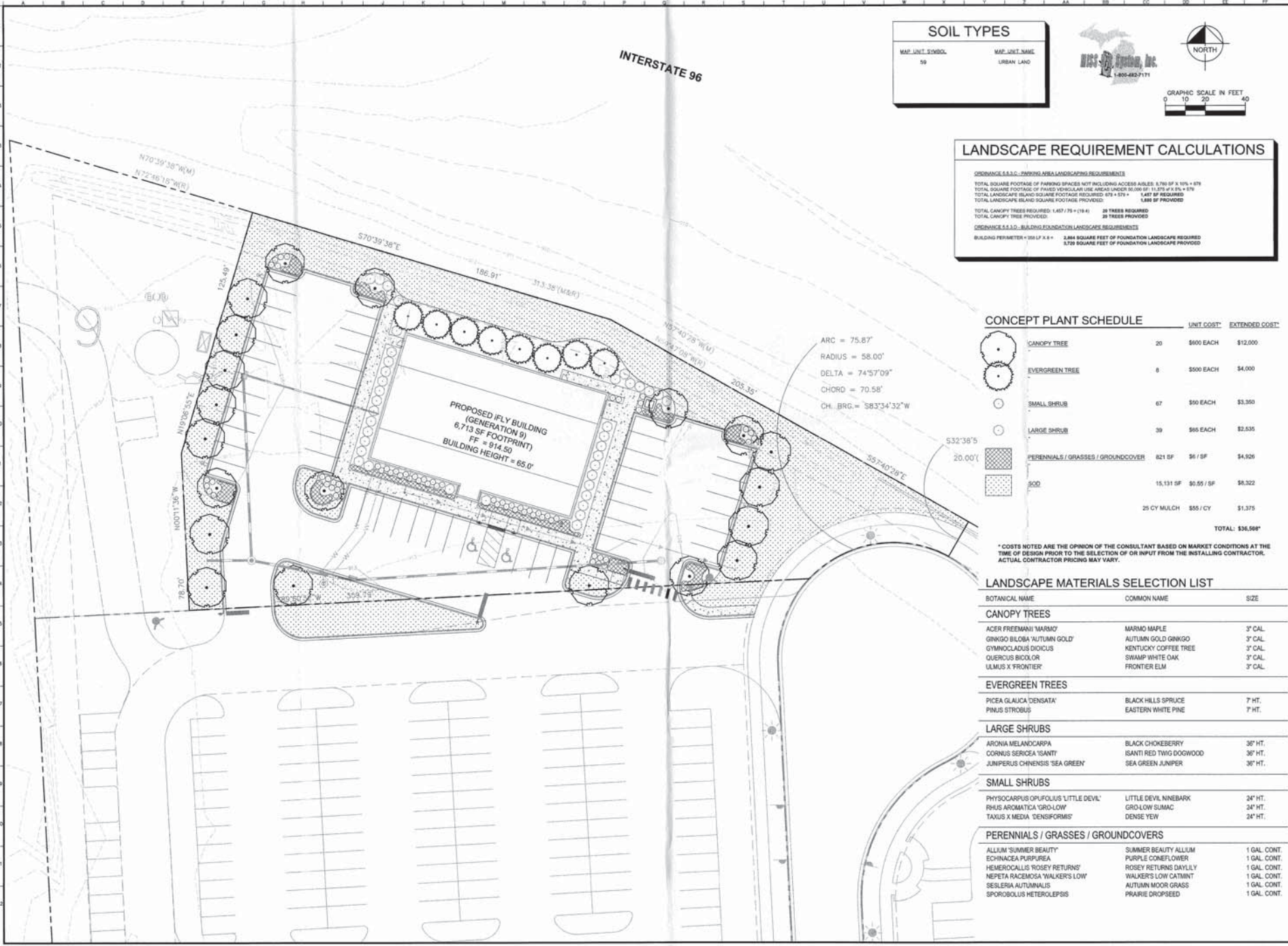
SITE PLAN

iFLY (DET)
43700 EPO CENTER DRIVE UNIT 1
NOV. 14. 48375

ORIGINAL ISSUE:
9/25/18
KHA PROJECT NO.
16005516
SHEET NUMBER
C1.0

NO.	REVISIONS	DATE

Drawing Name: A:\036\100\1000000000_0000000000.dwg, Date: 03/25/2018, 4:32pm, User: jkimley
 The document, together with the contract and design instrument herein, is intended only for the specific project and site for which it was prepared. Please do not duplicate, reuse or distribute this document without written authorization and approval by Kimley-Horn and Associates, Inc.



SOIL TYPES	
MAP UNIT SYMBOL	MAP UNIT NAME
59	URBAN LAND

NORTH

GRAPHIC SCALE IN FEET
 0 10 20 40

LANDSCAPE REQUIREMENT CALCULATIONS	
ORDINANCE 5.5.3.C - PARKING AREA LANDSCAPING REQUIREMENTS	
TOTAL SQUARE FOOTAGE OF PARKING SPACES NOT INCLUDING ACCESS AISLES: 8,760 SF x 10% = 876	
TOTAL SQUARE FOOTAGE OF PAVED VEHICULAR USE AREAS UNDER 50.00 SF: 19,376 SF x 5% = 969	
TOTAL LANDSCAPE ISLAND SQUARE FOOTAGE REQUIRED: 876 + 969 = 1,845 SF REQUIRED	
TOTAL LANDSCAPE ISLAND SQUARE FOOTAGE PROVIDED:	1,845 SF PROVIDED
TOTAL CANOPY TREES REQUIRED: 1,847 / 75 = (24.6)	25 TREES REQUIRED
TOTAL CANOPY TREES PROVIDED:	25 TREES PROVIDED
ORDINANCE 5.5.3.D - BUILDING FOUNDATION LANDSCAPE REQUIREMENTS	
BUILDING PERIMETER = 358 LF x 8" = 2,864 SQUARE FEET OF FOUNDATION LANDSCAPE REQUIRED	
	3,700 SQUARE FEET OF FOUNDATION LANDSCAPE PROVIDED

CONCEPT PLANT SCHEDULE		UNIT COST*	EXTENDED COST*
	CANOPY TREE	20 @ \$600 EACH	\$12,000
	EVERGREEN TREE	6 @ \$500 EACH	\$3,000
	SMALL SHRUB	67 @ \$50 EACH	\$3,350
	LARGE SHRUB	39 @ \$65 EACH	\$2,535
	PERENNIALS / GRASSES / GROUNDCOVER	821 SF @ \$6 / SF	\$4,926
	SOD	15,131 SF @ \$0.55 / SF	\$8,322
	25 CY MULCH	\$55 / CY	\$1,375
		TOTAL: \$36,998*	

* COSTS NOTED ARE THE OPINION OF THE CONSULTANT BASED ON MARKET CONDITIONS AT THE TIME OF DESIGN PRIOR TO THE SELECTION OF OR INPUT FROM THE INSTALLING CONTRACTOR. ACTUAL CONTRACTOR PRICING MAY VARY.

LANDSCAPE MATERIALS SELECTION LIST		
BOTANICAL NAME	COMMON NAME	SIZE
CANOPY TREES		
ACER FREEMANII 'MARMO'	MARMO MAPLE	3" CAL
GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD GINKGO	3" CAL
GYMNOCADAPUS DIKORUS	KENTUCKY COFFEE TREE	3" CAL
QUERCUS BICOLOR	SWAMP WHITE OAK	3" CAL
ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL
EVERGREEN TREES		
PICEA GLAUCO 'DENSATA'	BLACK HILLS SPRUCE	7 HT.
PINUS STROBUS	EASTERN WHITE PINE	7 HT.
LARGE SHRUBS		
ARONIA MELANOCARPA	BLACK CHOKEBERRY	36" HT.
CORNUS SERICEA 'ISANTI'	ISANTI RED TWIG DOGWOOD	36" HT.
JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	36" HT.
SMALL SHRUBS		
PHYSCARPUS OPIFOLIUS 'LITTLE DEVIL'	LITTLE DEVIL NINEBARK	24" HT.
RHUS AROMATICA 'GRO-LOW'	GRO-LOW SUMAC	24" HT.
TAXUS X MEDIA 'DENSIFORMIS'	DENSE YEW	24" HT.
PERENNIALS / GRASSES / GROUNDCOVERS		
ALLIUM 'SUMMER BEAUTY'	SUMMER BEAUTY ALLIUM	1 GAL. CONT.
ECHINACEA PURPUREA	PURPLE CONEFLOWER	1 GAL. CONT.
HEMEROCALLIS ROSEY RETURNS'	ROSEY RETURNS DAYLILY	1 GAL. CONT.
NEPETA RACEMOSA 'WALKER'S LOW'	WALKER'S LOW CATMINT	1 GAL. CONT.
SESLERIA AUTUMNALIS	AUTUMN MOOR GRASS	1 GAL. CONT.
SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSSEED	1 GAL. CONT.

SCALE: AS NOTED	DESIGNED BY: JAC	DATE: 03/25/18
REVISIONS	DRAWN BY: JAC	
	CHECKED BY: JAC	
	CREATED BY: JAC	
Kimley-Horn		
300 N. WASHINGTON AVENUE, SUITE 1000, ANN ARBOR, MI 48106 WWW.KIMLEY-HORN.COM		
iFLY INDOOR SKIDIVING		
PRELIMINARY LANDSCAPE PLAN		
IFLY (DET) 43700 EPO CENTER DRIVE UNIT 1 NOVI, MI 48375		
ORIGINAL ISSUE:	9/25/18	
KHA PROJECT NO.:	16059516	
SHEET NUMBER	L1.0	



FRONT ELEVATION



BACK & SIDE ELEVATIONS

	Sq. Ft.	Percent		Sq. Ft.	Percent
Front Elevation			Buidling Totals		
Brick	1,003	15%	Brick	3,127	15%
Field Panel	2,221	33%	Field Panel	5,263	26%
Accent Panel	339	5%	Accent Panel	1,235	6%
Tunnel Panel	2,330	34%	Tunnel Panel	9,275	45%
Storefront/ Windows	867	13%	Windows	1,574	8%
Doors	-	0%	Doors	144	1%
TOTAL	6,760		TOTAL	20,617	
Right Elevation					
Brick	325	9%			
Field Panel	754	22%			
Accent Panel	-	0%			
Tunnel Panel	2,308	67%			
Windows	-	0%			
Doors	81	2%			
TOTAL	3,468				
Back Elevation					
Brick	1,414	20%			
Field Panel	1,534	22%			
Accent Panel	895	13%			
Tunnel Panel	2,330	34%			
Windows / Louvers	707	10%			
Doors	42	1%			
TOTAL	6,922				
Left Elevation					
Brick	385	11%			
Field Panel	754	22%			
Accent Panel	-	0%			
Tunnel Panel	2,308	67%			
Windows	-	0%			
Doors	21	1%			
TOTAL	3,468				



NOVI, MICHIGAN

Generation 9 Oct. 11, 2018

REVISED BUILDING ELEVATIONS
(Recommended by Facade Consultant)



FRONT & SIDE ELEVATIONS

FACADE MATERIAL CALCULATIONS:

RETURN AIR TOWER (65') HEIGHT IS A METAL PANEL CLADDING SYSTEM. MASONRY IS NOT STRUCTURALLY SAFE TO INSTALL DUE TO THE VIBRATIONS CREATED BY THE TUNNEL SYSTEM HOUSED BY THE TOWER STRUCTURE.

THE BUILDING FACADE (40') IS CONSTRUCTED WITH A 20' WAINSCOT OF BRICK (= 50% OF GROSS AREA) AND A 20' METAL PANEL ABOVE THE WAINSCOT.



BACK & SIDE ELEVATIONS



NOVI, MICHIGAN

Generation 9 Oct. 19, 2018

MAPS

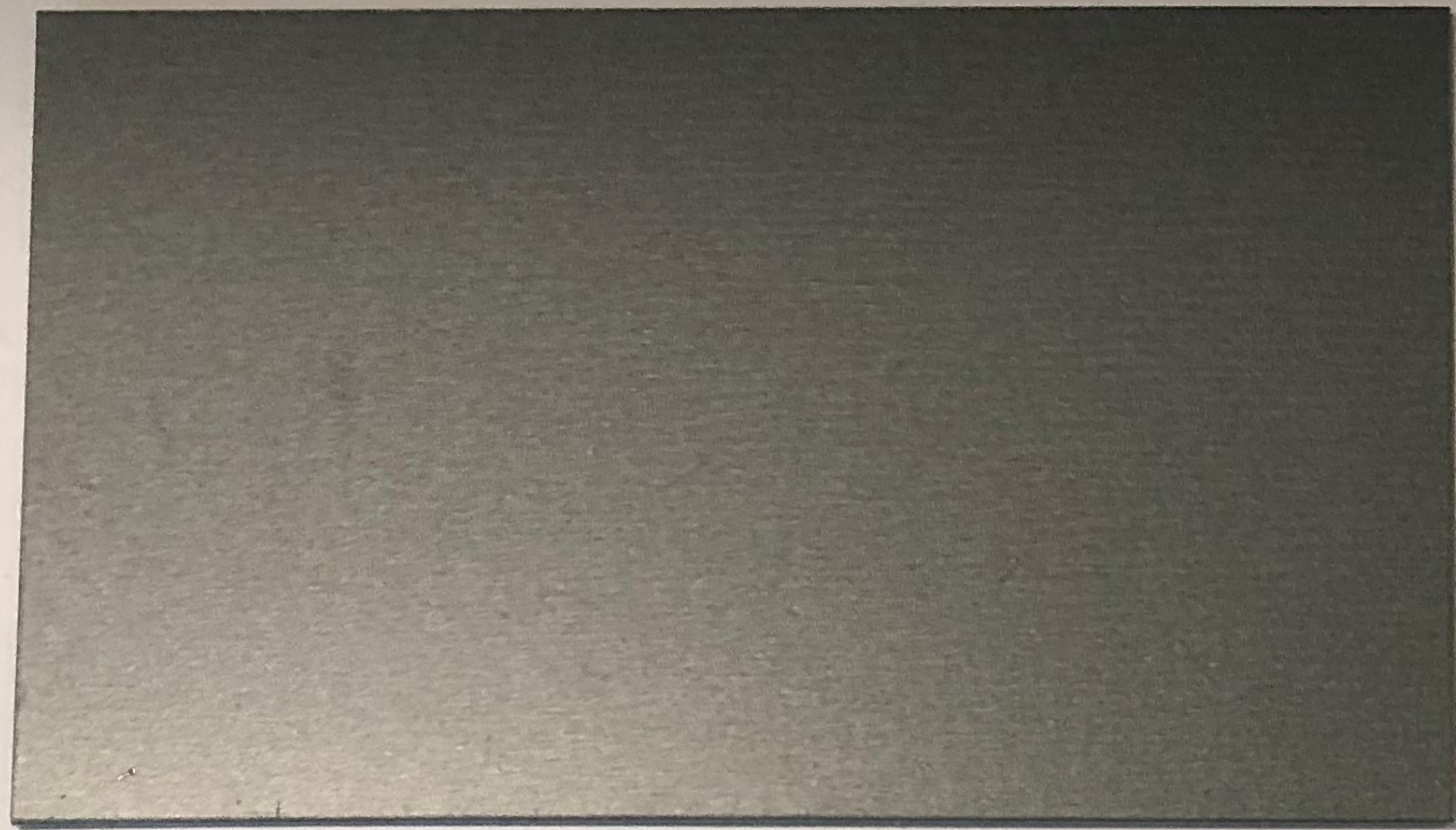
Location

Zoning

Future Inaduse

Natural Features

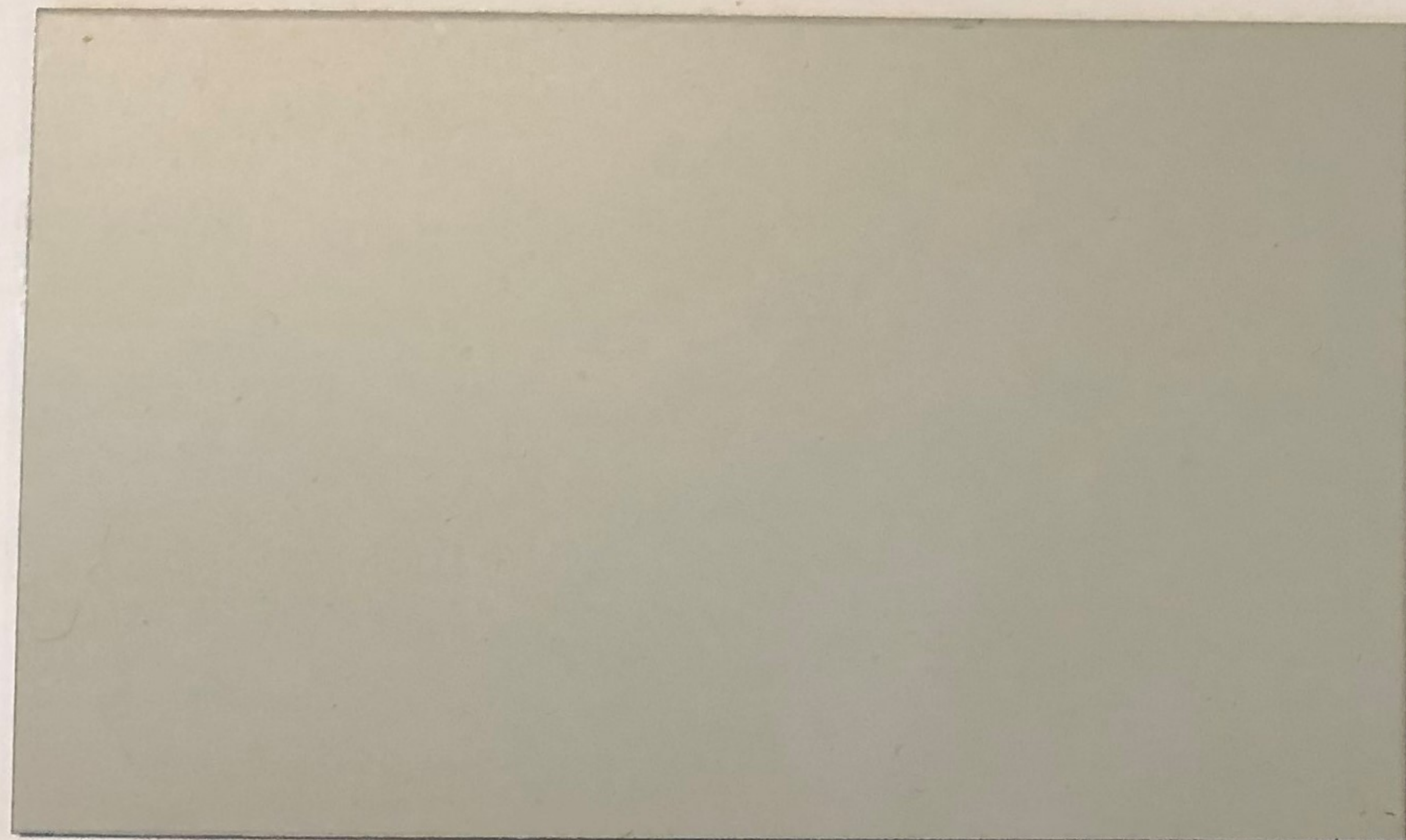
FAÇADE BOARD



TUNNEL PANEL



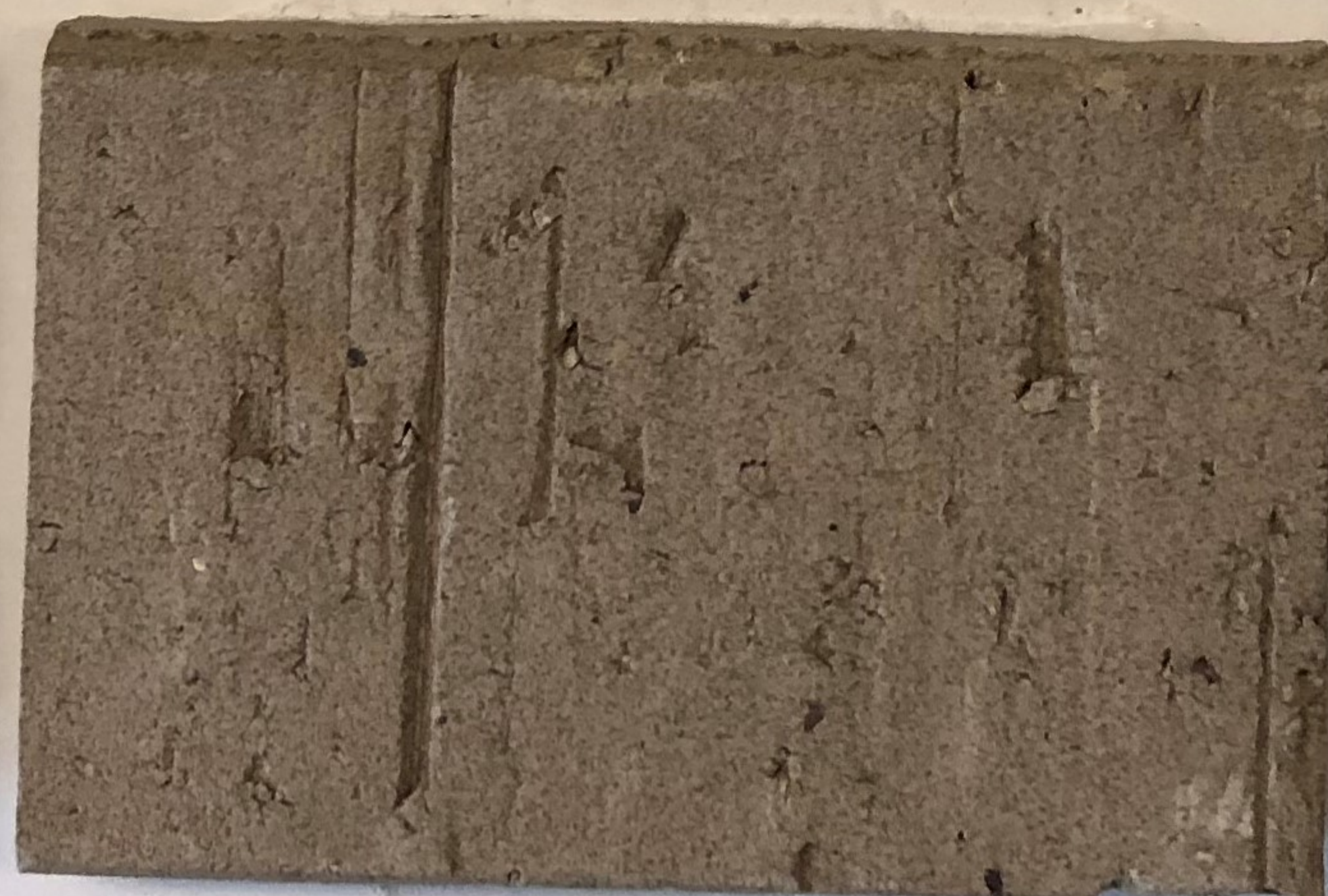
ACCENT PANEL



FIELD PANEL



FIELD BRICK



ACCENT BRICK

 **iFLY**
INDOOR SKYDIVING

NOVI, MICHIGAN

Generation 9 Oct. 11, 2018

PLANNING REVIEW



PLAN REVIEW CENTER REPORT

October 16, 2018

Planning Review

iFly Novi

JSP 18-49

PETITIONER

iFly Novi

REVIEW TYPE

Preliminary Site Plan

PROPERTY CHARACTERISTICS

Section	15	
Site Location	Tax Map ID would require Master Deed approval; South of I-96, west of Novi Road, northwest of Crescent Boulevard	
Site School District	Novi Community School District	
Site Zoning	TC with PRO (subject to City Council final approval)	
Adjoining Zoning	North	C-Conference district across I-96
	East	TC with PRO (subject to City Council final approval)
	West	TC with PRO (subject to City Council final approval)
	South	TC with PRO (subject to City Council final approval)
Current Site Use	Existing Industrial Building	
Adjoining Uses	North	Hotel across I-96
	East	Currently vacant; Possible restaurant
	West	Currently vacant; Indoor recreational facility across Adell Drive
	South	Currently vacant; Indoor recreational facility across Adell Drive
Site Size	1.1 acres	
Plan Date	September 25, 2018	

PROJECT SUMMARY

The applicant is proposing a 6,713 square foot indoor recreational facility; popularly known as iFly that provides an indoor skydiving experience.

On September 24, 2018, the City Council gave tentative indication that it may approve the rezoning request with PRO Concept Plan associated with the Adell Center site. Final approval of the rezoning request and consideration for approval of the draft PRO Agreement is still pending the City Council's approval (but is tentatively scheduled for the October 22, 2018 City Council meeting). The applicant asked that the Planning Commission be requested to consider the Preliminary Site Plan in advance of the City Council's decision, at the applicant's risk. The submitted Preliminary Site Plan for iFly requires certain deviations, most of which are currently being considered as part of the PRO Concept plan review. However, the submitted Preliminary Site Plan proposes additional deviations which were not included in the PRO Concept Plan. The applicant should revise the Preliminary Site Plan to meet the requirements.

RECOMMENDATION

Approval of the Preliminary Site Plan is **not recommended** for approval due to lack of loading zone and dumpster enclosure, for not meeting the allowable building setbacks along I-96 frontage and for proposing a transformer in the front yard. Furthermore, proposed building signage requires additional discussion as noted in the review letter.

The iFly Preliminary Site Plan approval shall be contingent on City Council's final approval of Adell Center Planned Rezoning Overlay (PRO) Agreement, and the Adell Center Roads and Utilities and Site Condominium. Consideration of both items is tentatively scheduled for City Council's consideration on October 22, 2018.

PROJECT HISTORY

The applicant requested to waive the requirement for a Pre-application meeting and move straight to Preliminary Site Plan review, since the plan had previously been reviewed at the Concept Plan stage.

ORDINANCE REQUIREMENTS

This project was reviewed for conformance with the Zoning Ordinance with respect to Article 3 (Zoning Districts), Article 4 (Use Standards), Article 5 (Site Standards), and any other applicable provisions of the Zoning Ordinance. **Please see the attached chart for information pertaining to ordinance requirements.** Items in **bold** below must be addressed and incorporated as part of the Final Site Plan submittal:

1. Additional Deviations: The following items do not conform with either the zoning ordinance or the conditions of the Draft PRO Agreement. **The site plan should be revised accordingly to conform to the tentative PRO approval and Zoning Ordinance requirements.** Please refer to Plan review chart for additional suggestions. Refer to page 4 of this letter for list of deviations that are under consideration.
 - a. Building setback along I-96 frontage. A minimum setback of 35 feet is allowed. 32.5 feet is proposed. **The building placement should be revised to maintain a minimum 35 feet setback from I-96 ROW.**
 - b. A loading zone, dumpster and bike racks are not proposed. **The applicant should provide all as required. The applicant should provide supporting data to justify the proposed loading area square footages, to be reviewed and approved by Planning Commission at the time of Preliminary site plan approval;**
 - c. A transformer is proposed in the front yard. It is only allowed in rear yard. **The transformer should be relocated to the rear/side yard to the west.**
 - d. Please refer to additional notes on Page 3 for more detail.
2. Minimum Parking Required: Proposed use is not listed in Section 5.2. Minimum required parking is to be determined based on parking study. iFly has provided a Trip generation data that included parking demand information based on one iFly site on Frisco, TC. It estimated a weekday parking demand of 36 spaces and weekend demand of 38 spaces for a 10,000 square foot building with 70 feet tall chamber. **Traffic review noted some concerns with some proposed parking spaces and lack of loading or drop-off area. Please consider removing additional parking spaces to meet other requirements as noted in Traffic review. Staff is in general agreement with 38 spaces as the minimum required based on the trip generation provided earlier. Given that, the current facility is smaller, please provide additional information for proposed number of employees and maximum number of customers that will be using the facility at any given time to confirm minimum required.**
3. Lighting and Photometric Plan: Photometric plan and additional information is typically required at the time of Final Site Plan when the site is not abutting a residential district. However, staff recommends providing one with the revised preliminary site plan to verify conformance with the tentative deviations listed below:
 - a. Planning deviation from Section 5.7 .3.K. to allow exceeding the maximum spillover of 1 foot candle along interior side property lines provided the applicant submits a photometric plan that demonstrates that the average to minimum light level ratio is kept to the maximum allowable ratio of 4:1;
 - b. Planning deviation to allow exceeding the maximum spillover of 1 foot candle and approvable increase of the average to minimum light level ration from 4:1 within the Adell

Drive pavement areas as listed in Section 5.7.3.K. along access easements along Adell Drive, at the time of or Preliminary Site Plan review for the individual units;

4. Drop-off Location: The applicant has indicated that customers sometimes come to the facility as a group, in a van or bus. **A drop-off location may be required given the nature of the indoor recreation proposed.** It can be located in any yard that is more feasible. It cannot conflict with parking spaces or circulation aisles. If it is located away from the building, appropriate sidewalks and crosswalks should be proposed to the entrance. **Please provide additional information about the frequency of drop-offs or buses accessing the site.**
5. Access to the site: The Preliminary Site Plan shows that two access points will be provided to the iFly building from the adjacent planned Planet Fitness Site to the south. The applicant has indicated on-site pavement for the iFly drives and parking areas, but no pavement is shown from the proposed Adell Drive. The Engineering letter indicates that all access and driveways to the site must be paved. The Draft PRO Agreement also indicates that the required secondary access drive for the entire Adell Center site, proposed to the south of the iFly site may be gravel, but only for secondary access purposes. **In the response letter, the applicant should explain how paved access will be provided to the site.** Any off-site easements anticipated must be executed prior to final approval of the plans.
6. Traffic Reviews: Traffic review is currently not recommending approval due to many design elements in the site plan that would need revisions. Revisions are required to provide safe traffic circulation through the site. It may result in reduction of parking spaces. The applicant has agreed to address those issues to meet the requirements.
7. Facade Review: The percentage of Brick and Stone remains significantly below the 50 percent required by the Ordinance and the percentage of Flat Metal Panels remains significantly above the percentages allowed by the Ordinance. **The applicant should consider adding Brick as required to achieve a minimum of 30% on all facades.**
8. Plan Review Chart: Planning review chart provides additional comments and requests clarification for certain items. Please address those in addition to the comments provided in this letter.

LIST OF DEVIATIONS UNDER CONSIDERATION AS PART OF PRO

Following list of deviations are being considered as part of Adell Drive PRO Concept Plan, subject to City Council's final approval. The current site plan should conform to the following conditions.

1. Planning deviation from section 3.1 .26.D for exceeding the maximum allowable building height of 65 feet and maximum allowable 5 stories, provided they conform to the 2015 International Building Code standards for High-rise (Type I or Type II) construction:
 - a. Unit 1 iFly (70 feet). **The current building height refers to 65 feet.**
2. Planning deviation from section 5.12 to allow lack of required frontage on public road for Units 1 through 8. Frontage is proposed via a proposed private drive, built to City standards;
3. Planning deviation from section 3.1.25.D to allow reduction of minimum required front parking setback of 20 ft., from the proposed access easement. A maximum of 18 feet is requested;
4. Planning deviation from section 3.1.25.D to allow reduction of minimum required interior side parking setback of 20 ft. for the following units as shared access is proposed between parking lots;
 - a. Unit 1: minimum 14 ft. along West, 0 ft. along South

5. Planning deviation from section 4.19.2.F to allow alternate location for dumpsters, instead of required rear yard for units 1, 5, 6, 7 and 8, provided the proposed location does not impact traffic circulation and appropriate screening is provided at the time of preliminary site plan. The applicant requests dumpsters to be allowed in exterior/interior side yards; **A dumpster is not proposed. Proper justification is required if dumpster is provide in any other location other than rear yard (west).**
6. Planning deviation to allow placement of loading areas in alternate locations instead of required rear yard or interior side yard for double frontage lots, as listed below, provided proposed locations do not conflict with traffic circulation and appropriate screening will be provided at the time of Preliminary site plan review:
 - a. Unit 1: exterior side yard; **A loading area is not proposed as required.**
7. The applicant shall provide supporting data to justify the proposed loading area square footages, to be reviewed and approved by Planning Commission at the time of Preliminary site plan approval; **Supporting data is not proposed**
8. Planning deviation from standards of Sec. 5.12 for up to 5% reduction in minimum required parking(to be established by staff after reviewing the calculations provided) for each unit within the development subject to the individual users providing satisfactory justification for Planning Commission's approval of the parking reduction at the time of respective site plan approval; **Reduction of minimum required parking is not requested at this time. A minimum of 38 spaces is required based on Traffic study.**
9. The applicant shall provide revised elevations addressing comments provided in Façade review letter dated August 14, 2018 for Planning Commission's review and consideration for approval of Section 9 waiver at the time of preliminary site plan review; **Façade is currently not recommending approval;**
10. The following deviations from Chapter 28, Signs, from City Code of Ordinances for the two development signs for the Adell Center Development as listed below, provided that such deviations shall be the maximum amount authorized, and the City may require a lesser deviation at the time of site plan approval if deemed appropriate:
 - a. To allow for four additional wall signs for Unit 1: iFly. Five are requested for the entire unit. One wall sign is allowed. The wall signs allowed with the following deviations:
 1. Side Elevations: a size deviation of 88.75 square feet (65 square feet allowed, 153.75 square feet proposed) for two signs.
 2. Front and Back Elevations: a size deviation of 244 square feet (65 square feet allowed, 309 square feet proposed) for two signs.

Above listed deviations are based on signage information provided on August 08, 2018. As generation 9 prototype building is being developed, there are changes to building elevation and signage. The applicant has provided revised signage information on October 3, 2018 via e-mail. Staff did not complete the review of revised signage. However, it appears that the revised signs on side elevations are larger than 153 square feet allowed under draft PRO agreement. Further discussion is warranted between the staff and the applicant to address the revised sign sizes. As noted, above notes deviation are maximum amount authorized. Revisions are subject to Planning Commission's approval.
11. Planning deviation from the requirement in section 4.02.B Article IV, Appendix C-Subdivision ordinance of City Code of Ordinances that side lot lines be perpendicular or radial to the road, for the lines between Units 6 and 7, Units 4 and 5, and Units 1 and 2, only;
12. Planning deviation to allow proposing the minimum required Open Space for each Unit as Common element spread within the development boundaries as shown in the Open Space Plan, provided the applicant restores the wetland/woodland on the southerly portion of the site

pursuant to a plan meeting City ordinance requirements is submitted and approved at the time of Wetland permit/preliminary site plan approval, and provides the pedestrian walkway through the open space as proposed. (A minimum of 153 of total site area designed as permanently landscaped open areas and pedestrian plazas is required per section 3.27. I.F.);

13. Planning deviation from Section 5.7 .3.K. to allow exceeding the maximum spillover of 1 foot candle along interior side property lines provided the applicant submits a photometric plan that demonstrates that the average to minimum light level ratio is kept to the maximum allowable 4: 1;
14. Planning deviation to allow exceeding the maximum spillover of 1 foot candle and approvable increase of the average to minimum light level ration from 4: 1 within the Adell Drive pavement areas as listed in Section 5.7 .3.K. along access easements along Adell Drive, at the time of or Preliminary Site Plan review for the individual units;

OTHER REVIEWS

- a. Engineering Review: Engineering recommends approval with additional comments to be provided at the final site plan submittal.
- b. Landscape Review: Landscape recommends approval. Additional comments to be addressed with final site plan submittal..
- c. Traffic Review: Traffic is **currently not** recommending approval. Additional comments to be addressed with the revised site plan submittal.
- d. Facade Review: Façade **currently not** recommending approval. The applicant should consider
 - a. adding Brick as required to achieve a minimum of 30% on all facades.
 - b. Fire Review: Fire recommends approval with Conditions.

PLANNING COMMISSION MEETING

The site plan has many items that need to be addressed. Planning, Traffic and Façade are currently not recommending approval. The site plan would require a revised submittal. However, the applicant is working with staff to resolve the issues prior to Planning Commission meeting and is hopeful to address them satisfactorily. The applicant has requested to be placed on October 24, Planning Commission meeting agenda. The site plan is scheduled to be placed on Planning Commission's agenda for October 24, 2018. The following are required **no later than 11 am on October 18, 2018 to keep the schedule.**

1. A response letters addressing all comments in all review letters
2. Original site plan submittal in PDF format
3. Any revised exhibits addressing staff's comments

FINAL SITE PLAN SUBMITTAL

After receiving the Preliminary Site Plan approval, please submit the following for Final site plan review and approval

1. Seven copies of Final Site Plan addressing all comments from Preliminary review
 2. Response letter **addressing all comments and refer to sheet numbers where the change is reflected**
 3. Final Site Plan Application
 4. Final Site Plan Checklist
 5. Engineering Cost Estimate
 6. Landscape Cost Estimate
 7. Other Agency Checklist
 8. No Revision Façade Affidavit (if no changes are proposed for Façade)
 9. Legal Documents as required
 10. Drafts of any legal documents (note that off-site easements need to be executed and any on-site easements need to be submitted in draft form before stamping sets will be stamped)
-

ELECTRONIC STAMPING SET SUBMITTAL AND RESPONSE LETTER

After receiving Final Site Plan approval, please submit the following for Electronic stamping set approval:

1. Plans addressing the comments in all of the staff and consultant review letters in PDF format.
2. Response letter addressing all comments in ALL letters and ALL charts and **refer to sheet numbers where the change is reflected.**

STAMPING SET APPROVAL

Stamping sets are still required for this project. After having received all of the review letters from City staff the applicant should make the appropriate changes on the plans and submit **10 size 24" x 36" copies with original signature and original seals,** to the Community Development Department for final Stamping Set approval.

SITE ADDRESSING

New address is required for this project. The applicant should contact the Building Division for an address prior to applying for a building permit. Building permit applications cannot be processed without a correct address. The address application can be found by clicking on this [link](#). Please contact the Ordinance Division 248.735.5678 in the Community Development Department with any specific questions regarding addressing of sites.

STREET AND PROJECT NAME

Not Applicable

PRE-CONSTRUCTION MEETING

A Pre-Construction meeting is required for this project. Prior to the start of any work on the site, Pre-Construction (Pre-Con) meetings must be held with the applicant's contractor and the City's consulting engineer. Pre-Con meetings are generally held after Stamping Sets have been issued and prior to the start of any work on the site. There are a variety of requirements, fees and permits that must be issued before a Pre-Con can be scheduled. If you have questions regarding the checklist or the Pre-Con itself, please contact Sarah Marchioni [248.347.0430 or smarchioni@cityofnovi.org] in the Community Development Department.

CHAPTER 26.5

Chapter 26.5 of the City of Novi Code of Ordinances generally requires all projects be completed within two years of the issuance of any starting permit. Please contact Sarah Marchioni at 248-347-0430 for additional information on starting permits. The applicant should review and be aware of the requirements of Chapter 26.5 before starting construction.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5607 or skomaragiri@cityofnovi.org.



Sri Ravali Komaragiri – Planner



PLANNING REVIEW CHART: TC - Town Center District

Review Date: October 1, 2018
Review Type: Preliminary Site Plan
Project Name: 18-49 iFly Novi
Plan Date: September 5, 2018
Prepared by: Sri Ravali Komaragiri, Planner
E-mail: skomaragiri@cityofnovi.org **Phone:** 248.735.5607

- **Bold:** Items that need to be addressed by the applicant with the revised site plan submittal
- **Bold and Underline:** Does not conform to the code
- *Italics:* Notes to be noted

Item	Required Code	Proposed	Meets Code	Comments
Zoning and Use Requirements				
Master Plan <i>(adopted July 26, 2017)</i>	Office Research Development Technology	Indoor Recreational Facility	Yes?	<i>The applicant has requested an unlisted use determination which was tentatively approved by City Council at their September 24, 2018 meeting.</i>
Town Center Area Study	This site is in close proximity to study area boundary for Town Center Area study adopted in 2014	The applicant is requesting to rezone to TC.	No?	
Zoning <i>(Effective Dec. 25, 2013)</i>	EXPO	TC: Town Center	No	<i>The subject property is part of a Planned Rezoning Overlay request for Adell Center Development, which was tentatively approved by City Council at their September 24, 2018 meeting.</i>
Density <i>Future Land Use Map(adopted July 26, 2017)</i>	Not Applicable	Residential development not proposed	NA	
Phasing	Show proposed phasing lines on site plan. Describe scope of work for each phase. Each phase should be able to stand on its own with regards to utilities and parking	Phasing is not proposed.	NA?	

Item	Required Code	Proposed	Meets Code	Comments
Height, bulk, density and area limitations				
Frontage on a Public Street (Sec. 5.12) (Sec. 6.3.2.A)	Frontage upon a public street is required	Frontage and access from the proposed private drive.	No	<i>This deviation is currently being considered as past the Adell Center PRO request</i>
Access To Major Thoroughfare (Sec. 5.13)	Access to major thoroughfare is required, unless the property directly across the street between the driveway and major thoroughfare is either multi-family or non-residential	Adell Center has access to Crescent Boulevard, individual parcels have access to internal private drive; No single family residential zoning in the vicinity	NA	<i>This deviation is currently being considered as past the Adell Center PRO request</i>
Open Space Area (Sec. 3.27.1.F)	15% (permanently landscaped open areas and pedestrian plazas).	Required open space is provided at a central location within Adell Center development. No additional improvements are proposed on this site	Yes	The applicant is suggested to look into reducing pavement to create additional green space
Maximum % of Lot Area Covered (By All Buildings) (Sec. 3.6.2 D)	No Maximum	Total site area: 1.1 Acres Building foot print 6,713 SF	Yes	
Building Height (Sec.3.1.26.D)	5 stories or 65 ft, whichever is less Provisions for additional height only applies for TC-1, not TC district <u>Buildings in excess of 55' may need to conform to the 2015 International Building Code standards for High-Rise (Type I or Type II) construction.</u>	65 feet	No	<i>This deviation is currently being considered as past the Adell Center PRO request.</i> The deviation request refers to 70' Plans indicate 65'. Please clarify.
Building Setbacks (Sec 3.1.26 D) and (Sec. 3.27.1.C)				

Item	Required Code	Proposed	Meets Code	Comments
<p>Front (east around cul-de-sac) 50 feet minimum from all lot lines for exterior lot 15 feet minimum for front side, for interior lot lines 15 feet between separate buildings on same side</p>	<p>Has frontage on Adell drive. A minimum of 15 ft. is required.</p>	<p>It appears a setback over 15 feet is provided</p>	<p>Yes</p>	<p>Please provide the distance from access easement to the building</p>
<p>Exterior Side Yard (north) 50 feet exterior 15 feet interior Exterior: lot lines located abutting non-TC district lots. Interior: lot lines abutting TC district lots.</p>	<p>I-96 Exterior: 50 ft.</p>	<p>Approximately 35 ft. proposed</p>	<p>No</p>	<p><i>This deviation is currently being considered as past the Adell Center PRO request.</i></p> <p>A deviation for 35 feet is requested. The current plans indicate 32.6 feet. The plans need to be revised to conform the conditions of PRO approval.</p> <p>Setbacks shown on Sheet 4-Site Plan Unit 1 are incorrect. They refer to building setback of 50 feet and parking setback of 20 feet. They do not take the requested deviations into account.</p>
<p>Side Yard (south) 50 feet exterior 15 feet interior Exterior: lot lines located abutting non-TC district lots. Interior: lot lines abutting TC district lots.</p>	<p>All units require a minimum of 15 ft. from side lot lines</p>	<p>A minimum of 15 feet appears to be provided</p>	<p>Yes</p>	<p>Please provide the distance from side lot line to the building for both south and east sides</p>

Item	Required Code	Proposed	Meets Code	Comments
Rear Yard (west) 50 feet exterior 15 feet interior Exterior: lot lines located abutting non-TC district lots. Interior: lot lines abutting TC district lots.	West		NA	
Parking Setback (Sec 3.1.25.D)				
Front Parking Setback (East along Cul-de-sac)	20 ft. from access easement for private roads A setback for 18 feet is being considered as part of the PRO request	20 ft. (Cul-de-sac)	No?	<i>This deviation is currently being considered as past the Adell Center PRO request.</i> ** Parking setback line should be from access easement, not the ROW line.
Exterior Side Yard Parking Setback (along I-96)	20 ft. from access easement for private roads	20 ft. (I-96)	Yes	
Side Yard Parking Setback (South and west)	20 ft. from side lot lines	A minimum of 0 ft. is provided (south lot line) West : 14 ft.	No?	<i>This deviation is currently being considered as past the Adell Center PRO request.</i>
Rear Yard Parking Setback (West)	10 ft. from lot lines and ROW	Appears to be 20 ft. (west)	Yes?	20 ft. setback line is indicated.
Note To District Standards (Sec 3.6.2)				
Exterior Side Yard Abutting a Street (Sec 3.6.2.C)	All exterior side yards abutting a street shall be provided with a setback equal to front yard.	Provided as required	Yes	
Minimum lot area and width (Sec 3.6.2.D)	Except where otherwise provided in this ordinance, the minimum lot area and width, maximum percentage of lot coverage shall be determined by the requirements set forth.	Lot area and dimension are reviewed as part of the Site Condominium and PRO for Adell Center	Yes	

Item	Required Code	Proposed	Meets Code	Comments
Yard setbacks (Sec 3.6.2.H&L)	If site abuts a residential zone, buildings must be set back at least 3' for each 1' of building height, but in no case can be less than 20' setback	Does not abut residential zoning	NA	
Wetland/Watercourse Setback (Sec 3.6.2.M)	A setback of 25 ft. from wetlands and from high watermark course shall be maintained	No wetlands or woodlands on site	NA	
Parking setback screening (Sec 3.6.2.P)	Required parking setback area shall be landscaped per sec 5.5.3.	Appear to comply	Yes?	Landscape review requires additional information
Modification of parking setback requirements (Sec 3.6.2.Q)	The Planning Commission may modify parking setback requirements based on its determination according to Sec 3.6.2.Q.	Refer to staff comments for side yard parking setback	No?	
TC District Required Conditions (Sec 3.27)				
Site Plans (Sec. 3.27.1.A.)	Site area under 5 acres: Requires Planning Commission approval; Site area over 5 acres: Requires City Council approval upon Planning Commission recommendation	The parcel is less than 5 acres	No?	<i>Site plan approval for individual lots less than require Planning Commission approval, unless Council reserves the right to approval site plans as part of PRO approval</i>
Parking Setbacks and Screening (3.27.1 D)	20 ft. from ROW (access easement for private roads)	A setback for 18 feet is being considered as part of the PRO request	No?	
	Surface parking areas must be screened by either a 2.5 ft. brick wall, semitransparent screening or a landscaped berm from all public ROW (access easement for private roads)	A combination of brick wall and a semi-transparent screening is provided on both side of proposed Adell drive	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	For TC-1, No front yard or side yard parking on any non-residential collector.	Not applicable	NA	
Architecture/Pedestrian Orientation (3.27.1 E)	No building in the TC-1 district shall be in excess of one-hundred twenty-five (125) feet in width, unless pedestrian entranceways are provided at least every one-hundred twenty-five (125) feet of frontage.	Not applicable	NA	
Façade materials (Sec. 3.27.1 G)	All sides of the building and accessory buildings must have the same materials. Façade materials may deviate from brick or stone with PC approval.	Section 9 waiver is not supported.	No?	Refer to Façade review for more details
Parking, Loading, Signs, Landscaping, Lighting, Etc (Sec. 3.27.1 H)	All loading in TC-1 shall be in rear yards.	Requested rezoning category is TC	NA	
	Off-street parking counts can be reduced by the number of on-street parking adjacent to a use	On-street parking is not proposed	NA	
	PC may allow parking requirement reduction when parking areas serve dual functions.	Required parking for this site is determined based on Traffic study	Yes?	Refer to parking study review for more comments
	Special assessment district for structured park	Not proposed	NA	
Sidewalks required (Sec. 3.27.1 I)	For TC-1 only, Sidewalks required along non-residential collector to be 12.5 ft. wide.	Not Applicable	NA	
	Direct pedestrian access between all buildings and adjacent areas	A pedestrian connection from building to sidewalks along Adell Drive is provided	Yes	
Bicycle Paths (Sec. 3.27.1 J)	Bike paths required to connect to adjacent residential & non-	Not required	NA	

Item	Required Code	Proposed	Meets Code	Comments
	residential areas.			
Development amenities (Sec. 3.27.1 L)	All sites must incorporate amenities such as exterior lighting, outdoor furniture, and safety paths in accordance with Town Center Study Area.	Amenities are provided as part of the Site Condominium project for Adell Center	Yes?	The applicant may choose to provide additional amenities on site for added value
Combination of use groups within a single structure (Sec. 3.27.1 M) (Sec.3.27.2.B)	- Additional regulations per Sec. 3.27.1.M and 3.27.2.B apply if combination of uses proposed in same building	Each building stands on its own with a single use	NA	
Street and Roadway Rights-Of-Way (Sec. 3.27.1 N)	Nonresidential collector and local streets shall provide ROWs consistent with DCS standards Roadway width: 36 feet ROW/Access Easement: 70 feet	Roadway width: 36 feet Access Easement: 70 feet	Yes	
Parking, Handicap Parking and Bike Requirements				
Required Parking Calculation (Sec. 5.2.12) (Sec. 4.82.2) Proposed use is not listed in Section 5.2. Minimum required parking is to be determined based on parking study	I-fly has provided a Trip generation data that included parking demand information based on one ifly site on Frisco, TC. IT estimated a weekday parking demand of 36 spaces and weekend demand of 38 spaces for a 10,000 square foot building with 70 feet tall chamber.	The site plan currently proposes 49 spaces	Yes?	Traffic review noted some concerns with some proposed parking spaces and lack of loading or drop-off area. Please consider removing additional parking spaces to meet other requirements as noted in Traffic review.
Barrier Free Spaces <i>Barrier Free Code</i> <i>*No deviations since this is a Michigan Building Code requirement</i>	1 Regular, 1 Van accessible	Two van accessible spaces are provided	Yes?	
Minimum number of Bicycle Parking (Sec. 5.16.1)	Two spaces	Not proposed	No	The applicant should propose the required bike spaces

Item	Required Code	Proposed	Meets Code	Comments
Parking Lot Design Requirements (Sec. 5.3.2.)				
Parking Space Dimensions and Maneuvering Lanes (Sec. 5.3.2)	<ul style="list-style-type: none"> - 90° Parking: 9 ft. x 19 ft. - 24 ft. two way drives - 9 ft. x 17 ft. parking spaces allowed as long as detail indicates a 4" curb at these locations - 60° 9 ft. x 18 ft. 	All appear to be 9 ft. x 19 ft.	No	Depth of parking spaces can be reduced to 17 feet if they abut green space or a 7 foot wide sidewalk
Parking lot entrance offset (Sec. 5.3.6)	Parking lot entrances must be set back 25' from any single-family residential district.	Subject property does not abut single-family residential district.	NA	
End Islands (Sec. 5.3.12)	<ul style="list-style-type: none"> - End Islands with landscaping and raised curbs are required at the end of all parking bays that abut traffic circulation aisles. - The end islands shall generally be at least 8 ft. wide, have an outside radius of 15 ft., and be constructed 3 ft. shorter than the adjacent parking stall 	They appear to comply.	Yes	
Parking stall located adjacent to a parking lot entrance (public or private) (Sec. 5.3.13)	- Shall not be located closer than twenty-five (25) feet from the street right-of-way (ROW) line, street easement or sidewalk, whichever is closer	Southern most space in the eastern parking lot closer to building appears to be less than 25 feet from the sidewalk	No?	This spaces should be removed
Barrier Free Space Dimensions <i>Barrier Free Code</i>	<ul style="list-style-type: none"> - 8' wide with an 8' wide access aisle for van accessible spaces - 8' wide with a 5' wide access aisle for regular accessible spaces 	Two 8' wide spaces with an 8' wide access aisle for van are provided	Yes	
Barrier Free Signs <i>Barrier Free Code</i>	One sign for each accessible parking space.	Signs indicated.	Yes	Please provide the required signage.
Bicycle Parking General requirements (Sec. 5.16)	<ul style="list-style-type: none"> - No farther than 120 ft. from the entrance being served - When 4 or more 	Not indicated	No	Please provide the required layout

Item	Required Code	Proposed	Meets Code	Comments
	spaces are required for a building with multiple entrances, the spaces shall be provided in multiple locations - Spaces to be paved and the bike rack shall be inverted "U" design - Shall be accessible via 6 ft. paved sidewalk			
Bicycle Parking Lot layout (Sec 5.16.6)	Parking space width: 6 ft. One tier width: 10 ft. Two tier width: 16 ft. Maneuvering lane width: 4 ft. Parking space depth: 2 ft. single, 2 ½ ft. double	Not indicated	No	Please provide the required layout
Loading Space (Sec. 5.4.2.)	Loading, unloading space shall be provided in the rear yard at a ratio of ten (10) square feet for each front foot of building	A loading zone is not proposed	No?	Please provide a loading zone. The current PRO agreement does not allow for lack of loading zone
Loading Space location (Sec. 5.4.2)	- rear yard or - interior side yard beyond the side yard setback for double frontage lots	A loading zone is not proposed	No?	<u>For this unit, loading zone can be placed in the interior side yard to the south, west or the exterior side yard along I-96. Loading zone is subject to Parking setback requirements.</u>
Loading Space Area (Sec. 5.4.2) In the ratio of 10 sq. ft. per front foot of building.	Loading, unloading space shall be provided in the rear yard at a ratio of ten (10) square feet for each front foot of building	A loading zone is not proposed	No?	<u>If the loading zone does not meet the size requirements as noted, provide a justification for the smaller size proposed</u>
Loading Space Screening (Sec. 5.4.2 B)	Loading area must be screened from view from adjoining properties and from the street.	A loading zone is not proposed	No?	Propose required loading zone screening

Item	Required Code	Proposed	Meets Code	Comments
Dumpster Sec 4.19.2.F	<ul style="list-style-type: none"> - Located in rear yard - Attached to the building or no closer than 10 ft. from building if not attached - Not located in parking setback - Rear lot abuts ROW, 50 ft. setback required. - Away from Barrier free Spaces 	A dumpster is not proposed	No?	<p><i>The deviation for location is currently being considered as past the Adell Center PRO request.</i></p> <p><u>Dumpsters can be proposed in the exterior and interior side yards (north and west)</u></p>
Dumpster Enclosure Sec. 21-145. (c) Chapter 21 of City Code of Ordinances	<ul style="list-style-type: none"> - Screened from public view - A wall or fence 1 ft. higher than height of refuse bin - And no less than 5 ft. on three sides - Posts or bumpers to protect the screening - Hard surface pad. - Screening Materials: Masonry, wood or evergreen shrubbery 	Information not indicated	No?	Dumpster enclosure is subject to Façade Ordinance
Accessory Structures Sec. 4.19	<ul style="list-style-type: none"> - Accessory structures, except where otherwise permitted and regulated in this Ordinance, shall be located in the rear yard and shall meet the setback requirements of an accessory building. 	A transformer is located in the front yard (east)	No	Revise the location to meet the code
Lighting and Photometric Plan (Sec. 5.7)				
<p>These deviations is being considered as part of the Adell Center PRO plan</p> <ol style="list-style-type: none"> 1. Planning deviation from Section 5.7.3.K. to allow exceeding the maximum spillover of 1 foot candle along interior side property lines provided the applicant submits a photometric plan that demonstrates that the average to minimum light level ratio is kept the maximum allowable 4:1; 2. Planning deviation to allow exceeding the maximum spillover of 1 foot candle and approvable increase of the average to minimum light level ration from 4:1 within the Adell Drive pavement areas as listed in Section 5.7.3.K. along access easements along Adell Drive, at the time of or Preliminary Site Plan review for the individual units; 				
Intent (Sec. 5.7.1)	Establish appropriate minimum levels, prevent unnecessary glare, reduce spill-over onto	A plan is provided which indicates street lighting along Adell drive. Lighting and	No	Photometric plan and additional information is typically required at the time of Final Site Plan when

Item	Required Code	Proposed	Meets Code	Comments
	adjacent properties & reduce unnecessary transmission of light into the night sky	photometric information for rest of the site is not included in the current submittal.		the site is not abutting a residential district.
Lighting Plan (Sec. 5.7.2 A.i)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures			
Building Lighting (Sec. 5.7.2.A.iii)	Relevant building elevation drawings showing all fixtures, the portions of the walls to be illuminated, illuminance levels of walls and the aiming points of any remote fixtures.			
Lighting Plan (Sec. 5.7.2 A.ii)	Specifications for all proposed & existing lighting fixtures			
	Photometric data			
	Fixture height			
	Mounting & design			
	Glare control devices			
	Type & color rendition of lamps			
	Hours of operation			
	Photometric plan illustrating all light sources that impact the subject site, including spill-over information from neighboring properties			
Required Conditions (Sec. 5.7.3.A)	Light pole height not to exceed maximum height of zoning district (65 ft. for TC)			
Required Conditions (Sec. 5.7.3.B&G)	- Electrical service to light fixtures shall be placed underground - Flashing light shall not			

Item	Required Code	Proposed	Meets Code	Comments
	be permitted - Only necessary lighting for security purposes & limited operations shall be permitted after a site's hours of operation			
Security Lighting (Sec. 5.7.3.H) Lighting for security purposes shall be directed only onto the area to be secured.	- All fixtures shall be located, shielded, and aimed at the areas to be secured. - Fixtures mounted on the building and designed to illuminate the facade are preferred.			
Required Conditions (Sec. 5.7.3.E)	Average light level of the surface being lit to the lowest light of the surface being lit shall not exceed 4:1			
Required Conditions (Sec. 5.7.3.F)	Use of true color rendering lamps such as metal halide is preferred over high & low pressure sodium lamps			
Min. Illumination (Sec. 5.7.3.K)	Parking areas: 0.2 min			
	Loading & unloading areas: 0.4 min			
	Walkways: 0.2 min			
	Building entrances, frequent use: 1.0 min			
	Building entrances, infrequent use: 0.2 min			
Max. Illumination adjacent to Non-Residential (Sec. 5.7.3.K)	When site abuts a non-residential district, maximum illumination at the property line shall not exceed 1 foot candle			

Item	Required Code	Proposed	Meets Code	Comments
Cut off Angles (Sec. 5.7.3.L)	When adjacent to residential districts: - All cut off angles of fixtures must be 90° - maximum illumination at the property line shall not exceed 0.5 foot candle			
Building Code and Other Requirements				
Accessory Structures (Sec. 4.19)	- Each accessory building shall meet all setback requirements for the zoning district in which the property is situated - Shall meet the façade ordinance standards	Accessory structures are not proposed	NA	
Exterior Building Wall Façade Materials (Sec. 5.15) (Sec. 3.27.1.G)	Façade Region: 1	Deviations are proposed	NO?	<i>They are being considered as part of the current PRO request for Adell Center</i>
Roof top equipment and wall mounted utility equipment Sec. 4.19.2.E.ii	All roof top equipment must be screened and all wall mounted utility equipment must be enclosed and integrated into the design and color of the building	Information not provided	No	Refer to Façade review for more information requested
Building Code	Building exits must be connected to sidewalk system or parking lot.	Sidewalks not shown on the plans	No	Provide a connection from building to sidewalk along Adell Drive
Design and Construction Standards Manual	Land description, Sidwell number (metes and bounds for acreage parcel, lot number(s), Liber, and page for subdivisions).	Lot lines are being reviewed as part of the Site Condominium site plan for Adell Center	No?	Master Deed should be recorded prior to final site plan approval

Item	Required Code	Proposed	Meets Code	Comments
General layout and dimension of proposed physical improvements	Location of all existing and proposed buildings, proposed building heights, building layouts, (floor area in square feet), location of proposed parking and parking layout, streets and drives, and indicate square footage of pavement area (indicate public or private).	Mostly provided. Additional information requested in this and other review letters	No	Provide additional information as requested in all reviews
Economic Impact	<ul style="list-style-type: none"> - Total cost of the proposed building & site improvements - Number of anticipated jobs created (during construction & after building is occupied, if known) 	Not provided	No?	Provide requested information
Signage See link below <u>(Chapter 28, Code of Ordinances)</u>	<ul style="list-style-type: none"> - Signage if proposed requires a permit. - <u>Signage is not regulated by the Planning Commission or Planning Division.</u> 			Refer to Planning review letters for additional comments about signage.
Property Address	The applicant should contact the Building Division for an address prior to applying for a building permit.	One is not required at this time.	No	<u>Submit address application after Final Site Plan approval.</u>
Project and Street Naming Committee	Some projects may need approval from the Street and Project Naming Committee.	Not applicable		
Master Deed	Master Deed should be approved for site condominiums prior to stamping set approval	Lot lines are being reviewed as part of the Site Condominium site plan for Adell Center	No?	Master Deed should be recorded prior to final site plan approval
Future Easements	- A 60 feet ROW with additional 10 feet access easement or 70 feet access easement is required for proposed Adell drive	<p>A 70 feet access easement is provided</p> <p>Cross access/parking easements are required</p>	No?	Refer to Engineering review for additional easements that may be required

Item	Required Code	Proposed	Meets Code	Comments
<p>NOTES:</p> <ol style="list-style-type: none">1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.2. The section of the applicable ordinance or standard is indicated in parenthesis. Please refer to those sections in Article 3, 4, and 5 of the zoning ordinance for further details.3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.				

ENGINEERING REVIEW



PLAN REVIEW CENTER REPORT

10/16/2018

Engineering Review

iFLY

JSP 18-0049

Applicant

SkyGroup Investments, LLC – DBA iFLY

Review Type

Preliminary Site Plan

Property Characteristics

- Site Location: South west of I-96 ramp 'C', east of Adell Drive
- Site Size: 1 acre
- Plan Date: 09/25/2018
- Design Engineer: Kimley-Horn

Project Summary

- Construction of an approximately 6,713 square-foot building and associated parking. Site access would be provided from Adell Drive.
- Water main is proposed in Adell Drive as part of the overall development. A 2.5-inch domestic lead and a 6-inch fire lead would be provided to serve the building.
- Sanitary sewer service is proposed in Adell Drive as part of the overall development. A sanitary sewer lead would be provided to the building.
- Storm water would be collected on this individual unit in storm sewer and discharged to underground detention proposed in the overall development. Storm water quality would need to be addressed for this unit.

Recommendation

Approval of the Preliminary Site Plan and Preliminary Storm Water Management Plan is recommended, with items to be addressed at Final Site plan and pending approval of Adell Center PRO and roads and utilities plans.

Comments:

The Preliminary Site Plan meets the general requirements of the design and construction standards as set forth in Chapter 11 of the City of Novi Codified Ordinance, the Storm Water Management Ordinance and the Engineering Design Manual with the following items to be addressed at the time of Final Site Plan submittal (further engineering detail will be required at the time of the final site plan submittal):

Additional Comments (to be addressed upon Final Site Plan submittal):

General

1. Provide a note on the plans that all work shall conform to the current City of Novi standards and specifications.
2. Provide a minimum of two ties to established section or quarter section corners.
3. Revise the plan set to reference at least one city established benchmark. An interactive map of the City's established survey benchmarks can be found under the 'Map Gallery' tab on www.cityofnovi.org.
4. The Non-domestic User Survey form shall be submitted to the City so it can be forwarded to Oakland County. This form was included in the original site plan package.
5. An access easement from the parcel to the south is required.
6. Provide a construction materials table on the Paving Plan listing the quantity and material type for each pavement cross-section being proposed.
7. Provide a traffic control sign table listing the quantities of each sign type proposed for the development. Provide a note along with the table stating all traffic signage will comply with the current MMUTCD standards.
8. Generally, all proposed trees shall remain outside utility easements. Where proposed trees are required within a utility easement, the trees shall maintain a minimum 5-foot horizontal separation distance from any existing or proposed utility. All utilities shall be shown on the landscape plan, or other appropriate sheet, to confirm the separation distance.
9. Show the locations of all light poles on the utility plan and indicate the typical foundation depth for the pole to verify that no conflicts with utilities will occur. Light poles in a utility easement will require a License Agreement.
10. Standard details are not required with the Final Site Plan submittal. Provide the City's standard detail sheets for water main (5 sheets-rev. 02/16/2018), sanitary sewer (3 sheets- rev. 02/16/2018), storm sewer (2 sheets- rev. 02/16/2018), and paving (2 sheets-rev. 03/05/2018) at the time of the printed Stamping Set submittal. These details can be found on the City's website at this location: <http://cityofnovi.org/Government/City-Services/Public-Services/Engineering-Division/Engineering-Standards-and-Construction-Details.aspx>

Water Main

11. Provide unique shut-off valve within the water main easement for each building service lead.

Sanitary Sewer

12. Include a sanitary sewer basis of design on the utility plan.
13. Each building is required to have a unique sanitary sewer monitoring manhole, within a dedicated 20-foot wide access easement to the

- monitoring manhole from the public right-of-way (rather than a public sanitary sewer easement).
14. Provide a note on the construction materials table that 6-inch sanitary leads shall be a minimum SDR 23.5, and mains shall be SDR 26.
 15. Provide the size and slope of the proposed sanitary sewer lead. Confirm size of sanitary sewer lead stub provided from the sewer main in Adell Drive.
 16. Provide a note on the Utility Plan stating that sanitary leads shall be buried at least 5 feet deep where under the influence of pavement.

Storm Sewer

17. A minimum cover depth of 3 feet shall be maintained over all storm sewers.
18. Provide a schedule listing the casting type and other relevant information for each proposed storm structure on the utility plan. Round castings shall be provided on all catch basins except curb inlet structures.
19. Provide a four-foot deep sump and oil/gas separator in the last storm structure prior to discharge off-site.

Storm Water Management Plan

20. Provide a sheet entitled Storm Water Management Plan (SWMP). The SWMP shall comply with the Storm Water Ordinance and Chapter 5 of the Engineering Design Manual (refer to the runoff coefficients, 1V:4H allowable basin slopes, etc.). Include reference to the overall SWMP for the Adell Center development and demonstrate that the site plan is in accordance with the overall SWMP.
21. The SWMP must detail the storm water system design, calculations, details, and maintenance as stated in the ordinance.
22. Storm water quality must be addressed for the runoff from this site prior to discharge to the underground detention storage system.
 - a. Indicate the proposed location of the first flush storm water quality treatment unit. This unit will require its own Storm Drain Facility Maintenance Easement Agreement.
 - b. Provide manufacturers details and sizing calculations for the pretreatment structure within the plans. Provide drainage area and runoff coefficient calculations specific to the area tributary to each treatment structure.
23. Provide supporting calculations for runoff coefficient determination. A runoff coefficient of 0.35 shall be used for all turf grass lawns (mowed lawns).

Paving & Grading & Floodplain

24. Provide top of curb/walk and pavement/gutter grades to indicate height of curb adjacent to parking stalls or drive areas.
25. The end islands shall conform to the City standard island design, or variations of the standard design, while still conforming to the standards given in Section 2506 of Appendix A of the Zoning ordinance (i.e. 2' minor radius, 15' major radius, minimum 8' wide, 3' shorter than adjacent 19' stall).

26. Refer to City standard paving details for minimum pavement cross sections and sidewalk details.
27. All driveways and access to the site must be paved. Indicate the limits of all proposed pavement with this project, including off-site paving as necessary.

Soil Erosion and Sediment Control

28. A SESC permit is required. The review checklist detailing all SESC requirements is attached to this letter. An informal review will be complete with the Final Site Plan if SESC plans are included in the submittal. The SESC permit application must be submitted under separate cover prior to the start of construction. The application can be found on the City's website at <https://www.cityofnovi.org/Reference/Forms/Bldg-SoilErosionPermitNewDevelopment.aspx>.

Off-Site Easements

29. Any off-site easements anticipated must be executed **prior to final approval of the plans**.
 - a. A cross-access easement is required with unit 2 to the south.
 - b. Temporary construction easement with unit 2 to the south may be required.

The following must be submitted at the time of Final Site Plan submittal:

30. An itemized construction cost estimate must be submitted to the Community Development Department at the time of Final Site Plan submittal for the determination of plan review and construction inspection fees. This estimate should only include the civil site work and not any costs associated with construction of the building or any demolition work. **The cost estimate must be itemized** for each utility (water, sanitary, storm sewer), on-site paving, right-of-way paving (including proposed right-of-way), grading, and the storm water basin (basin construction, control structure, pretreatment structure and restoration).
31. Draft copies of any off-site utility easements, a recent title search, and legal escrow funds must be submitted to the Community Development Department for review and approved by the Engineering Division and the City Attorney prior to getting executed.

The following must be submitted at the time of Stamping Set submittal:

32. A draft copy of the maintenance agreement for the storm water facilities, as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department with the Final Site Plan. Once the form of the agreement is approved, this agreement must be approved by City Council and shall be recorded in the office of the Oakland County Register of Deeds.
33. Draft copy of 20 foot water main easement proposed on the site must be submitted to Community Development.

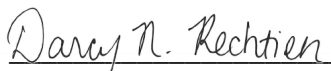
34. A draft copy of the 20-foot wide access easement for the sanitary sewer monitoring manhole to be constructed on the site must be submitted to the Community Development Department.
35. Executed copies of reviewed and approved off-site easements, if applicable.

The following must be addressed prior to construction:

36. A pre-construction meeting shall be required prior to the commencement of any site work. Please contact Sarah Marchioni in the Community Development Department to setup a meeting (248-347-0430).
37. A City of Novi Grading Permit will be required prior to any grading on the site. This permit will be issued at the pre-construction meeting (no application fee).
38. A Soil Erosion Control Permit must be obtained from the City of Novi. Contact Sarah Marchioni in the Community Development Department (248-347-0430) for forms and information.
39. Construction Inspection Fees, to be determined once the construction cost estimate is submitted, must be paid prior to the pre-construction meeting.
40. A storm water performance guarantee, equal to 1.2 times the amount required to complete storm water management and facilities as specified in the Storm Water Management Ordinance, must be posted with Community Development.
41. A street sign financial guarantee in an amount to be determined (\$400 per traffic control sign proposed) must be posted with Community Development.

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Darcy Rechten at (248) 735-5695 with any questions.



Darcy N. Rechten, P.E.

cc: George Melistas, Engineering
Sri Komaragiri, Community Development

LANDSCAPE REVIEW



PLAN REVIEW CENTER REPORT

October 8, 2018

Preliminary Site Plan - Landscaping

IFly

Review Type

Preliminary Landscape Review

Job

JSP18-0049

Property Characteristics

- Site Location: Adell Development – Unit 1
- Site Acreage: x acres
- Site Zoning: TC
- Adjacent Zoning: North: I-96
East, West, South: TC
- Plan Date: 9/25/2018

Ordinance Considerations

This project was reviewed for conformance with Chapter 37: Woodland Protection, Zoning Article 5.5 Landscape Standards, the Landscape Design Manual and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed and incorporated as part of the revised Preliminary/Final Site Plan submittal. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review and the accompanying Landscape Chart are summaries and are not intended to substitute for any Ordinance.

Recommendation

This project is **recommended for approval**. There are no major deviations from the ordinance, although the calculations will need to be updated per our revised ordinance and landscape design manual and some revisions will be needed based on those. The locations of the revised guidelines can be found on the accompanying landscape chart.

Ordinance Considerations

Existing Soils (Preliminary Site Plan checklist #10, #17)

Provided.

Existing and proposed overhead and underground utilities, including hydrants.(LDM 2.e.(4))

1. Provided.
2. There are no overhead utility lines in the vicinity of the project.
3. **Please space all trees and utility structures, including gate valves, at least 10 feet from each other. Trees also need to be at least 3 feet behind curbs.**

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. The only "existing" trees on the site will be the trees planted on the berm and around the cul-de-sac, which are to be planted by the overall project developer.
2. **Please show all plantings in those areas as existing, and label them as being provided by others.**
3. **Please show tree fencing at the Critical Root Zone (1' beyond dripline) for all berm trees to be planted as part of the Roads & Utilities.**
4. **Please include a tree protection fencing detail with fence located at Critical Root Zone (1' beyond dripline).**

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

Property is not adjacent to Residential.

Adjacent to Public Rights-of-Way – Berm (Wall) & Buffer (Zoning Sec. 5.5.3.B.ii and iii)

1. The berm and plantings along I-96 are to be installed by the overall development contractor.
2. **Please show the berm and all berm plantings on the landscape plan. Show them as “To be completed by others” and make any revisions to IFly plan as necessary to work with those plantings.**

Street Tree Requirements (Zoning Sec. 5.5.3.E.i.c and LDM 1.d.)

The project is not immediately adjacent to a street so no street trees are required.

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

1. Based on the vehicular use areas, 1,526 sf of islands and 8 trees are required. 1,680 sf of islands and 8 trees are provided.
2. **Please label each island with its area in square feet.**
3. **Please enlarge the islands if necessary to meet the minimum size requirements.**
4. **Please revise the calculations per the updated ordinance.**

Parking Lot Perimeter Canopy Trees (Zoning Sec. 5.5.3.C.(3) Chart footnote)

1. No calculations are provided. **Please add the calculations per the updated requirements.**
2. **Please show the line used for calculation of the perimeter.**
3. **Please add the required trees, if necessary, and label all perimeter trees as perimeter trees.**

Loading Zone screening (Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)

1. No loading zone screening is required as part of this project.
2. **If a loading zone is required, please screen it completely from I-96 and Adell Drive.**

Building Foundation Landscape (Zoning Sec 5.5.3.D.)

1. Based on the building perimeter, 2,680 sf of area are required. 3,720sf are shown as being provided. **Please label each area in SF.**
2. Any missing foundation landscaping should be replaced per Section 5.5.7.

Plant List (LDM 2.h. and t.)

1. **Please label the plantings with plant labels indicating species and quantity, and add quantities to the Plant List**
2. 10 of 19 species proposed are native to Michigan. This is acceptable.
3. Please revise the standard costs on the cost summary to use those listed on the landscape chart.

Planting Notations and Details (LDM)

Please add the notes and details requested on the landscape chart.

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 1.d.(3))

No above-ground detention is proposed, so no detention landscaping is required.

Irrigation (LDM 1.a.(1)(e) and 2.s)

1. The proposed landscaping must be provided with sufficient water to become established and survive over the long term.

2. Please note how this will be accomplished if an irrigation plan is not provided.

Proposed topography. 2' contour minimum (LDM 2.e.(1))
Provided.

Snow Deposit (LDM.2.q.)

Please indicate areas for snow deposit that won't harm landscaping.

Proposed trees to be saved (Sec 37 Woodland Protection 37-9, LDM 2.e.(1))

1. **Please show all proposed plantings from the Road and Utilities Plan on the landscape plan as existing and label as To Be Provided by others.**
2. **Please provide tree fencing to berm landscaping.**

Corner Clearance (Zoning Sec 5.9)

Please add the clear vision zone to the western entry.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5621 or rmeader@cityofnovi.org.



Rick Meader – Landscape Architect

LANDSCAPE REVIEW SUMMARY CHART – PRELIMINARY SITE PLAN

Review Date: October 8, 2018
Project Name: JSP18 – 0049: IFLY
Plan Date: September 25, 2018
Prepared by: Rick Meader, Landscape Architect E-mail: rmeader@cityofnovi.org;
 Phone: (248) 735-5621

Items in **Bold** need to be addressed by the applicant before approval of the Preliminary Site Plan. Underlined items need to be addressed for Final Site Plan.

The plan was developed using our old landscape regulations. Please revise as necessary per the revised landscape ordinance and landscape design manual, which can be found at these locations:

REVISED LANDSCAPE ORDINANCE:

<http://cityofnovi.org/Reference/Code-of-Ordinances-and-City-Charter/18-283LandscapeStandards.aspx>

REVISED LANDSCAPE DESIGN MANUAL:

<http://cityofnovi.org/Government/City-Services/Community-Development/Information-Requirements-Sheets,-Checklists,-Manua/LandscapeDesignManual.aspx>

Item	Required	Proposed	Meets Code	Comments
Landscape Plan Requirements (LDM (2))				
Landscape Plan <i>(Zoning Sec 5.5.2, LDM 2.e.)</i>	<ul style="list-style-type: none"> ▪ New commercial or residential developments ▪ Addition to existing building greater than 25% increase in overall footage or 400 SF whichever is less. ▪ 1" =20' minimum with proper North. Variations from this scale can be approved by LA ▪ Consistent with plans throughout set 	Scale: 1" =20'	Yes	
Project Information <i>(LDM 2.d.)</i>	Name and Address	Yes	Yes	
Owner/Developer Contact Information <i>(LDM 2.a.)</i>	Name, address and telephone number of the owner and developer or association	No	No	Please include this information on the landscape plan.
Landscape Architect contact information <i>(LDM 2.b.)</i>	Name, Address and telephone number of RLA	Yes	Yes	Please include name and license type and state of landscape architect who created

Item	Required	Proposed	Meets Code	Comments
				the plan on the landscape plan.
Sealed by LA. <i>(LDM 2.g.)</i>	Requires original signature	Yes	Yes	<u>Need for Final Site Plans</u>
Miss Dig Note (800) 482-7171 <i>(LDM.3.a.(8))</i>	Show on all plan sheets	Yes	Yes	
Zoning <i>(LDM 2.f.)</i>	Include all adjacent zoning	<u>Parcel: TC</u> <u>North: I-96</u> <u>East, South, West: TC</u>	No	Please show zoning of adjacent parcels on landscape plan.
Survey information <i>(LDM 2.c.)</i>	<ul style="list-style-type: none"> ▪ Legal description or boundary line survey ▪ Existing topography 	Existing conditions of overall development provided on Sheet 5	Yes	
Existing plant material Existing woodlands or wetlands <i>(LDM 2.e.(2))</i>	<ul style="list-style-type: none"> ▪ Show location type and size. Label to be saved or removed. ▪ Plan shall state if none exists. 	Existing plantings for entire site, prior to any development are shown.	Yes/No	Please show all proposed trees and other landscaping from the Roads and Utilities Plan along I-96 and the Adell Drive cul-de-sac as existing on the landscape plan to avoid conflicts with proposed landscaping.
Soil types <i>(LDM.2.r.)</i>	<ul style="list-style-type: none"> ▪ As determined by Soils survey of Oakland county ▪ Show types, boundaries 	Urban Land	Yes	
Existing and proposed improvements <i>(LDM 2.e.(4))</i>	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	Yes	Yes	
Existing and proposed utilities <i>(LDM 2.e.(4))</i>	Overhead and underground utilities, including hydrants	<ul style="list-style-type: none"> • All proposed utilities are shown. • Proposed light fixtures are shown. 	Yes	Please adjust the tree and/or hydrant and its associated gate valve in the southeast island to plant the required tree at least 3 feet behind the curb and at least 10 feet from both structures.
Proposed grading. 2' contour minimum <i>(LDM 2.e.(1))</i>	Provide proposed contours at 2' interval	Proposed contours are provided.	No	Please show grading from Roads and Utilities plan that shows berm along I-96 frontage, and indicate whether it will be built by others.

Item	Required	Proposed	Meets Code	Comments
Snow deposit (LDM.2.q.)	Show snow deposit areas on plan	No	No	Please indicate snow deposit areas that won't harm landscaping.
LANDSCAPING REQUIREMENTS				
Parking Area Landscape Requirements LDM 1.c. & Calculations (LDM 2.o.)				
General requirements (LDM 1.c)	<ul style="list-style-type: none"> ▪ Clear sight distance within parking islands ▪ No evergreen trees 	No	No	Please show clear vision zone per 5.9 at entries to access drive.
Name, type and number of ground cover (LDM 1.c.(5))	As proposed on planting islands	Yes	Yes	Sod is indicated on islands.
General (Zoning Sec 5.5.3.C.ii)				
Parking lot Islands (a, b. i)	<ul style="list-style-type: none"> ▪ A minimum of 200 SF to qualify ▪ A minimum of 200sf unpaved area per tree planted in an island ▪ 6" curbs ▪ Islands minimum width 10' BOC to BOC 	Yes	TBD	<ol style="list-style-type: none"> 1. Please label SF of individual islands' unpaved area (should not include sidewalks). 2. Please dimension widths of islands. 3. Please increase area of islands as necessary.
Curbs and Parking stall reduction (c)	Parking stall can be reduced to 17' and the curb to 4" adjacent to a sidewalk of minimum 7 ft.	<ul style="list-style-type: none"> • Front and east parking area spaces are 19' long • West parking area spaces are 17' long. 	Yes	The longer spaces can be shortened to 17' long if desired since required overhang space is available.
Contiguous space limit (j)	Maximum of 15 contiguous spaces	12 is maximum bay length	Yes	
Plantings around Fire Hydrant (d)	<ul style="list-style-type: none"> • No plantings with matured height greater than 12 feet within 10 ft. of fire hydrants or utility structures. • Plantings should also be 5 feet away from underground utility lines. 	<ul style="list-style-type: none"> • Tree in southeast corner is 10 feet away from hydrant, but less than 10 feet from the gate valve. • A perimeter tree on west parking lot edge would be within 10 feet of the catch basin if the basin is located in the curb. 	Yes	If the catch basin is located within the curb, please shift perimeter trees along west parking lot edge to be at least 10 feet from the catch basin.
Landscaped area (g)	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	Sod is indicated	Yes	

Item	Required	Proposed	Meets Code	Comments
Clear Zones (LDM 2.3.(5))	25 ft corner clearance required. Refer to Zoning Section 5.5.9	NA – Plantings that would impact the site vision for this location would be on the parcel to the south.		Please show the 25' clear vision zone on the plan for the western entry.
Category 1: For OS-1, OS-2, OSC, OST, B-1, B-2, B-3, NCC, EXPO, FS, TC, TC-1, RC, Special Land Use or non-residential use in any R district (Zoning Sec 5.5.3.C.iii)				
A = Total square footage of vehicular use areas up to 50,000sf x 7.5%	<ul style="list-style-type: none"> A = x sf * 7.5 % = A sf 20,355 * 7.5% = 1526 sf 	1680 sf	Yes	Please revise the calculation per the updated regulations.
B = Total square footage of additional paved vehicular use areas (not including A or B) over 50,000 SF) x 1 %	<ul style="list-style-type: none"> B = x sf * 1% = B sf (xxx – 50000) * 1% = xx sf 	NA	Yes	
Category 2: For: I-1 and I-2 (Zoning Sec 5.5.3.C.iii)				
A. = Total square footage of vehicular use area up to 50,000 sf x 5%	A = x sf * 5% = A sf	NA		
B = Total square footage of additional paved vehicular use areas over 50,000 SF x 0.5%	B = 0.5% x 0 sf = B SF	NA		
All Categories				
C = A+B Total square footage of landscaped islands	1526 + 0 = 1526 SF	1680 sf	TBD	<ol style="list-style-type: none"> Please label each island with its area in SF. Each landscape island must have 200sf green area per tree planted in it. Please enlarge islands if necessary.
D = C/200 Number of canopy trees required	<ul style="list-style-type: none"> xx/200 = xx Trees 1526/200 = 8 trees 	8 trees	Yes	<ol style="list-style-type: none"> Please revise the calculation per the updated regulations. Please indicate what trees are interior vs perimeter.
Perimeter Green space	<ul style="list-style-type: none"> 1 Canopy tree per 35 lf 	12 provided	Yes	1. Please clearly show a line that is used as the basis of the calculations. The edges near the building do not need

Item	Required	Proposed	Meets Code	Comments
				to be included, and greenbelt trees planted within 15' of the parking lot perimeter can be double-counted as perimeter trees. 2. Please revise the calculation per the updated regulations. 3. Please add perimeter trees if required to meet the requirement.
Accessway perimeter	<ul style="list-style-type: none"> ▪ 1 canopy tree per 35 lf on each side of road, less widths of access drives. ▪ (xx lf)/35 = xx trees 		TBD	Please include accessway perimeter in overall parking lot perimeter.
Parking land banked	NA	No		
Berms, Walls and ROW Planting Requirements				
Berms				
<ul style="list-style-type: none"> ▪ All berms shall have a maximum slope of 33%. Gradual slopes are encouraged. Show 1ft. contours ▪ Berm should be located on lot line except in conflict with utilities. ▪ Berms should be constructed with 6" of top soil. 				
Residential Adjacent to Non-residential (Sec 5.5.3.A) & (LDM 1.a)				
Berm requirements (Zoning Sec 5.5.A)	Site is not adjacent to residential so this berm is not required.	NA		
Planting requirements (LDM 1.a.)	LDM Novi Street Tree List	NA		
Adjacent to Public Rights-of-Way (Sec 5.5.B) and (LDM 1.b)				
Berm requirements (Zoning Sec 5.5.3.A.(5))	A 3 foot tall berm was required as part of Roads and Utilities project.	Berm is shown on grading plan but is not shown on the landscape plan.	No	1. Please show the required berm from the Roads and Utilities plan on the landscape plan. 2. Please indicate whether the berm will be built by IFly or overall developer.
Cross-Section of Berms (LDM 2.j)				
Slope, height and width	<ul style="list-style-type: none"> ▪ Label contour lines ▪ Maximum 33% ▪ Min. 3 feet flat horizontal area ▪ Minimum 3 feet high ▪ Constructed of loam 	No		Since the berm will be built by others, the berm cross section is not necessary.

Item	Required	Proposed	Meets Code	Comments
	with 6' top layer of topsoil.			
Type of Ground Cover		Sod is indicated for entire site.		
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft. setback from closest pole	No overhead utility lines will exist on the site.		
Walls (LDM 2.k & Zoning Sec 5.5.3.vi)				
Material, height and type of construction footing	Freestanding walls should have brick or stone exterior with masonry or concrete interior	No walls are proposed.		
Walls greater than 3 ½ ft. should be designed and sealed by an Engineer		No walls are proposed.		
ROW Landscape Screening Requirements (Sec 5.5.3.B. ii)				
Greenbelt width (2)(3) (5)	Parking: 20 ft. No Pkg: 0 ft	Parking: 20 ft No pkg: 35 ft	Yes	
Min. berm crest width	3 ft	3' (to be built by others)	Yes	Please show berm on landscape plan.
Minimum berm height (9)	3 ft	3' (to be built by others)	Yes	Please show berm on landscape plan.
3' wall	(4)(7)	No		
Canopy deciduous or large evergreen trees Notes (1) (10)	<u>I-96 Frontage</u> <ul style="list-style-type: none"> ▪ Parking: 1 tree per 25 lf ▪ $(205+187-245)/25 = 6$ trees ▪ No Pkg: 1 per 30 ft ▪ $(110+135)/30 = 8$ trees ▪ In TC district, only Large Canopy tree or Subcanopy tree requirements need to be met, not both. 	<u>On IFLY plans:</u> 8 evergreen trees	TBD	<ol style="list-style-type: none"> 1. Please show greenbelt trees from Road & Utilities Plan. 2. Please indicate greenbelt plantings to be planted by others, if that is the case. 3. If necessary, please adjust your proposed plantings to work with existing trees.
Sub-canopy deciduous trees Notes (2)(10)	<u>I-96 Frontage</u> <ul style="list-style-type: none"> ▪ Parking: 1 tree per 15 lf ▪ $(205+187-245)/15 = 10$ trees ▪ No Pkg: 1 per 20 ft ▪ $(110+135)/20 = 12$ trees ▪ In TC district, only Large Canopy tree or Subcanopy tree requirements need to be met, not both. 	<u>On IFLY plans:</u> 0 trees	TBD	See above

Item	Required	Proposed	Meets Code	Comments
Canopy deciduous trees in area between sidewalk and curb <i>(Novi Street Tree List)</i>	NA			
Non-Residential Zoning Sec 5.5.3.E.iii & LDM 1.d (2)				
Refer to Planting in ROW, building foundation landscape, parking lot landscaping and LDM				
Screening of outdoor storage, loading/unloading <i>(Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)</i>	If a loading zone is proposed, it must be completely screened from roads and adjacent properties.	No loading zones or screening are proposed.	TBD	
Transformers/Utility boxes <i>(LDM 1.e from 1 through 5)</i>	<ul style="list-style-type: none"> ▪ A minimum of 2ft. separation between box and the plants ▪ Ground cover below 4" is allowed up to pad. ▪ No plant materials within 8 ft. from the doors 	Transformer at northeast corner of building appears to be screened on north and west sides, but not south or east sides.	No	<ul style="list-style-type: none"> ▪ Please completely screen the transformer per the standard city detail. ▪ Please attach the screening detail to the landscape plan.
Building Foundation Landscape Requirements (Sec 5.5.3.D)				
Interior site landscaping SF	<ul style="list-style-type: none"> ▪ Equals to entire perimeter of the building x 8 with a minimum width of 4 ft. ▪ A: (366-5-9-12-5) If x 8ft = 2680 SF 	A: 3720 sf	Yes	<ol style="list-style-type: none"> 1. Please label SF of foundation landscape areas provided. 2. <u>Foundation plantings are to be included in cost estimate.</u>
<i>Zoning Sec 5.5.3.D.ii. All items from (b) to (e)</i>	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	It appears that over 90% of the building frontages facing I-96 and Adell will be landscaped.	Yes	
Detention/Retention Basin Requirements (Sec. 5.5.3.E.iv)				
Planting requirements <i>(Sec. 5.5.3.E.iv)</i>	<ul style="list-style-type: none"> ▪ Clusters shall cover 70-75% of the basin rim area ▪ 10" to 14" tall grass along sides of basin ▪ Refer to wetland for basin mix 	NA - The site's storm water is being treated by overall development's underground storm structures.		
Phragmites Control <i>(Sec 5.5.6.C)</i>	<ul style="list-style-type: none"> ▪ Any and all populations of Phragmites australis on site shall be included on tree survey. ▪ Treat populations per MDEQ guidelines and requirements to eradicate the weed 	The overall development's developer is handling all Phragmites removals on the site.		

Item	Required	Proposed	Meets Code	Comments
	from the site.			
LANDSCAPING NOTES, DETAILS AND GENERAL REQUIREMENTS				
Landscape Notes – Utilize City of Novi Standard Notes				
Installation date <i>(LDM 2.i. & Zoning Sec 5.5.5.B)</i>	Provide intended date	Between Mar 15 and Nov 15.	No	Please add note
Maintenance & Statement of intent <i>(LDM 2.m & Zoning Sec 5.5.6)</i>	<ul style="list-style-type: none"> ▪ Include statement of intent to install and guarantee all materials for 2 years. ▪ Include a minimum one cultivation in June, July and August for the 2-year warranty period. 	No	No	Please add notes
Plant source <i>(LDM 2.n & LDM 3.a.(2))</i>	Shall be northern nursery grown, No.1 grade.	No	No	Please add note
Irrigation plan <i>(LDM 2.s.)</i>	A fully automatic irrigation system or a method of providing sufficient water for plant establishment and survival is required on Final Site Plans.	No	No	<u>Please add irrigation plan or information as to how plants will be watered sufficiently for establishment and long-term survival. If xeriscaping is used, please provide information about plantings included.</u>
Other information <i>(LDM 2.u)</i>	Required by Planning Commission	NA		
Establishment period <i>(Zoning Sec 5.5.6.B)</i>	2 yr. Guarantee	No	No	Please add note
Approval of substitutions. <i>(Zoning Sec 5.5.5.E)</i>	City must approve any substitutions in writing prior to installation.	No	No	Please add note
Plant List (LDM 2.h.) – Include all cost estimates				
Quantities and sizes	Refer to LDM suggested plant list	No	No	1. Please add plant labels for all proposed plantings by species and count. 2. Please add plant list
Root type		No	No	See above
Botanical and common names		No	No	See above
Type and amount of lawn		Sod is proposed		<u>Please add areas of each in cost table.</u>
Cost estimate <i>(LDM 2.t)</i>		For all new plantings, mulch and sod as listed	Yes	No

Item	Required	Proposed	Meets Code	Comments
	on the plan			standard costs: <ul style="list-style-type: none"> ▪ <u>Deciduous canopy tree: \$400 ea</u> ▪ <u>Evergreen tree: \$325 ea</u> ▪ <u>Subcanopy tree: \$250 ea</u> ▪ <u>Shrubs: \$50 ea</u> ▪ <u>Perennials/Grasses/etc: \$15 ea</u> ▪ <u>Sod: \$6/sy</u> ▪ <u>Mulch: \$35/cyd</u>
Planting Details/Info (LDM 2.i) – Utilize City of Novi Standard Details				
Canopy Deciduous Tree	Refer to LDM for detail drawings	No	No	1. Please add to plan 2. City of Novi standard notes and details are available upon request.
Evergreen Tree		No	No	Please add to plan
Shrub		No	No	Please add to plan
Perennial/ Ground Cover		No	No	Please add to plan
Tree stakes and guys. (Wood stakes, fabric guys)		No	No	Please add to plan
Tree protection fencing	Located at Critical Root Zone (1' outside of dripline)	No	No	Please add to plan to protect berm plantings.
Other Plant Material Requirements (LDM 3)				
General Conditions <i>(LDM 3.a)</i>	Plant materials shall not be planted within 4 ft. of property line	Yes	Yes	Please add note near property lines stating this.
Plant Materials & Existing Plant Material <i>(LDM 3.b)</i>	Clearly show trees to be removed and trees to be saved.	No	No	Please show berm plantings that will be planted per the Roads & Utilities Plan as existing, and to be planted by others.
Landscape tree credit <i>(LDM3.b.(d))</i>	Substitutions to landscape standards for preserved canopy trees outside woodlands/wetlands should be approved by LA. Refer to Landscape tree Credit Chart in LDM	No		No trees outside of woodlands/wetlands are being saved.
Plant Sizes for ROW, Woodland replacement and	2.5" canopy trees 6' evergreen trees		TBD	Show plant sizes on plant list

Item	Required	Proposed	Meets Code	Comments
others (LDM 3.c)				
Plant size credit (LDM3.c.(2))	NA	No		
Prohibited Plants (LDM 3.d)	No plants on City Invasive Species List	None are indicated on the plant list	Yes	
Recommended trees for planting under overhead utilities (LDM 3.e)	Label the distance from the overhead utilities		TBD	1. Please clearly indicate any overhead lines. 2. If none exist, please add a note to landscape plan stating this.
Collected or Transplanted trees (LDM 3.f)		No		
Nonliving Durable Material: Mulch (LDM 4)	<ul style="list-style-type: none"> ▪ Trees shall be mulched to 3" depth and shrubs, groundcovers to 2" depth ▪ Specify natural color, finely shredded hardwood bark mulch. Include in cost estimate. ▪ Refer to section for additional information 	Yes	Yes	

NOTES:

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
2. The section of the applicable ordinance or standard is indicated in parenthesis. For the landscape requirements, please see the Zoning Ordinance landscape section 5.5 and the Landscape Design Manual for the appropriate items under the applicable zoning classification.
3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.

TRAFFIC REVIEW



AECOM
27777 Franklin Road
Southfield
MI, 48034
USA
aecom.com

Project name:
JSP18-0049 – iFly Novi Preliminary Site Plan
Traffic Review

From:
AECOM

Date:
October 16, 2018

To:
Barbara McBeth, AICP
City of Novi
45175 10 Mile Road
Novi, Michigan 48375

CC:
Sri Komaragiri, Lindsay Bell, George Melistas, Darcy
Rechtien, Hannah Smith

Memo

Subject: JSP18-0049 iFly Novi Preliminary Site Plan Traffic Review

The preliminary site plan was reviewed to the level of detail provided and AECOM **recommends denial** for the applicant to move forward based on several design elements that should be further reviewed and until the comments provided below are adequately addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, SkyGroup Investments, LLC, is proposing a 6,713 SF iFly Building as part of the overall Adell Center multi-use development on Adell Drive off of Expo Center Drive.
2. Expo Center Drive is under the jurisdiction of the City of Novi and Adell Drive is a private roadway.
3. The parcel is currently zoned EXPO, and the applicant of the Adell Center multi-use development is proposing to rezone to TC (Town Center District) with a Planned Rezoning Overlay (PRO).
4. Summary of traffic-related waivers/variances:
 - a. **Waivers may be required for lack of a trash receptacle and/or loading zone.**

TRAFFIC IMPACTS

1. Trip generation estimates were previously provided as part of the Adell Center PRO Concept plan. Because this is a unique land use, additional trip generation information is not available at this time.
2. The number of trips is not expected to exceed the City’s threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour. AECOM recommends performing the following traffic impact study in accordance with the City’s requirements:

Traffic Impact Study Recommendation	
Type of Study	Justification
None	N/A

EXTERNAL SITE ACCESS AND OPERATIONS

1. The applicant shall indicate the design and dimensions for the driveway from Adell Drive between Unit 2 and iFly as part of the iFLY site plan. While this drive may not be entirely on the iFLY site, the driveway connection will be required for iFLY to become operational.

- a. Refer to Figure IX.1 in the City's Code of Ordinances for design requirements for the external site driveway.
- b. The applicant should dimension the width and radii information to ensure compliance with Figure IX.1.
2. An off-site access easement will be required for the proposed driveway from Adell Drive that is located primarily within the Unit 2 parcel.
3. The applicant will be required to pave the driveway from Adell Drive to the westernmost iFLY driveway in order to meet design requirements and service all proposed driveways within this submittal.

INTERNAL SITE OPERATIONS

The following comments relate to the on-site design and traffic flow operations.

1. General Traffic Flow
 - a. The applicant has indicated 26' aisles throughout the site. The applicant should consider reducing the aisle widths to the 24' minimum requirement.
 - b. The applicant should provide dimensions of the turning areas on the north side of the site in order to review that there is adequate room for vehicles parked adjacent to the turning area to exit.
 - c. The applicant should include dimensions for the radii and width of the proposed end islands throughout the site to review accessibility and compliance with City requirements as stated in Section 5.3.12 of the Zoning Ordinance.
 - i. Note that all end islands adjacent to a travel way shall be constructed three (3) feet shorter than the adjacent parking space.
 - ii. The end island outside radii is required to be a minimum of 15'.
 - d. The applicant has not proposed a trash receptacle on the site.
 - i. The applicant should provide the location and confirm that the trash receptacle is accessible by trash collection vehicles via turning movement paths.
 - e. The applicant should provide details for a loading zone as applicable and required by the Zoning Ordinance.
 - i. The applicant should indicate the location and size of the proposed loading zone, as required by Section 5.4 of the Zoning Ordinance.
 - ii. The applicant should provide truck travel patterns throughout the site to confirm accessibility to/from the loading zone, as applicable.
2. Parking Facilities
 - a. The applicant has indicated variable parking space lengths.
 - i. The applicant should refer to Section 5.3.2 of the City's Zoning Ordinance and provide either 17' or 19' long parking spaces.
 - ii. The applicant should indicate the proposed curb type and curb height throughout the site.
 - iii. A 6" curb height is required for all landscaped areas and in front of 19 foot long parking spaces.
 - iv. Alternatively, the applicant may install 4" curbs with 17 foot long parking spaces and a clear 2 foot overhang in order to reduce the amount of impermeable surface on the site.
 - v. The applicant should indicate which spaces are designated as van accessible.
 - vi. The accessible parking spaces may be reduced to eight feet in width with an eight foot aisle.
 - b. The applicant has indicated the accessible route via a sidewalk ramp, but should include a detail and grading information to review the design.
 - c. The applicant shall refer to the Planning Review Letter for parking quantity requirements.
 - d. The three (3) parking spaces east of the accessible parking spaces in the front of the building are located beyond the stop sign and conflicts may occur with those cars trying to exit the parking space and the site. The applicant should consider altering this area, which may require the removal of these spaces.
 - e. A minimum of two (2) bicycle parking spaces are required. The applicant should indicate where the bicycle parking is located along with dimensional details to ensure compliance with Section 5.16.1 of the City's Zoning Ordinance. Note that a 6 foot accessible route is required from the adjacent street to the bicycle parking facilities.

3. Sidewalk Requirements

- a. The applicant is generally proposing 5' or 7' wide sidewalks throughout the site, which is in compliance with City standards.
- b. The applicant has included a sidewalk connection between Adell Drive and the iFly facility, and should indicate the width.
- c. The applicant should label sidewalk ramps on the plans and include the latest Michigan Department of Transportation (MDOT) detail.

SIGNING AND STRIPING

1. All on-site signing and pavement markings shall be in compliance with the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). The following is a discussion of the proposed signing and striping.
 - a. The applicant should provide a signing quantities table and additional details (quantity and proposed size) in future submittals.
 - b. The applicant should include the R7-8p under the R7-8 sign for the van accessible parking space(s).
2. The applicant should indicate the proposed signing on site and provide notes and details related to the proposed signing.
 - a. Single signs with nominal dimensions of 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post. Multiple signs and/or signs with nominal dimension greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post as dictated by the weight of the proposed signs.
 - b. The applicant should indicate a bottom height of 7' from final grade for all signs installed.
 - c. The applicant should indicate that all signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign.
 - d. Traffic control signs shall use the FHWA Standard Alphabet series.
 - e. Traffic control signs shall have High Intensity Prismatic (HIP) sheeting to meet FHWA retroreflectivity requirements.
3. The applicant shall include parking space striping notes to indicate that:
 - a. The standard parking spaces shall be striped with four (4) inch white stripes.
 - b. The accessible parking space and associated aisle should be striped with four (4) inch blue stripes.
 - c. Where a standard space is adjacent to an accessible space, abutting blue and white stripes shall be installed.
4. The applicant should provide a detail for the proposed international symbol for accessibility pavement markings that may be placed in the accessible parking space. The symbol shall be white or white with a blue background and white border with rounded corners.
5. The applicant should provide a detail for the proposed crosswalk pavement markings.
6. The applicant shall provide details for the proposed stop bar pavement markings.

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,

AECOM



Maureen N. Peters, PE
Senior Traffic/ITS Engineer



Paula K. Johnson, PE

Memo

Senior Transportation Engineer

FAÇADE REVIEW



October 19, 2018

Façade Review Status Summary:
Approved, Section 9 Waiver Recommended

City of Novi Planning Department
 45175 W. 10 Mile Rd.
 Novi, MI 48375- 3024

Re: **FACADE ORDINANCE REVIEW (Preliminary Site Plan)**
iFLY at Adell Center, JSP18-49
 Façade Region: 1, Zoning District: Rezoning to TC-1

The following is façade review for the above referenced project. This project is required to comply with the Façade Ordinance Section 5.15 and the Town Center (TC) Ordinance, Section 3.27.G. The percentages of materials proposed for each façade are as shown in the tables below. Materials in non-compliance are highlighted in bold.

iFLY Indoor Skydiving (Rendering Dated 10/19/18)	Front	Right	Left	Rear	Façade Ordinance Maximum (Minimum)
Brick	25%	20%	20%	25%	100% (30% Min)
Brick and Stone Combined	25%	20%	20%	25%	50% (TC Ord.)
Flat Metal Panels	75%	80%	80%	75%	50%

In response to our and staff comments the applicant has added Brick to the lower 20' of the building, added vertical accents on the front and rear elevations, and incorporated a more well defined main entrance. The iFLY logo has been relocated to within the building and will be visible through the clearstory glass above the main entrance. The building incorporates a sign and / or logo on all facades. Information as to the type of sign (internally illuminated, painted, channel letter, etc.) was not provided. In general the signs and logos do not appear to be detrimental to the aesthetic quality of the building. The Façade Ordinance prohibits the use of façade materials to form the background of a sign so as to increase the visual presence of the building for the purpose of advertising. In this case the sample board provided indicates colors that are consistent with the overall façade and do not constitute the background of the signs and / or logos.

Recommendation – Although the percentage of Brick and Flat Metal Panels deviates from the percentages allowed by the Ordinance, we believe that the proposed revisions represent a significantly improvement in the overall appearance of the building and the overall design is now consistent with the intent and purpose of the Façade Ordinance. For that reason it is our recommended that a Section 9 Waiver be granted for the underage of Brick and Stone and the overage of Flat metal Panels.

General Façade Requirements;

1. It should be noted that revisions after approval and any deviation from specific Section 9 Waivers granted will require reapplication as described in Section 5.15.10 of the Façade Ordinance. Except for the specific Section 9 Waivers granted, all building and sample boards must comply with the Façade Ordinance at the time of Preliminary Site Plan application.
2. All roof top equipment must be screened from view from all on-site and off-site vantage points using compliant materials consistent with the building design. In this case the elevated views from the nearby highway overpass would be included.
3. Dumpster enclosures (excluding doors) are required to be constructed of brick or stone matching the primary buildings.
4. Monument signs, guard houses, gated entrance pedestals and other structures, if any are required to comply with the Façade Ordinance.
5. Inspections – The Façade Ordinance requires inspection(s) for all projects. Materials displayed on the approved sample board will be compared to materials delivered to the site. It is the applicant’s responsibility to request the inspection of each façade material at the appropriate time. Inspections may be requested using the Novi Building Department’s Online Inspection Portal with the following link. Please click on “Click here to Request an Inspection” under “Contractors”, then click “Façade”. <http://www.cityofnovi.org/Services/CommDev/OnlineInspectionPortal.asp>.

If you have any questions regarding this matter please contact the City of Novi Department of Planning and Community Development.

Sincerely,
DRN & Architects PC



Douglas R. Necci, AIA
Novi Façade Consultant

FIRE REVIEW



October 3, 2018

TO: Barbara McBeth- City Planner
Sri Ravali Komaragiri- Plan Review Center
Lindsay Bell-Plan Review Center
Hannah Smith-Planning Assistant

RE: iFly Novi

PSP# 18-0150

CITY COUNCIL

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Mayor Pro Tem
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Director of EMS/Fire Operations
Jeffery R. Johnson

Assistant Chief of Police
Erick W. Zinser

Assistant Chief of Police
Scott R. Baetens

Project Description:

Build a 65' tall structure with a foot print of 6713 S.Q. F.T. at the end of Adell Drive.

Comments:

- **All** fire hydrants **MUST** in installed and operational prior to any building construction begins.
- The turning radius for the parking lot to the east of the proposed structure doesn't meet city standards, **50' outside and 30' inside turning radius IFC 504.2.4.**
- The landscaping near the east fire hydrant **MUST** be keep 3' of clearance around it.
- FDC location **MUST** be within 100' from a fire hydrant.
- A Hazardous Chemical Survey **MUST** be filled out and returned to the Fire Marshal's office for review.
- **ALL** fire access roads **MUST** be built to the City of Novi's standards, 35 ton capacity (Includes parking lots).

Recommendation:

APPROVED WITH CONDITIONS

Sincerely,

Kevin S. Pierce-Fire Marshal
City of Novi – Fire Dept.

cc: file

Novi Public Safety Administration
45125 Ten Mile Road
Novi, Michigan 48375
248.348.7100
248.347.0590 fax

cityofnovi.org

APPLICANT RESPONSE LETTER



PLAN REVIEW CENTER REPORT

October 16, 2018

Planning Review

iFLY Novi

JSP 18-49

PETITIONER

iFly Novi

REVIEW TYPE

Preliminary Site Plan

PROPERTY CHARACTERISTICS

Section	15	
Site Location	Tax Map ID would require Master Deed approval; South of I-96, west of Novi Road, northwest of Crescent Boulevard	
Site School District	Novi Community School District	
Site Zoning	TC with PRO (subject to City Council final approval)	
Adjoining Zoning	North	C-Conference district across I-96
	East	TC with PRO (subject to City Council final approval)
	West	TC with PRO (subject to City Council final approval)
	South	TC with PRO (subject to City Council final approval)
Current Site Use	Existing Industrial Building	
Adjoining Uses	North	Hotel across I-96
	East	Currently vacant; Possible restaurant
	West	Currently vacant; Indoor recreational facility across Adell Drive
	South	Currently vacant; Indoor recreational facility across Adell Drive
Site Size	1.1 acres	
Plan Date	September 25, 2018	

RECOMMENDATION

Approval of the Preliminary Site Plan is **not recommended** for approval due to lack of loading zone and dumpster enclosure, for not meeting the allowable building setbacks along I-96 frontage and for proposing a transformer in the front yard. Furthermore, proposed building signage requires additional discussion as noted in the review letter.

iFLY RESPONSES BELOW

iFLY Responses are in red and are underlined

Items in **bold** below must be addressed and incorporated as part of the Final Site Plan submittal:

1. Additional Deviations: The following items do not conform with either the zoning ordinance or the conditions of the Draft PRO Agreement. **The site plan should be revised accordingly to conform to the tentative PRO approval and Zoning Ordinance requirements.** Please refer to Plan review chart for additional suggestions. Refer to page 4 of this letter for list of deviations that are under consideration.
 - a. Building setback along I-96 frontage. A minimum setback of 35 feet is allowed. 32.5 feet is proposed. **The building placement should be revised to maintain a minimum 35 feet setback from I-96 ROW. The modified/updated plan will comply.**
 - b. A loading zone, dumpster and bike racks are not proposed. **The applicant should provide all as required. The applicant should provide supporting data to justify the proposed loading area square footages, to be reviewed and approved by Planning Commission at the time of Preliminary site plan approval; The modified/updated plan will have a loading zone, a dumpster enclosure and a bike rack.**
 - c. A transformer is proposed in the front yard. It is only allowed in rear yard. **The transformer should be relocated to the rear/side yard to the west. The modified/updated plan will comply.**
 - d. Please refer to additional notes on Page 3 for more detail.
2. Minimum Parking Required: Proposed use is not listed in Section 5.2. Minimum required parking is to be determined based on parking study. iFly has provided a Trip generation data that included parking demand information based on one iFly site on Frisco, TC. It estimated a weekday parking demand of 36 spaces and weekend demand of 38 spaces for a 10,000 square foot building with 70 feet tall chamber. **Traffic review noted some concerns with some proposed parking spaces and lack of loading or drop-off area. Please consider removing additional parking spaces to meet other requirements as noted in Traffic review. The modified/updated plan will include a loading/drop-off area and will have fewer parking spaces than the current plan.** Staff is in general agreement with 38 spaces as the minimum required based on the trip generation provided earlier. Given that, the current facility is smaller, please provide additional information for proposed number of employees and maximum number of customers that will be using the facility at any given time to confirm minimum required. **The proposed Novi tunnel is roughly the same size as iFLY Dallas (Frisco, TX) when you compare floor areas open to the public. Both have 14' diameter tunnels and have the same number of flyers in the tunnel, on deck, in gear-up or in training for each session.**
3. Lighting and Photometric Plan: Photometric plan and additional information is typically required at the time of Final Site Plan when the site is not abutting a residential district. However, staff recommends providing one with the revised preliminary site plan to verify conformance with the tentative deviations listed below:
 - a. Planning deviation from Section 5.7 .3.K. to allow exceeding the maximum spillover of 1 foot candle along interior side property lines provided the applicant submits a photometric plan that demonstrates that the average to minimum light level ratio is kept to the maximum allowable ratio of 4:1; **The Final Site Plan will comply with the permitted deviation.**
 - b. Planning deviation to allow exceeding the maximum spillover of 1 foot candle and approvable increase of the average to minimum light level ration from 4:1 within the Adell

Drive pavement areas as listed in Section 5.7.3.K. along access easements along Adell Drive, at the time of or Preliminary Site Plan review for the individual units; [See id.](#)

4. Drop-off Location: The applicant has indicated that customers sometimes come to the facility as a group, in a van or bus. **A drop-off location may be required given the nature of the indoor recreation proposed.** It can be located in any yard that is more feasible. It cannot conflict with parking spaces or circulation aisles. If it is located away from the building, appropriate sidewalks and crosswalks should be proposed to the entrance. **Please provide additional information about the frequency of drop-offs or buses accessing the site. [iFLY receives busses on certain days during the school week when we have STEM education events. These trips occur at off peak times and usually number no more than two per week.](#)**
5. Access to the site: The Preliminary Site Plan shows that two access points will be provided to the iFly building from the adjacent planned Planet Fitness Site to the south. The applicant has indicated on-site pavement for the iFly drives and parking areas, but no pavement is shown from the proposed Adell Drive. The Engineering letter indicates that all access and driveways to the site must be paved. The Draft PRO Agreement also indicates that the required secondary access drive for the entire Adell Center site, proposed to the south of the iFly site may be gravel, but only for secondary access purposes. **In the response letter, the applicant should explain how paved access will be provided to the site.** Any off-site easements anticipated must be executed prior to final approval of the plans. [Orville Properties, LLC will record upon and over Unit 2 a cross access easement \(at/or prior to closing\) which shall provide access to Unit 1. If the access drive through Unit 2 is not paved by the owner of Unit 2, then iFLY will complete the paved access upon Unit 2 prior to opening for business.](#)
6. Traffic Reviews: Traffic review is currently not recommending approval due to many design elements in the site plan that would need revisions. Revisions are required to provide safe traffic circulation through the site. It may result in reduction of parking spaces. The applicant has agreed to address those issues to meet the requirements. [See Applicant's comments below.](#)
7. Facade Review: The percentage of Brick and Stone remains significantly below the 50 percent required by the Ordinance and the percentage of Flat Metal Panels remains significantly above the percentages allowed by the Ordinance. **The applicant should consider adding Brick as required to achieve a minimum of 30% on all facades. [The modified/updated elevations will comply.](#)**
8. Plan Review Chart: Planning review chart provides additional comments and requests clarification for certain items. Please address those in addition to the comments provided in this letter. [See Applicant's comments below.](#)

LIST OF DEVIATIONS UNDER CONSIDERATION AS PART OF PRO

Following list of deviations are being considered as part of Adell Drive PRO Concept Plan, subject to City Council's final approval. The current site plan should conform to the following conditions.

1. Planning deviation from section 3.1 .26.D for exceeding the maximum allowable building height of 65 feet and maximum allowable 5 stories, provided they conform to the 2015 International Building Code standards for High-rise (Type I or Type II) construction:
 - a. Unit 1 iFly (70 feet). **The current building height refers to 65 feet. [Applicant shall comply with the 2015 IBC.](#)**
2. Planning deviation from section 5.12 to allow lack of required frontage on public road for Units 1 through 8. Frontage is proposed via a proposed private drive, built to City standards;
3. Planning deviation from section 3.1.25.D to allow reduction of minimum required front parking setback of 20 ft., from the proposed access easement. A maximum of 18 feet is requested; [Please advise what setback changes, if any, are requested to the iFLY site plan and Applicant will endeavor to make such modifications.](#)

4. Planning deviation from section 3.1.25.D to allow reduction of minimum required interior side parking setback of 20 ft. for the following units as shared access is proposed between parking lots:
 - a. Unit 1: minimum 14 ft. along West, 0 ft. along South Applicant shall comply with the approved deviations permitted under the PRO.
5. Planning deviation from section 4.19.2.F to allow alternate location for dumpsters, instead of required rear yard for units 1, 5, 6, 7 and 8, provided the proposed location does not impact traffic circulation and appropriate screening is provided at the time of preliminary site plan. The applicant requests dumpsters to be allowed in exterior/interior side yards; **A dumpster is not proposed. Proper justification is required if dumpster is provide in any other location other than rear yard (west).** The modified/updated plan will comply.
6. Planning deviation to allow placement of loading areas in alternate locations instead of required rear yard or interior side yard for double frontage lots, as listed below, provided proposed locations do not conflict with traffic circulation and appropriate screening will be provided at the time of Preliminary site plan review:
 - a. Unit 1: exterior side yard; **A loading area is not proposed as required.** See id.
7. The applicant shall provide supporting data to justify the proposed loading area square footages, to be reviewed and approved by Planning Commission at the time of Preliminary site plan approval; **Supporting data is not proposed. iFLY receives a very small amount of deliveries and those deliveries are in straight trucks (UPS/FedEx/USPS) not tractor-trailers rigs. Furthermore, if the use ever changes, there is room w/in Unit 1 to expand or restripe the parking field. There is also pedestrian path of travel from the iFLY building to the existing cul-de-sac on Adell Dr. Applicant is opposed to adding additional pavement and losing greenspace for a truck loading zone with is not needed.**
8. Planning deviation from standards of Sec. 5.12 for up to 5% reduction in minimum required parking (to be established by staff after reviewing the calculations provided) for each unit within the development subject to the individual users providing satisfactory justification for Planning Commission's approval of the parking reduction at the time of respective site plan approval; **Reduction of minimum required parking is not requested at this time. A minimum of 38 spaces is required based on Traffic study. iFLY has proposed and shall maintain parking between 36 and 44 spaces spaces.**
9. The applicant shall provide revised elevations addressing comments provided in Façade review letter dated August 14, 2018 for Planning Commission's review and consideration for approval of Section 9 waiver at the time of preliminary site plan review; **Façade is currently not recommending approval; The modified/updated elevations shall comply.**
10. The following deviations from Chapter 28, Signs, from City Code of Ordinances for the two development signs for the Adell Center Development as listed below, provided that such deviations shall be the maximum amount authorized, and the City may require a lesser deviation at the time of site plan approval if deemed appropriate:
 - b. To allow for four additional wall signs for Unit 1: iFly. Five are requested for the entire unit. One wall sign is allowed. The wall signs allowed with the following deviations:
 1. Side Elevations: a size deviation of 88.75 square feet (65 square feet allowed, 153.75 square feet proposed) for two signs.
 2. Front and Back Elevations: a size deviation of 244 square feet (65 square feet allowed, 309 square feet proposed) for two signs.

Above listed deviations are based on signage information provided on August 08, 2018. As generation 9 prototype building is being developed, there are changes to building elevation and signage. The applicant has provided revised signage information on October 3, 2018 via e-mail. Staff did not complete the review of revised signage. However, it appears that the revised signs on side elevations are larger than 153 square feet allowed under draft PRO agreement. Further

discussion is warranted between the staff and the applicant to address the revised sign sizes. As noted, above notes deviation are maximum amount authorized. Revisions are subject to Planning Commission's approval. Given the size of our building, particularly the height of the return air towers, the requested variances are necessary to provide an aesthetic that is in keeping with the scale of our building & associated equipment. Given the speed with which vehicles travel on I-96 we want to make sure our signage is clearly legible at a passing glance.

11. Planning deviation from the requirement in section 4.02.B Article IV, Appendix C-Subdivision ordinance of City Code of Ordinances that side lot lines be perpendicular or radial to the road, for the lines between Units 6 and 7, Units 4 and 5, and Units 1 and 2, only; Applicant shall comply with the approved deviations permitted under the PRO.
12. Planning deviation to allow proposing the minimum required Open Space for each Unit as Common element spread within the development boundaries as shown in the Open Space Plan, provided the applicant restores the wetland/woodland on the southerly portion of the site pursuant to a plan meeting City ordinance requirements is submitted and approved at the time of Wetland permit/preliminary site plan approval, and provides the pedestrian walkway through the open space as proposed. (A minimum of 153 of total site area designed as permanently landscaped open areas and pedestrian plazas is required per section 3.27. I .F.); See id.
13. Planning deviation from Section 5.7 .3.K. to allow exceeding the maximum spillover of 1 foot candle along interior side property lines provided the applicant submits a photometric plan that demonstrates that the average to minimum light level ratio is kept to the maximum allowable 4: 1; See id.
14. Planning deviation to allow exceeding the maximum spillover of 1 foot candle and approvable increase of the average to minimum light level ration from 4: 1 within the Adell Drive pavement areas as listed in Section 5.7 .3.K. along access easements along Adell Drive, at the time of or Preliminary Site Plan review for the individual units; See id.

OTHER REVIEWS

- c. Engineering Review: Engineering recommends approval with additional comments to be provided at the final site plan submittal.
- d. Landscape Review: Landscape recommends approval. Additional comments to be addressed with final site plan submittal..
- e. Traffic Review: Traffic is **currently not** recommending approval. Additional comments to be addressed with the revised site plan submittal.
- f. Facade Review: Façade **currently not** recommending approval. The applicant should consider
 - a. adding Brick as required to achieve a minimum of 30% on all facades.
 - b. Fire Review: Fire recommends approval with Conditions.



PLAN REVIEW CENTER REPORT

10/16/2018

Engineering Review

iFLY

JSP 18-0049

Applicant

SkyGroup Investments, LLC – DBA iFLY

Review Type

Preliminary Site Plan

Property Characteristics

- Site Location: South west of I-96 ramp 'C', east of Adell Drive
- Site Size: 1 acre
- Plan Date: 09/25/2018
- Design Engineer: Kimley-Horn

Project Summary

- Construction of an approximately 6,713 square-foot building (total footprint/Floor 1 only) and associated parking. Site access would be provided from Adell Drive.
- Water main is proposed in Adell Drive as part of the overall development. A 2.5-inch domestic lead and a 6-inch fire lead would be provided to serve the building.
- Sanitary sewer service is proposed in Adell Drive as part of the overall development. A sanitary sewer lead would be provided to the building.
- Storm water would be collected on this individual unit in storm sewer and discharged to underground detention proposed in the overall development. Storm water quality would need to be addressed for this unit.

Recommendation

Approval of the Preliminary Site Plan and Preliminary Storm Water Management Plan is recommended, with items to be addressed at Final Site plan and pending approval of Adell Center PRO and roads and utilities plans.

Comments:

The Preliminary Site Plan meets the general requirements of the design and construction standards as set forth in Chapter 11 of the City of Novi Codified Ordinance, the Storm Water Management Ordinance and the Engineering Design Manual with the following items to be addressed at the time of Final Site Plan submittal (further engineering detail will be required at the time of the final site plan submittal):

Additional Comments (to be addressed upon Final Site Plan submittal):

General

1. Provide a note on the plans that all work shall conform to the current City of Novi standards and specifications. **Applicant shall comply.**
2. Provide a minimum of two ties to established section or quarter section corners. **See id.**
3. Revise the plan set to reference at least one city established benchmark. An interactive map of the City's established survey benchmarks can be found under the 'Map Gallery' tab on www.cityofnovi.org. **See id.**
4. The Non-domestic User Survey form shall be submitted to the City so it can be forwarded to Oakland County. This form was included in the original site plan package. **See id.**
5. An access easement from the parcel to the south is required. **Orville Properties, LLC will record a cross access easement at closing on Unit 2 which shall provide access to Unit 1.**
1. Provide a construction materials table on the Paving Plan listing the quantity and material type for each pavement cross-section being proposed. **Applicant shall comply.**
2. Provide a traffic control sign table listing the quantities of each sign type proposed for the development. Provide a note along with the table stating all traffic signage will comply with the current MMUTCD standards. **See id.**
3. Generally, all proposed trees shall remain outside utility easements. Where proposed trees are required within a utility easement, the trees shall maintain a minimum 5-foot horizontal separation distance from any existing or proposed utility. All utilities shall be shown on the landscape plan, or other appropriate sheet, to confirm the separation distance. **See id.**
4. Show the locations of all light poles on the utility plan and indicate the typical foundation depth for the pole to verify that no conflicts with utilities will occur. Light poles in a utility easement will require a License Agreement. **See id.**
5. Standard details are not required with the Final Site Plan submittal. Provide the City's standard detail sheets for water main (5 sheets-rev. 02/16/2018), sanitary sewer (3 sheets- rev. 02/16/2018), storm sewer (2 sheets- rev. 02/16/2018), and paving (2 sheets-rev. 03/05/2018) at the time of the printed Stamping Set submittal. These details can be found on the City's website at this location: <http://cityofnovi.org/Government/City-Services/Public-Services/Engineering-Division/Engineering-Standards-and-Construction-Details.aspx> **See id.**

Water Main

6. Provide unique shut-off valve within the water main easement for each building service lead. **See id.**

Sanitary Sewer

7. Include a sanitary sewer basis of design on the utility plan. **See id.**
8. Each building is required to have a unique sanitary sewer monitoring manhole, within a dedicated 20-foot wide access easement to the monitoring manhole from the public right-of-way (rather than a public

- sanitary sewer easement). [See id.](#)
9. Provide a note on the construction materials table that 6-inch sanitary leads shall be a minimum SDR 23.5, and mains shall be SDR 26. [See id.](#)
 10. Provide the size and slope of the proposed sanitary sewer lead. Confirm size of sanitary sewer lead stub provided from the sewer main in Adell Drive. [See id.](#)
 11. Provide a note on the Utility Plan stating that sanitary leads shall be buried at least 5 feet deep where under the influence of pavement. [See id.](#)

Storm Sewer

12. A minimum cover depth of 3 feet shall be maintained over all storm sewers. [See id.](#)
13. Provide a schedule listing the casting type and other relevant information for each proposed storm structure on the utility plan. Round castings shall be provided on all catch basins except curb inlet structures. [See id.](#)
14. Provide a four-foot deep sump and oil/gas separator in the last storm structure prior to discharge off-site. [See id.](#)

Storm Water Management Plan

15. Provide a sheet entitled Storm Water Management Plan (SWMP). The SWMP shall comply with the Storm Water Ordinance and Chapter 5 of the Engineering Design Manual (refer to the runoff coefficients, 1V:4H allowable basin slopes, etc.). Include reference to the overall SWMP for the Adell Center development and demonstrate that the site plan is in accordance with the overall SWMP. [See id.](#)
16. The SWMP must detail the storm water system design, calculations, details, and maintenance as stated in the ordinance. [See id.](#)
17. Storm water quality must be addressed for the runoff from this site prior to discharge to the underground detention storage system. [See id.](#)
 - a. Indicate the proposed location of the first flush storm water quality treatment unit. This unit will require its own Storm Drain Facility Maintenance Easement Agreement. [See id.](#)
 - b. Provide manufacturers details and sizing calculations for the pretreatment structure within the plans. Provide drainage area and runoff coefficient calculations specific to the area tributary to each treatment structure. [See id.](#)
18. Provide supporting calculations for runoff coefficient determination. A runoff coefficient of 0.35 shall be used for all turf grass lawns (mowed lawns). [See id.](#)

Paving & Grading & Floodplain

19. Provide top of curb/walk and pavement/gutter grades to indicate height of curb adjacent to parking stalls or drive areas. [See id.](#)
20. The end islands shall conform to the City standard island design, or variations of the standard design, while still conforming to the standards given in Section 2506 of Appendix A of the Zoning ordinance (i.e. 2' minor radius, 15' major radius, minimum 8' wide, 3' shorter than adjacent 19' stall). [See id.](#)
21. Refer to City standard paving details for minimum pavement cross sections and sidewalk details. [See id.](#)
22. All driveways and access to the site must be paved. Indicate the limits of all proposed pavement with this project, including off-site paving as necessary. [See id.](#)

Soil Erosion and Sediment Control

1. A SESC permit is required. The review checklist detailing all SESC requirements is attached to this letter. An informal review will be complete with the Final Site Plan if SESC plans are included in the submittal. The SESC permit application must be submitted under separate cover prior to the start of construction. The application can be found on the City's website at <https://www.cityofnovi.org/Reference/Forms/Bldg-SoilErosionPermitNewDevelopment.aspx>. **See id.**

Off-Site Easements

2. Any off-site easements anticipated must be executed **prior to final approval of the plans**. **Orville Properties, LLC will record any required easements (at/or prior to closing)**
 - c. A cross-access easement is required with unit 2 to the south. **See id.**
 - d. Temporary construction easement with unit 2 to the south may be required. **See id.**

The following must be submitted at the time of Final Site Plan submittal:

3. An itemized construction cost estimate must be submitted to the Community Development Department at the time of Final Site Plan submittal for the determination of plan review and construction inspection fees. This estimate should only include the civil site work and not any costs associated with construction of the building or any demolition work. **The cost estimate must be itemized** for each utility (water, sanitary, storm sewer), on-site paving, right-of-way paving (including proposed right-of-way), grading, and the storm water basin (basin construction, control structure, pretreatment structure and restoration). **Applicant shall comply, if applicable.**
4. Draft copies of any off-site utility easements, a recent title search, and legal escrow funds must be submitted to the Community Development Department for review and approved by the Engineering Division and the City Attorney prior to getting executed. **See id.**

The following must be submitted at the time of Stamping Set submittal:

5. A draft copy of the maintenance agreement for the storm water facilities, as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department with the Final Site Plan. Once the form of the agreement is approved, this agreement must be approved by City Council and shall be recorded in the office of the Oakland County Register of Deeds.
6. Draft copy of 20 foot water main easement proposed on the site must be submitted to Community Development. **See id.**

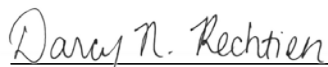
7. A draft copy of the 20-foot wide access easement for the sanitary sewer monitoring manhole to be constructed on the site must be submitted to the Community Development Department. [See id.](#)
8. Executed copies of reviewed and approved off-site easements, if applicable. [See id.](#)

The following must be addressed prior to construction:

9. A pre-construction meeting shall be required prior to the commencement of any site work. Please contact Sarah Marchioni in the Community Development Department to setup a meeting (248-347-0430). [See id.](#)
10. A City of Novi Grading Permit will be required prior to any grading on the site. This permit will be issued at the pre-construction meeting (no application fee). [See id.](#)
11. A Soil Erosion Control Permit must be obtained from the City of Novi. Contact Sarah Marchioni in the Community Development Department (248-347-0430) for forms and information. [See id.](#)
12. Construction Inspection Fees, to be determined once the construction cost estimate is submitted, must be paid prior to the pre-construction meeting. [See id.](#)
13. A storm water performance guarantee, equal to 1.2 times the amount required to complete storm water management and facilities as specified in the Storm Water Management Ordinance, must be posted with Community Development. [See id.](#)
14. A street sign financial guarantee in an amount to be determined (\$400 per traffic control sign proposed) must be posted with Community Development. [See id.](#)

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Darcy Rechten at (248) 735-5695 with any questions.



Darcy N. Rechten, P.E.

cc: George Melistas, Engineering
Sri Komaragiri, Community Development



PLAN REVIEW CENTER REPORT

October 8, 2018

Preliminary Site Plan - Landscaping

IFly

Review Type

Preliminary Landscape Review

Job

JSP18-0049

Property Characteristics

- Site Location: Adell Development – Unit 1
- Site Acreage: x acres
- Site Zoning: TC
- Adjacent Zoning: North: I-96
East, West, South: TC
- Plan Date: 9/25/2018

Ordinance Considerations

This project was reviewed for conformance with Chapter 37: Woodland Protection, Zoning Article 5.5 Landscape Standards, the Landscape Design Manual and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed and incorporated as part of the revised Preliminary/Final Site Plan submittal. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review and the accompanying Landscape Chart are summaries and are not intended to substitute for any Ordinance.

Recommendation

This project is **recommended for approval**. There are no major deviations from the ordinance, although the calculations will need to be updated per our revised ordinance and landscape design manual and some revisions will be needed based on those. The locations of the revised guidelines can be found on the accompanying landscape chart.

Ordinance Considerations

Existing Soils (Preliminary Site Plan checklist #10, #17)

Provided.

Existing and proposed overhead and underground utilities, including hydrants.(LDM 2.e.(4))

1. Provided.
2. There are no overhead utility lines in the vicinity of the project.
3. **Please space all trees and utility structures, including gate valves, at least 10 feet from each other. Trees also need to be at least 3 feet behind curbs. Applicant shall comply.**

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. The only "existing" trees on the site will be the trees planted on the berm and around the cul-de-sac, which are to be planted by the overall project developer.
2. **Please show all plantings in those areas as existing, and label them as being provided by others. Applicant's final plans shall include those "existing" trees to be planted by Developer.**
3. **Please show tree fencing at the Critical Root Zone (1' beyond dripline) for all berm trees to be planted as part of the Roads & Utilities. N/A. Applicant's is not planning berm trees.**
4. **Please include a tree protection fencing detail with fence located at Critical Root Zone (1' beyond dripline). Applicant's final plans shall comply.**

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

Property is not adjacent to Residential.

Adjacent to Public Rights-of-Way – Berm (Wall) & Buffer (Zoning Sec. 5.5.3.B.ii and iii)

1. The berm and plantings along I-96 are to be installed by the overall development contractor.
2. **Please show the berm and all berm plantings on the landscape plan. Show them as “To be completed by others” and make any revisions to IFLY plan as necessary to work with those plantings. [See id.](#)**

Street Tree Requirements (Zoning Sec. 5.5.3.E.i.c and LDM 1.d.)

The project is not immediately adjacent to a street so no street trees are required.

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

1. Based on the vehicular use areas, 1,526 sf of islands and 8 trees are required. 1,680 sf of islands and 8 trees are provided.
2. **Please label each island with its area in square feet. [See id.](#)**
3. **Please enlarge the islands if necessary to meet the minimum size requirements. [See id.](#)**
4. **Please revise the calculations per the updated ordinance. [See id.](#)**

Parking Lot Perimeter Canopy Trees (Zoning Sec. 5.5.3.C.(3) Chart footnote)

1. No calculations are provided. **Please add the calculations per the updated requirements. [See id.](#)**
2. **Please show the line used for calculation of the perimeter. [See id.](#)**
3. **Please add the required trees, if necessary, and label all perimeter trees as perimeter trees. [See id.](#)**

Loading Zone screening (Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)

1. No loading zone screening is required as part of this project.
2. **If a loading zone is required, please screen it completely from I-96 and Adell Drive. [iFLY receives a very small amount of deliveries and those deliveries are in straight trucks \(UPS/FedEx/USPS\) not tractor-trailers rigs. Furthermore, if the use ever changes, there is room w/in Unit 1 to expand or restripe the parking field. There is also pedestrian path of travel from the iFLY building to the existing cul-de-sac on Adell Dr. Applicant is opposed to adding additional pavement and losing greenspace for a truck loading zone with is not needed.](#)**

Building Foundation Landscape (Zoning Sec 5.5.3.D.)

1. Based on the building perimeter, 2,680 sf of area are required. 3,720sf are shown as being provided. **Please label each area in SF. [Applicant's final plans shall comply.](#)**
2. Any missing foundation landscaping should be replaced per Section 5.5.7.

Plant List (LDM 2.h. and t.)

1. **Please label the plantings with plant labels indicating species and quantity, and add quantities to the Plant List [Applicant's final plans shall comply.](#)**
2. 10 of 19 species proposed are native to Michigan. This is acceptable.
3. **Please revise the standard costs on the cost summary to use those listed on the landscape chart. [Applicant's final plans shall comply.](#)**

Planting Notations and Details (LDM)

Please add the notes and details requested on the landscape chart. [Applicant's final plans shall comply.](#)

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 1.d.(3))

No above-ground detention is proposed, so no detention landscaping is required.

Irrigation (LDM 1.a.(1)(e) and 2.s)

1. The proposed landscaping must be provided with sufficient water to become established and survive over the long term. **Applicant shall comply.**
2. Please note how this will be accomplished if an irrigation plan is not provided.

Proposed topography. 2' contour minimum (LDM 2.e.(1))

Provided.

Snow Deposit (LDM.2.q.)

Please indicate areas for snow deposit that won't harm landscaping. Applicant's final plans shall comply.

Proposed trees to be saved (Sec 37 Woodland Protection 37-9, LDM 2.e.(1))

1. **Please show all proposed plantings from the Road and Utilities Plan on the landscape plan as existing and label as To Be Provided by others. See id.**
2. **Please provide tree fencing to berm landscaping. N/A. Applicant's is not planning berm landscaping.**

Corner Clearance (Zoning Sec 5.9)

Please add the clear vision zone to the western entry. Applicant's final plans shall comply.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5621 or rmeader@cityofnovi.org.



Rick Meader – Landscape Architect



AECOM
27777 Franklin Road
Southfield
MI, 48034
USA
aecom.com

Project name:
JSP18-0049 – iFly Novi Preliminary Site Plan
Traffic Review

From:
AECOM

Date:
October 16, 2018

To:
Barbara McBeth, AICP
City of Novi
45175 10 Mile Road
Novi, Michigan 48375

CC:
Sri Komaragiri, Lindsay Bell, George Melistas, Darcy
Rechtien, Hannah Smith

Memo

Subject: JSP18-0049 iFly Novi Preliminary Site Plan Traffic Review

The preliminary site plan was reviewed to the level of detail provided and AECOM **recommends denial** for the applicant to move forward based on several design elements that should be further reviewed and until the comments provided below are adequately addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, SkyGroup Investments, LLC, is proposing a 6,713 SF iFly Building (total footprint/Floor 1 only) as part of the overall Adell Center multi-use development on Adell Drive off of Expo Center Drive.
2. Expo Center Drive is under the jurisdiction of the City of Novi and Adell Drive is a private roadway.
3. The parcel is currently zoned EXPO, and the applicant of the Adell Center multi-use development is proposing to rezone to TC (Town Center District) with a Planned Rezoning Overlay (PRO).
4. Summary of traffic-related waivers/variances:
 - a. **Waivers may be required for lack of a trash receptacle and/or loading zone. Applicant shall add a trash enclosure and stripe one space as a loading/drop off zone.**

TRAFFIC IMPACTS

1. Trip generation estimates were previously provided as part of the Adell Center PRO Concept plan. Because this is a unique land use, additional trip generation information is not available at this time.
2. The number of trips is not expected to exceed the City's threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour. AECOM recommends performing the following traffic impact study in accordance with the City's requirements:

Traffic Impact Study Recommendation	
Type of Study	Justification
None	N/A

EXTERNAL SITE ACCESS AND OPERATIONS

1. The applicant shall indicate the design and dimensions for the driveway from Adell Drive between Unit 2 and iFly as part of the iFLY site plan. While this drive may not be entirely on the iFLY site, the driveway connection will be required for iFLY to become operational. **Applicant shall comply.**

- a. Refer to Figure IX.1 in the City's Code of Ordinances for design requirements for the external site driveway. [See id.](#)
- b. The applicant should dimension the width and radii information to ensure compliance with Figure IX.1. [See id.](#)
2. An off-site access easement will be required for the proposed driveway from Adell Drive that is located primarily within the Unit 2 parcel. [See id.](#)
3. The applicant will be required to pave the driveway from Adell Drive to the westernmost iFLY driveway in order to meet design requirements and service all proposed driveways within this submittal. [See id.](#)

INTERNAL SITE OPERATIONS

The following comments relate to the on-site design and traffic flow operations.

1. General Traffic Flow
 - a. The applicant has indicated 26' aisles throughout the site. The applicant should consider reducing the aisle widths to the 24' minimum requirement. [The applicant would prefer to keep the 26' drive isles to ensure easy access for larger vehicles such as trucks and vans. iFLY has a significant number of flyers who arrive in ADA rated vans, particularly on iFLY's All Abilities Nights.](#)
 - b. The applicant should provide dimensions of the turning areas on the north side of the site in order to review that there is adequate room for vehicles parked adjacent to the turning area to exit. [Applicant shall comply.](#)
 - c. The applicant should include dimensions for the radii and width of the proposed end islands throughout the site to review accessibility and compliance with City requirements as stated in Section 5.3.12 of the Zoning Ordinance. [See id.](#)
 - i. Note that all end islands adjacent to a travel way shall be constructed three (3) feet shorter than the adjacent parking space. [See id.](#)
 - ii. The end island outside radii is required to be a minimum of 15'. [See id.](#)
 - d. The applicant has not proposed a trash receptacle on the site.
 - i. The applicant should provide the location and confirm that the trash receptacle is accessible by trash collection vehicles via turning movement paths. [See id.](#)
 - e. The applicant should provide details for a loading zone as applicable and required by the Zoning Ordinance. [See id.](#)
 - i. The applicant should indicate the location and size of the proposed loading zone, as required by Section 5.4 of the Zoning Ordinance. [See id.](#)
 - ii. The applicant should provide truck travel patterns throughout the site to confirm accessibility to/from the loading zone, as applicable. [See id.](#)
2. Parking Facilities
 - a. The applicant has indicated variable parking space lengths.
 - i. The applicant should refer to Section 5.3.2 of the City's Zoning Ordinance and provide either 17' or 19' long parking spaces. [See id.](#)
 - ii. The applicant should indicate the proposed curb type and curb height throughout the site. [See id.](#)
 - iii. A 6" curb height is required for all landscaped areas and in front of 19 foot long parking spaces. [See id.](#)
 - iv. Alternatively, the applicant may install 4" curbs with 17 foot long parking spaces and a clear 2 foot overhang in order to reduce the amount of impermeable surface on the site.
 - v. The applicant should indicate which spaces are designated as van accessible. [See id.](#)
 - vi. The accessible parking spaces may be reduced to eight feet in width with an eight foot aisle. [See id.](#)
 - b. The applicant has indicated the accessible route via a sidewalk ramp, but should include a detail and grading information to review the design. [See id.](#)
 - c. The applicant shall refer to the Planning Review Letter for parking quantity requirements. [See id.](#)
 - d. The three (3) parking spaces east of the accessible parking spaces in the front of the building are located beyond the stop sign and conflicts may occur with those cars trying to exit the parking space and the site. The applicant should consider altering this area, which may require the removal of these spaces. [See id.](#)
 - e. A minimum of two (2) bicycle parking spaces are required. The applicant should indicate where the bicycle parking is located along with dimensional details to ensure compliance with Section 5.16.1 of the City's Zoning Ordinance. Note that a 6 foot accessible route is required from the adjacent street to the bicycle parking facilities. [See id.](#)

3. Sidewalk Requirements
 - a. The applicant is generally proposing 5' or 7' wide sidewalks throughout the site, which is in compliance with City standards.
 - b. The applicant has included a sidewalk connection between Adell Drive and the iFly facility, and should indicate the width. [See id.](#)
 - c. The applicant should label sidewalk ramps on the plans and include the latest Michigan Department of Transportation (MDOT) detail. [See id.](#)

SIGNING AND STRIPING

1. All on-site signing and pavement markings shall be in compliance with the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). The following is a discussion of the proposed signing and striping.
 - a. The applicant should provide a signing quantities table and additional details (quantity and proposed size) in future submittals. [See id.](#)
 - b. The applicant should include the R7-8p under the R7-8 sign for the van accessible parking space(s). [See id.](#)
2. The applicant should indicate the proposed signing on site and provide notes and details related to the proposed signing. [See id.](#)
 - a. Single signs with nominal dimensions of 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post. Multiple signs and/or signs with nominal dimension greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post as dictated by the weight of the proposed signs. [See id.](#)
 - b. The applicant should indicate a bottom height of 7' from final grade for all signs installed. [See id.](#)
 - c. The applicant should indicate that all signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign. [See id.](#)
 - d. Traffic control signs shall use the FHWA Standard Alphabet series. [See id.](#)
 - e. Traffic control signs shall have High Intensity Prismatic (HIP) sheeting to meet FHWA retroreflectivity requirements. [See id.](#)
3. The applicant shall include parking space striping notes to indicate that:
 - a. The standard parking spaces shall be striped with four (4) inch white stripes. [See id.](#)
 - b. The accessible parking space and associated aisle should be striped with four (4) inch blue stripes. [See id.](#)
 - c. Where a standard space is adjacent to an accessible space, abutting blue and white stripes shall be installed. [See id.](#)
4. The applicant should provide a detail for the proposed international symbol for accessibility pavement markings that may be placed in the accessible parking space. The symbol shall be white or white with a blue background and white border with rounded corners. [See id.](#)
5. The applicant should provide a detail for the proposed crosswalk pavement markings. [See id.](#)
6. The applicant shall provide details for the proposed stop bar pavement markings. [See id.](#)

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,

AECOM



Maureen N. Peters, PE
Senior Traffic/ITS Engineer



Paula K. Johnson, PE
Senior Transportation Engineer



October 18, 2018

Façade Review Status Summary:
Not Approved

City of Novi Planning Department
 45175 W. 10 Mile Rd.
 Novi, MI 48375- 3024

Re: **FACADE ORDINANCE REVIEW (Preliminary Site Plan)**

iFLY at Adell Center, JSP18-49

Façade Region: 1, Zoning District: Rezoning to TC-1

The following is façade review for the above referenced project. This project is required to comply with the Façade Ordinance Section 5.15 and the Town Center (TC) Ordinance, Section 3.27.G. The percentages of materials proposed for each façade are as shown in the tables below. Materials in non-compliance are highlighted in bold.

IFLY Indoor Skydiving (Rendering Dated 10/11/18)	Front	Right	Left	Rear	Façade Ordinance Maximum (Minimum)
Brick	17%	10%	10%	22%	100% (30% Min)
Brick and Stone Combined	17%	10%	10%	22%	50% (TC Ord.)
Flat Metal Panels	83%	90%	90%	78%	50%

In response to our and staff comments the applicant has proposed adding Brick to portions of the lower 12' of the building. The percentage of Brick and Stone remains significantly below the 50 percent required by the Ordinance and the percentage of Flat Metal Panels remains significantly above the percentages allowed by the Ordinance. While the proposed Brick represent a significantly improvement in appearance, we believe that the Architect should give further creative thought into the proper integration of masonry materials into the design as required to more closely comply with the Ordinance.

The Flat Metal Panels consist of multiple colors that appear to be intended as corporate imaging. In general, the Façade Ordinance prohibits the use of façade materials to for the background of a sign so as to increase the visual presence of the building for the purpose of advertising. In this case the sample board provided indicates colors are consistent with the overall façade. The building incorporates a sign and / or logo on all facades. Information as to the type of sign (internally illuminated, painted, channel letter, etc.) is not provided. In general the signs and logos do not appear to be detrimental to the aesthetic quality of the building.

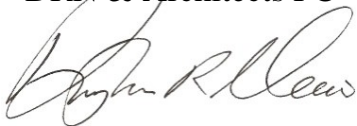
Recommendation – We are unable to recommend approval at this time due to significant deviations from the Façade Ordinance and TC Ordinance. We recommend that the applicant consider adding Brick as required to achieve a minimum of 30% on all facades.

General Façade Requirements;

1. It should be noted that revisions after approval and any deviation from specific Section 9 Waivers granted will require reapplication as described in Section 5.15.10 of the Façade Ordinance and / or a formal amendment of the PRO Agreement. Except for the specific Section 9 Waivers granted, all building and sample boards must comply with the Façade Ordinance at the time of Preliminary Site Plan application.
2. All roof top equipment must be screened from view from all on-site and off-site vantage points using compliant materials consistent with the building design. In this case the elevated views from the nearby highway overpass would be included.
3. Dumpster enclosures (excluding doors) are required to be constructed of brick or stone matching the primary buildings.
4. Monument signs, guard houses, gated entrance pedestals and other structures, if any are required to comply with the Façade Ordinance.
5. Inspections – The Façade Ordinance requires inspection(s) for all projects. Materials displayed on the approved sample board will be compared to materials delivered to the site. It is the applicant's responsibility to request the inspection of each façade material at the appropriate time. Inspections may be requested using the Novi Building Department's Online Inspection Portal with the following link. Please click on "Click here to Request an Inspection" under "Contractors", then click "Façade". <http://www.cityofnovi.org/Services/CommDev/OnlineInspectionPortal.asp>.

If you have any questions regarding this matter please contact the City of Novi Department of Planning and Community Development.

Sincerely,
DRN & Architects PC



Douglas R. Necci, AIA
Novi Façade Consultant

Applicant shall revise its renderings to comply with the recommendations of Douglas Necci, AIA.



October 3,2018

TO: Barbara McBeth- City Planner
Sri Ravali Komaragiri- Plan Review Center
Lindsay Bell-Plan Review Center
Hannah Smith-Planning Assistant

RE: iFly Novi

PSP# 18-0150

CITY COUNCIL

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Bob Gatt

Mayor Pro Tem
Dave Staudt

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Wayne Wrobel

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**Director of Public Safety
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David E. Molloy

Director of EMS/Fire Operations
Jeffery R. Johnson

Assistant Chief of Police
Erick W. Zinser

Assistant Chief of Police
Scott R. Baetens

Project Description:

Build a 65' tall structure with a foot print of 6713 S.Q. F.T. (total footprint/Floor 1 only) at the end of Adell Drive.

Comments:

- **All fire hydrants MUST** in installed and operational prior to any building construction begins. **Applicant shall comply.**
- The turning radius for the parking lot to the east of the proposed structure doesn't meet city standards, **50' outside and 30' inside turning radius IFC 504.2.4. Applicant shall comply.**
- The landscaping near the east fire hydrant **MUST** be keep 3' of clearance around it. **Applicant shall comply.**
- FDC location **MUST** be within 100' from a fire hydrant.
- A Hazardous Chemical Survey **MUST** be filled out and returned to the Fire Marshal's office for review. **Applicant shall comply.**
- ALL fire access roads **MUST** be built to the City of Novi's standards, 35 ton capacity (Includes parking lots). **Applicant shall comply.**

Recommendation:

APPROVED WITH CONDITIONS

Sincerely,

Kevin S. Pierce-Fire Marshal
City of Novi – Fire Dept.

cc: file

Novi Public Safety Administration
45125 Ten Mile Road
Novi, Michigan 48375
248.348.7100
248.347.0590 fax

cityofnovi.org

IFLY NARRATIVE

Project Narrative

iFLY Novi

SkyGroup Investments, LLC ("iFLY") has prepared this narrative to include in Mr. Adell's application to provide explanations of our unique structure.

iFLY Project Overview:

iFLY plans to build a new indoor skydiving facility as part of the redevelopment of 43700 Expo Center Drive. The new building will be approximately 6,713 square feet and serve over 150,000 customers annually, many of whom will travel from well outside the community to experience indoor skydiving at iFLY. Once operational, iFLY will employ and estimated 26 people (18 Full-Time, 8 Part-Time).

iFLY Company Overview:

iFLY is the experiential entertainment company that invented modern indoor skydiving, the simulation of true freefall conditions in a vertical wind tunnel. It's where the dream of flight becomes a reality. We are the World's largest designer, builder and operator of vertical wind tunnels and have been the undisputed industry leader since creating this market in 1997. We are committed to innovation, performance, safety, reliability and absolute customer satisfaction. We're vertically integrated — designing, fabricating, installing and operating skydiving wind tunnels.

With over 65 operating facilities globally, the company has safely flown millions of customers. Our patented technology allows us to fly people of nearly all ages and abilities on a smooth, air-conditioned column of air. The airflow is completely enclosed, and is not audible from the outside of our modern facilities. There's no parachute, no jumping, no falling and nothing attaching you to Earth. Children as young as three, to adults of any age can fly with us. It's safe for kids, challenging for adults and realistic for skydivers. We provide all the gear and a personal instructor will guide you through your flight.

At iFLY, we draw on our extensive history of having flown over 7 million customers worldwide to help deliver an unforgettable experience. Whether you're looking for a team building activity, team outings or sales events, we have what you need to achieve your goals, including conferencing facilities and available catering. Our events are safe, challenging, thrilling, and suitable for almost everyone, regardless of gender, age or physical condition.

For more information, please visit:

- <https://www.iflyworld.com/>
- <https://www.facebook.com/iFLYAustin/>
- <https://www.linkedin.com/company/3258354/>
- <https://www.youtube.com/user/iflytunnelvision>

How iFLY Works:

The images below show an actual constructed iFLY (Woodlands, Texas), as well as the same image, overlaid to show the iFLY machine which makes flight possible. The machine becomes part of our structure, and the main occupied space (“**Building**”) becomes surrounded by wind tunnel machine parts, collectively comprising the air flow path (“**Flowpath**”).



Building Materials Variance Request:

We understand that the Novi code specifies that the exterior of this building should include more masonry (brick and stone vs. concrete and EIFS). For our unique structure, this requirement is incredibly challenging. As described above, our occupied building is surrounded by the Flowpath, which for reasons of sound mitigation, structural soundness, and airflow quality, is constructed out of reinforced concrete. The Flowpath is clad in architectural metal panels which provide a very professional finished look & feel. On many occasions, we have considered cladding the Flowpath with natural materials, but this causes issues relating to vibrations & weight which cause this solution to be untenable.

Sign Variance Request:

We are requesting a variance from the sign code to ensure visibility, legibility as well as to better match the scale of our use. Given the size of our building, particularly the height, the requested variances are necessary to provide an aesthetic that is in keeping with the scale of our building. Given the speed with which vehicles travel on I-96 we want to make sure our signage is clearly legible at a passing glance.

Please be advised that when iFLY opens, and likely for a considerable time thereafter this will be our only location in Michigan and within hundreds of miles of Novi, making it critical

that we raise awareness of our use and location, especially given the high development costs of a use such as ours.

Setback Variance:

We are also requesting deviations for the modification of setback requirements. Our parcel (to be created via a condo plat) is part of an integrated development with shared parking with private roadway and sidewalk connections. Accordingly, strict application of setbacks from public ways, sidewalks and adjacent uses need not be required in our view for this center and the setbacks shown on the plan submitted should be deemed adequate and appropriate.

Please do not hesitate to contact us with your questions or comments. Contact information below.

Mark Lee
Director of Development
iFLY Holdings
6034 W. Courtyard Drive #135
Austin, Texas 78730
Main: 512.647.9200 x157
Direct: 512.201.8896
Mobile: 262.957.6339
Email: mglee@iflyworld.com

REVISED ELEVATIONS



FRONT & SIDE ELEVATIONS

FACADE MATERIAL CALCULATIONS:

RETURN AIR TOWER (65') HEIGHT IS A METAL PANEL CLADDING SYSTEM. MASONRY IS NOT STRUCTURALLY SAFE TO INSTALL DUE TO THE VIBRATIONS CREATED BY THE TUNNEL SYSTEM HOUSED BY THE TOWER STRUCTURE.

THE BUILDING FACADE (40') IS CONSTRUCTED WITH A 20' WAINSCOT OF BRICK (= 50% OF GROSS AREA) AND A 20' METAL PANEL ABOVE THE WAINSCOT.



BACK & SIDE ELEVATIONS



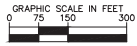
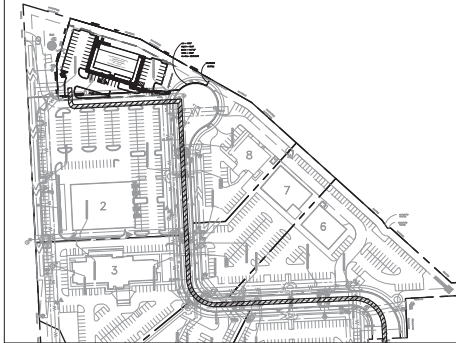
NOVI, MICHIGAN

Generation 9 Oct. 19, 2018

REVISED LAYOUT

(Submitted via e-mail along with response letter. Staff did not complete a review)

CONSTRUCTION ACCESS ROUTE



PRELIMINARY ENGINEERING PLANS

iFLY (DET)

43700 EXPO CENTER DRIVE UNIT 1

NOVI, MI 48375

PIN: 22-15-476-045



UTILITY AND GOVERNING AGENCY CONTACTS

BUILDING DEPARTMENT
CITY OF NOVI BUILDING DIVISION
10000 CENTENNIAL PARKWAY
SANDY, UT 84070
TEL: (248) 347-0430
CONTACT: SARAH MARCHIONI

SANITARY SEWER SERVICE
WATER AND SEWER DIVISION
26300 LEE BEGOLE DRIVE
NOVI, MI 48375
TEL: (248) 735-5661
CONTACT: BEN CROY

STORM SEWER SERVICE
CITY OF NOVI ENGINEERING DEPARTMENT
26300 LEE BEGOLE DRIVE
NOVI, MI 48375
TEL: (248) 735-5632
CONTACT: GEORGE D. MELUSTAS

WATER DEPARTMENT
WATER AND SEWER DIVISION
26300 LEE BEGOLE DRIVE
NOVI, MI 48375
TEL: (248) 735-5661
CONTACT: BEN CROY

COMMUNITY DEVELOPMENT
CITY OF NOVI COMMUNITY DEVELOPMENT DEPARTMENT
45175 TEN MILE ROAD
NOVI, MI 48375
TEL: (248) 735-5607
CONTACT: SRI KOMARAGIRI

POWER COMPANY
DTE ENERGY
PO BOX 740786
CINCINNATI, OH 45274
TEL: (800) 482-8720

NATURAL GAS COMPANY
CONSUMERS ENERGY
11801 FARMERS ROAD
LIVONIA, MI 48150
TEL: (734) 513-6277
CONTACT: CHRISTOPHER T. SCHNEIDER

TELEPHONE
AT&T
26050 NOVI RD
NOVI, MI 48375
TEL: (248) 449-1779

PROJECT TEAM

PROPERTY OWNER
ORVILLE PROPERTIES LLC
20733 WEST TEN MILE ROAD
SOUTHFIELD, MI 48075
CONTACT: KEVIN ADELL

DEVELOPER
SKYGROUP INVESTMENTS, LLC
6200 BRIDGEPOINT PARKWAY,
BUILDING 4, SUITE 400
AUSTIN, TX 78730
TEL: (512) 674-9209
CONTACT: LOU GAMBERTOGGIO

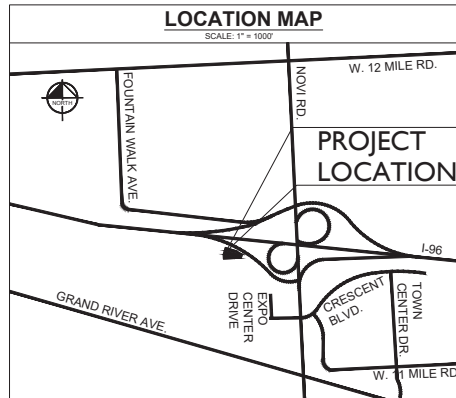
ARCHITECT
STANTEC
8211 SOUTH 48TH STREET
PHOENIX, AZ 85044
TEL: (602) 707-4799
CONTACT: BRIAN MCCLURE

GEOTECH
TERRACON
6949 SOUTH HIGH TECH DRIVE
MIDVALE, UT 84047
TEL: (801) 545-8500
CONTACT: RICK L. CHESNUT, P.E., P.G.

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
1001 WARRENVILLE RD, SUITE 350
LISLE, IL 60532
TEL: (630) 487-5550
EMAIL: NATE.GROFF@KIMLEY-HORN.COM
PROJECT MANAGER CONTACT: NATHAN GROFF, P.E.
EMAIL: JUSTIN.MULLER@KIMLEY-HORN.COM
PROJECT ENGINEER CONTACT: JUSTIN MULLER, P.E.

LANDSCAPE ARCHITECT
KIMLEY-HORN AND ASSOCIATES, INC.
1001 WARRENVILLE RD, SUITE 350
LISLE, IL 60532
TEL: (630) 487-5550
EMAIL: KEITH.DEMCHINSKI@KIMLEY-HORN.COM
CONTACT: KEITH DEMCHINSKI, P.L.A.
EMAIL: TOM.RUNKLE@KIMLEY-HORN.COM
CONTACT: TOM RUNKLE, P.L.A..

SURVEYOR
GREENTECH ENGINEERING INC.
51147 WEST PONTIAC TRAIL
WIXOM, MI 48393
TEL: (248) 668-0700
CONTACT: DAN LECLAIR



PART OF THE SOUTHEAST 1/4 OF SECTION 15, TOWNSHIP 1N, RANGE 8E, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

Sheet List Table	
Sheet Number	Sheet Title
C0.0	TITLE SHEET
C1.0	SITE PLAN
C2.0	EROSION CONTROL PLAN
C3.0	GRADING PLAN
C4.0	UTILITY PLAN
L1.0	LANDSCAPE PLAN

NOI	PRELIMINARY SITE PLAN COMMENTS	10/25/18	DM
NOI	RELEASES		BY

Kimley-Horn
KIMLEY-HORN AND ASSOCIATES, INC.
1001 WARRENVILLE ROAD, SUITE 350
LISLE, IL 60532
PHONE: (630) 487-5550
WWW.KH.COM

SCALE: AS NOTED
DESIGNED BY: NMA
DRAWN BY: BC
CHECKED BY: NAG



TITLE SHEET

iFLY (DET)
43700 EXPO CENTER DRIVE UNIT 1
NOVI, MI 48375

ORIGINAL ISSUE:
9/25/18
KHA PROJECT NO.
160695116
SHEET NUMBER
C0.0

PROFESSIONAL ENGINEER'S CERTIFICATION

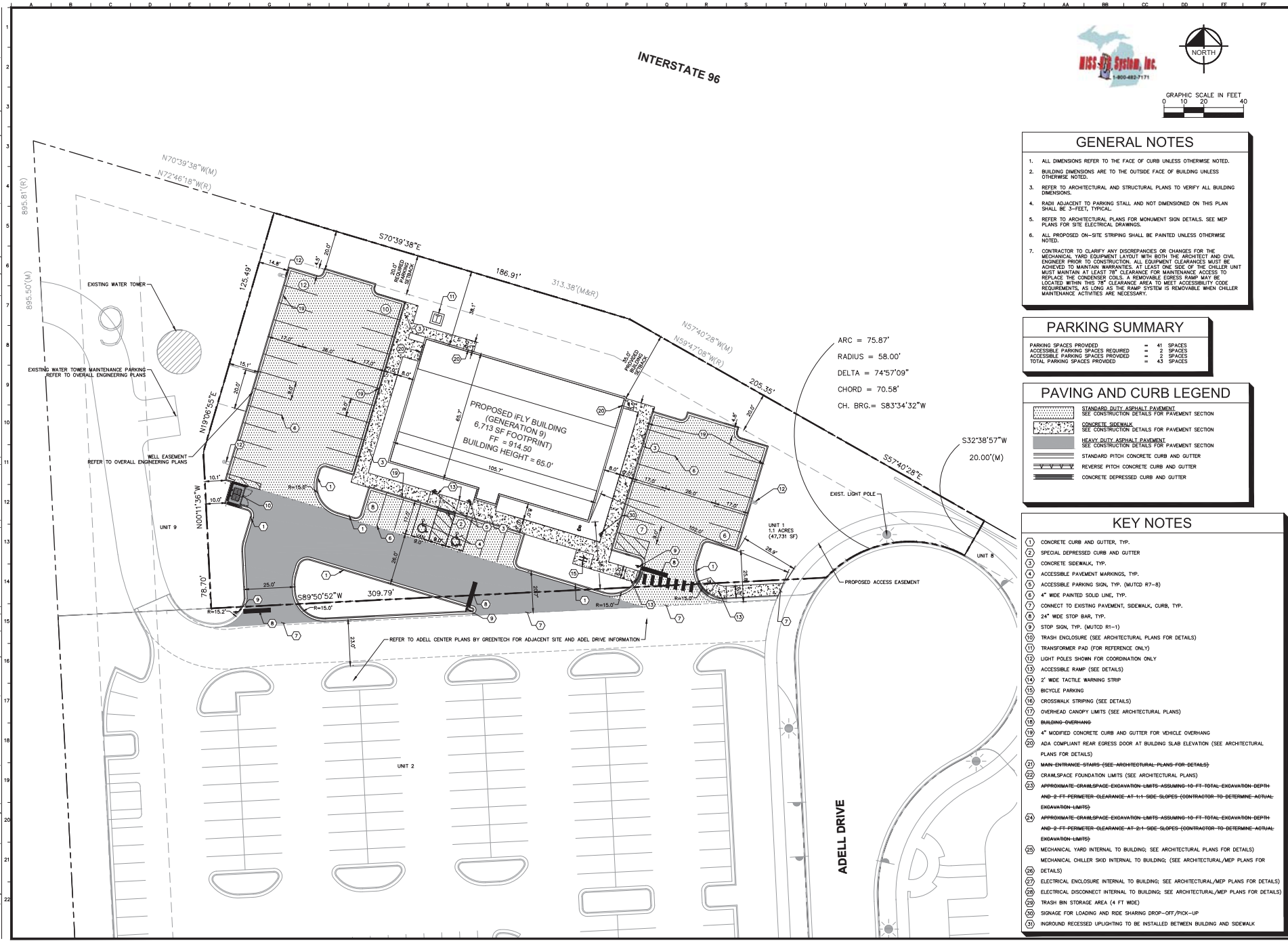
I, JUSTIN MULLER, A LICENSED PROFESSIONAL ENGINEER OF MI, HEREBY CERTIFY THAT THIS SUBMISSION, PERTAINING ONLY TO THE "C" SERIES CIVIL SHEETS LISTED ABOVE, WAS PREPARED ON BEHALF OF SKYGROUP BY KIMLEY-HORN AND ASSOCIATES, INC. UNDER MY PERSONAL DIRECTION. THIS TECHNICAL SUBMISSION IS INTENDED TO BE USED AS AN INTEGRAL PART OF AND IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS.

DATED THIS 19TH DAY OF OCTOBER, A.D., 2018.

Justin Muller
MI LICENSED PROFESSIONAL ENGINEER 6201055212
MY LICENSE EXPIRES ON OCTOBER 31, 2018

Sheet name: A:\US\1503\160695116\160695116_0100_DET_SHEET_001.dwg - TITLE SHEET.dwg
 Date: 10/19/2018 9:08am
 User: jmm@kh.com
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Drawn by: KIMLEY-HORN AND ASSOCIATES, INC. (KHA) DATE: 09/25/18
 Checked by: KHA DATE: 09/25/18
 Project: iFLY INDOOR SKI DIVISION UNIT 1, 43700 EXPO CENTER DRIVE, NOVATO, CA 94947
 This document, together with the contract and other project documents, is intended to be read and interpreted as a whole. No part of this document shall be construed in isolation or by reference to any other part of this document.



- ### GENERAL NOTES
1. ALL DIMENSIONS REFER TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
 2. BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
 3. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS TO VERIFY ALL BUILDING DIMENSIONS.
 4. RADI ADJACENT TO PARKING STALL AND NOT DIMENSIONED ON THIS PLAN SHALL BE 3'-FEET TYPICAL.
 5. REFER TO ARCHITECTURAL PLANS FOR MONUMENT SIGN DETAILS. SEE MEP PLANS FOR SITE ELECTRICAL DRAWINGS.
 6. ALL PROPOSED ON-SITE STRIPING SHALL BE PAINTED UNLESS OTHERWISE NOTED.
 7. CONTRACTOR TO CLARIFY ANY DISCREPANCIES OR CHANGES FOR THE MECHANICAL YARD EQUIPMENT LAYOUT WITH BOTH THE ARCHITECT AND CIVIL ENGINEER PRIOR TO CONSTRUCTION. ALL EQUIPMENT CLEARANCES MUST BE ACHIEVED TO MAINTAIN WARRANTIES. AT LEAST ONE SIDE OF THE CHILLER UNIT MUST MAINTAIN AT LEAST 1'-0" CLEARANCE FOR MAINTENANCE ACCESS TO REPLACE THE CONDENSER COILS. A REMOVABLE DRESS RAMP MAY BE LOCATED WITHIN THIS 1'-0" CLEARANCE AREA TO MEET ACCESSIBILITY CODE REQUIREMENTS, AS LONG AS THE RAMP SYSTEM IS REMOVABLE WHEN CHILLER MAINTENANCE ACTIVITIES ARE NECESSARY.

PARKING SUMMARY

PARKING SPACES PROVIDED	=	41	SPACES
ACCESSIBLE PARKING SPACES REQUIRED	=	4	SPACES
ACCESSIBLE PARKING SPACES PROVIDED	=	2	SPACES
TOTAL PARKING SPACES PROVIDED	=	43	SPACES

PAVING AND CURB LEGEND

	STANDARD DUTY ASPHALT PAVEMENT SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
	CONCRETE SIDEWALK SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
	HEAVY DUTY ASPHALT PAVEMENT SEE CONSTRUCTION DETAILS FOR PAVEMENT SECTION
	STANDARD PITCH CONCRETE CURB AND GUTTER
	REVERSE PITCH CONCRETE CURB AND GUTTER
	CONCRETE DEPRESSED CURB AND GUTTER

- ### KEY NOTES
1. CONCRETE CURB AND GUTTER, TYP.
 2. SPECIAL DEPRESSED CURB AND GUTTER
 3. CONCRETE SIDEWALK, TYP.
 4. ACCESSIBLE PAVEMENT MARKINGS, TYP.
 5. ACCESSIBLE PARKING SIGN, TYP. (MUTCD R7-8)
 6. 4" WIDE PAINTED SOLID LINE, TYP.
 7. CONNECT TO EXISTING PAVEMENT, SIDEWALK, CURB, TYP.
 8. 24" WIDE STOP BAR, TYP.
 9. STOP SIGN, TYP. (MUTCD R1-1)
 10. TRASH ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
 11. TRANSFORMER PAD (FOR REFERENCE ONLY)
 12. LIGHT POLES SHOWN FOR COORDINATION ONLY
 13. ACCESSIBLE RAMP (SEE DETAILS)
 14. 2" WIDE TACTILE WARNING STRIP
 15. BICYCLE PARKING
 16. CROSSWALK STRIPING (SEE DETAILS)
 17. OVERHEAD CANOPY LIMITS (SEE ARCHITECTURAL PLANS)
 18. BUILDING-OVERHANG
 19. 4" MODIFIED CONCRETE CURB AND GUTTER FOR VEHICLE OVERHANG
 20. ADA COMPLIANT REAR EGRESS DOOR AT BUILDING SLAB ELEVATION (SEE ARCHITECTURAL PLANS FOR DETAILS)
 21. MAIN-ENTRANCE-SPANDS (SEE ARCHITECTURAL PLANS FOR DETAILS)
 22. CLEARANCE FOUNDATION LIMITS (SEE ARCHITECTURAL PLANS)
 23. APPROXIMATE GRASSPRADE-EXHAUSTION-LIMITS ASSUMING 10'-0" TOTAL-EXHAUSTION-DEPTH AND 3'-0" PERMETER-CLEARANCE-AT-1:1-SIDE-SLOPES (CONTRACTOR-TO-DETERMINE-ACTUAL-EXHAUSTION-LIMITS)
 24. APPROXIMATE GRASSPRADE-EXHAUSTION-LIMITS ASSUMING 10'-0" TOTAL-EXHAUSTION-DEPTH AND 3'-0" PERMETER-CLEARANCE-AT-2:1-SIDE-SLOPES (CONTRACTOR-TO-DETERMINE-ACTUAL-EXHAUSTION-LIMITS)
 25. MECHANICAL YARD INTERNAL TO BUILDING; SEE ARCHITECTURAL PLANS FOR DETAILS
 26. MECHANICAL CHILLER SKID INTERNAL TO BUILDING; (SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
 27. ELECTRICAL ENCLOSURE INTERNAL TO BUILDING; SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
 28. ELECTRICAL DISCONNECT INTERNAL TO BUILDING; SEE ARCHITECTURAL/MEP PLANS FOR DETAILS)
 29. TRASH BIN STORAGE AREA (4 FT WIDE)
 30. SIGNAGE FOR LOADING AND RIDE SHARING DROP-OFF/PICK-UP
 31. INGROUND RECESSED UPLIGHTING TO BE INSTALLED BETWEEN BUILDING AND SIDEWALK

ARC = 75.67'
 RADIUS = 58.00'
 DELTA = 74.57°09"
 CHORD = 70.58'
 CH. BRG. = S83°34'32"W

Kimley-Horn
1001 MARSHALL AVENUE, SUITE 300
DUBLIN, CA 94568
PH: 925-885-6000
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED

DESIGNED BY: KHA

DRAWN BY: BC

CHECKED BY: MCG

SITE PLAN

iFLY (DET)

43700 EXPO CENTER DRIVE UNIT 1
NOVATO, CA 94947

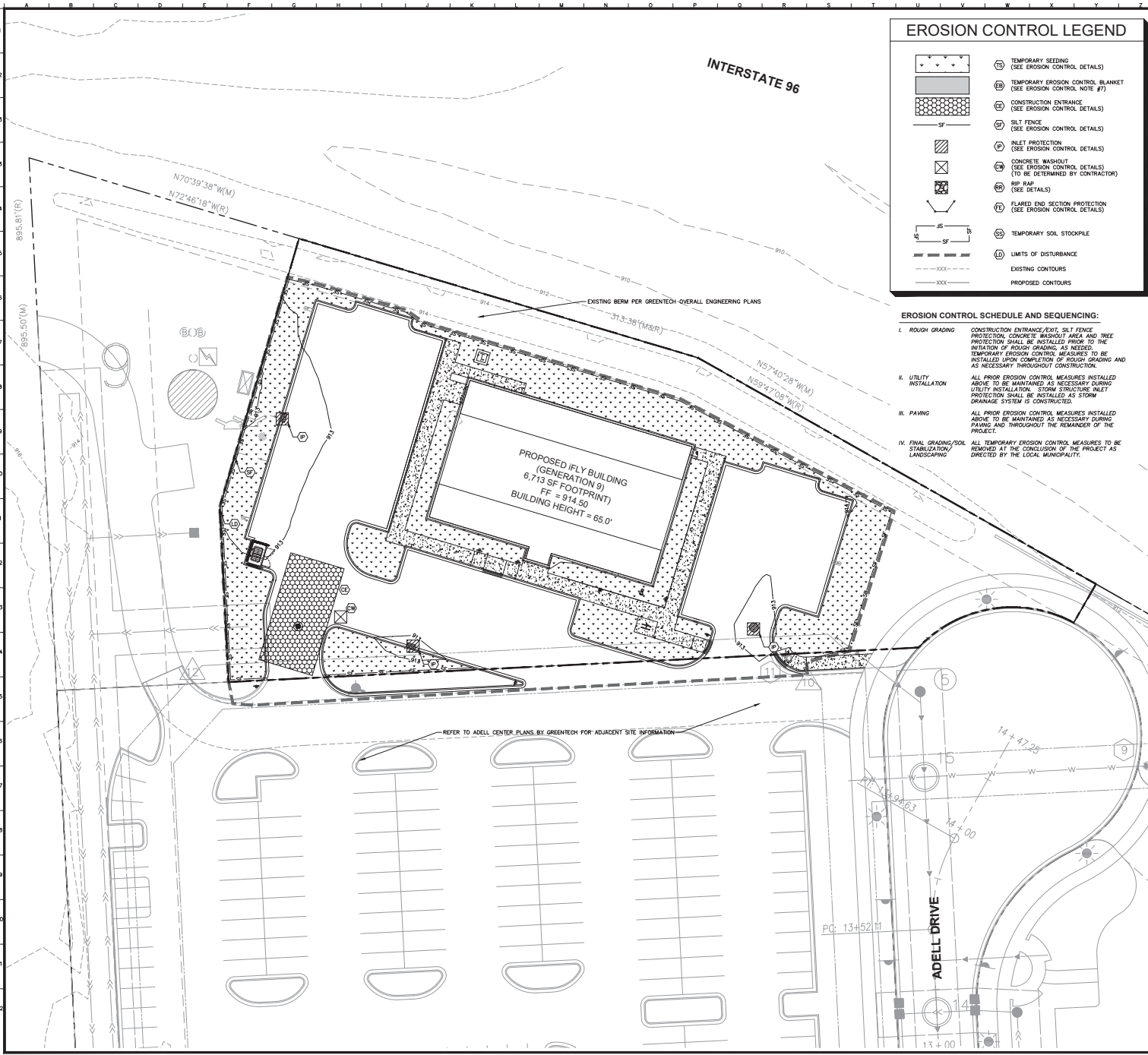
ORIGINAL ISSUE:
9/25/18

KHA PROJECT NO.
160695116

SHEET NUMBER
C1.0

DATE	BY
10/09/18	BN
REVISIONS	COMMENTS

Sheet name: A:\Site\160695116\160695116.dwg - 160695116.dwg - EROSION CONTROL PLAN.dwg C2.0 - Oct 19, 2018 9:08am by: jkelly@kelly.com
 This document, together with the contract and all other documents, shall be read in conjunction with the specific portions of the contract for which it was prepared. None of the information and adaptation by Kelly-Horn and Associates, Inc. and without liability to Kelly-Horn and Associates, Inc.



EROSION CONTROL LEGEND

	<p>(S) TEMPORARY SEEDING (SEE EROSION CONTROL DETAILS)</p> <p>(EB) TEMPORARY EROSION CONTROL BLANKET (SEE EROSION CONTROL NOTE #7)</p> <p>(CE) CONSTRUCTION ENTRANCE (SEE EROSION CONTROL DETAILS)</p> <p>(SF) SILT FENCE (SEE EROSION CONTROL DETAILS)</p> <p>(IP) INLET PROTECTION (SEE EROSION CONTROL DETAILS) (TO BE DETERMINED BY CONTRACTOR)</p> <p>(CW) CONCRETE WASHOUT (SEE EROSION CONTROL DETAILS)</p> <p>(RR) RIP RAP (SEE DETAILS)</p> <p>(FES) FLARED END SECTION PROTECTION (SEE EROSION CONTROL DETAILS)</p> <p>(SS) TEMPORARY SOIL STOCKPILE</p> <p>(LD) LIMITS OF DISTURBANCE</p> <p>--- EXISTING CONTOURS</p> <p>--- PROPOSED CONTOURS</p>
--	--

1001 WARDVILLE ROAD, SUITE 300
WINTHROP, NC 28078-4400
PH: 704-399-7000
FAX: 704-399-7000

EROSION CONTROL SCHEDULE AND SEQUENCING:

I. ROUGH GRADING CONSTRUCTION ENTRANCE/EXIT, SILT FENCE PROTECTION, CONCRETE WASHOUT AREA AND TREE PROTECTION SHALL BE INSTALLED PRIOR TO THE INITIATION OF ROUGH GRADING. AS NECESSARY, TEMPORARY EROSION CONTROL MEASURES TO BE INSTALLED UPON COMPLETION OF ROUGH GRADING AND AS NECESSARY THROUGHOUT CONSTRUCTION.

II. UTILITY INSTALLATION ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING UTILITY INSTALLATION. STORM STRUCTURE INLET PROTECTION SHALL BE INSTALLED AS STORM DRAINAGE SYSTEM IS CONSTRUCTED.

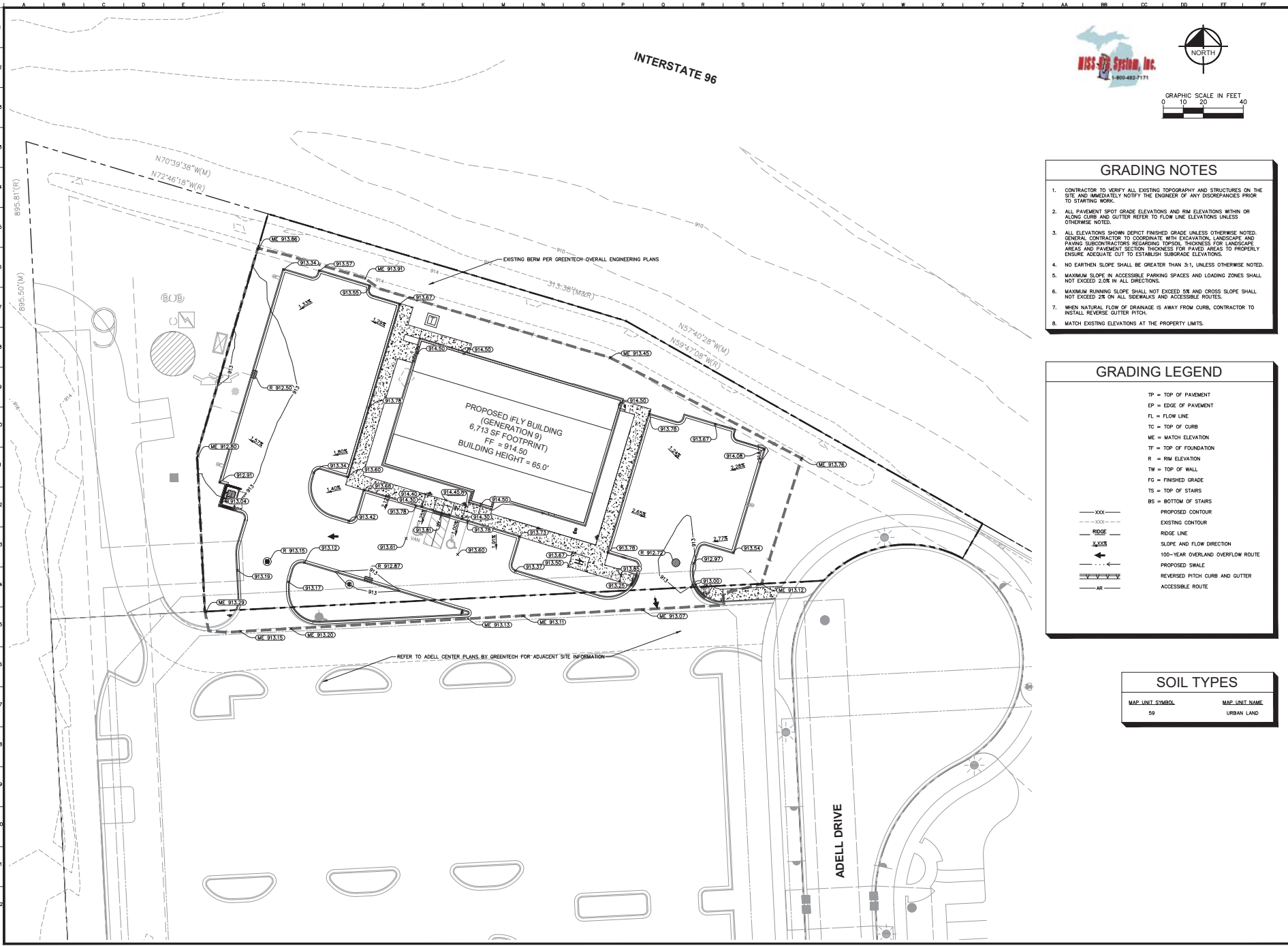
III. PAVING ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED AS NECESSARY DURING PAVING AND THROUGHOUT THE REMAINDER OF THE PROJECT.

IV. FINAL GRADING/SOIL STABILIZATION/ LANDSCAPING ALL TEMPORARY EROSION CONTROL MEASURES TO BE REMOVED AT THE CONCLUSION OF THE PROJECT AS DIRECTED BY THE LOCAL MUNICIPALITY.

- ### EROSION CONTROL NOTES
1. CONSTRUCTION ENTRANCE SHALL BE LOCATED 50 AS TO PROVIDE THE LEAST AMOUNT OF DISTURBANCE TO THE FLOW OF TRAFFIC IN AND OUT OF THE SITE. ADDITIONALLY, CONSTRUCTION ENTRANCE SHALL BE LOCATED TO CONCLUDE WITH THE FINISHING OF THE PAVEMENT REPLACEMENT.
 2. POST CONSTRUCTION STORM WATER POLLUTION CONTROL MEASURES INCLUDE STABILIZATION BY PERMANENT PAVING, DRAINAGE SYSTEM STRUCTURE, OR LANDSCAPING.
 3. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
 4. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE, SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
 5. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN.
 6. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE RESUBMITTING ENGINEER. ENVIRONMENTAL SPECIALIST, OR AGRONOMIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY THE PLANNING AND DEVELOPMENT DEPARTMENT AND THE DRAINAGE UTILITY DEPARTMENT. MINOR CHANGES OR ADDITIONAL CONTROL MEASURES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES AT NO ADDITIONAL COST TO THE OWNER.
 7. CONTRACTOR SHALL PLACE EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S1500N OR APPROVED EQUAL) ON ALL SITE AREAS WITH SLOPES GREATER THAN 4:1, AND IN THE BOTTOM AND SIDE SLOPES OF ALL SWALES.
 8. PRIOR TO FINAL ACCEPTANCE, HAIL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING SHALL BE DISPOSED OF IN APPROVED SPILL DISPOSAL SITES.
 9. PERMANENT, FINAL PLANT COVERING OR STRUCTURES SHALL BE INSTALLED PRIOR TO FINAL ACCEPTANCE.
 10. ALL CONTROL DEVICES THAT FUNCTION SIMILARLY TO SILT FENCE OR FIBER BELLS MUST BE REPAIRED, REPLACED OR REMOVED WITH LETTERS OF CORRECTIONS WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES ONE THIRD THE HEIGHT OF THE DEVICE. REPAIRS MUST BE MADE WITHIN 24 HOURS OF THE RAINFALL EVENT OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
 11. ALL SEDIMENT DELTAS AND DEPOSITS MUST BE REMOVED FROM SURFACE WATERS, DRAINAGEWAYS, CATCH BASINS AND OTHER DRAINAGE SYSTEMS. ALL AREAS WHERE SEDIMENT IS DEPOSITED MUST BE REVEGETATED OR MUST BE RE-STABILIZED. THE REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS AFTER THE RAINFALL EVENT UNLESS PRECEDDED BY LEGAL, REGULATORY OR PHYSICAL ACCESS CONSTRAINTS. ALL REASONABLE EFFORTS MUST BE USED TO OBTAIN ACCESS. ONCE ACCESS IS OBTAINED, REMOVAL AND STABILIZATION MUST TAKE PLACE IMMEDIATELY, BUT NO MORE THAN 7 DAYS LATER. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL APPROPRIATE AUTHORITIES AND RECEIVING THE APPLICABLE PERMITS PRIOR TO CONDUCTING ANY WORK.
 12. ACCUMULATIONS OF TRACKED AND DEPOSITED SEDIMENT MUST BE REMOVED FROM OFF-SITE PAVED SURFACES WITHIN 24 HOURS OR SOONER IF REQUIRED. SEDIMENT TRIMMINGS MUST BE REMOVED BY THE APPROPRIATE MANAGEMENT PRACTICE, LIKE A DEDICATED SITE EXIT WITH AN AGGREGATE SURFACE OR DESIGNATED OFFSITE PARKING AREA. CONTRACTOR IS RESPONSIBLE FOR STREET SWEEPING AND/OR SCRAPING IF YOUR PRACTICES ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED FROM THE SITE.
 13. SURFACE WATERS, DRAINAGE DITCHES AND CONVEYANCE SYSTEMS MUST BE INSPECTED FOR SEDIMENT DEPOSITS.
 14. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES AS INDICATED ON THIS SHEET IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PREPARED BY KIMLEY-HORN AND ASSOCIATES, INC. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE PROVISIONS INDICATED IN THE SWPPP, INCLUDING EROSION CONTROL MEASURES AND INSPECTION FREQUENCY.
 15. PUMPING SEDIMENT LADEN WATER INTO ANY STORMWATER FACILITY THAT IS NOT DESIGNATED TO BE A SEDIMENT TRAP, DRAINAGEWAY, FLOOD PLAN AREA OR A DESIGNATED BUFFER, UNLESS OTHERWISE APPROVED, UNDER SPECIFIC CONDITIONS TO BE ESTABLISHED BY THE DIRECTOR OR ADMINISTRATOR.
 16. SOIL STOCKPILES SHALL NOT BE LOCATED IN A DRAINAGEWAY, FLOOD PLAN AREA OR A DESIGNATED BUFFER, UNLESS OTHERWISE APPROVED, UNDER SPECIFIC CONDITIONS TO BE ESTABLISHED BY THE DIRECTOR OR ADMINISTRATOR.
 17. STOCKPILES TO REMAIN IN PLACE FOR MORE THAN THREE DAYS SHALL BE COVERED WITH SEED MEASURES. MATERIALS TO BE HAULLED OFF SHALL BE REMOVED IMMEDIATELY AND LEGALLY IF NO STOCKPILE IS TO REMAIN IN PLACE.
 18. ALL TEMPORARY SEED MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED. TRAPPED SEDIMENT AND OTHER DISTURBED SOILS RESULTING FROM TEMPORARY MEASURES SHALL BE PROPERLY DISPOSED OF PRIOR TO PERMANENT STABILIZATION.
 19. WATER REMOVED FROM TRAPS, BASINS, AND OTHER WATER HOLDING DEPRESSURES OR EXCAVATIONS MUST FIRST PASS THROUGH A SEDIMENT CONTROL, AND/OR FILTRATION DEVICE, WHEN DRAINAGE DEVICES ARE USED. DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION.
 20. SITE STABILIZATION REQUIREMENTS ARE AS FOLLOWS:
 - 20.1. WHERE THE INITIATION OF STABILIZATION MEASURES BY THE JOB-BAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES ON A PORTION OF THE SITE IS PRECEDDED BY OTHER COVER STABILIZATION MEASURE SHALL BE INITIATED AS SOON AS PRACTICABLE.
 - 20.2. WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 14 DAYS FROM WHEN ACTIVITIES CEASED, I.E.A. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 14 DAYS, THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE JOB-BAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.

KIMLEY-HORN	KIMLEY-HORN	KIMLEY-HORN	KIMLEY-HORN	KIMLEY-HORN	KIMLEY-HORN	KIMLEY-HORN	KIMLEY-HORN	
SCALE: AS NOTED	DESIGNED BY: KHA	DRAWN BY: BC	CHECKED BY: KHA	DATE: 9/25/18	PROJECT NO: 160695116	SHEET NO: C2.0	DATE: 9/25/18	
EROSION CONTROL PLAN							iFLY (DET)	
43700 EXPO CENTER DRIVE UNIT 1 NOVI, MI 48375							PRELIMINARY DATE PLAN COMMENTS: 10/19/18 RELEASED: 10/19/18 DATE: 10/19/18	
ORIGINAL ISSUE: 9/25/18							KHA PROJECT NO: 160695116	
SHEET NUMBER							C2.0	

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iFLY System, Inc.
1-800-482-7171

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

- ### GRADING NOTES
- CONTRACTOR TO VERIFY ALL EXISTING TOPOGRAPHY AND STRUCTURES ON THE SITE AND IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING WORK.
 - ALL PAVEMENT SPOT GRADE ELEVATIONS AND SIM ELEVATIONS WITHIN OR ALONG CURBS AND GUTTER REFER TO FLOW LINE ELEVATIONS UNLESS OTHERWISE NOTED.
 - ALL ELEVATIONS SHOWN DEPICT FINISHED GRADE UNLESS OTHERWISE NOTED. GENERAL CONTRACTOR TO COORDINATE WITH EXCAVATOR, LANDSCAPE AND PAVING SUBCONTRACTORS REGARDING TOPSOIL THICKNESS FOR LANDSCAPE AREAS AND PAVEMENT SECTION THICKNESS FOR PAVED AREAS TO PROPERLY ENSURE ADEQUATE CURB TO ESTABLISH SUBGRADE ELEVATIONS.
 - NO EARTHEN SLOPE SHALL BE GREATER THAN 3:1, UNLESS OTHERWISE NOTED.
 - MAXIMUM SLOPE IN ACCESSIBLE PARKING SPACES AND LOADING ZONES SHALL NOT EXCEED 2.0% IN ALL DIRECTIONS.
 - MAXIMUM RUNNING SLOPE SHALL NOT EXCEED 5% AND CROSS SLOPE SHALL NOT EXCEED 2% ON ALL SIDEWALKS AND ACCESSIBLE ROUTES.
 - WHEN NATURAL FLOW OF DRAINAGE IS AWAY FROM CURBS, CONTRACTOR TO INSTALL REVERSE GUTTER PITCH.
 - MATCH EXISTING ELEVATIONS AT THE PROPERTY LIMITS.

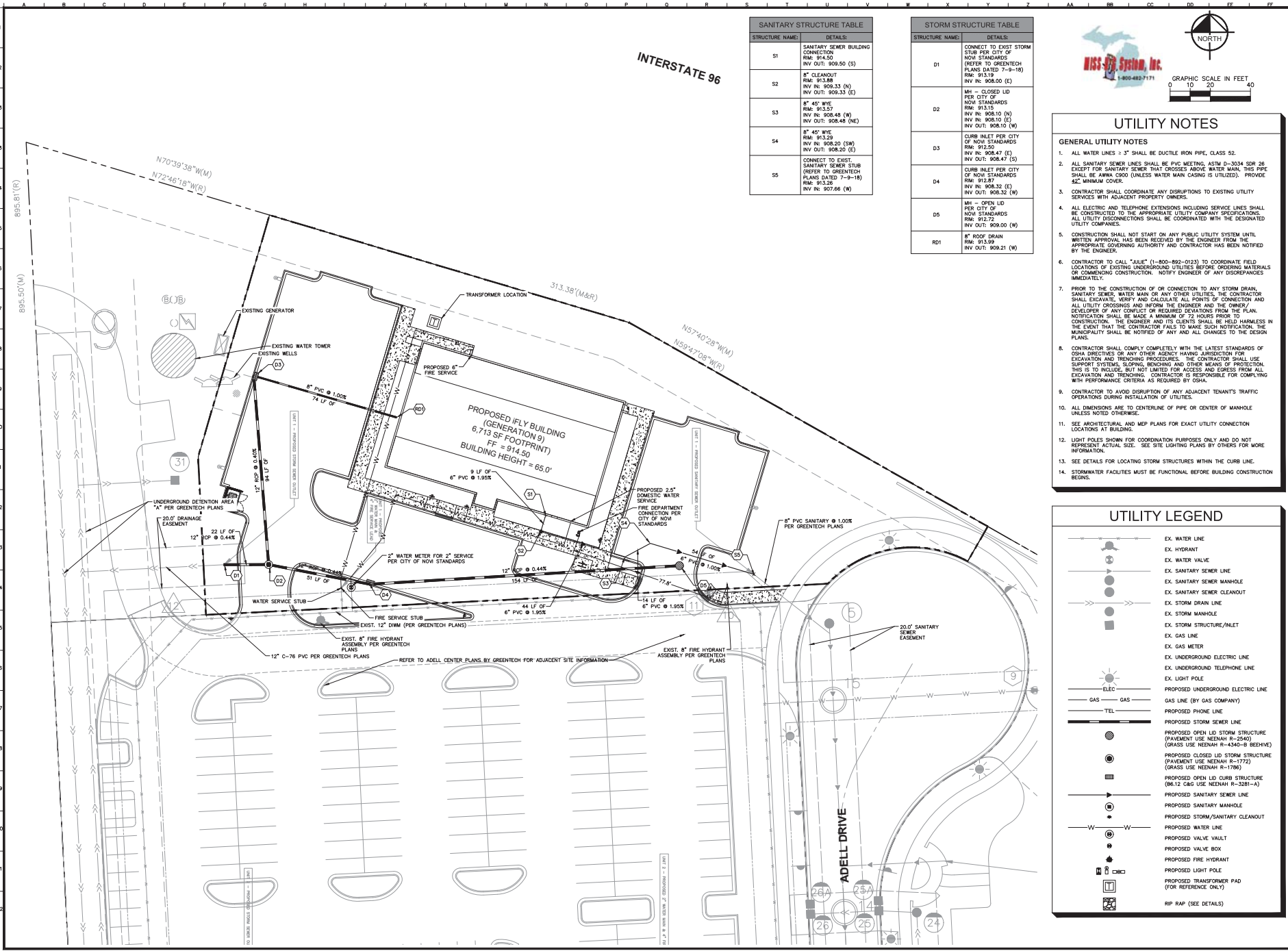
- ### GRADING LEGEND
- TP = TOP OF PAVEMENT
 - EP = EDGE OF PAVEMENT
 - FL = FLOW LINE
 - TC = TOP OF CURB
 - ME = MATCH ELEVATION
 - TF = TOP OF FOUNDATION
 - R = RIM ELEVATION
 - TW = TOP OF WALL
 - FG = FINISHED GRADE
 - TS = TOP OF STAIRS
 - BS = BOTTOM OF STAIRS
 - PROPOSED CONTOUR
 - EXISTING CONTOUR
 - RIDGE LINE
 - SLOPE AND FLOW DIRECTION
 - 100-YEAR OVERLAND OVERFLOW ROUTE
 - PROPOSED SWALE
 - REVERSED PITCH CURB AND GUTTER
 - ACCESSIBLE ROUTE

SOIL TYPES

MAP UNIT SYMBOL	MAP UNIT NAME
59	URBAN LAND

Kimley-Horn	1001 WASHINGTON ROAD, SUITE 300, PITTSBURGH, PA 15222-1500 PH: 412-324-7000 WWW.KH-PA.COM	PRELIMINARY DATE: 9/25/18 COMMENTS: 10/25/18 BY: KHA	
SCALE: AS NOTED	DESIGNED BY: KHA	DRAWN BY: KHA	CHECKED BY: KHA
iFLY INDOOR SKYDIVING			
GRADING PLAN			
iFLY (DET) 43700 EXPO CENTER DRIVE UNIT 1 NOVIL MI 48375			
ORIGINAL ISSUE: 9/25/18 KHA PROJECT NO. 160695116			
SHEET NUMBER C3.0			

Scale: 1" = 10' (GENERAL) 1" = 20' (ELECTRICAL) 1" = 40' (PLUMBING)
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INTERSTATE 96

SANITARY STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
S1	SANITARY SEWER BUILDING CONNECTION RIM: 914.50 INV OUT: 909.50 (S)
S2	8" CLEANOUT RIM: 913.29 INV IN: 909.33 (N) INV OUT: 909.33 (E)
S3	8" 45° WYE RIM: 913.27 INV IN: 908.48 (W) INV OUT: 908.48 (NE)
S4	8" 45° WYE RIM: 913.29 INV IN: 908.20 (SW) INV OUT: 908.20 (E)
S5	CONNECT TO EXIST. SANITARY SEWER SUB (REFER TO GREENTECH PLANS DATED 7-9-14) RIM: 913.29 INV IN: 907.66 (W)

STORM STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
D1	CONNECT TO EXIST STORM SUB PER CITY OF NOW STANDARDS (REFER TO GREENTECH PLANS DATED 7-9-14) RIM: 913.19 INV IN: 908.00 (E)
D2	MH - CLOSED LID PER CITY OF NOW STANDARDS RIM: 913.15 INV IN: 908.10 (N) INV IN: 908.10 (E) INV OUT: 908.10 (W)
D3	CURB INLET PER CITY OF NOW STANDARDS RIM: 912.50 INV IN: 908.47 (S) INV OUT: 908.47 (S)
D4	CURB INLET PER CITY OF NOW STANDARDS RIM: 912.87 INV IN: 908.32 (E) INV OUT: 908.32 (W)
D5	MH - OPEN LID PER CITY OF NOW STANDARDS RIM: 912.50 INV OUT: 909.00 (W)
RD1	8" ROOF DRAIN RIM: 913.99 INV OUT: 909.21 (W)

Kimley-Horn & Associates, Inc.
1-800-882-7171

UTILITY NOTES

- GENERAL UTILITY NOTES**
- ALL WATER LINES ≥ 3" SHALL BE DUCTILE IRON PIPE, CLASS 52.
 - ALL SANITARY SEWER LINES SHALL BE PVC MCTING, ASTM D-3034 SDR 26 EXCEPT FOR SANITARY SEWER THAT CROSSES ABOVE WATER MAIN. THIS PIPE SHALL BE ANMA C900 (UNLESS WATER MAIN CASING IS UTILIZED). PROVIDE 8" MINIMUM COVER.
 - CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
 - ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
 - CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.
 - CONTRACTOR TO CALL "811" (1-800-882-0123) TO COORDINATE FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION. NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
 - PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALL OUT ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM THE ENGINEER AND THE OWNER, DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION. THE MUNICIPALITY SHALL BE NOTIFIED OF ANY AND ALL CHANGES TO THE DESIGN PLANS.
 - CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED TO ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
 - CONTRACTOR TO AVOID DISRUPTION OF ANY ADJACENT TENANT'S TRAFFIC OPERATIONS DURING INSTALLATION OF UTILITIES.
 - ALL DIMENSIONS ARE TO CENTERLINE OF PIPE OR CENTER OF MANHOLE UNLESS NOTED OTHERWISE.
 - SEE ARCHITECTURAL AND MEP PLANS FOR EXACT UTILITY CONNECTION LOCATIONS AT BUILDING.
 - LIGHT POLES SHOWN FOR COORDINATION PURPOSES ONLY AND DO NOT REPRESENT ACTUAL SIZE. SEE SITE LIGHTING PLANS BY OTHERS FOR MORE INFORMATION.
 - SEE DETAILS FOR LOCATING STORM STRUCTURES WITHIN THE CURB LINE.
 - STORMWATER FACILITIES MUST BE FUNCTIONAL BEFORE BUILDING CONSTRUCTION BEGINS.

UTILITY LEGEND

	EX. WATER LINE
	EX. WATER VALVE
	EX. SANITARY SEWER LINE
	EX. SANITARY SEWER MANHOLE
	EX. SANITARY SEWER CLEANOUT
	EX. STORM DRAIN LINE
	EX. STORM MANHOLE
	EX. STORM STRUCTURE/INLET
	EX. GAS LINE
	EX. GAS METER
	EX. UNDERGROUND ELECTRIC LINE
	EX. LIGHT POLE
	PROPOSED UNDERGROUND ELECTRIC LINE
	GAS LINE (BY GAS COMPANY)
	PROPOSED PHONE LINE
	PROPOSED STORM SEWER LINE
	PROPOSED OPEN LID STORM STRUCTURE (PAVEMENT USE NENAH R-2540) (GRASS USE NENAH R-4340-B BEEHIVE)
	PROPOSED CLOSED LID STORM STRUCTURE (PAVEMENT USE NENAH R-1732) (GRASS USE NENAH R-1786)
	PROPOSED OPEN LID CURB STRUCTURE (86.12 C&G USE NENAH R-3281-A)
	PROPOSED SANITARY SEWER LINE
	PROPOSED STORM/SANITARY CLEANOUT
	PROPOSED WATER LINE
	PROPOSED VALVE VAULT
	PROPOSED VALVE BOX
	PROPOSED FIRE HYDRANT
	PROPOSED LIGHT POLE
	PROPOSED TRANSFORMER PAD (FOR REFERENCE ONLY)
	RIP RAP (SEE DETAILS)

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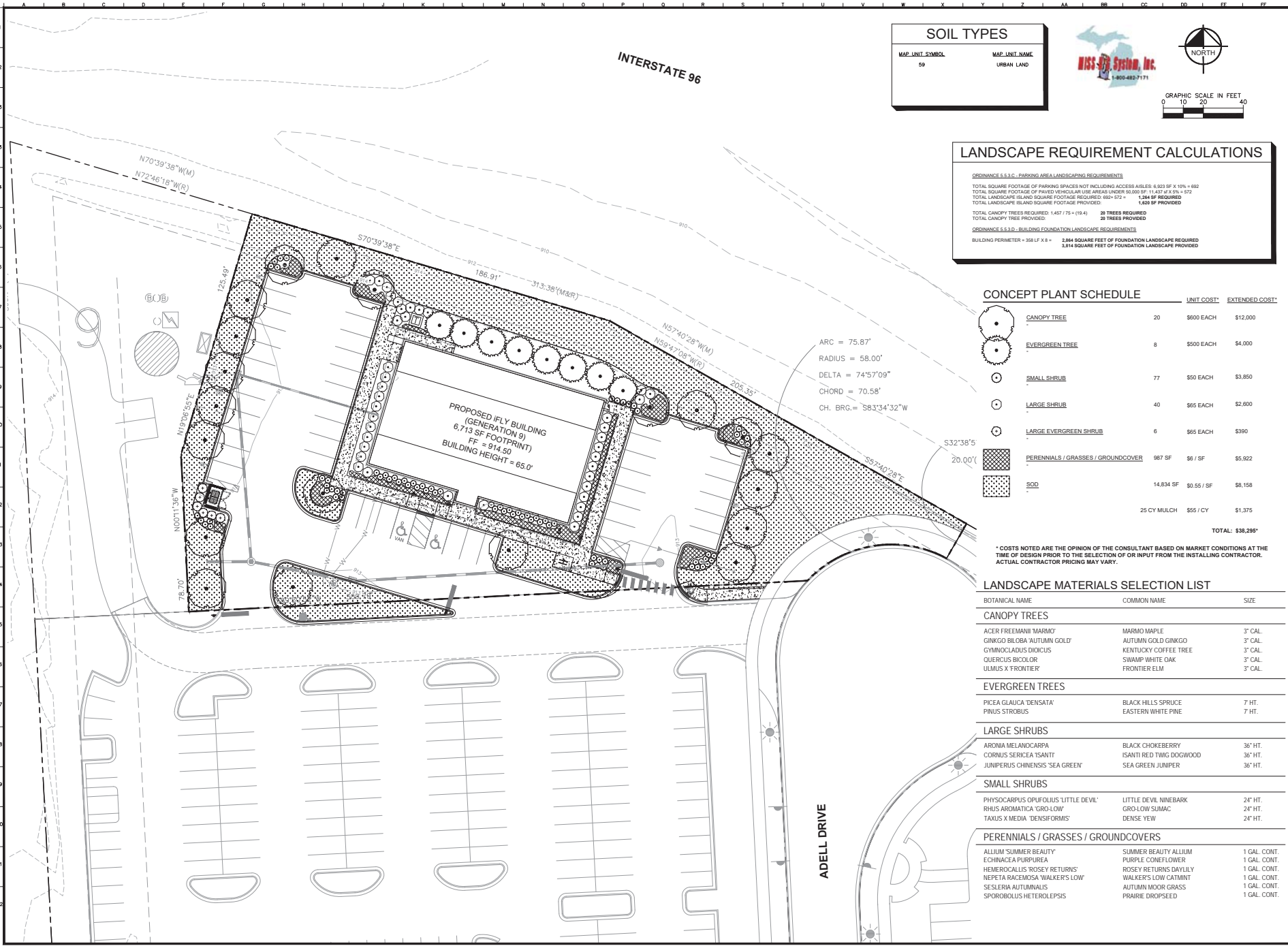
iFLY INDOOR SKYDIVING

UTILITY PLAN

iFLY (DET)
43700 EXPO CENTER DRIVE UNIT 1
NOVI, MI 48375

ORIGINAL ISSUE:
9/25/18
KHA PROJECT NO.
160695116
SHEET NUMBER
C4.0

Drawing name: A:\Users\KHA\Documents\113 - LANDSCAPE PLAN.dwg, U.S., Oct 19, 2016, 9:08am, by: Ryan McElroy
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SOIL TYPES	
MAP UNIT SYMBOL	MAP UNIT NAME
59	URBAN LAND

iFLY System, Inc.
 1-800-482-7171

GRAPHIC SCALE IN FEET
 0 10 20 40

LANDSCAPE REQUIREMENT CALCULATIONS	
ORDINANCE 5.5.3.C - PARKING AREA LANDSCAPING REQUIREMENTS	
TOTAL SQUARE FOOTAGE OF PARKING SPACES NOT INCLUDING ACCESS AISLES:	6,923 SF X 10% = 692
TOTAL SQUARE FOOTAGE OF PAVED VEHICULAR USE AREAS UNDER 50,000 SF:	11,437 SF X 5% = 572
TOTAL LANDSCAPE ISLAND SQUARE FOOTAGE REQUIRED:	692 + 572 = 1,264 SF REQUIRED
TOTAL LANDSCAPE ISLAND SQUARE FOOTAGE PROVIDED:	1,469 SF PROVIDED
TOTAL CANOPY TREES REQUIRED: 1,467 / 75 = (19.4)	20 TREES REQUIRED
TOTAL CANOPY TREE PROVIDED:	20 TREES PROVIDED
ORDINANCE 5.5.3.D - BUILDING FOUNDATION LANDSCAPING REQUIREMENTS	
BUILDING PERIMETER = 358 LF X 8 =	2,864 SQUARE FEET OF FOUNDATION LANDSCAPE REQUIRED
	3,814 SQUARE FEET OF FOUNDATION LANDSCAPE PROVIDED

CONCEPT PLANT SCHEDULE			
	UNIT COST*	EXTENDED COST*	
CANOPY TREE	20	\$600 EACH	\$12,000
EVERGREEN TREE	8	\$500 EACH	\$4,000
SMALL SHRUB	77	\$50 EACH	\$3,850
LARGE SHRUB	40	\$65 EACH	\$2,600
LARGE EVERGREEN SHRUB	6	\$65 EACH	\$390
PERENNIALS / GRASSES / GROUNDCOVER	987 SF	\$6 / SF	\$5,922
SOD	14,834 SF	\$0.55 / SF	\$8,158
	25 CY MULCH	\$55 / CY	\$1,375
		TOTAL: \$38,295*	

* COSTS NOTED ARE THE OPINION OF THE CONSULTANT BASED ON MARKET CONDITIONS AT THE TIME OF DESIGN PRIOR TO THE SELECTION OF OR INPUT FROM THE INSTALLING CONTRACTOR. ACTUAL CONTRACTOR PRICING MAY VARY.

LANDSCAPE MATERIALS SELECTION LIST		
BOTANICAL NAME	COMMON NAME	SIZE
CANOPY TREES		
ACER FREEMANII 'MARMO'	MARMO MAPLE	3" CAL.
GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD GINKGO	3" CAL.
GYMNOCALDIUS DIOICUS	KENTUCKY COFFEE TREE	3" CAL.
QUERCUS BICOLOR	SWAMP WHITE OAK	3" CAL.
ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.
EVERGREEN TREES		
PICEA GLAUCA 'DENSATA'	BLACK HILLS SPRUCE	7' HT.
PINUS STROBUS	EASTERN WHITE PINE	7' HT.
LARGE SHRUBS		
ARONIA MELANOCARPA	BLACK CHOKEBERRY	36" HT.
CORNUS SERICEA 'ISANTI'	ISANTI RED TWIG DOGWOOD	36" HT.
JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	36" HT.
SMALL SHRUBS		
PHYSOCARPUS OPIFOLIUS 'LITTLE DEVIL'	LITTLE DEVIL NINEBARK	24" HT.
RHUS AROMATICA 'GRO-LOW'	GRO-LOW SIMAC	24" HT.
TAXUS X MEDIA 'DENSIFORMIS'	DENSE YEW	24" HT.
PERENNIALS / GRASSES / GROUNDCOVERS		
ALLIUM 'SUMMER BEAUTY'	SUMMER BEAUTY ALLIUM	1 GAL. CONT.
ECHINACEA PURPUREA	PURPLE CONEFLOWER	1 GAL. CONT.
HEMEROCALLIS 'ROSEY RETURNS'	ROSEY RETURNS DAYLILY	1 GAL. CONT.
NEPETA RACEMOSA 'WALKERS LOW'	WALKERS LOW CATMINT	1 GAL. CONT.
SECLERIA AUTUMNALIS	AUTUMN MOOR GRASS	1 GAL. CONT.
SPOROBOLIUM HETEROLEPSIS	PRAIRIE DROPSPEED	1 GAL. CONT.

SCALE: AS NOTED	DESIGNED BY: KHA	DATE: 9/25/18
SCHEMATIC: BY: KHA	DRAWN BY: JDC	PROJECT NO: 160695116
	CHECKED BY: KHA	SHEET NUMBER: L1.0

PRELIMINARY LANDSCAPE PLAN

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