



SUBJECT: Tentative approval of the Request to Amend the Maples of Novi Planned Unit Development (PUD) Agreement and Area Plan at the request of AJSS Property, LLC, for Maple Medical Office, JSP21-33, located on the east side of Novi Road, south of Fourteen Mile Road in Section 2. The applicant is proposing to remove the existing tennis courts and construct a 2,558 square foot medical office on approximately 0.42 acres of property.

SUBMITTING DEPARTMENT: Community Development Department - Planning

BACKGROUND INFORMATION:

The request is part of the Maples of Novi Planned Unit Development (PUD), and consists of 0.42 acres of land on the east side of Novi Road, south of Fourteen Mile Road. The applicant is proposing to remove the existing tennis courts in order to construct a 2,558 square foot medical office. The site is located south of the existing bank, and north of the existing golf course maintenance building. The attached approved PUD Area Plan shows the location of the subject property, just south of the planned commercial uses. At this time, the applicant is seeking to amend the Maples of Novi PUD Agreement and Area plan to allow the change in use of this site from tennis courts to a medical office.

The plan for this development shows a one-story medical office building with thirteen parking spaces, and indicates that the hours of operation will be from 8am to 9pm. The proposed building façade is fairly consistent with the adjacent bank, and the plan shows landscape plantings, and a six-foot tall screening fence along the east property line. The development will be accessed from the adjacent bank property, which has access to Novi Road, and will continue to serve for access to the Maples of Novi maintenance building. The site will also remain a part of the Maples of Novi Planned Unit Development.

Although the PUD Section of the Zoning Ordinance was removed in 1997 (Ordinance 97-18), the ordinance remains in place to address any proposed changes to the existing PUDs within the City. Per Article 27, Section 9, "a developer may request an amendment to an approved area plan [...]." Also, "any amendment to an approved preliminary or final site plan which results in a major change in the approved area plan, as defined in this Section, shall require an amendment to the approved area plan."

The applicant is requesting an amendment the Maples of Novi (PUD) Agreement and Area Plan to allow this change in use. The applicant is asking that the use of the site be approved as the proposed use is consistent with the adjacent shopping center and bank, and the site would be subject to the standards of the B-1 Zoning District (consistent with Local Commercial uses as recommended on the Master Plan).

The applicant discussed the proposal with nearby Homeowner Association (HOA) Presidents. The attached correspondence was received from the Maple Pointe HOA indicating that the Maple Pointe HOA has no concern with the site plan as proposed.

On November 17, 2021, the Planning Commission held a public hearing and recommended approval of the request to amend the Maples of Novi PUD & Area Plan as a major change. Minutes from the Planning Commission meeting are attached.

If approved by the City Council, the applicant's attorney will need to work with the City Attorney to determine the appropriate language for the amendment to the PUD Agreement, to return to Council for final approval.

RECOMMENDED ACTION:

Tentative approval of the request of AJSS Property, LLC, JSP21-33 Maple Medical Office, to amend the Maples of Novi Planned Unit Development Agreement and Area Plan as a major change based on and subject to the following, with the final language of the amendment of the PUD Agreement to be brought back to the City Council for final consideration and approval:

1. The requested amendment constitutes a **major change** to the PUD Agreement & Area Plan *because the modification proposed includes a change in use and character of the development as indicated by Article 27, Section 9, Subheading C, specifically, as a change in use and character of the development since the applicant is changing the use from a tennis court to a medical office;*
2. The application **does not constitute a minor change** to the PUD Agreement and Area plan *since it does not meet the following criteria: Modifications to be considered minor changes, for which approved plans may be revised rather than amended, shall include, among other similar modifications, the following:*
 - a. *A change in residential floor area;*
 - b. *A change in nonresidential floor area of five percent or less;*
 - c. *Minor variations in layout which do not constitute major changes; and or*
 - d. *A change in lot coverage and FAR of the entire PUD of one percent or less.*
3. The proposed use of the site as a medical office is approved as a reasonable alternative to the uses provided in the PUD Agreement and as recommended on the Master Plan for Land Use;
4. The proposed use of the site as a medical office is consistent with the commercial developments immediately to the north and should be reviewed as part of the Local Business (B-1) Zoning District as requested by the applicant;
5. The requirement for a 40 foot wide transition strip between residential and commercial area is waived *because the site is 0.42 acres in size and is properly screened along the east property line from the existing homes by the existing open space/golf course and proposed landscape improvements;*
6. City Council waiver for the lack of a 540 square foot loading area *because the site is minimal in size and is proposed to be used by a medical tenant, which does not typically require deliveries by large trucks;*

7. The applicant shall comply with the findings of compliance with Ordinance standards in the staff and consultant review letters and the conditions and the items listed in those being addressed on the Preliminary Site Plan following consideration and approval of the Planned Unit Development Amendment by the City Council; and
8. This tentative approval of the amendment to the PUD Area Plan is contingent upon and subject to the City Council's approval of a corresponding amendment to the PUD Agreement.

MAPS
Site Context
Location
Zoning
Future Land Use
Natural Features

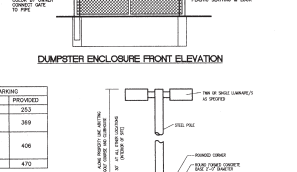
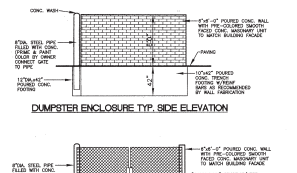
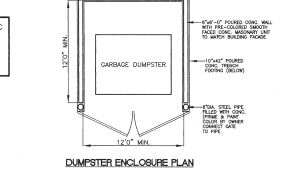
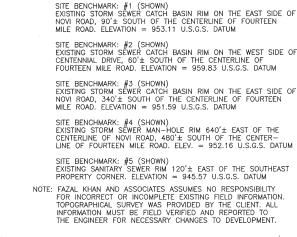
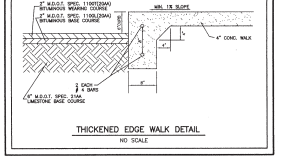
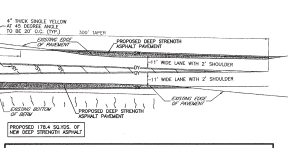
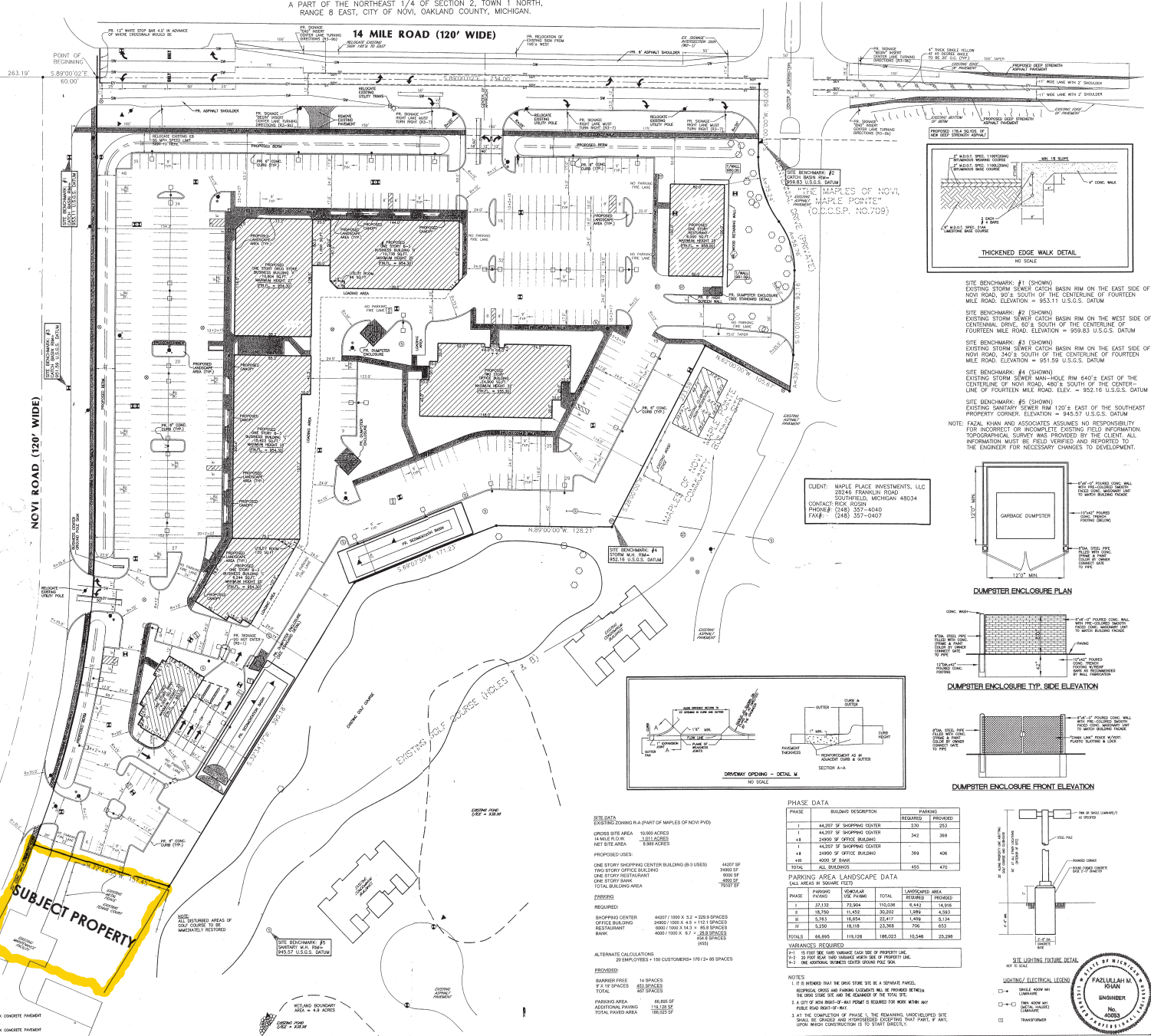
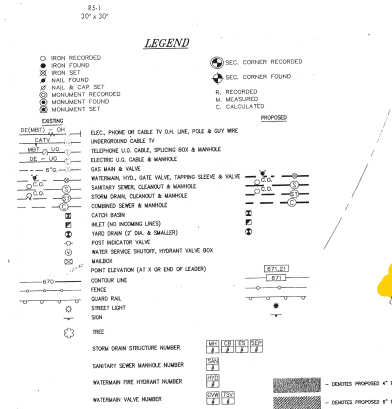
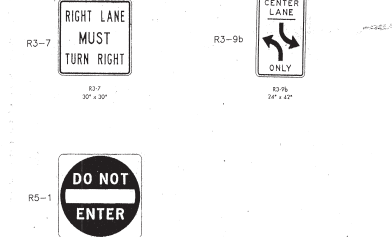
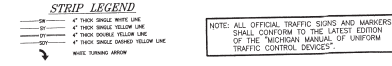
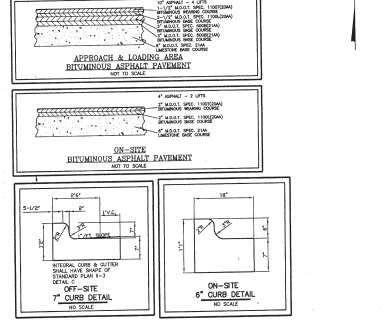
SITE CONTEXT

MAPLES PLACE A PART OF THE NORTHEAST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN.

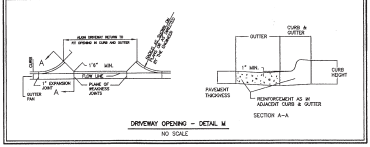
DESCRIPTION
CONVEYANCE

A PARCEL OF LAND LOCATED IN PART OF THE N.E. 1/4 OF SECTION 2, T.1N., R.9E., S.136°55'02".189, CORNER OF SECTION 2, T.1N., R.9E., CITY OF NOVI, OAKLAND COUNTY, N. 375,001.591 E. 1,336,950.2189

14 MILE ROAD (120' WIDE)
NOVI ROAD (120' WIDE)



CLIENT: MAPLE PLACE INVESTMENTS, LLC
2245 FRANKLIN ROAD
SOUTHFIELD, MICHIGAN 48034
CONTACT: BOB ROSEN
PHONE: (248) 357-4040
FAX: (248) 357-0607



PHASE DATA

PHASE	BUILDING DESCRIPTION	REQUIRED	PROVIDED
1	44,037 SF SHOPPING CENTER	230	253
1	44,037 SF OFFICE BUILDING	342	369
1	24,900 SF OFFICE BUILDING	369	406
1	4,000 SF SIGN	450	470
TOTAL ALL BUILDINGS		1,391	1,504

PARKING AREA LANDSCAPE DATA

PHASE	PARKING SPACES	WORKING AREA	TOTAL LANDSCAPED AREA
1	37,132	27,954	113,038
2	16,750	11,457	30,212
3	5,293	3,824	23,417
4	5,250	18,118	23,368
TOTALS	64,425	119,353	190,025

ALTERNATE CALCULATIONS
26 EMPLOYERS + 150 CUSTOMERS = 170 1/2 - 28 SPACES

REQUIREMENTS

REQUIREMENT	SPACES
BARBER FREE	14 SPACES
7' X 12' SPACES	85 SPACES
TOTAL	99 SPACES

PROVIDED

PROVIDED	SPACES
PARKING AREA	46,885 SF
ADDITIONAL PARKING	138,256 SF
TOTAL PARKED AREA	185,141 SF

MAPLES PLACE
A PART OF THE N.E. 1/4 OF SECTION 2,
TOWN 1 NORTH, RANGE 9 EAST,
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN.

FAZAL KHAN AND ASSOCIATES, INC.
10000 WOODLAND AVENUE
SUITE 100
TROY, MI 48063
PHONE: (248) 357-4040
FAX: (248) 357-0607

STRIPING AND SIGNING PLAN

PROJECT NO.: 98B-051
DATE: 2/13/09
DRAWN BY: UNK
CHECKED BY: D.A.H.
SCALE: 1" = 50'

REVISIONS

NO.	DATE	DESCRIPTION
1	2/13/09	ISSUED FOR PERMIT

PHASE 1

PHASE 2

PHASE 3

PHASE 4

PHASE 5

PHASE 6

PHASE 7

PHASE 8

PHASE 9

PHASE 10

PHASE 11

PHASE 12

PHASE 13

PHASE 14

PHASE 15

PHASE 16

PHASE 17

PHASE 18

PHASE 19

PHASE 20

PHASE 21

PHASE 22

PHASE 23

PHASE 24

PHASE 25

PHASE 26

PHASE 27

PHASE 28

PHASE 29

PHASE 30

PHASE 31

PHASE 32

PHASE 33

PHASE 34

PHASE 35

PHASE 36

PHASE 37

PHASE 38

PHASE 39

PHASE 40

PHASE 41

PHASE 42

PHASE 43

PHASE 44

PHASE 45

PHASE 46

PHASE 47

PHASE 48

PHASE 49

PHASE 50

PHASE 51

PHASE 52

PHASE 53

PHASE 54

PHASE 55

PHASE 56

PHASE 57

PHASE 58

PHASE 59

PHASE 60

PHASE 61

PHASE 62

PHASE 63

PHASE 64

PHASE 65

PHASE 66

PHASE 67

PHASE 68

PHASE 69

PHASE 70

PHASE 71

PHASE 72

PHASE 73

PHASE 74

PHASE 75

PHASE 76

PHASE 77

PHASE 78

PHASE 79

PHASE 80

PHASE 81

PHASE 82

PHASE 83

PHASE 84

PHASE 85

PHASE 86

PHASE 87

PHASE 88

PHASE 89

PHASE 90

PHASE 91

PHASE 92

PHASE 93

PHASE 94

PHASE 95

PHASE 96

PHASE 97

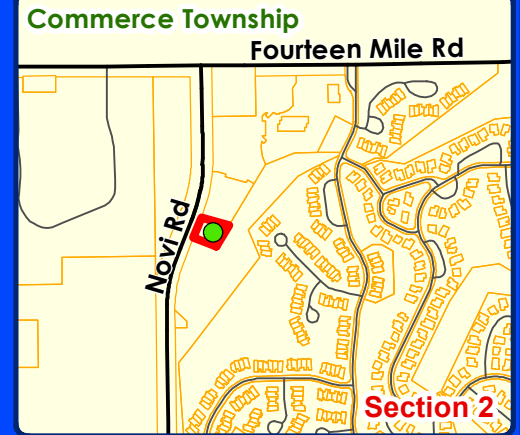
PHASE 98

PHASE 99

PHASE 100

JSP21-33 NOVI MEDICAL BUILDING (AKA MAPLES OF NOVI TENNIS COURTS)

LOCATION



LEGEND

 Subject Property



City of Novi

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

Map Author: Christian Carroll
Date: 11/5/21
Project: NOVI MEDICAL BUILDING
Version #: 1

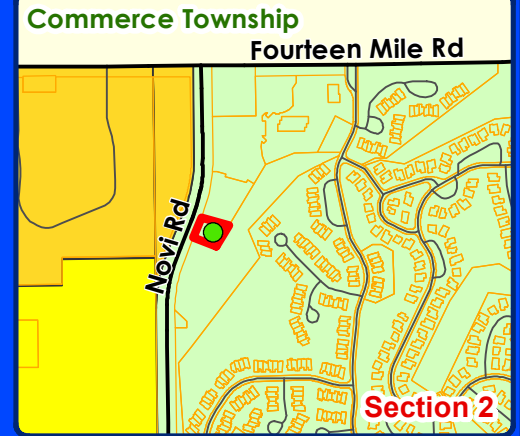


MAP INTERPRETATION NOTICE

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.

JSP21-33 NOVI MEDICAL BUILDING (AKA MAPLES OF NOVI TENNIS COURTS)

ZONING



LEGEND

- R-A: Residential Acreage
- R-4: One-Family Residential District
- RM-1: Low-Density Multiple Family
- Subject Property

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

Map Author: Christian Carroll
Date: 11/5/21
Project: NOVI MEDICAL BUILDING
Version #: 1

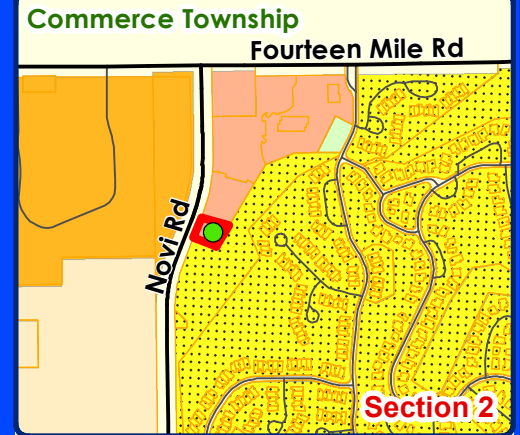
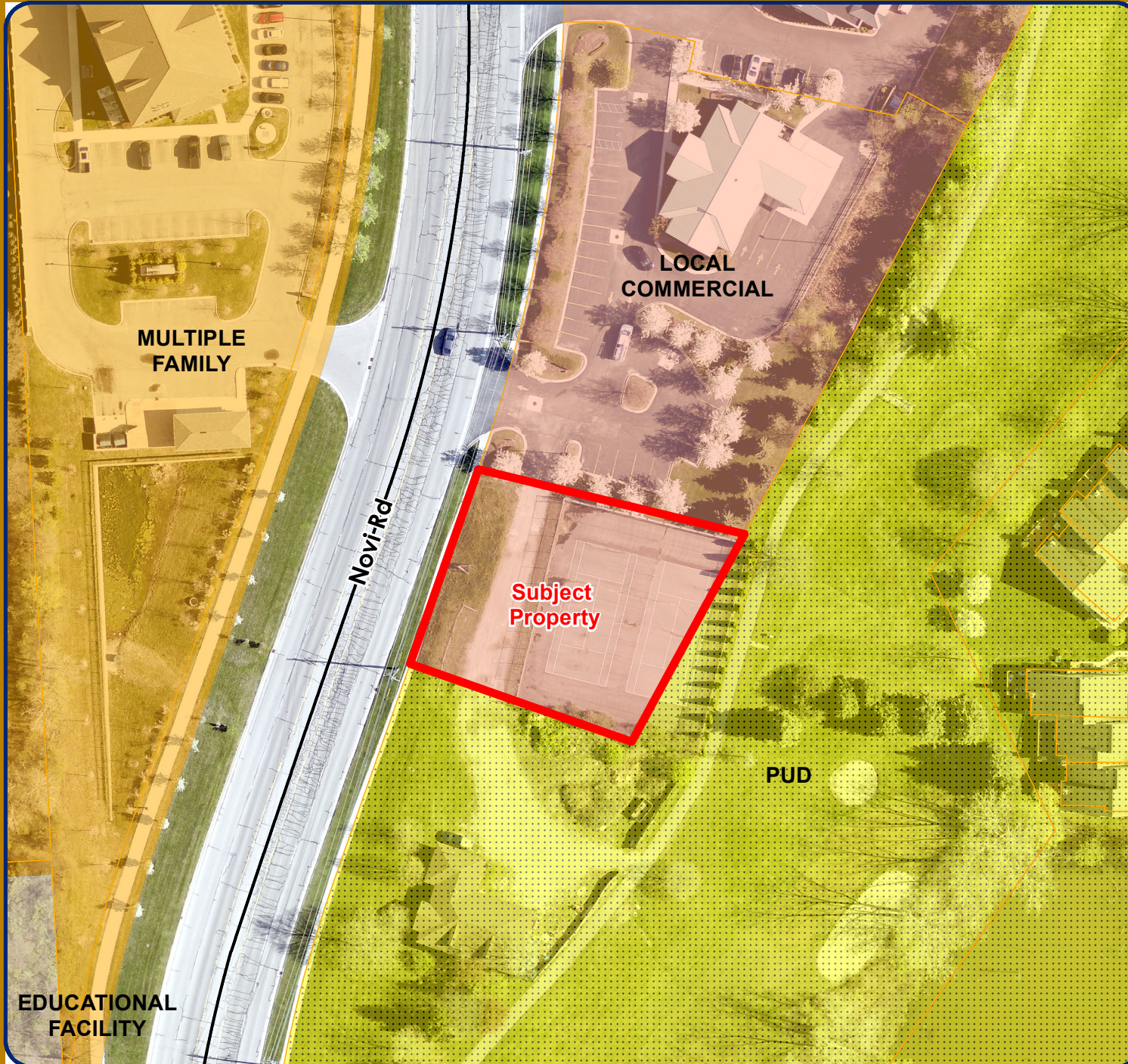
0 15 30 60 90 Feet
1 inch = 83 feet

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.

JSP21-33 NOVI MEDICAL BUILDING (AKA MAPLES OF NOVI TENNIS COURTS)

FUTURE LAND USE



LEGEND

- PUD
- Multiple Family
- Local Commercial
- Educational Facility
- Private Park
- Subject Property



City of Novi

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

Map Author: Christian Carroll
Date: 11/5/21
Project: NOVI MEDICAL BUILDING
Version #: 1



1 inch = 83 feet

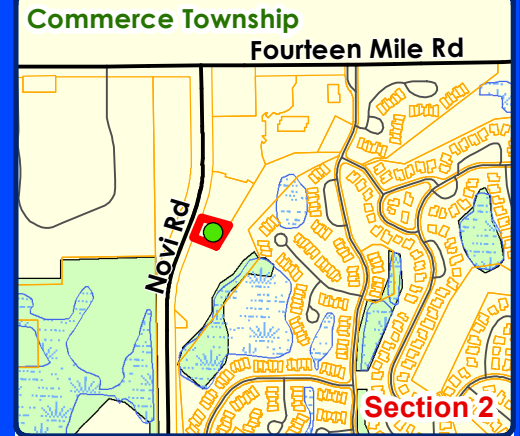


MAP INTERPRETATION NOTICE




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.

JSP21-33 NOVI MEDICAL BUILDING (AKA MAPLES OF NOVI TENNIS COURTS)

NATURAL FEATURES



LEGEND

-  WETLANDS
-  WOODLANDS
-  Subject Property



City of Novi

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

Map Author: Christian Carroll
Date: 11/5/21
Project: NOVI MEDICAL BUILDING
Version #: 1



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.

SITE PLAN

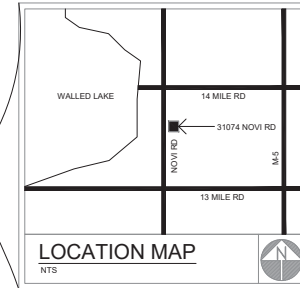
(Full plan set available for viewing at the Community Development Department.)

SHEET INDEX

CS-01	COVER SHEET / PRELIMINARY SITE PLAN
CS-02	SITE DETAILS
V-1.0	TOPOGRAPHIC SURVEY
LP-1&2	LANDSCAPE PLANTING PLANS
SP-X	ENGINEERING PLANS (DEFERRED SUBMITTAL)
PH-1	PHOTOMETRIC PLAN
A-01	FLOOR PLAN
A-02	ELEVATIONS AND ROOF PLAN
A-03	ELEVATIONS

PROPOSED NEW MEDICAL BUILDING

31074 NOVI RD, NOVI, MI 48377



OWNER / APPLICANT:
 RAMI FARAH
 AUSS PROPERTY, LLC
 19480 GARDENE CT.
 NORTHVILLE, MI 48167
 PH: 248-854-9926
 248-854-9926

11-7-21	10/14/21 CITY REVIEW COMMENTS
8-31-21	8/18/21 CITY REVIEW COMMENTS
7-30-21	PLANNING SUBMITTAL
MARK	DATE DESCRIPTION

GK CONSULTING INC.

GHASSAN KHALAF, P.E.
 TEL: 313-377-9449
 e-mail: gkca@outlook.com
 ADDRESS: 5644 MIDDLEBELT RD
 GARDEN CITY, MI 48135

COPYRIGHT
 DUPLICATION STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that

this plan and specification was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer under the Laws of the State of Michigan by my hand and seal.



GHASSAN KHALAF

MAPLE MEDICAL BUILDING

**31074 NOVI RD
 NOVI, MI 48377**

NOTE:
 OWNER AND THE CONTRACTORS ARE THE SOLELY RESPONSIBLE FOR THE PERFORMANCE AND THE EXECUTION OF THE PROJECT AND IT IS THEIR RESPONSIBILITY FOR THE SAFETY OF THE BUILDING STRUCTURE AND THE MATERIALS USED TO RENOVATE AND CONSTRUCT THE PROPOSED FACILITY SHOWN ON THE PLANS.

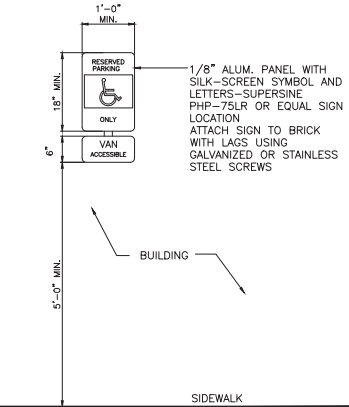
WE ARE REQUESTING THE CONSIDERATION OF BUSINESS DISTRICT AND NOT RESIDENTIAL STANDARDS.

REQUESTED VARIANCES:

- 1- OWNER WILL SEEK A VARIANCE FOR INTERIOR SIDE SETBACK
 REQUIRED (30') PROPOSED (15') AND A VARIANCE FOR REAR YARD SETBACK REQUIRED (30') PROPOSED (20.7')
- 2- OWNER WILL SEEK A VARIANCE FROM PROVIDING 540 SQ.FT. OF LOADING AREA

HOURS OF OPERATIONS: 9:00 AM TO 9:00 PM

- FHWA STANDARD ALPHABET SERIES USED FOR ALL SIGN LANGUAGE ACCORDING TO MMUTCD
- HIGH-INTENSITY PRISMATIC (HIP) SHEETING TO MEET FHWA RETRO-REFLECTIVITY ACCORDING TO MMUTCD



1/8" ALUM. PANEL WITH SILK-SCREEN SYMBOL AND LETTERS-SUPERSINE PHP-75LR OR EQUAL SIGN LOCATION ATTACH SIGN TO BRICK WITH LAGS USING GALVANIZED OR STAINLESS STEEL SCREWS

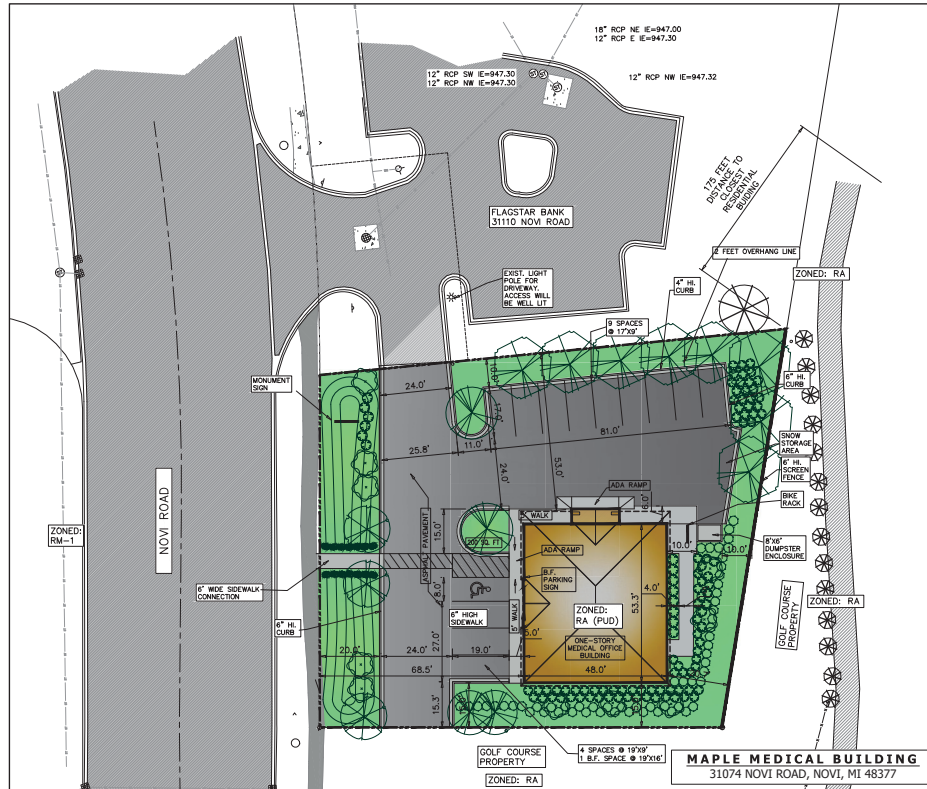
BARRIER FREE PARKING SIGN
 NO SCALE

PARCELS 2202200043 - NOVI MI
 EXISTING ZONING: RA (PUD)
 PROPOSED ZONING: B-1 - LOCAL BUSINESS

BUILDING SETBACKS	
REQUIRED	PROPOSED
FRONT 20'	FRONT 20'
SIDE 15'	SIDE 15'
REAR 20'	REAR 20'
BUILDING HEIGHT	
REQUIRED	PROPOSED
25'-0"	23'-7 1/4"

PARKING REQUIREMENTS	
REQUIRED	PROPOSED
FRONT 20'	FRONT 20'
SIDE 10'	SIDE 10'
REAR 10'	REAR 10'
PARKING SPACES	
PROPOSED BUILDING OUTLINE = 2560 S.F.	
GROSS LEASEABLE AREA (GLA) = INTERIOR SQUARE FOOT S. LESS UTILITY ROOM = 2249 S.F.	
REQUIRED 1 SPACE PER 167 S.F.	
PROPOSED - 2249.51 (GLA)/167 = 13.4	

13 SPACES PROVIDED



PRELIMINARY SITE PLAN

SCALE 1"=20'

SHEET TITLE
**COVERSHEET
 RENDERING**

SCALE
NOTED

SHEET No.

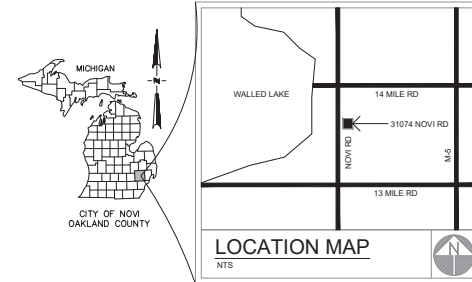
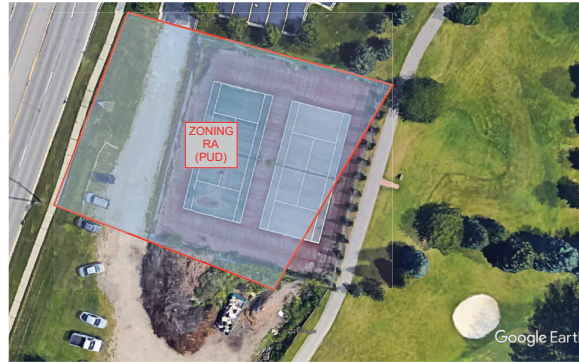
CS-01



SHEET INDEX

- CS-01 COVER SHEET / PRELIMINARY SITE PLAN
- CS-02 SITE DETAILS
- V-1.0 TOPOGRAPHIC SURVEY
- LP-1 LANDSCAPE PLANTING PLAN
- SP-X ENGINEERING PLANS (DEFERRED SUBMITAL)
- PH-1 PHOTOMETRIC PLAN
- A-01 FLOOR PLAN
- A-02 ELEVATIONS AND ROOF PLAN
- A-03 ELEVATIONS

PROPOSED NEW MEDICAL BUILDING 31074 NOVI RD, NOVI, MI 48377



OWNER / APPLICANT:
RAMI FARAH
AJSS PROPERTY, LLC
19480 CARDENE CT.
NORTHVILLE, MI 48167
PH: 248-854-9926
248-854-9926

8-31-21 81821 CITY REVIEW COMMENTS
7-30-21 PLANNING SUBMITTAL

MARK DATE DESCRIPTION

GK CONSULTING INC.
GHASSAN KHALAF, P.E.
TEL: 313-377-9449
e-mail: gk@outlook.com
ADDRESS: 5644 MIDDLEBELT RD
GARDEN CITY, MI 48135

COPYRIGHT
DUPLICATION STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that this plan and specification was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer under the Laws of the State of Michigan by my hand and seal.

Ghassan Khalaf

GHASSAN KHALAF

PROPOSED MEDICAL BUILDING

**31074 NOVI RD
NOVI, MI 48377**

NOTE:

OWNER AND THE CONTRACTORS ARE THE SOLELY RESPONSIBLE FOR THE PERFORMANCE AND THE EXECUTION OF THE PROJECT AND IT IS THEIR RESPONSIBILITY FOR THE SAFETY OF THE BUILDING STRUCTURE AND THE MATERIALS USED TO RENOVATE AND CONSTRUCT THE PROPOSED FACILITY SHOWN ON THE PLANS

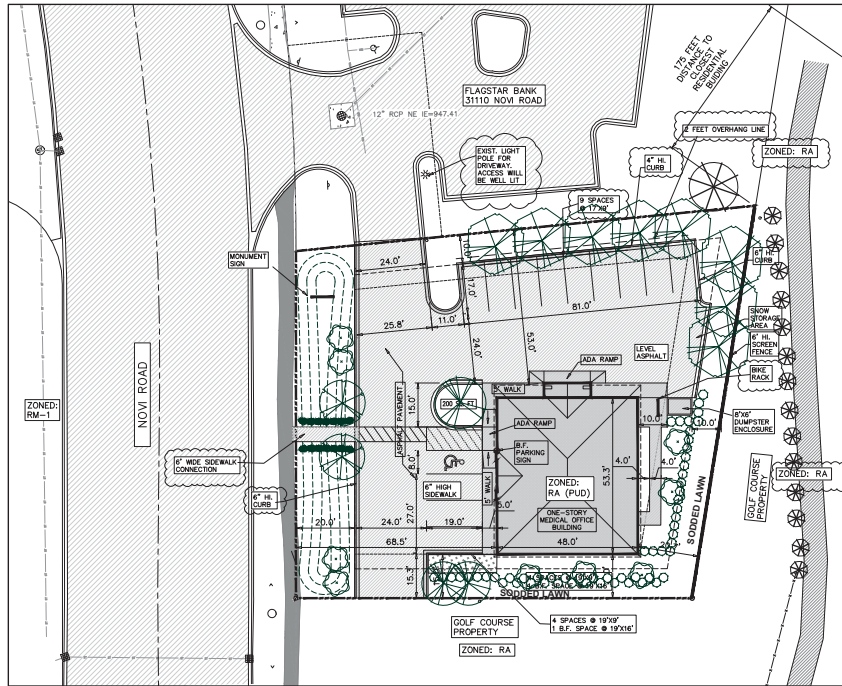
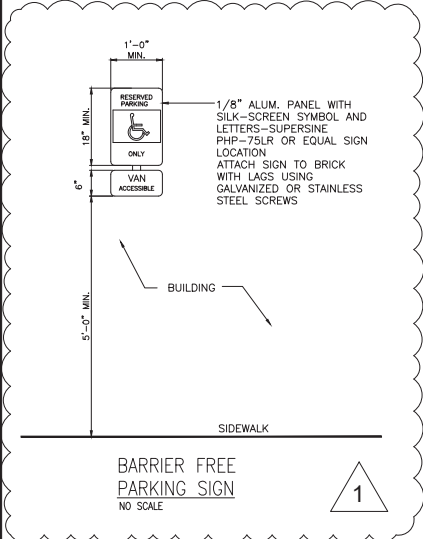
WE ARE REQUESTING THE CONSIDERATION OF BUSINESS DISTRICT AND NOT RESIDENTIAL STANDARDS.

REQUESTED VARIANCES:

- 1- OWNER WILL SEEK A VARIANCE FOR INTERIOR SIDE SETBACK REQUIRED (30') PROPOSED (15') AND A VARIANCE FOR REAR YARD SETBACK REQUIRED (30') PROPOSED (20.7')
- 2- OWNER WILL SEEK A VARIANCE FROM PROVIDING 540 SQ.FT. OF LOADING AREA

HOURS OF OPERATIONS: 9:00 AM TO 9:00 PM

- FHWA STANDARD ALPHABET SERIES USED FOR ALL SIGN LANGUAGE ACCORDING TO MMUTCD
- HIGH-INTENSITY PRISMATIC (HIP) SHEETING TO MEET FHWA RETRO-REFLECTIVITY ACCORDING TO MMUTCD



PARCELI 2202200043 - NOVI MI
EXISTING ZONING: RA (PUD)
PROPOSED ZONING: B-1 - LOCAL BUSINESS

BUILDING SETBACKS	
REQUIRED	PROPOSED
FRONT 20'	FRONT 20'
SIDE 15'	SIDE 15'
REAR 20'	REAR 20'

BUILDING HEIGHT	
REQUIRED	PROPOSED
25'-0"	23'-7 1/4"

PARKING REQUIREMENTS	
REQUIRED	PROPOSED
FRONT 20'	FRONT 20'
SIDE 10'	SIDE 10'
REAR 10'	REAR 10'

PARKING SPACES

PROPOSED BUILDING OUTLINE = 2652 S.F.
GROSS LEASEABLE AREA (GLA) = INTERIOR SQUARE FOOT S. LESS UTILITY ROOM = 2249 S.F.
REQUIRED 1 SPACE PER 167 S.F.
PROPOSED - 2249.51 (GLA)/167 = 13.4

13 SPACES PROVIDED

PRELIMINARY SITE PLAN
SCALE 1"=20'

1

SHEET TITLE
**COVERSHEET
RENDERING**

SCALE
NOTED

SHEET No.
CS-01

502 Parking Spaces

502.1 General. Car and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

EXCEPTION: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

502.2 Vehicle Spaces. Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

EXCEPTION: Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

Figure 502.2 Vehicle Parking Spaces

502.3 Access Aisle. Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

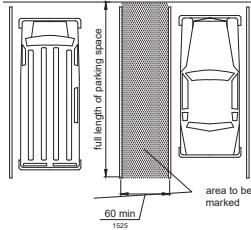


Figure 502.3 Parking Space Access Aisle

502.3.1 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

502.3.4 Location. Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

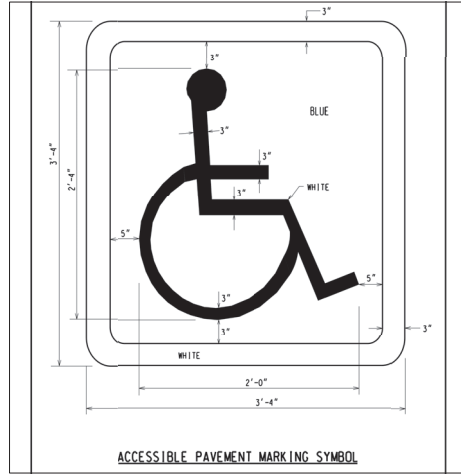
502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall comply with 502. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted. EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

502.5 Vertical Clearance. Parking spaces for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2490 mm) minimum.

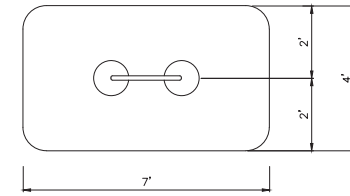
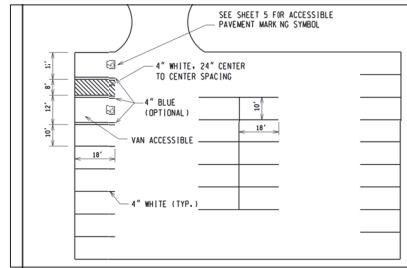
502.6 Identification. Parking space identification signs shall include the International Symbol of Accessibility complying with 703.7.2.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

502.7 Relationship to Accessible Routes. Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

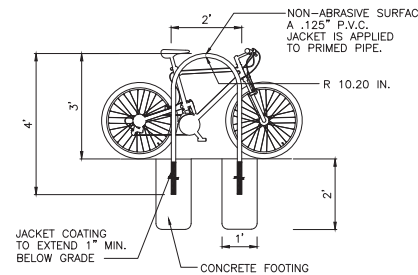
- FHWA STANDARD ALPHABET SERIES USED FOR ALL SIGN LANGUAGE
- HIGH-INTENSITY PRISMATIC (HIP) SHEETING TO MEET FHWA RETRO-REFLECTIVITY
- LINES FOR REGULAR PARKING SPACES - 4" WHITE
- LINES FOR BARRIER FREE SPACES - 4" BLUE
- WHEN BARRIER FREE SPACE ABUTS REGULAR SPACE THE 4" BLUE LINE SHALL BE PAINTED NEXT TO 4" WHITE LINE



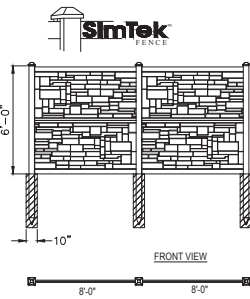
ACCESSIBLE PAVEMENT MARKING SYMBOL



TYPICAL PLAN



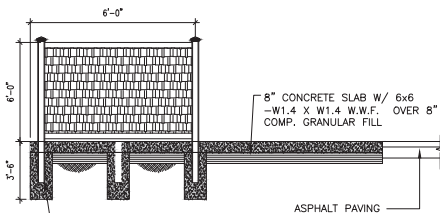
BIKE RACK DETAIL



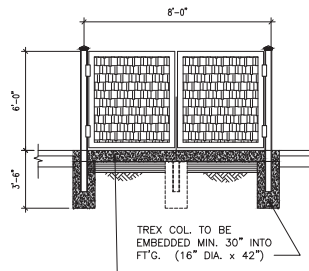
- NOTES:**
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
 3. DO NOT SCALE DRAWING.
 4. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADetails.com/info REFERENCE NUMBER 4312-455

6' TALL SCREEN FENCE
NO SCALE

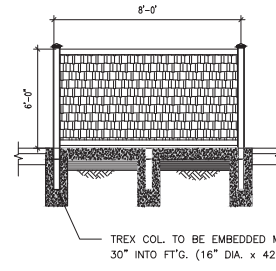
TREX PANELS TO BE INSTALLED AS PER MANUFACTURER RECOMMENDATIONS



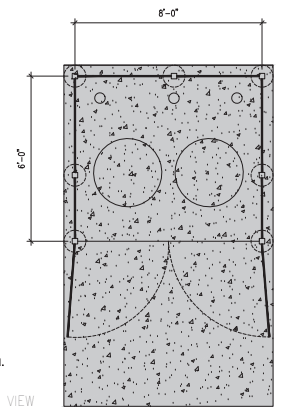
TREX PANELS DUMPSTER ENCL. SIDE VIEW



TREX PANELS DUMPSTER ENCL. FRONT VIEW



TREX PANELS DUMPSTER ENCL. REAR VIEW



DUMPSTER ENCLOSURE - PLAN VIEW

8-31-21	8/18/21 CITY REVIEW COMMENTS
7-30-21	PLANNING SUBMITTAL
MARK	DATE DESCRIPTION

GK CONSULTING INC.
GHASSAN KHALAF, P.E.
TEL: 313-377-9449
e-mail: gkci@outlook.com
ADDRESS: 5644 MIDDLEBELT RD
GARDEN CITY, MI 48135
COPYRIGHT
DUPLICATION STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that this plan and specification was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer under the Laws of the State of Michigan by my hand and seal.

Ghassan Khalaf
GHASSAN KHALAF

PROPOSED MEDICAL BUILDING

31074 NOVI RD
NOVI, MI 48377

NOTE:
OWNER AND THE CONTRACTORS ARE THE SOLELY RESPONSIBLE FOR THE PERFORMANCE AND THE EXECUTION OF THE PROJECT AND IT IS THEIR RESPONSIBILITY FOR THE SAFETY OF THE BUILDING STRUCTURE AND THE MATERIALS USED TO RENOVATE AND CONSTRUCT THE PROPOSED FACILITY SHOWN ON THE PLANS.

SHEET TITLE
SITE DETAILS

SCALE
NOTED

SHEET No.

CS-02

TREE INVENTORY



Monument Engineering Group Associates, Inc.
288 Veterans Drive, Fowlerville, MI
(517) 223-3512
www.monumentengineering.com



Tree Survey

Project No./Name: 20-0558 Novi Road Tennis Court Date: 2/1/2021

Tag No.	Scientific Name	Common Name	D.B.H.	Condition	Notes
1870	Pinus communs	Pear	8.5	Good	
1871	Pinus communs	Pear	9	Good	
1872	Pinus communs	Pear	7.5	Good	
1873	Pinus communs	Pear	8	Good	
1875	Pinus communs	Pear	7	Good	
1876	Picea pungens	Colorado Spruce	12	Good	

TREE SURVEY LEGEND

- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE LINE / CANOPY
- TREE TAG NUMBER (SEE TREE SCHEDULE)
- TREE TO BE REMOVED

UTILITY NOTES

- ALL FRANCHISE UTILITIES (GAS, FIBER, CABLE, UG ELEC., TEL.) SHOWN ARE BASED ON MISS DIG MARKINGS LOCATED AT TIME OF SURVEY UNLESS NOTED OTHERWISE.
- THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

UTILITY REFERENCES

WM: CITY OF NOVI
RECEIVED: 1/29/21
SAN: CITY OF NOVI
RECEIVED: 1/29/21
STORM: CITY OF NOVI
RECEIVED: 1/29/21
GAS: CONSUMERS ENERGY
RECEIVED: 1/28/21
ELEC: DETROIT EDISON
RECEIVED: N/A
PHONE/CABLE: AT&T
RECEIVED: 1/28/21

EXISTING PARKING

THERE ARE NO STRIPPED PARKING SPACES ON THE SUBJECT PROPERTY.

SOILS INFO

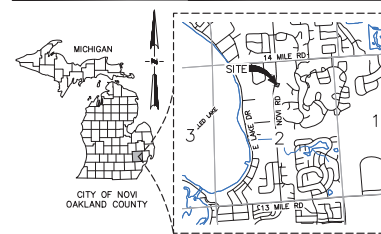
SOIL TYPES ARE ACCORDING TO THE USDA SOIL SURVEY WEB SITE (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.html)

- 10C: MARLETTE SANDY LOAM, 6-12% SLOPES
- 11B: CAPAC SANDY LOAM, 0-4% SLOPES
- 18C: FOX SANDY LOAM, HURON LOBE, 6-12% SLOPES

WINTER NOTE

THIS SURVEY WAS PERFORMED UNDER WINTER CONDITIONS. ALL REASONABLE MEASURES WERE TAKEN DURING THE SURVEY TO OBTAIN ALL INFORMATION NECESSARY. HOWEVER, SOME INFORMATION MAY NOT BE SHOWN DUE TO SNOW COVER.

LOCATION MAP



EXISTING LEGEND

- DECIDUOUS TREE, CONIFEROUS TREE, SHRUB
- TREE LINE / CANOPY
- DITCH / SWANNING COURSE
- UG TELE, MH, TELE PED, CABLE PED
- UG FIBER, PED, LINE MARKER, VAULT
- UG ELEC, MH, TRANSFORMER, AC UNIT, METER, BOX
- OH ELEC, UTLI, POLE, GUY WIRE
- GROUND LIGHT, POLE, POLE W/ ARM LT
- LIGHT MH, LT CYL, BOX, PARK, METER, CAM CHARGER
- ELEC HAND HOLE, OUTLET, SIGNAL MH, SIGNAL BOX
- UG GAS, MH, VALVE, LINE MARKER
- GAS WELL, METER, VENT
- WATER MAN, MH, VALVE IN BOX, HYDRANT, FDC
- WATER WELL, METER, STOP BOX, POST INDICATOR VALVE
- IRRIGATION CONTROL, VALVE, SPRINKLER HEAD
- STORM SEWER, MH, CB, INLET, YARD DRAIN, DOWN SPOUT
- CULVERT/ END SECTION
- SANITARY SEWER, MH, CLEAN OUT
- COMMON SEWER, MH
- STEAM LINE, MH
- MISC MANHOLE, HAND HOLE, HAND BOX
- PARKING BLOCK, SIGN, FLAG POLE, POST, ROCK, MAIL BOX
- SECTION LINE, SECTION CORNER
- FOUND IRON ROD (FRI), FD MON, FD PK
- SET IRON ROD (SRI), SET PK, MH NAL
- FINISH FLOOR ELEVATION, SPOT ELEVATION
- CONTOUR
- FENCE
- GUM RD RAIL
- RAILROAD SIGNAL, SIGNAL BOX
- SOIL BORING
- EX. ASPHALT
- EX. CONCRETE
- EX. GRAVEL

FLOOD ZONE

FEMA MAP SCALES DO NOT SUPPLY SUFFICIENT LEVEL OF DETAIL TO PLOT ACCURATELY. ZONES IF PLOTTED HEREIN ARE APPROXIMATE.

BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THE SUBJECT PROPERTY APPEARS TO LIE ENTIRELY IN ZONE (X) AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR THE COUNTY OF OAKLAND, COMMUNITY PANEL NO. 12615008991, EFFECTIVE DATE SEPTEMBER 29, 2006.

LEGAL DESCRIPTION (AS PROVIDED)

(PER DEED PURSUANT TO ACT 123 OF 1999, AS RECORDED IN LIBER 41591-PAGE 309, OAKLAND COUNTY RECORDS)

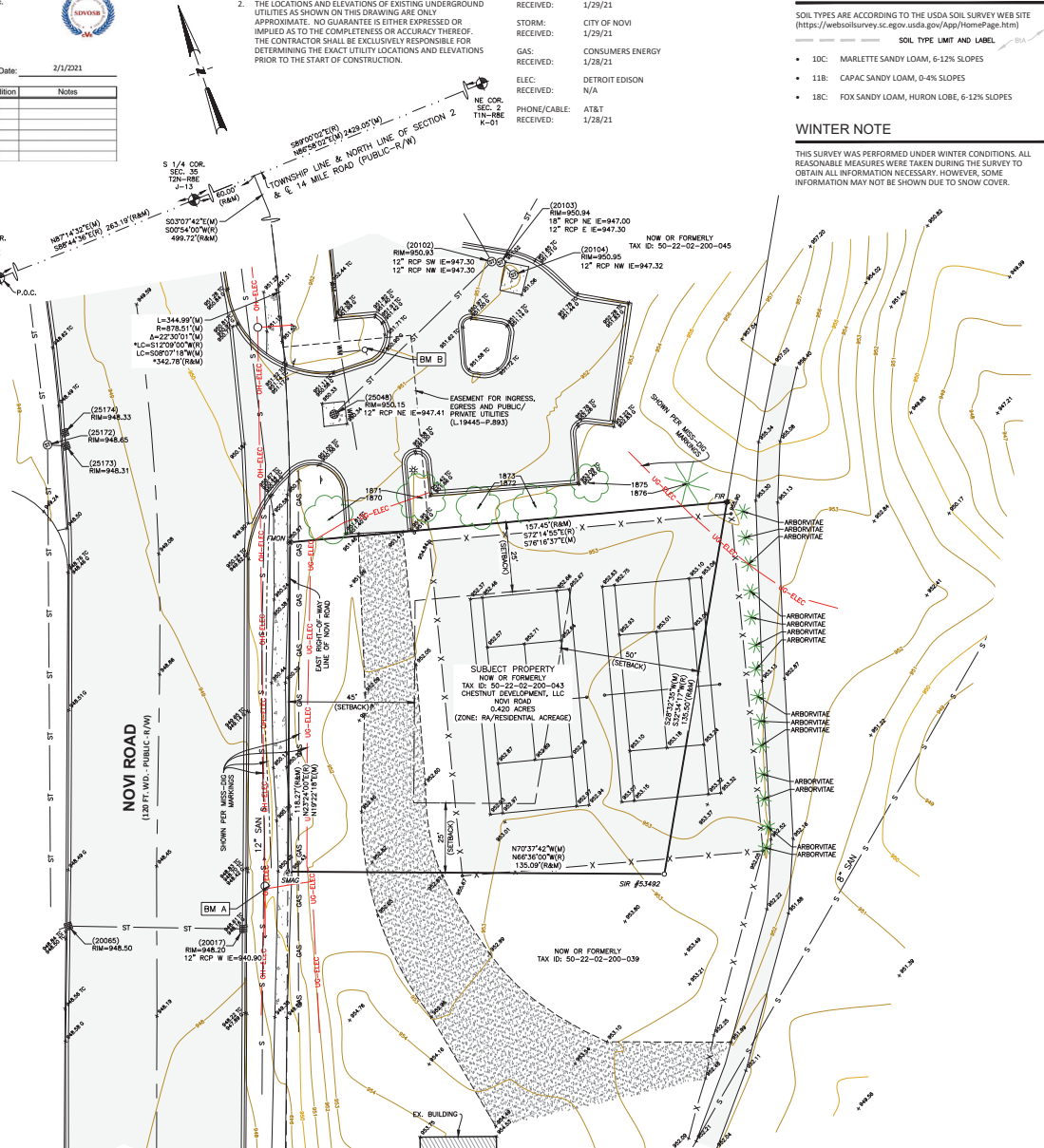
T1N, 18E, SEC 2 PART OF NE 1/4 BEG AT PT DST 5 88-44-36 E 263.19 FT & S 89-00-02 E 60 FT & S 00-54-00 W 499.72 FT & S 12-09-00 W 342.78 FT FROM N 1/4 COR, TH S 72-14-55 E 157.45 FT, TH S 23-24-17 W 135.50 FT, TH N 66-36-00 W 135.09 FT, TH N 23-24-00 E 118.27 FT TO BEG 0.42 A

BEARING REFERENCE

BEARINGS ARE BASED ON PROJECT COORDINATE SYSTEM: MICHIGAN STATE PLANE COORDINATE SYSTEM, NAD83 (CONUS) (MOL) (GRS80), SOUTH ZONE 2113, INTERNATIONAL FEET, GROUND (LAT: 42°31'25.65"N, LON: 83°28'00.19"W, ELEV: 955', SCALE FACTOR: 1.00011894).

BENCHMARKS

DATUM: NAVD83
BM A: FD MAG IN E/SIDE UTILITY POLE 170'S S OF DRIVE APPROACH 40'S E OF CENTERLINE NOVI ROAD. ELEV = 951.23
BM B: TOP OF FLANGE BOLT ON HYDRANT N/SIDE 23' N OF DRIVE APPROACH AND 80' E OF CENTERLINE NOVI ROAD. ELEV = 953.52



DRAFT

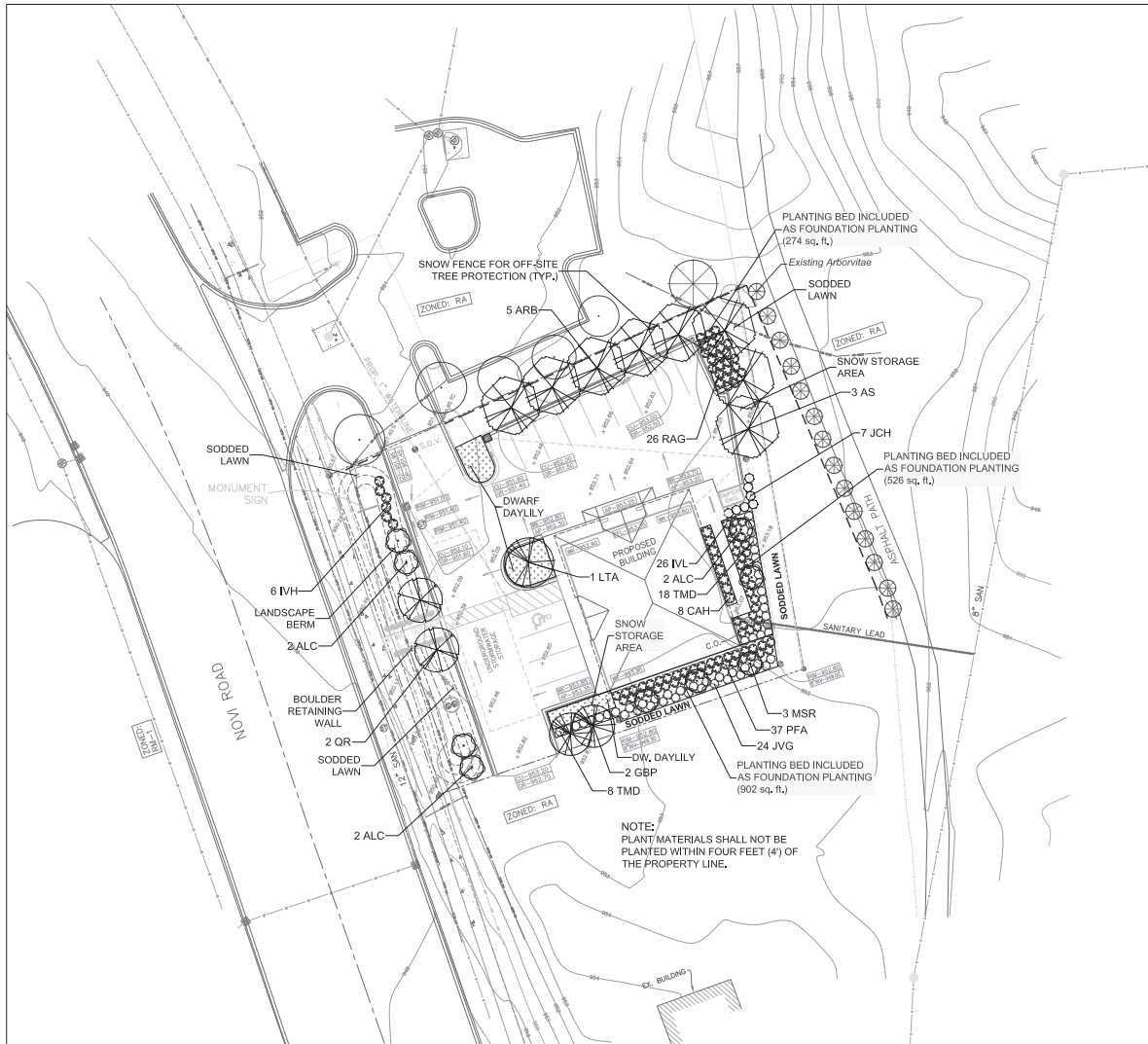
Call MISS DIG
1-800-487-7171
www.missdig.org

CLIENT :
RAMI FARAH
19460 CARBENE CT.,
NORTHVILLE, MI
Ph: 1-248-854-9926
Rfr: rami@gmail.com

TOPOGRAPHIC SURVEY
TENNIS COURT
TAX ID: 50-22-02-200-043
PART OF NE 1/4, SEC. 2, T1N-18E
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

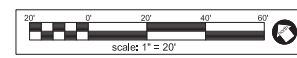
DATE	DESCRIPTION

V-10



LANDSCAPE PLANTING PLAN

scale: 1" = 20'



date: July 21, 2021
 revised:
 07-29-2021 Revised dumpster location.
 08-30-2021 Review for City review file, dated July 30, 2021.
 09-08-2021 Add one (1) parking space & adjust plantings.



PLANT LIST

NatJ, KEY QTY, BOTANICAL NAME	COMMON NAME	SIZE
Orn, LANDSCAPING ADJACENT TO ROADS - Novl Road		
N ALC 4 <i>Ametanchar laevis</i> 'Cumulus'	Cumulus Serotensberry	2' cal. B&B
O IVH 6 <i>Itea virginica</i> 'Henry's Garnet'	Henry's Garnet Sweetspire	24" ht., 3 gal. pot
N QR 2 <i>Quercus rubra</i>	Red Oak	3" cal. B&B
FOUNDATION PLANTINGS		
N ALC 2 <i>Ametanchar laevis</i> 'Cumulus'	Cumulus Serotensberry	2' cal. B&B
H CAH 8 <i>Celastrus scandens</i> 'Hummingbird'	Hummingbird Summersweet	24" ht., 3 gal. pot
O IVL 26 <i>Itea virginica</i> 'Little Henry'	Little Henry Sweetspire	24" ht., 3 gal. pot
N JVG 24 <i>Juniperus virginiana</i> 'Grey Owl'	Grey Owl Spreading Juniper	24"-30" ht. B&B
O MSR 3 <i>Magnolia stellata</i> 'Royal Star'	Royal Star Magnolia	2' cal. B&B
N PFA 37 <i>Potentilla fruticosa</i> 'Abbotswood'	Abbotswood Bush Cuneifolia	24" ht., 3 gal. pot
N RAG 26 <i>Rhus aromatica</i> 'Gro-Low'	Gro-Low Fragrant Sumac	24" ht., 3 gal. pot
O TMD 26 <i>Taxus x media</i> 'Densiformis'	Densiformis Yew	24"-30" ht. B&B
O HHR 48 <i>Hemerocallis</i> sp. 'Happy Returns'	Happy Returns Daylily	1 gal. pot, 24" o.c.
PARKING LOT PLANTINGS		
O GBP 2 <i>Ginkgo biloba</i>	Princeton Sentry	3' cal. B&B
O JCH 7 <i>Juniperus chinensis</i>	Hetzel Columnar	3' cal. B&B
N LTA 1 <i>Larodendron tulipifera</i> 'Arnold'	Arnold Tuliptree	3" cal. B&B
O HHR 106 <i>Hemerocallis</i> sp. 'Happy Returns'	Happy Returns Daylily	1 gal. pot, 24" o.c.
PERIMETER PARKING LOT PLANTINGS		
N AS 3 <i>Acer saccharum</i> 'Legacy'	Legacy Sugar Maple	3" cal. B&B
N ARB 5 <i>Acer rubrum</i> 'Brandywine'	Brandywine Red Maple	3" cal. B&B
TRANSFORMER SCREENING		
O VJ 12 <i>Viburnum x juddi</i>	Judd Fragrant Viburnum	30" ht. B&B

PLANT TYPES

NATIVE:	ORNAMENTAL (NON-NATIVE):
* Trees: 17 (77%)	* Trees: 5 (23%)
* Shrubs: 95 (55%)	* Shrubs: 77 (45%)

LANDSCAPE CALCULATIONS:

- LANDSCAPING ADJACENT TO ROADS - Novl Road (120 Lf.)
- * One (1) deciduous or evergreen tree / 70 Lf. = 1.71 trees = 2 trees.
 - * One (1) ornamental tree / 40 Lf. = 3 trees.
 - * Two (2) shrubs / 40 Lf. = 3 times 2 = 6 shrubs.
- FOUNDATION PLANTING (190 Lf.)
- * Interior site landscaping square footage equal to the perimeter of the building (190') times eight feet (8') = 1,520 sq. ft.
 - * Interior site landscaping area provided 1,702 sq. ft.
 - * A waiver is requested for foundation landscaping along the north and west sides of the building.
- PARKING LOT LANDSCAPING
- * Total square footage of vehicular use areas (7,830 sq. ft.) times seven and one-half percent (7.5%) equals 588 sq. ft. of interior parking lot landscaping.
 - * Parking lot landscaping area provided 650 sq. ft.
 - * One (1) deciduous/canopy tree per 200 sq. ft. or fraction thereof of interior landscaped area = 2.94 trees = 3 trees.
- PARKING LOT PERIMETER LANDSCAPING (267 Lf.)
- * One (1) canopy tree / 35 Lf. = 7.63 trees = 8 trees.
- STREET TREES (120 Lf.)
- * One (1) canopy tree / 35 Lf. = 3 trees.
 - * A waiver is requested for the street tree requirement due to ex. utilities.

COST ESTIMATE

TOTAL MATERIALS SPECIFIED:			
* Deciduous Trees:	13	\$400	\$5,200.00
* Ornamental Trees:	9	\$250	\$2,250.00
* Deciduous Shrubs:	103	\$50	\$5,150.00
* Large Deciduous Shrubs:	12	\$75	\$900.00
* Evergreen Shrubs:	50	\$50	\$2,500.00
* Upright Evergreen Shrubs:	7	\$100	\$700.00
* Perennials:	154	\$15	\$2,310.00
* Underground Irrigation:			\$4,000.00
* Sodded Lawn:	520 sq. yds.	\$6	\$3,120.00
* Planting Soil:	32 cu. yds.	\$40	\$1,280.00
* Shredded Hardwood Bark:	48 cu. yds.	\$35	\$1,680.00
TOTAL:			\$29,090.00

SOIL TYPE:

The soil on site consists of Marlette sandy loam (10C), with six percent to ten percent (6% - 10%) slopes as defined in the United States Soil Conservation Service Soil Survey of Oakland County, Michigan.

LANDSCAPE PLAN FOR:
 GK Consulting, Inc.
 5644 Middlebelt Road
 Garden City, Michigan 48135
 (313) 377-9449

PROJECT LOCATION:
 Proposed Medical
 Office Building
 31074 Novl Road
 Novi, Michigan

LANDSCAPE PLAN BY:
 Nagy Devin Land Design
 31736 West Chicago Ave.
 Livonia, Michigan 48150
 (734) 634-9208

LP-1: LANDSCAPE PLANTING PLAN

* Base data provided by GK Consulting, Inc.

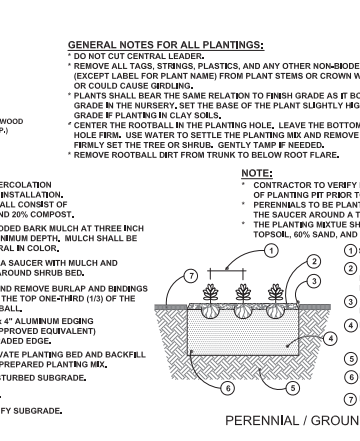
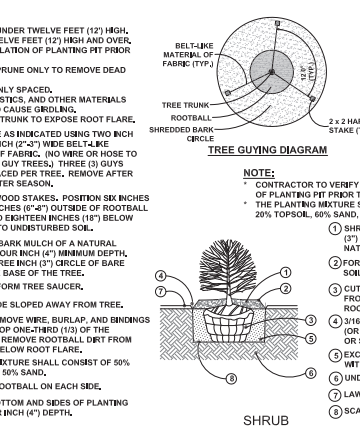
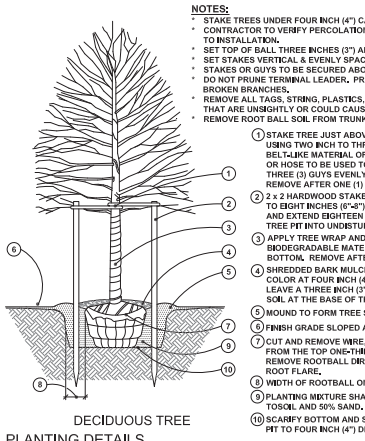
LANDSCAPE PLANTING NOTES:

- PLANTING**
- Installation of all plant material shall be in accordance with the latest edition of the *American Association of Nurserymen Standards for Nursery Stock* and with the specifications set forth by the City of Novi, Michigan.
 - The plant materials shall conform to the type stated on the plant list. Sizes shall be the minimum stated on the plant list or larger. All masses shall be installed in accordance with the latest edition of the *American Association of Nurserymen Standards for Nursery Stock*.
 - The plant material shall be nursery grown and inspected by the Owner's representative before planting. The Owner's representative reserves the right to reject any plant material at any time.
 - Plants designated "B&B" shall be balled and burlapped with firm balls of earth.
 - Dig shrub pits one foot (1') larger than the shrub rootball. Dig tree pits (3) times the width of the tree rootball and backfill with one (1) part topsoil and one (1) part soil from excavated pit. Plant trees and shrubs at the same grade level at which they were planted at the nursery. If wet, dry soils are evident, plant trees and shrubs slightly higher.
 - The Contractor is responsible for orienting the materials at the correct grades and spacing. The plants shall be planted to give the best appearance.
 - When the plant has been properly set, the pit shall be backfilled with the topsoil mixture, gradually filling, patting, and settling with water.
 - Trees in lawn areas to have a four foot (4') circle of mulch, four inches (4") deep, and three inches (3") away from the trunk. Shrub beds are to be mulched with shredded bark mulch to a minimum depth of three inches (3"). Parental beds are to be mulched with shredded bark mulch to a minimum depth of two inches (2"). Only natural color, finely shredded hardwood bark mulch will be accepted.
 - Remove all twine, wire, and burlap from the top one third (1/3) of tree and shrub root balls and from tree trunks. Remove all non-biodegradable material such as plastic or nylon completely from branches and stems. All tree wrap, stakes, and guys are to be removed after one (1) winter season. Include a minimum of one (1) cultivation around installed plantings without damaging roots in June, July, and August for the entire warranty period of two (2) years.
 - All plant materials shall be pruned and injuries repaired. The amount of pruning shall be limited to the removal of dead or injured limbs and to compensate for the loss of roots from transplanting. Shrubs along the site perimeter shall be allowed to grow together in a natural form.
 - Organic, fibrous topsoil shall be evenly distributed and fine graded over all areas to uniform depth.
 - All lawn areas shall be sodded with a Grade A Kentucky Blue Grass blend over the topsoil.
 - All plantings shall be completed no later than November 15 in the fall season. The date of intended installation for landscape plant materials is approximately Spring 2022. Plantings shall thereafter be reasonably maintained, including permanence and health of plant materials to provide a screen to abutting properties and including the absence of weeds and refuse.
 - Backfill directly behind all curbs and along sidewalks and compact to the top of curbs or walk to support vehicle and pedestrian weight without settling.
 - Conversion of all asphalt and gravel areas to landscape planting beds shall be done in the following manner: a. Remove all asphalt, gravel, and compacted earth to a depth of six inches to eighteen inches (6"-18") depending on the depth of the sub base and dispose of off site; b. Call the City for an inspection prior to backfilling; c. Replace excavated material with good, medium-textured planting soil (loam or light yellow clay) to a minimum of two inches (2") above the top of the curb and sidewalk, add four inches to six inches (4"-6") of topsoil and crown to a minimum of six inches (6") above the adjacent curb and walk after earth settling, unless otherwise noted on the landscape plan. If conversion from asphalt to landscape occurs in or between an existing landscape area(s), replace excavated material from four inches to six inches (4"-6") below adjacent existing grade with good, medium-textured planting soil (loam or light yellow clay) and add four inches to six inches (4"-6") of topsoil to meet existing grades after earth settling.

- MATERIAL**
- Required landscape material shall satisfy the criteria of the *American Association of Nurserymen Standards for Nursery Stock* and be: a.) Northern nursery grown; b.) State Department of Agriculture inspected; c.) No. 1 grade material with a straight, unscarred trunk, and well-developed uniform crown (park grade trees will not be accepted); d.) Staked, wrapped, watered, and mulched according to the details provided; and e.) Guaranteed for two (2) years.
 - Topsoil shall be friable, fertile soil of claybarn character containing at least five percent (5%) but not more than twenty percent (20%) by weight of organic matter with a pH range between 6.0 and 7.0. The topsoil shall be free from clay lumps, coarse sand, plant roots, sticks, and other foreign materials.
 - The following shall be included in the following proportions: Kentucky Blue Grass blend "Baron/Sheri/Adelphi" @ sixty percent (60%), Chewng Fescue @ twenty-five percent (25%), Creeping Red Fescue @ ten percent (10%), and Perennial Rye Grass @ five percent (5%). Weed content shall not exceed one percent (1%). The mix shall be applied at a rate of 200 pounds per acre.
 - Sod shall be two (2) year old "Baron/Sheri/Adelphi" Kentucky Blue Grass blend grown in a sod nursery on loam soil.
 - Proposed perennials shall be full, well-rooted plants.
 - Callery Pear (*Pyrus calleryana*) and Norway Maple (*Acer platanoides*) shall not be substituted for any tree species in the plant list. Contact the Landscape Architect for acceptable plant substitutions.
- GENERAL**
- Do not plant deciduous or evergreen trees directly over utility lines or under overhead wires. Maintain a six foot (6') distance from the centerline of utilities and twenty feet (20') from the centerline of overhead wires for planting holes. All trees are to be at least ten feet (10') from hydrants and utility structures. Call MISS DIG forty-eight (48) hours prior to landscape construction for field location of utility lines.
 - The Contractor agrees to guarantee all plant material for a period of two (2) years. At that time, the Owner's representative reserves the right for a final inspection. Plant material with twenty-five percent (25%) die back, as determined by the Owner's representative shall be replaced. This guarantee includes the furnishing of new plants, labor, and materials. These new plants shall also be guaranteed for a period of two (2) years.
 - The work shall consist of providing all necessary materials, labor, equipment, tools, and supervision required for the completion as indicated on the drawings.
 - Landscape areas shall be irrigated by an automatic underground irrigation system. Lawns and shrub/landscape areas shall be watered by separate zones to minimize overwatering. An irrigation plan for all landscape areas shall be provided with the final plant set.
 - All written dimensions override scale dimensions on the plans.
 - All substitutions or deviations from the landscape plan must be approved by the City of Novi in writing prior to installation.
 - All bidders must inspect the site and report any discrepancies to the Owner's representative.
 - All specifications are subject to change due to existing conditions.
 - The Owner's representative reserves the right to approve all plant material.
- MAINTENANCE**
- The Owner of the landscaping shall perpetually maintain such landscaping in good condition so as to present a healthy, neat, and orderly appearance, free from refuse and debris.
 - The Owner shall conduct a seasonal landscape maintenance program including regular lawn cutting (at least once per week during the growing season), pruning at appropriate times, watering, and snow removal during winter.
 - The Contractor is responsible for watering and maintenance of all seed areas until a minimum of ninety percent (90%) coverage, as determined by the Owner's representative.
 - All diseased and/or dead material shall be removed within sixty (60) days following notification and shall be replaced within the next appropriate planting season or within three (3) months, whichever comes first.
 - Any debris such as lawn clippings, fallen leaves, fallen limbs, and litter shall be removed from the site on a weekly basis at the appropriate season.
 - All planting beds shall be maintained by removing weeds, fertilizing, and replenishing mulch as needed.

GENERAL FOR PLANTING NEAR UTILITIES:

- Maintain twenty feet (20') from the centerline of overhead wires for planting holes. All trees are to be at least ten feet (10') from hydrants and utility structures, five feet (5') from underground lines, four feet (4') from sidewalks, and three feet (3') from curbs.

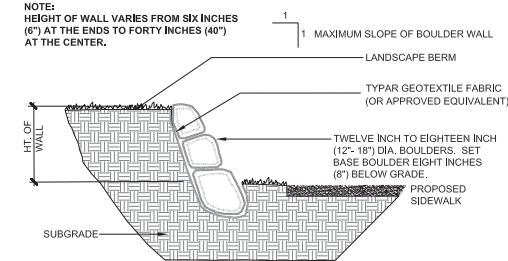
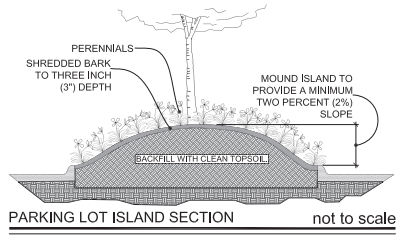


PLANTING DETAILS not to scale

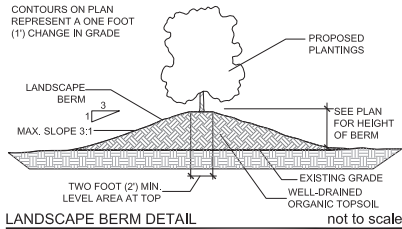
PLANTING DETAILS not to scale

PLANTING DETAILS not to scale

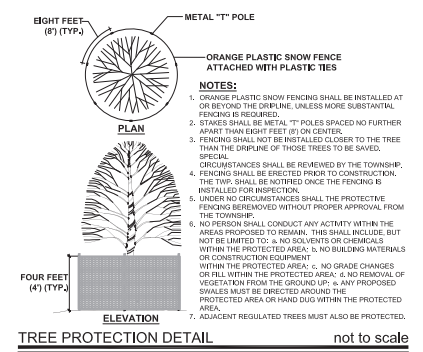
PLANTING DETAILS not to scale



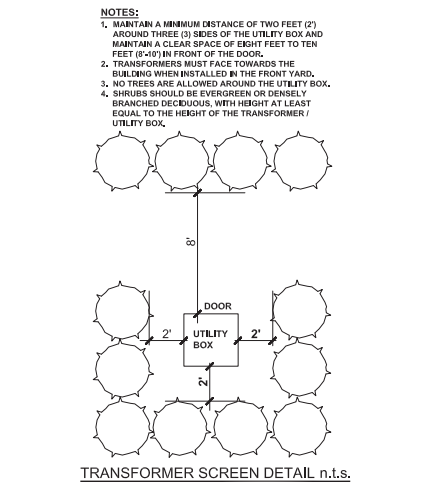
BOULDER RETAINING WALL DETAIL not to scale



LANDSCAPE BERM DETAIL not to scale

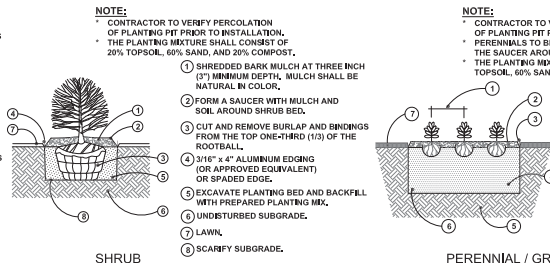


TREE PROTECTION DETAIL not to scale



TRANSFORMER SCREEN DETAIL n.t.s.

- GENERAL NOTES FOR ALL PLANTINGS:**
- DO NOT CUT CENTRAL LEADER.
 - REMOVE ALL TAGS, STRINGS, PLASTICS, AND ANY OTHER NON-BIODEGRADABLE MATERIALS (EXCEPT LABEL FOR PLANT NAME) FROM PLANT STEMS OR CROWN WHICH ARE UNSIGHTLY OR COULD CAUSE GARDLING.
 - PLANTS SHALL BEAR THE SAME RELATION TO FINISH GRADE AS IT BORE TO THE PREVIOUS GRADE IN THE NURSERY. SET THE BASE OF THE PLANT SLIGHTLY HIGHER THAN EXISTING GRADE IF PLANTING IN CLAY SOILS.
 - CENTER THE ROOTBALL IN THE PLANTING HOLE. LEAVE THE BOTTOM OF THE PLANTING HOLE FIRM. USE WATER TO SETTLE THE PLANTING HOLE AND REMOVE ANY AIR POCKETS AND FIRMLY SET THE TREE OR SHRUB. GENTLY TAMP IF NEEDED.
 - REMOVE ROOTBALL DIRT FROM TRUNK TO BELOW ROOT FLARE.



TREE GUYING DIAGRAM not to scale

date: August 30, 2021
no: 06-2021

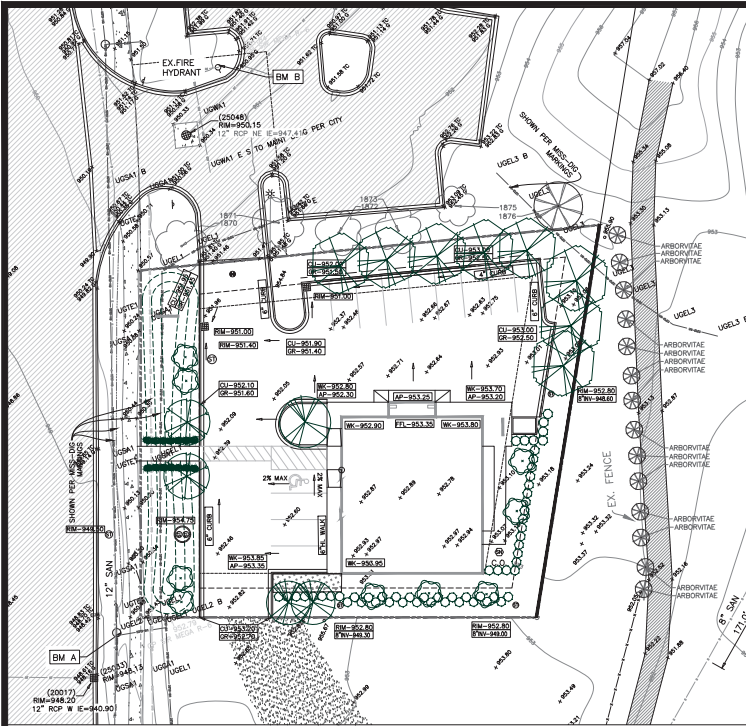


LANDSCAPE PLAN FOR:
GK Consulting, Inc.
5644 Middlebelt Road
Garden City, Michigan 48135
(313) 377-9449

PROJECT LOCATION:
Proposed Medical
Office Building
31074 Novi Road
Novi, Michigan

LANDSCAPE PLAN BY:
Nagy Devlin Land Design
31736 West Chicago Ave.
Livonia, Michigan 48150
(734) 634 9208

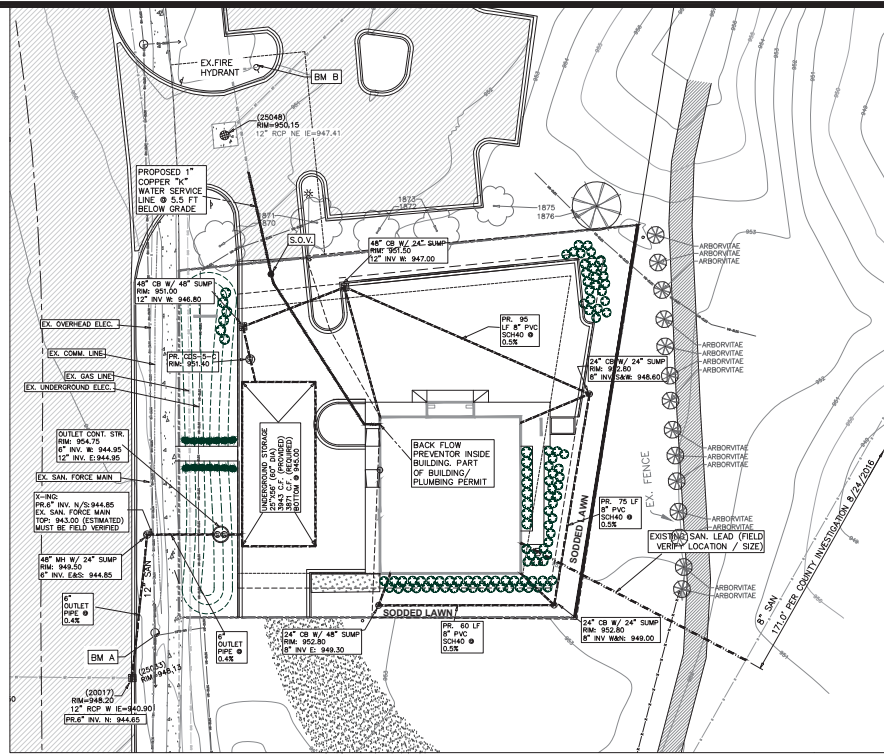




GRADING PLAN

SCALE 1"=20'

FOR PARKING AREA PAVEMENT AND CURB REFER TO DETAILS-7 SHEET 2 OF 2 (CITY OF NOVI, PAVING STANDARD DETAILS)



UTILITY PLAN

SCALE 1"=20'

UNDERGROUND STORAGE SIZING			
A ²	C = 0.95	C = 1.00	C = 0.35
TOTAL AREA	0.25	0.00	0.17
A/C(0.9)	0.42013315		
A/C(1.0)	0.2492		
A/C(0.2)	0.00		
A/C(0.2) ACRE	0.1710		
C ave		0.710	
Qa = 0.15 x A		0.0630	cfs
100 YEAR FLOOD DESIGN:			
Qo = Qa/(A x C)		0.21	cfs/ac-imp
T = -26+(10312.5Qo) ^{0.5}		195.97	min.
Vs = [(16500/T)(1+25j)]/(40xQoXt)		12977.67	cfs/ac-imp
Vt = Vs x A x C		3971	cf

DRAINAGE AREAS CONTRIBUTE TO UGS SYSTEM						
AREA #	TOTAL A	C			Cave	Cave.
		0.95	0.35	1.0		
AREA "1A"	10940	5952.00	5038.00	0.00	0.67	0.67
AREA "2A"	7361	4951.00	2410.00	0.00	0.75	0.75
SUM AREA	18301	10653.00	7448.00	0.00	OK	
TOTAL AREA (SQ. FT.)	18301					
TOTAL AREA (ACRES)	0.420					
Cave.		0.796				

FROM M.H.	TO M.H.	AREA SQ. FT.	AREA (ACRES)	C	(C/A)	TOTAL (C/A)	T TIME MIN	INCH PER HOUR	CHCA cfs	DA OF PIPE INCH	SLOPE %	LEN OF PIPE FT	CAPACITY YOF SIVVER C.F.S	VBL FLOW FT/S	TIME OF FLOW MIN	RM ELEV.	UPPER LEVEL	LOWER LEVEL
24" CB (A1)	48" CB (A2)	10940	0.251	0.67	0.199	0.199	15	4.38	0.740	12	0.32	37	2.63	2.59	0.24	951.00	951.00	
48" CB (A2)	CRB	7361	0.169	0.75	0.127	0.297	15.24	4.35	1.290	12	0.36	9	2.66	2.39	0.04	951.00	951.00	
CRB	UGS	0	0.000	0.00	0.297	0.297	15.28	4.34	1.288	12	0.36	9	2.66	3.39	0.04	951.00	951.00	
UGS	OUTLET	0	0.000	0.00	0.297	0.297	15.33	4.34	1.287	12	0.36	9	2.66	3.39	0.04	951.50	954.75	
OUTLET	MH	1	0.000	1.00	0.000	0.297	15.37	4.33	1.286	6	0.40	25	0.36	1.81	0.23	954.75	949.50	
MH	EX CB	0	0.000	0.00	0.000	0.297	15.37	4.33	1.285	6	0.41	45	0.36	1.83	0.45	949.50	948.20	

DIYODS™
Design Your Own Detention System

CONTECH
CMP DETENTION SYSTEMS

For design assistance, drawings, and pricing send completed worksheet to: diyods@contech-cpi.com

Project Summary

Date: 7/14/2021
 Project Name: Medical Building in 400
 City/County: Novi
 State: MICHIGAN
 Designed By: GHASSAN KHALAF
 Company: GK CONSULTING ENGINEERS
 Telephone: 313-377-9449

Corrugated Metal Pipe Calculator

Storage Volume Required: 3,971
 Limiting Width (ft): 25.00
 Effective Depth Below Asphalt (ft): 6.50
 Solid or Perforated Pipe: Perforated
 Shape Or Diameter: 19.63 1/2" Pipe Area
 Spacing between Barrels (ft): 2.50
 Stone Width Around Perimeter of System (ft): 2.5
 Depth A: Porous Stone Above Pipe (ft): 0
 Depth C: Porous Stone Below Pipe (ft): 0
 Stone Porosity (0 to 40%): 0

System Sizing

Pipe Storage: 3,004 cf
 Porous Stone Storage: 939 cf
 Total Storage Provided: 3,943 cf 101.9% Of Required Storage
 Number of Barrels: 3 barrels
 Length Per Barrel: 51.00 ft
 Diameter of Barrel (D) = 25. ft = 48 in

CONTECH Materials

Total CMP Footage: 153 ft
 Approximate Total Pieces: 9 pcs
 Approximate Coupling Bands: 6 bands
 Approximate Truckloads: 3 trucks

Construction Quantities

Total Excavation: 339 cy
 Porous Stone Backfill For Storage: 174 cy Stone
 Backfill to Grade Encircling Stone: 53 cy FILL

**CONSTRUCTION QUANTITIES ARE APPROXIMATE AND SHOULD BE VERIFIED UPON FINAL DESIGN

© 2007 CONTECH Stormwater Solutions

Custom Layout

To adjust layout, enter desired barrel length in the light blue boxes below.
 Excess Footage = 0

Barrel	Length	Area
Barrel 12	0	0
Barrel 11	0	0
Barrel 10	0	0
Barrel 9	0	0
Barrel 8	0	0
Barrel 7	0	0
Barrel 6	0	0
Barrel 5	0	0
Barrel 4	0	0
Barrel 3	0	0
Barrel 2	51	61
Barrel 1	51	61

8-18-21 PLANNING SUBMITTAL
 MARK DATE DESCRIPTION



GHASSAN KHALAF, P.E.
 TEL: 313-377-9449
 e-mail: gkci@outlook.com
 ADDRESS: 5644 MIDDLEBELT RD
 GARDEN CITY, MI 48135

COPYRIGHT
 DUPLICATION STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that this plan and specification was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer under the laws of the State of Michigan by my hand and seal.

PROPOSED MEDICAL BUILDING

31074 NOVI RD
 NOVI, MI 48377

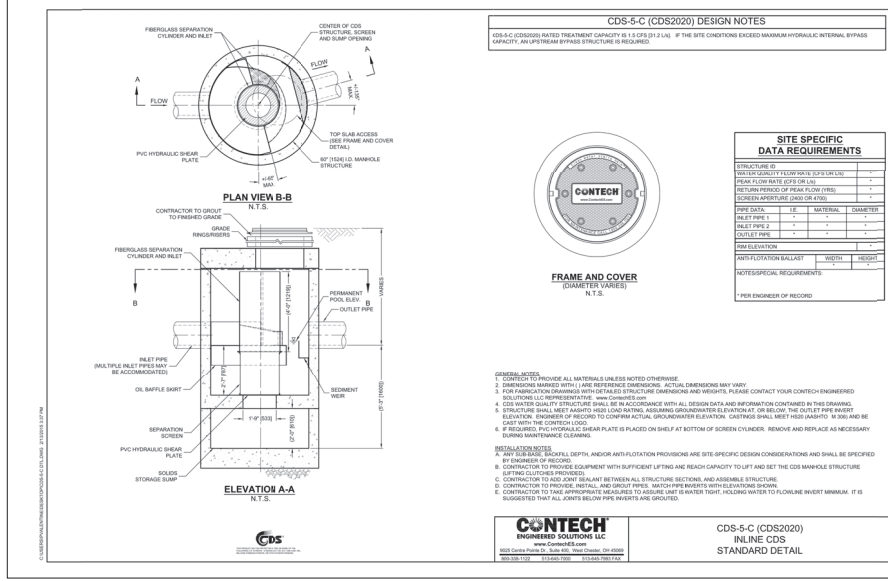
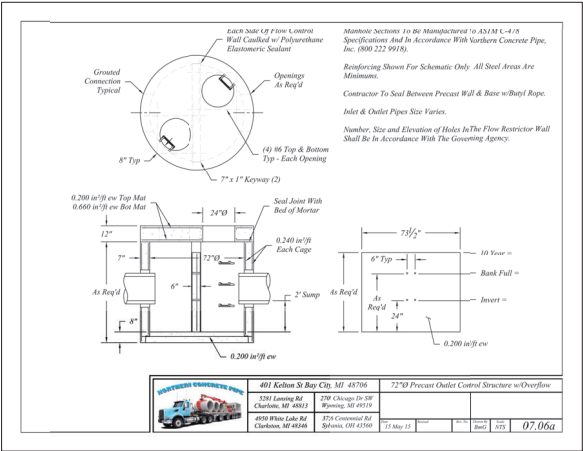
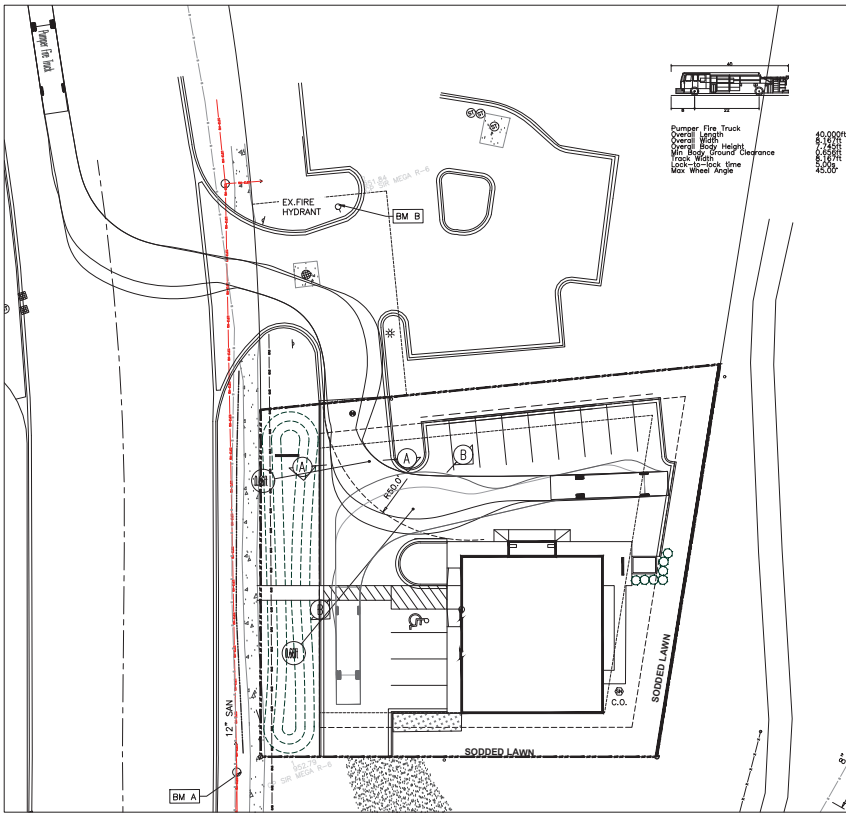
NOTE:
 OWNER AND THE CONTRACTORS ARE THE SOLELY RESPONSIBLE FOR THE PERFORMANCE AND THE EXECUTION OF THE PROJECT AND IT IS THEIR RESPONSIBILITY FOR THE SAFETY OF THE BUILDING STRUCTURE AND THE MATERIALS USED TO RENOVATE AND CONSTRUCT THE PROPOSED FACILITY SHOWN ON THE PLANS.

SHEET TITLE
PRELIMINARY ENGINEERING

SCALE
NOTED

SHEET No.





8-18-21 PLANNING SUBMITTAL
 MARK DATE DESCRIPTION
GK CONSULTING INC.
 GHASSAN KHALAF, P.E.
 TEL: 313-377-9449
 e-mail: gkci@outlook.com
 ADDRESS: 5644 MIDDLEBELT RD
 GARDEN CITY, MI 48135
 COPYRIGHT
 DUPLICATION STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that this plan and specification was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer under the Laws of the State of Michigan by my hand and seal.

 GHASSAN KHALAF

PROPOSED MEDICAL BUILDING

31074 NOVI RD
 NOVI, MI 48377

NOTE:
 OWNER AND THE CONTRACTORS ARE THE SOLELY RESPONSIBLE FOR THE PERFORMANCE AND THE EXECUTION OF THE PROJECT AND IT IS THEIR RESPONSIBILITY FOR THE SAFETY OF THE BUILDING STRUCTURE AND THE MATERIALS USED TO RENOVATE AND CONSTRUCT THE PROPOSED FACILITY SHOWN ON THE PLANS.

SHEET TITLE
FIRE TRUCK CIRCULATION AND STORM MANAGEMENT DETAILS

SCALE
NOTED

SHEET No.
SP-02

CONTECH ENGINEERED SOLUTIONS LLC
 2855 Cassia Park Dr., Suite 201, Westland, MI 48186
 313.377.9449
 WWW.CONTECH-ENGINEERS.COM

CDS-5-C (CDS2020) INLINE CDS STANDARD DETAIL

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Mounting Height	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Plot
□	A		1	Lithonia Lighting	DSXW1 LED 10C 350 30K T4M MVOLT HS	DSXW1 LED WITH (1) 10 LED LIGHT ENGINES, TYPE T4M OPTIC, 5000K, @ 350mA WITH HOUSE-SIDE SHIELDS.	8'-0"	1	1163	1	13.3	
□	B		4	Lithonia Lighting	DSXW1 LED 10C 1000 50K T4M MVOLT DDL	DSXW1 LED WITH (1) 10 LED LIGHT ENGINES, TYPE T4M OPTIC, 5000K, @ 1000mA WITH DIFFUSE DROP LENS.	12'-0"	1	3513	1	38.8	
□	C		3	Lithonia Lighting	DSXW1 LED 10C 1000 50K T4M MVOLT DDL	DSXW1 LED WITH (1) 10 LED LIGHT ENGINES, TYPE T4M OPTIC, 5000K, @ 1000mA WITH DIFFUSE DROP LENS.	10'-0"	1	3513	1	38.8	

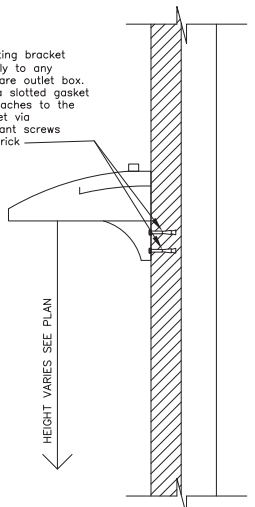
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	0.6 fc	6.3 fc	0.2 fc	6.3 / 0.2	3:1

HOURS OF OPERATIONS: 9:00 AM TO 9:00 PM

STANDARD ELECTRICAL NOTES:

- ELECTRICAL SERVICE TO LIGHT FIXTURES SHALL BE PLACED UNDERGROUND
- FLASHING LIGHT SHALL NOT BE PERMITTED
- ONLY NECESSARY LIGHTING FOR SECURITY PURPOSES & LIMITED OPERATIONS SHALL BE PERMITTED AFTER A SITE'S HOURS OF OPERATION

Universal mounting bracket attaches securely to any 4" round or square outlet box. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws and lags into brick.



FIXTURE MOUNTING DETAIL
NO SCALE

D-Series Size 1 LED Wall Luminaire

Specifications

Luminaire	Width	Depth	Height	Back Box (BBW, EG20WC)	Width	Depth	Height
DSXW1	13.34"	5.0"	5.88"	13.34"	5.31"	5.31"	5.31"
DSXW2	13.34"	5.0"	5.88"	13.34"	5.31"	5.31"	5.31"

Introduction

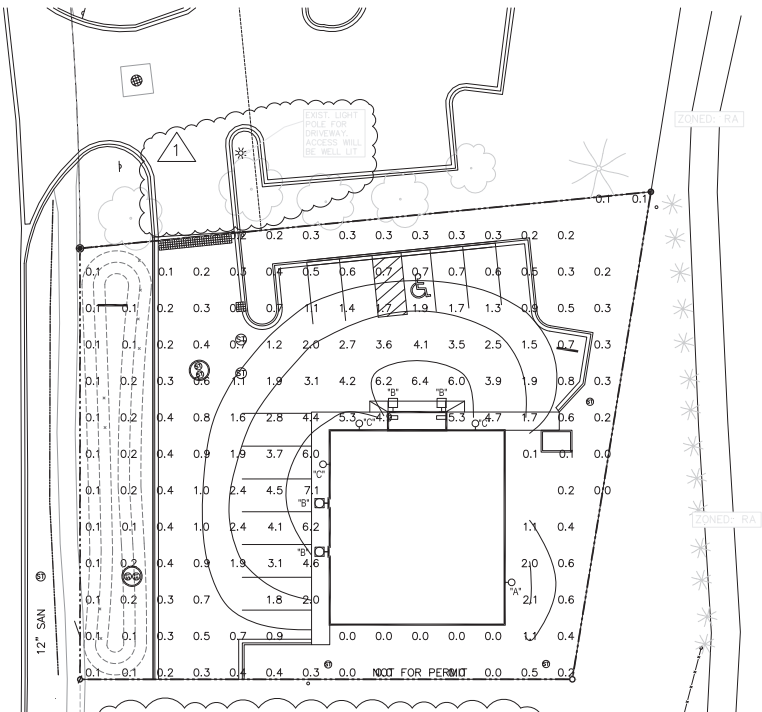
The D-Series Wall Luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance. With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Ordering Information

DSXW1 LED	DSXW2 LED	DSXW3 LED	DSXW4 LED	DSXW5 LED	DSXW6 LED	DSXW7 LED	DSXW8 LED	DSXW9 LED	DSXW10 LED
10C	10C	10C	10C	10C	10C	10C	10C	10C	10C

Accessories

- DSXW1-10C: 10C 350/1000
- DSXW2-10C: 10C 1000/1000
- DSXW3-10C: 10C 1000/1000
- DSXW4-10C: 10C 1000/1000
- DSXW5-10C: 10C 1000/1000
- DSXW6-10C: 10C 1000/1000
- DSXW7-10C: 10C 1000/1000
- DSXW8-10C: 10C 1000/1000
- DSXW9-10C: 10C 1000/1000
- DSXW10-10C: 10C 1000/1000



FIXTURE INSTALLATION

Included universal mounting bracket attaches securely to any 4" round or square outlet box for quick and easy installation. Luminaire has a slotted gasket wireway and attaches to the mounting bracket via corrosion-resistant screws.

PHOTOMETRIC PLAN
SCALE 1"=10'-0"

7-21-21
8-31-21

PLANNING COMMISSION
8/18/21 CITY REVIEW COMMENTS

MARK	DATE	DESCRIPTION
CONSULTANT		
GHASSAN KHALAF		
TEL: 313-377-9449		
e-mail: gk_ami@goutlook.com		
ADDRESS: 1636 N. GULLEY		
DEARBORN, MICHIGAN		

COPYRIGHT
DUPLICATION STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that the plan and specification was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer under the Laws of the State of Michigan by my hand and seal.

Ghassan Khalaf

GHASSAN KHALAF



PROPOSED MEDICAL BUILDING

31074 NOVI RD
NOVI, MI 48377

NOTE:
OWNER AND THE CONTRACTORS ARE THE SOLELY RESPONSIBLE FOR THE PERFORMANCE AND THE EXECUTION OF THE PROJECT AND IF EITHER RESPONSIBILITY FOR THE SAFETY OF THE BUILDING STRUCTURE AND THE MATERIALS USED TO RENOVATE AND CONSTRUCT THE PROPOSED FACILITY SHOWN ON THE PLANS.

SHEET TITLE
PHOTOMETRIC PLAN

SCALE
NOTED


SHEET No.

PH-01

MARK	DATE	DESCRIPTION

CONSULTANT
 GHASSAN KHALAF
 TEL: 313-377-9449
 e-mail: gk.amj@outlook.com
 ADDRESS: 1636 N. GULLEY
 DEARBORN, MICHIGAN

COPYRIGHT
 DUPLICATION STRICTLY PROHIBITED WITHOUT
 THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that
 this plan and specification
 was prepared by me or
 under my direct
 supervision and that I am
 a duly registered Architect
 or Engineer under the Laws
 of the State of Michigan
 by my hand and seal,

 GHASSAN KHALAF

PROPOSED MEDICAL BUILDING

31074 NOVI RD
 NOVI, MI 48377

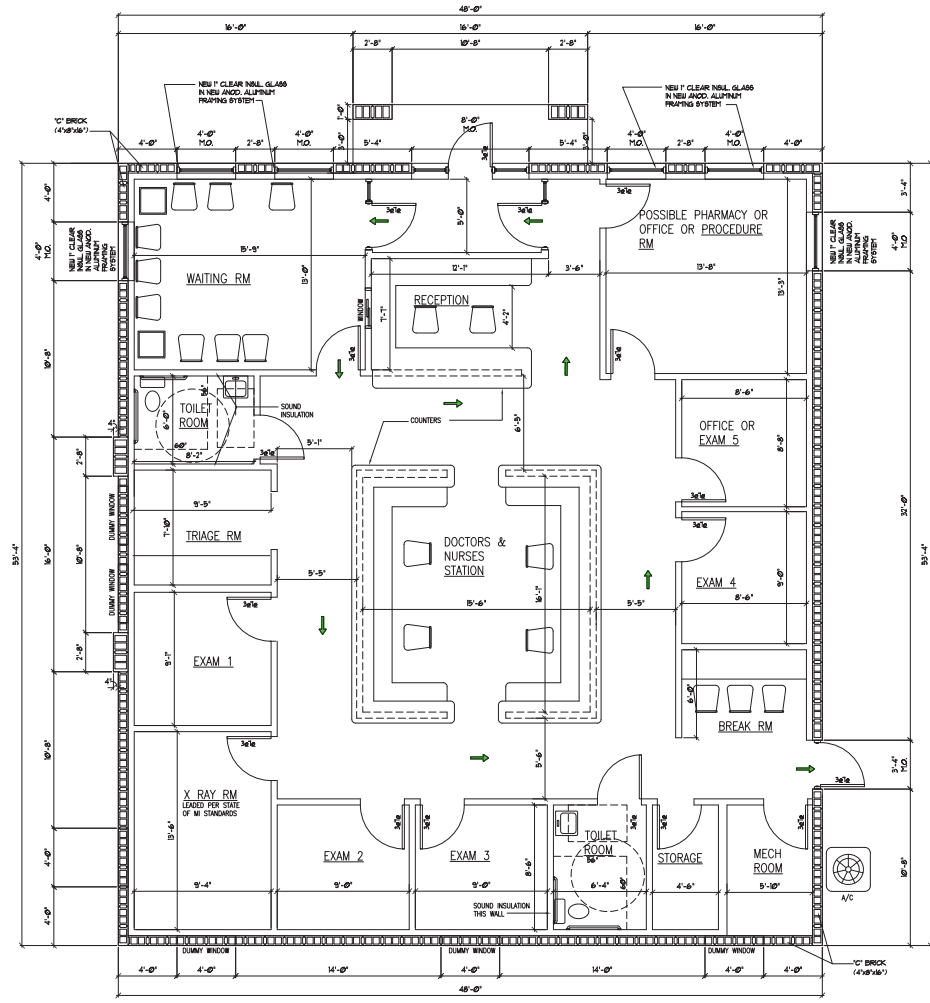
NOTE:
 OWNER AND THE CONTRACTORS ARE THE SOLELY
 RESPONSIBLE FOR THE PERFORMANCE AND THE
 EXECUTION OF THE PROJECT AND EITHER
 RESPONSIBILITY FOR THE SAFETY OF THE
 BUILDING STRUCTURE AND THE MATERIALS
 USED TO RENOVATE AND CONSTRUCT THE
 PROPOSED FACILITY SHOWN ON THE PLANS

SHEET TITLE
 PROPOSED
 FLOOR PLAN

SCALE
 NOTED

SHEET No.

A-01 



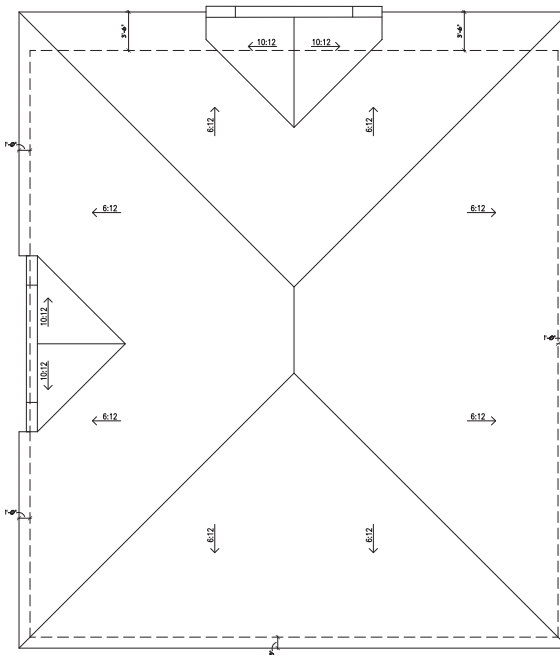
FLOOR PLAN
 SCALE 1/4"=1'-0"

FACADE MATERIALS AND ELEVATIONS

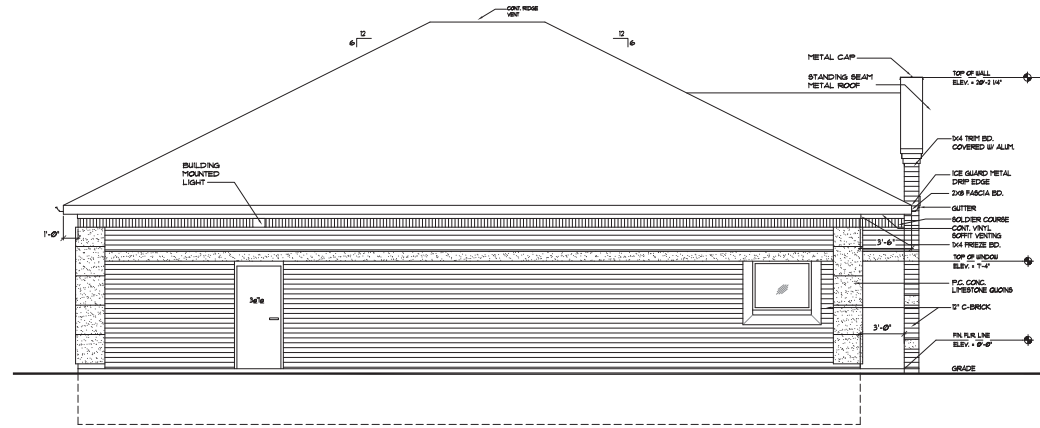


 GK Consulting Inc.
gkci@outlook.com
313-377-9449

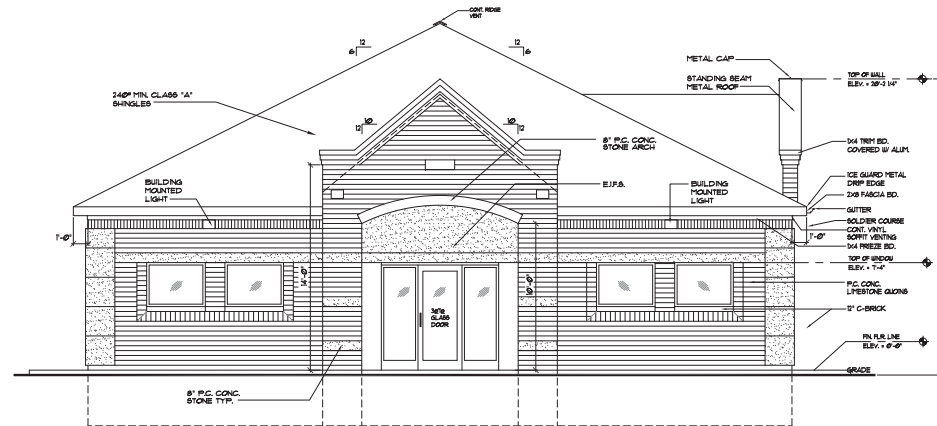
Building and Civil Engineering Services



ROOF PLAN
SCALE 3/16"=1'-0"



EAST ELEVATION
SCALE 1/4"=1'-0"



NORTH ELEVATION
SCALE 1/4"=1'-0"

7-21-21 PLANNING COMMISSION

MARK DATE DESCRIPTION

CONSULTANT
GHASSAN KHALAF
TEL: 313-377-8449
e-mail: gk.amr@outlook.com
ADDRESS: 1636 N. GULLEY

DEARBORN, MICHIGAN

COPYRIGHT
DUPLICATION STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that the plan and specification was prepared by me or under my direct supervision and that I am a duly registered Architect or Engineer under the Laws of the State of Michigan by my hand and seal.



GHASSAN KHALAF

PROPOSED MEDICAL BUILDING

31074 NOVI RD
NOVI, MI 48377

NOTE:
OWNER AND THE CONTRACTORS ARE THE SOLELY RESPONSIBLE FOR THE PERFORMANCE AND THE EXECUTION OF THE PROJECT AND IF EITHER RESPONSIBILITY FOR THE SAFETY OF THE BUILDING STRUCTURE AND THE MATERIALS USED TO RENOVATE AND CONSTRUCT THE PROPOSED FACILITY SHOWN ON THE PLANS.

SHEET TITLE
PROPOSED ELEVATIONS

SCALE
NOTED

SHEET No.

A-02



MARK DATE DESCRIPTION

CONSULTANT
 GHASSAN KHALAF
 TEL: 313-377-8449
 e-mail: gk.amr@outlook.com
 ADDRESS: 1636 N. GULLEY

DEARBORN, MICHIGAN

COPYRIGHT
 DUPLICATION STRICTLY PROHIBITED WITHOUT
 THE WRITTEN CONSENT OF CONSULTANT.

I hereby certify that
 this plan and specification
 was prepared by me or
 under my direct
 supervision and that I am
 a duly registered Architect
 or Engineer under the Laws
 of the State of Michigan
 by my hand and seal.



GHASSAN KHALAF

**PROPOSED
 MEDICAL
 BUILDING**

31074 NOVI RD
 NOVI, MI 48377

NOTE:
 OWNER AND THE CONTRACTORS ARE THE SOLELY
 RESPONSIBLE FOR THE PERFORMANCE AND THE
 EXECUTION OF THE PROJECT AND IT IS THEIR
 RESPONSIBILITY FOR THE SAFETY OF THE
 BUILDING STRUCTURE AND THE MATERIALS
 USED TO RENOVATE AND CONSTRUCT THE
 PROPOSED FACILITY SHOWN ON THE PLANS.

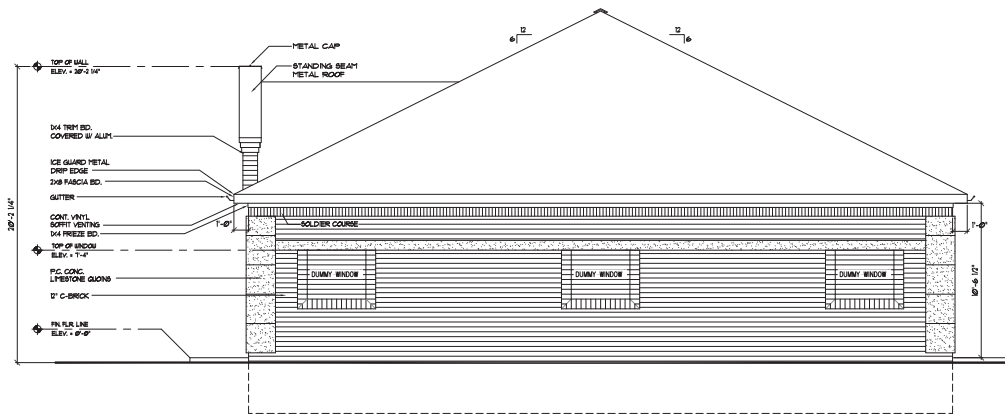
SHEET TITLE
**PROPOSED
 ELEVATIONS**

SCALE

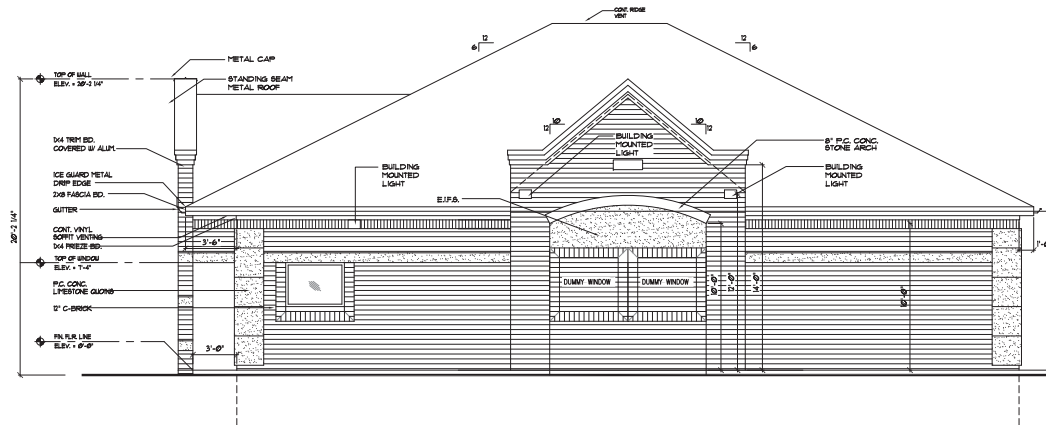
NOTED

SHEET No.

A-03



SOUTH ELEVATION
 SCALE 1/4"=1'-0"



WEST ELEVATION
 SCALE 1/4"=1'-0"

PLANNING REVIEW



PLAN REVIEW CENTER REPORT
Planning Review
NOVI MEDICAL BUILDING (AKA MAPLES OF NOVI TENNIS COURTS)
 JSP 21-33
 October 14, 2021

PETITIONER

AJSS Property, LLC

REVIEW TYPE

Request for Amendment to a Planned Unit Development (PUD)

PROPERTY CHARACTERISTICS

Section	2	
Site Location	East of Novi Road, South of Fourteen Mile Road; 22-02-200-043	
Site School District	Walled Lake Consolidated School District	
Current Site Zoning	RA: Residential Acreage (with PUD)	
Adjoining Zoning	North	RA: Residential Acreage (with PUD)
	East	RA: Residential Acreage (with PUD)
	West	RM-1 with PRO: Low-Density Multiple-Family
	South	RA: Residential Acreage (with PUD)
Current Site Use	Vacant/Tennis Courts	
Adjoining Uses	North	Bank/Commercial
	East	Recreational, Single-Family Residential
	West	Assisted Living
	South	Recreational, Maintenance Building
Site Size	0.42 acres	
Plan Date	September 17, 2021	

PROJECT SUMMARY

The subject property, referred to as the former Maples of Novi Tennis Courts, is located east of Novi Road and south of Fourteen Mile Road in Section 2 of the City of Novi. The property totals approximately 0.42 acres and only contains former tennis courts that have been unused for a number of years. The applicant is proposing to construct a 2,652 square foot medical office. The proposed development will not impact any of the open space that is currently used as a golf course and has been discussed with a number of nearby HOA Presidents. Correspondence (attached) was received from the Maples of Novi Maple Pointe HOA indicating that the Maple Pointe HOA has no concern with the site plan proposed.

The plan for this development indicates that the hours of operation will be from 8am to 9pm and has thirteen parking spaces, a façade consistent with the nearby bank, landscape plantings, and a six foot screening fence along the east property line. The development will be accessed from the adjacent bank property, which has access to Novi Road, and it will continue to serve as an access drive for the Maples of Novi maintenance building. It will also remain a part of the Maples of Novi Planned Unit Development.

The applicant is requesting an amendment to the Maples of Novi Planned Unit Development (PUD) Agreement to seek the necessary approvals to allow this change in use. The applicant is asking that the use of the site be considered consistent with the adjacent shopping center and bank, which would subject the site to the standards of the B-1 Zoning District (identified as Local Commercial on the Master Plan).

SITE HISTORY

The Maples of Novi was developed in the early 1990s with the tennis courts proposed for redevelopment being constructed in the mid-1990s. This use has continued to be in existence since its conception, but has not been in use for a number of years. The PUD Area Plan, which was originally approved on July 20, 1989, designates this parcel as part of Zone A, Phase 6 of the Planned Unit Development.

CONDITIONS OF REQUEST FOR PUD AMENDMENT

Although the City Council removed the Planned Unit Development Section of the Zoning Ordinance in 1997 (Ordinance 97-18), the ordinance remains in place to address any proposed changes to the existing PUDs within the City. Per Article 27, Section 9, "a developer may request an amendment to an approved area plan [...]." Also, "any amendment to an approved preliminary or final site plan which results in a major change in the approved area plan, as defined in this Section, shall require an amendment to the approved area plan." The procedure and conditions for requesting an amendment to the PUD is as follows:

- A request for amendment shall be made in writing to the Planning Commission and shall clearly state the reasons therefor.

*The applicant has provided a written request for amendment, but has not provided clearly stated reasoning. **Please provide a clearly stated reasoning in a revised narrative indicating a number of detailed reasons why this request is being made.***

- The Planning Commission, upon finding such reasons and requests reasonable and valid, shall so notify the applicant in writing.

The applicant shall present this item to the Planning Commission and has provided a narrative, which is included in this packet.

- The applicant has indicated that they are seeking to amend the PUD Agreement & Area Plan to allow for a medical office use on this site.

Staff is of the opinion that this request should be considered a major change as it proposes a change in use and character of the development.

- If the approved plan is to be amended, the Planning Commission shall immediately notify City Council.

Following review by the Planning Commission, the amended plan shall go before the City Council.

MODIFICATIONS CONSIDERED TO BE MAJOR/MINOR

Per Article 27, Section 9, Subheading G, "the Planning Commission shall have the authority to determine whether a requested change is major or minor, in accordance with this Section." Listed below are the conditions that constitute an amendment to be considered major or minor:

- **Minor Amendment**
 - A change in residential floor area;

- A change in nonresidential floor area of five (5) percent or less;
- Minor variations in layout which do not constitute major changes; and or
- A change in lot coverage and FAR of the entire PUD of one (1) percent or less
- **Major Amendment**
 - Change in concept of the development;
 - **Change in use or character of the development;**
 - Change in type of dwelling unit as identified on the approved area plan;
 - Change in the number of dwelling units;
 - Change in nonresidential floor area of over five (5) percent;
 - Change in lot coverage and FAR of the entire PUD of more than one (1) percent;
 - Rearrangement of lots, blocks, and building tracts;
 - Change in character or function of any street;
 - Reduction in land area set aside for common open space or the relocation of such area(s); or
 - Increase in building height.

RELEVANT PUD SECTION(S)

As part of this request, the applicant is requesting that this site be included in Zone A, Phase 6 of the Planned Unit Development. Zone A is described as follows (Page 132 of 158 of the PUD, Liber 12590, Page 886, Item #13): "The development of the non-residential areas will be coordinated with that of the housing areas and their immediate environs. The development will include 60,000 square feet of convenience commercial, 20,000 square feet of office, health and fitness, adult and child care functions necessary to service the needs of the community." The PUD goes on to describe this in more detail.

Any proposed amendment to the PUD Agreement & Area Plan shall be submitted to the City by the applicant and reviewed by City staff and City Legal Counsel. This section is provided for reference purposes only and any necessary language revisions shall be proposed by the applicant and reviewed by the city accordingly.

RECOMMENDATION

Planning recommends approval of the Request to Amend the Maples of Novi Planned Unit Development Agreement & Area Plan subject to providing a revised narrative describing the proposed Request for Amendment and addressing all other review comments prior to Preliminary Site Plan submittal. as the request mostly conforms to the requirements of the Zoning Ordinance, and the proposed change in use from tennis courts to a medical office proposes a reasonable alternative to the existing lot, subject to a number of conditions, and with any deviations noted below. **Staff's reading of the ordinance is that the request would be considered a major amendment to the PUD given that it would change the use from tennis courts to a medical office as it would change the character of the development, and the request shall be presented to the Planning Commission for review and recommendation to the City Council.** All reviewers recommend approval of the Request to Amend the Maples of Novi Planned Unit Development Agreement & Area Plan subject to providing a revised narrative describing the proposed Request for Amendment and addressing all other review comments prior to Preliminary Site Plan submittal.

ORDINANCE REQUIREMENTS

This project was reviewed for compliance with the Zoning Ordinance, with respect to Article 3 (Zoning Districts), Article 4 (Use Standards), Article 5 (Site Standards), Article 27 (Planned Unit Development) (Retracted – only applicable for this site since it is existing) and any other areas of the ordinance, as noted. The plans show general compliance with ordinance requirements. Please address the items in **bold** with the next submittal.

1. Uses Permitted (Sec. 3.1.1 & PUD Agreement): A medical office is currently not a permitted use in the Maples of Novi PUD Area Plan for this site. **A request to amend the PUD Agreement**

& Area Plan has been submitted by the applicant. The Planning Commission shall determine if the amendment is minor or major and submit a recommendation to City Council if the request is determined to be major.

2. Site Conditions: The applicant has indicated that the fencing along the eastern portion of the site will remain as it is not fully located on the subject property. The applicant would prefer to remove the fencing, but has not received approval from the property owner. In lieu of removing the fence, the applicant is proposing to install a 6 foot tall Trex Panel (hybrid wood) fence along the east property line to provide a buffer for any nearby residents. **However, it is the City staff's preference that the current fence be removed in its entirety and only one fence exist along this property line. Please resolve this matter prior to Preliminary Site Plan Submittal.**
3. Use Considerations: The applicant has asked that the site be considered a similar use to those nearby (Flagstar Bank, Maples Shopping Center). Therefore, this review conducted uses some elements of the compatible uses within the B-1 Zoning District. However, not enough detail regarding the use of the site has been provided in the narrative by the applicant. **Please revise the provided narrative and provide additional details as requested. This shall be a condition of the Planning Commission motion.**
4. Yard Setbacks (Sec. 27-2, e, PUD Ordinance): Per Section 27-2(e) of the PUD Ordinance, "a transition strip at least 40 ft wide shall be required on any commercial or office site when adjacent to a residential area [...] shall be landscaped. The distance between any residential building and nonresidential building shall not be less than 150 ft unless waived by the City Council after recommendation by the Planning Commission." Currently, a transition strip has not been provided. **The applicant has indicated that they would like to seek a waiver from this requirement. This yard requirement may also be modified by the City Council upon recommendation from the Planning Commission as part of the Amendment to the PUD Agreement & Area Plan. Staff supports this request as the site is only 0.42 acres.**
5. Amendment & Revisions (Sec. 27-9, a, PUD Ordinance): A request to amend the PUD Agreement & Area Plan has been provided by the applicant. **However, the applicant should provide more detail indicating that they will be requesting consideration of the request under business district standards and not residential standards in a revised narrative provided to the city.**
6. Planning Commission Role (Sec. 27-9, d-g, PUD Ordinance): This project will be determined a major or minor amendment by the Planning Commission. **Staff is of the opinion that the request would be considered a major amendment to the PUD given that it would change the character of the development.**
7. Loading Spaces (Sec. 5.4.2): This project requires a 540 square foot loading zone. Currently, the applicant is not providing a loading zone. **The applicant has indicated that they intend on seeking a variance before the Zoning Board of Appeals for the absence of a loading area. Staff supports this request as the site is only 0.42 acres and is proposed to be used by a medical tenant.**
8. Sidewalks (Sec. 11-256): A 5 foot sidewalk is required throughout the site. **Please widen the 4 foot sidewalk connecting to the building exit to a minimum of 5 feet.**
9. Bicycle Parking Facilities (Sec. 5.16): A 6 foot clear path to the bicycle parking is required. Currently, only a 5 foot wide path is provided. **Please widen the sidewalk leading to the bicycle parking to a minimum of 6 feet.**

10. **Economic Impact:** Please provide the total estimated cost of the proposed building and site improvements, number of anticipated jobs (temporary construction jobs and permanent jobs, if known).
11. **Lighting Plan (Sec. 5.7.A.ii):** Please update the photometric plan to match the site plan in the next submittal.
12. **Shared Access Easement:** A shared access easement has not been indicated on the site plan. Please indicate if there is a shared access easement. If there is a shared access easement, please indicate the easement on the site plan and provide the Liber and Page Number.
13. **Project & Street Naming Committee:** This project is required to go before the Project & Street Naming Committee for a Project Name. Please submit the following [application](#) and reach out to Madeleine Daniels at mdaniels@cityofnovi.org or 248-347-0579 if you have any questions regarding this item.
14. **Planning Chart:** Please refer to the attached **Planning Chart** for additional comments to address in this submittal.

OTHER REVIEWS

- a. **Engineering Review:** Engineering is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.
- b. **Landscape Review:** Landscape is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.
- c. **Traffic Review:** Traffic is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.
- d. **Facade Review:** Façade is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan. The proposed façade is in full compliance with the ordinance requirements.
- e. **Fire Review:** Fire is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.

LAND USE AND ZONING: FOR SUBJECT PROPERTY AND ADJACENT PROPERTIES

The following table summarizes the zoning and land use status for the subject property and surrounding properties.

EXISTING ZONING

FUTURE LAND USE



	Existing Zoning	Existing Land Use	Master Plan Land Use Designation
Subject Property	RA: Residential Acreage (with PUD)	Tennis Courts	Local Commercial

Northern Parcels	RA: Residential Acreage (with PUD)	Commercial	Local Commercial
Eastern Parcels	RA: Residential Acreage (with PUD)	Recreational/Single-Family Residential	Single Family Residential with Planned Unit Development (PUD)
Western Parcels	RM-1 with PRO: Low-Density Multiple-Family with Planned Rezoning Overlay; R-4: Single-Family Residential	Multiple-Family Residential, Educational	Multiple Family & Educational Facility
Southern Parcels	RA: Residential Acreage (with PUD)	Recreational/Single-Family Residential	Single Family Residential with Planned Unit Development (PUD)

Compatibility with Surrounding Land Use

The subject property is located along the east of Novi Road and south of Fourteen Mile Road. This property is surrounded by commercial, recreational, and single-family residential uses. Currently, the site is not in use, though a tennis court is still located on the site. The current use of the site was approved with the original PUD Agreement and Area Plan. The majority of the surrounding properties have been developed. The applicant has proposed redeveloping this site as a medical office. Staff is of the opinion that the proposed use would be consistent with the surrounding existing uses.

2016 MASTER PLAN FOR LAND USE: GOALS AND OBJECTIVES

The proposed use is recommended by the 2016 Master Plan for Land Use. The following objectives as listed in the Master Plan are applicable for the proposed development.

1. General Goal: Economic Development/Community Identity

- a. Retain and support the growth of existing businesses and attract new businesses to the City of Novi.** The applicant will provide Economic Impact Information prior to the Planning Commission Meeting.
- b. Compatible Development.** Ensure compatible development between residential and non-residential developments. The applicant is proposing a use that is compatible with the surrounding area and it will be well-screened from the residential area.

NEXT STEP: PLANNING COMMISSION MEETING

This Request for Amendment to a PUD will be tentatively scheduled to go before the **Planning Commission on November 17, 2021**, as a Public Hearing. Please indicate by **October 19, 2021**, if you would like to proceed with the Public Hearing. Please provide the following via email by **November 10, 2021**:

- 1. Site Plan submittal in PDF format (maximum of 10MB). **NO CHANGES MADE.**
- 2. A response letter addressing ALL the comments from ALL the review letters.
- 3. A color rendering of the Site Plan (to be used for Planning Commission presentation).
- 4. A revised narrative describing the request for amendment in more detail.
- 5. A list of names, emails, phone numbers, and titles for those planning on attending the Planning Commission Meeting on behalf of the project.

CITY COUNCIL MEETING

If the Request for Amendment to the PUD is recommended for approval by the Planning Commission and considered a major amendment, the following materials shall be submitted to the City Council for review and approval:

1. A response letter addressing any comments from the Planning Commission Public Hearing.
2. A list of names, emails, phone numbers, and titles for those planning on attending the City Council Meeting on behalf of the project.

Please note that additional documentation and materials will be requested if necessary.

SITE PLAN PROCESS

If the Request for Amendment to the PUD is approved by the Planning Commission and City Council (only if considered a major amendment), the project may be reviewed as part of the typical site plan review process. Please refer to the [Site Plan & Development Manual](#) for additional information. 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 ccarroll@cityofnovi.org.



Christian Carroll, Planner



PLANNING REVIEW CHART: PUD (Planned Unit Development) w/ RA (Residential Acreage)

Review Date: October 14, 2021

Review Type: Request for PUD Amendment

Project Name: JSP 21-33 Novi Medical Building (Maples of Novi Tennis Courts)
31074 Novi Road; 22-02-200-043

Plan Date: September 17, 2021

Prepared by: Christian Carroll, Planner

E-mail: ccarroll@cityofnovi.org **Phone:** (248) 735-5607

Items in **bold** need to be addressed by the applicant with next submittal. *Italicized* items are to be noted.

Item	Required Code	Proposed	Meets Code	Comments
Zoning and Use Requirements				
Master Plan	Local Commercial	No change	Yes	
Zoning	Residential Acreage with Planned Unit Development	No change	Yes	
Uses Permitted (Sec 3.1.1, PUD Agreement)	Uses permitted listed in Section 3.1.10 and listed in PUD Agreement.	Medical office (Professional Services)	TBD	Planning Commission and City Council approval needed for minor/major amendment to PUD Agreement
B-1 District Development Standards (Sec. 3.1.10)				
Max. Building Height (Sec. 3.1.10.D, PUD Ordinance 27-2, g)	25 ft or 1 story, whichever is less	23.7 ft	Yes	
Max Lot Coverage % (Sec. 3.1.10.D)	See Section 3.6.2.D	2652 sf/18,303 sf = ~14.5%	Yes	
Min. Building Setbacks (Sec. 3.1.10, Sec. 3.6.2, PUD Ordinance) – B-1 Zoning District Standards				
Front (West)	50 ft (PUD)	68 ft	Yes	
Interior Side (North)	15 ft	56 ft	Yes	
Interior Side (South)	15 ft	15 ft	Yes	
Rear (East)	20 ft	20.7 ft	Yes	
Min. Parking Setbacks (Sec. 3.1.10) – B-1 Zoning District Standards				
Front (West)	20 ft	44 ft	Yes	
Interior Side (North)	10 ft	10 ft	Yes	
Interior Side (South)	10 ft	10 ft	Yes	
Rear (East)	10 ft	~25 ft	Yes	
Required Conditions in the B-1, B-2, and B-3 Zoning District (Sec. 3.10)				
Business Service (Sec. 3.10.1.A)	All business establishments shall be retail or service establishments dealing directly with customers. All goods produced on the premises shall be sold at retail on premises.	Complies	Yes	
Loading Area (Sec. 3.10.1.B)	All business, servicing or processing, except for off-street parking, loading/unloading shall be conducted within completely enclosed buildings.	Complies	Yes	

PUD Regulations (formerly Article 27) (Attached) – Only applicable sections noted				
District Regulations (Sec. 27-2, a)	All uses, structures, and properties shall comply with all regulations in Article 24 (former), Schedule of Regulations, and requirements of Ordinance No. 84-18, as amended, except as provided in this Section.	Complies	Yes	
Minimum PUD Area (Sec. 27-2, b)	The minimum PUD area to be developed under the regulations of this Section shall be 20 acres, unless waived by the City Council	Complies	Yes	
Mixing of Uses (Sec. 27-2, c)	See ordinance	Complies	Yes	
Density Regulations (Sec. 27-2, d)	See ordinance	Complies	Yes	
Yard Setbacks (Sec. 27-2, e)	- 50 ft setback along perimeter of the PUD district fronting on a public street	Complies	Yes	
	- 40 ft wide yard shall be provided along the perimeter of the PUD district not fronting on a public street. Such yard shall be designed and landscaped as a buffer strip; parking lots and driveways shall not be permitted in such yard, except that drives may cross such yard	No change	Yes	
	- 35 ft wide yard shall be provided along ROW of a collector street within the PUD & 50 ft wide yard shall be provided along ROW of major throughfare within the PUD	NA	Yes	
	- A landscaped yard at least 10 ft wide shall be provided between a parking lot of 5 or more spaces and a property line within the PUD & 20 ft from the perimeter property line of the PUD, except when adjacent to a public street ROW line, existing or proposed, in which case the preceding setbacks shall apply.	Complies, see Landscape Review	Yes	
	- A transition strip at least 40 ft wide shall be required on any commercial or office site	No transition strip, distance is 175 feet	No	Applicant will seek variance/waiver.

	<p>when adjacent to a residential area [...] shall be landscaped. The distance between any residential building and nonresidential building shall not be less than 150 ft unless waived by the City Council after recommendation by the Planning Commission.</p> <p>- The preceding yard requirements [...] may be modified or waived when approved by the City Council upon recommendation of the Planning Commission.</p> <p>- Common areas shall be maintained</p>	<p>Complies</p> <p>No common areas</p>	<p>Yes</p> <p>Yes</p>	<p>Yard requirements may be modified by City Council upon recommendation from Planning Commission.</p>
Distances between Buildings (Sec. 27-2, f)	See ordinance	Complies	Yes	
Building Height (Sec. 27-2, g)	Maximum height of buildings in the PUD district shall be 35 feet or 3 stories or as regulated by the FAR, whichever is lower	~24 ft	Yes	
Circulation and Access (Sec. 27-2, h)	See ordinance	Complies	Yes	
Utilities (Sec. 27-2, i)	See ordinance	Complies	Yes	
Open Space Regulations (Sec. 27-2, j)	See ordinance	Complies	Yes	
Phasing (Sec. 27-2, k)	See ordinance	Complies	Yes	
Off-Street Parking and Loading/Unloading Requirements (Sec. 27-2, l)	[...] The number of spaces required may be reduced in a PUD if approved by the City Council upon recommendation of the Planning Commission, as part of the area plan.	Complies	Yes	
Compliance with Area Plan and Site Plans (Sec. 27-2, m)	A parcel of land that has been subject of PUD approval shall not thereafter be developed or used except in accordance with the approved area plan and all preliminary and final site plans approved subsequent thereto [...]	Will comply, if approved	TBD	
Construction (Sec. 27-2, n)	See ordinance	Will comply	Yes	
Amendment and Revisions (Sec. 27-9, a)	A developer may request an amendment to an approved area plan, an approved	Amendment request has been provided	Yes	The applicant should state that they will be requesting

	preliminary site plan, or an approved final site plan. Any amendment to an approved preliminary or final site plan which results in a major change in the approved area plan, as defined in this section, shall require an amendment to the approved area plan. All amendments shall follow the procedures and conditions herein required for original submittal and review, in full.			consideration under business district standards and not residential standards in a revised narrative.
Request for Amendment (Sec. 27-9, b)	A request for amendment shall be made in writing to the Planning Commission and shall clearly state the reasons therefor. Such reasons may be based upon such considerations as changing social or economic conditions, potential improvements in layout of design features, unforeseen difficulties, or reasons mutually affecting the interests of the City and developer, such as technical causes, site conditions, state or Federal projects or installations, and statutory revisions. The Planning Commission, upon finding such reasons and requests reasonable and valid, shall so notify the applicant in writing. Following payment of the appropriate fee as required for the original submittal, the developer shall submit the required information to the Planning Commission for review. If the approved plan is to be amended, the Planning Commission shall immediately notify the City Council.	Provided	Yes	
Major Amendment Conditions (Sec. 27-9, c)	Modifications to be considered major changes, for which amendment is required, shall include one or more of the following:	This project will be determined a major or minor amendment by the Planning Commission.		

	<ol style="list-style-type: none"> 1. Change in concept of the development; 2. Change in use or character of the development; 3. Change in type of dwelling unit as identified on the approved area plan; 4. Change in the number of dwelling units; 5. Change in nonresidential floor area of over 5%; 6. Change in lot coverage and FAR of the entire PUD of more than 1%; 7. Rearrangement of lots, blocks, and building tracts; 8. Change in the character or function of any street; 9. Reduction in land area set aside for common open space or the relocation of such area(s); or 10. Increase in building height. 			
<p>Minor Amendment Conditions (Sec. 27-9, e)</p>	<p>Modifications to be considered minor changes, for which approved plans may be revised rather than amended, shall include, among similar modifications, the following:</p> <ol style="list-style-type: none"> 1. A change in residential floor area; 2. A change in nonresidential floor area of 5% or less; 3. Minor variations in layout which do not constitute major changes; and/or 4. A change in lot coverage and FAR of the entire PUD of 1% or less. 	<p>This project will be determined a major or minor amendment by the Planning Commission.</p>		
<p>Planning Commission Role (Sec. 27-9, d, g)</p>	<p>[...] The Planning Commission shall have the authority to determine whether a requested change is major or minor, in accordance with this section. The burden shall be on the applicant to show the reasons for any requested</p>	<p>This project will be determined a major or minor amendment by the Planning Commission.</p>	<p>TBD</p>	<p>Staff is of the opinion that the request would be considered a major amendment to the PUD given that it would change the character of the development.</p>

	change owing to changed physical or economic factors, or consumer demand. This project will be determined a major or minor amendment by the Planning Commission.			
Note to District Standards (Sec. 3.6.2) – Based on B-1 Zoning District				
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.		NA	
Lot Coverage (Sec. 3.6.2.D)	Except where otherwise provided in this Ordinance, the minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or usable open space requirements as set forth in this Ordinance.	Complies	Yes	
Off-Street Parking in Front Yard (Sec 3.6.2.E)	Off-street parking shall be permitted in the front yard, except that said parking shall observe the minimum off-street parking setback requirements in the Development Standards of Sec. 3.1 and Sec. 5.5.3 of this ordinance.	Complies	Yes	
Residential Setback (Sec. 3.6.2.L)	Wherever property directly abuts or is adjacent to residentially zoned property, the minimum yard setback shall be twenty (20) feet.	20 ft	Yes	
Wetland/Watercourse Setback (Sec 3.6.2.M)	A setback of 25ft from wetlands and from high watermark course shall be maintained	No wetlands	NA	
Parking setback screening (Sec 3.6.2.P)	Required parking setback area shall be landscaped per Sec. 5.5.3.	Provided	Yes	See Landscape Review for comments
Modification of parking setback requirements (Sec 3.6.2.Q)	The Planning Commission may modify parking setback requirements based on conditions listed in Sec. 3.6.2.Q	Parking setbacks conform to the minimum required	NA	
Parking & Loading Standards				
Number of Parking Spaces (Sec. 5.2.12.B)	Medical office: 1 space for each 167 sf of Gross Leasable Area (GLA)	14 spaces provided	Yes	

	2,249 sf/167 = 13 spaces			
Parking Space & Maneuvering Lane Dimensions (Sec. 5.3)	90° spaces: 9 ft. x 19 ft. parking spaces with 24 ft. drives 9 ft. x 17 ft. parking spaces along 7 ft. interior sidewalks, provided a 4 in. curb at these locations & along landscaping	9 ft x 17 ft with 2' overhang (4" curb) and 9 ft x 19 ft spaces (6" curb) with 24' access aisles.	Yes	
Barrier Free Spaces (ADA standard)	1 van accessible space	Complies	Yes	
End Islands (Sec. 5.3.12)	- 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	Complies	Yes	
Barrier Free Space Dimensions (Barrier Free Code)	8 ft. wide with 5 ft. wide access aisle for standard accessible; 8 ft. wide with 8 ft. wide access aisle for van accessible	8 ft wide with 8 ft wide access aisle	Yes	
Barrier Free Signs (Barrier Free Design Graphics Manual)	1 barrier free sign per space	Provided	Yes	
Loading Spaces (Sec. 5.4.2)	10 square feet per 1 foot of building frontage. 54 ft x 10 sf = 540 square feet required	Not provided	No	Applicant will seek a variance from the Zoning Board of Appeals.
Sidewalks (City Code Sec. 11-256 & 11-276 & Non-Motorized Plan)	5 ft sidewalk required along Novi Rd Building exits must be connected to sidewalk system or parking lot	Existing sidewalk along Novi Road, building exits connected	No	5 foot sidewalk required to connect to building exits.
Dumpster Requirements (City Code Sec. 21-145)	Screening of not less than 5 ft. on 3 sides of dumpster required, interior bumpers or posts must also be shown	Roll-out dumpster enclosure proposed, detail provided	Yes	

	Screening should be 1 foot taller than dumpster			
Accessory Structure Setback- Dumpster (Sec. 4.19.2.F)	Located in the rear or interior side yard Min. 10 ft. from any building unless structurally attached & setback the same as parking from all property lines	10 feet, located in rear yard (may be located in interior side yard)	Yes	
Bicycle Parking Facilities (Sec. 5.16.1)	Minimum 2 spaces	2 spaces provided	Yes	
Bicycle Parking Facilities (Sec. 5.16)	Located along the building approach line & easily accessible from the building entrance Max. 120 ft. from entrance being served or the nearest auto parking space to that entrance Be accessible via a paved 6 ft. route & separated from auto facilities 4 ft. maneuvering lane with a 6 ft. parking space width & a depth of 2 ft. for single spaces & 2.5 ft. for double spaces	Does not comply	No	6 foot clear path to bicycle parking required. Please widen the sidewalk from 5 feet to 6 feet to meet this requirement.
Woodlands (City Code Ch. 37)	Replacement of removed trees	No regulated woodlands appear to be impacted by this proposed project.		
Wetlands (City Code Ch. 12, Art. V)	Mitigation of removed wetlands at ratio of 1.5:1 emergent wetland, 2:1 for forested wetlands	No regulated wetlands appear to be impacted by this proposed project.		
Economic Impact	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 Economic Impact Information with the next submittal.
Development/ Business Sign	Signs are not regulated by the Planning Division or Planning Commission	Not indicated	Contact Maureen Underhill at 248.735.5602 or munderhill@cityofnovi.org for information	
Project and Street	Some projects may need	Required	No	Contact Madeleine

Naming Committee	approval from the Street & Project Naming Committee			Daniels at 248.347.0579 or mdaniels@cityofnovi.org for more information
Non-Residential Fences (Sec. 5.11)				
Fence Location (Sec. 5.11.2.A)	No fence shall extend into the front of exterior side yard.	Fence located in the rear yard.	Yes	
Fence Height (Sec. 5.11.2.B)	No fence shall exceed 8 feet in height, except barbed wire placed along the top of a fence may project beyond the maximum height limitation of the fence, but no fence, including barbed wire, shall exceed an overall height of 11 feet.	Fence is 6 feet tall	Yes	
Security Fencing (Sec. 5.11.2.C)	No fence shall carry electrical current or charge of electricity.	Fence does not have electrical current.	Yes	
Landscape Standards (Sec. 5.11.2.D)	Nothing in this section shall be interpreted to supersede the applicable requirements of Section 5.5.	Complies	Yes	
Prohibited Materials (Sec. 5.11.3.A)	No fence shall be composed of scrap material, tires, canvas, cardboard, asphalt style shingles, chicken wire or similar fine wire mesh, corrugated metal or sheet metal. Fine wire fencing may be attached to the interior of, or made a part of any wooden, stone, brick, wrought-iron, or other such non-wire type fencing, where the other type fencing would not provide an adequate barrier to contain pets or animals. When so applied, the wire shall be vinyl coated or painted in a standard dark brown, dark green or black color. When used under these conditions, it shall not be considered a wire fence.	Complies – Trex Panels (composite wood)	Yes	
Maintenance (Sec. 5.11.3.B)	All fences shall be maintained in good condition, free of significant corrosion, peeling paint or finish and other damage. All fences shall be maintained in a condition of reasonable repair and not be	Shall be maintained	Yes	It is the City's preference that the current fence be removed in its entirety and only one fence exist along this property line. Please

	allowed to become or remain in a condition of disrepair including noticeable leaning or missing sections or portions of sections, broken supports, nonuniform height, and growing of noxious vegetation. All fences shall comply with applicable provisions of the current City of Novi Property Maintenance Code.			resolve this matter prior to Preliminary Site Plan Review.
Uniformity (Sec. 5.11.3.C)	All fences shall be of uniform material(s), finish, and color along a property line of any parcel totaling less than one-hundred fifty (150) feet in length. Where a fence has a finished and an unfinished side, the finished or more decorative side shall face outward toward the adjoining property or street. Except for those materials identified as permitted, materials attached to the inward facing side of a fence shall not be visible from any adjoining property or street.	Uniform materials provided	Yes	
Lighting and Photometric Plan (Sec. 5.7)				
Intent (Sec. 5.7.1)	Establish appropriate minimum levels, prevent unnecessary glare, reduce spillover onto adjacent properties & reduce unnecessary transmission of light into the night sky	A lighting and photometric plan is provided	Yes	
Lighting Plan (Sec. 5.7.A.i)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures	Provided	Yes	Update photometric plan to match the site plan in the Final Site Plan submittal.
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.	Provided	Yes	
Lighting Plan (Sec.5.7.A.2.ii)	Specifications for all proposed & existing lighting fixtures	Provided	Yes	
	Photometric data	Provided	Yes	
	Fixture height	Provided	Yes	

	Mounting & design	Provided	Yes	
	Glare control devices (Also see Sec. 5.7.3.D)	Provided	Yes	
	Type & color rendition of lamps	Provided	Yes	
	Hours of operation	9am-9pm	Yes	
	Photometric plan illustrating all light sources that impact the subject site, including spill-over information from neighboring properties	Provided – pole on adjacent property	Yes	
Required Conditions (Sec. 5.7.3.A)	Height not to exceed maximum height of zoning district (or 25 ft. where adjacent to residential districts or uses)	Provided – maximum of 12 feet	Yes	
Required Conditions (Sec. 5.7.3.B)	<ul style="list-style-type: none"> - Electrical service to light fixtures shall be placed underground - Flashing light shall not be permitted - Only necessary lighting for security purposes & limited operations shall be permitted after a site's hours of operation 	Standard notes provided on the plans	Yes	
Security Lighting (Sec. 5.7.3.H) Lighting for security purposes shall be directed only onto the area to be secured.	<ul style="list-style-type: none"> - 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 	Mounting detail provided	Yes	
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	3:1	Yes	
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	Complies	Yes	
Min. Illumination (Sec. 5.7.3.k)	Parking areas: 0.2 min	0.4 fc	Yes	
	Loading & unloading areas: 0.4 min	NA	NA	
	Walkways: 0.2 min	1.7 fc	Yes	
	Building entrances, frequent use: 1.0 min	4.9 fc	Yes	
	Building entrances, infrequent use: 0.2 min	2.1 fc	Yes	

<p>Max. Illumination adjacent to Non-Residential (Sec. 5.7.3.K)</p>	<p>When site abuts a non-residential district, maximum illumination at the property line shall not exceed 1 foot candle</p>	<p>0.5 fc maximum</p>	<p>Yes</p>	
<p>Cut off Angles (Sec. 5.7.3.L)</p>	<p>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 - No direct light source shall be visible at the property line (adjacent to residential) at ground level</p>	<p>0.5 fc maximum, 90° cut off angles</p>	<p>Yes</p>	

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. 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

October 6, 2021

Engineering Review

Novi Medical Building
JSP21-0033

Applicant

AJSS Property LLC

Review Type

Preliminary Site Plan

Property Characteristics

- Site Location: East side of Novi Road, between Thirteen and Fourteen Mile Roads
- Site Size: 0.42 acre
- Plan Date: 08/31/2021
- Design Engineer: GK Consultants Inc.

Project Summary

- Construction of an approximately 2,652 square-foot medical office building and associated parking. Site access would be provided via Novi Road.
- Water service would be provided by extension of an existing 1-inch domestic lead stub from the bank parking lot to the north of the site. At this time, no additional hydrants or fire suppression would be required.
- Sanitary sewer service would be provided by extension of an existing 6-inch lead stub from the 10-inch sanitary sewer main on the adjacent golf course property to the east of the site.
- Storm water would be collected by a single storm sewer collection system and discharged to an underground detention system, with final discharge to the Novi Road right-of-way storm system.

Recommendation

Approval of the Preliminary Site Plan is recommended, with items to be addressed at Final Site Plan submittal.

Comments:

The Preliminary Site Plan meets the general requirements of Chapter 11 of the Code of Ordinances, the Storm Water Management Ordinance and the Engineering Design

Manual with the following exceptions, which can be addressed at Final Site Plan submittal:

General

1. **Only at the time of the printed Stamping Set submittal**, provide the City's standard detail sheets for water main (5 sheets), sanitary sewer (3 sheets), storm sewer (2 sheets), and paving (2 sheets). The most updated details can be found on the City's website at this location: <https://cityofnovi.org/services/public-works/engineering-division/engineering-standards-and-construction-details>
2. **A temporary construction agreement/easement, granted to the developer by the golf course property, will be required to remove the off-site portion of the tennis courts and restoration.**
3. The Non-Domestic User Survey form for sanitary sewer flow shall be submitted to the City so it can be forwarded to Oakland County. The form was included in the original site plan package.
4. A right-of-way permit will be required from the City of Novi.
5. Show the existing ingress/egress easement, with liber and page, on all relevant sheets.
6. Provide a traffic control sign table listing the quantities of each **permanent** sign type proposed for the development. Provide a note along with the table stating all traffic signage will comply with the current MMUTCD standards.
7. Provide a note that compacted sand backfill (MDOT sand Class II) shall be provided for all utilities within the influence of paved areas, and illustrate and label on the profiles, once included.
8. Provide a construction materials table on the Utility Plan listing the quantity and material type for each utility (water, sanitary and storm) being proposed.
9. Provide a utility crossing table indicating that at least 18-inch vertical clearance will be provided, or that additional bedding measures will be utilized at points of conflict where adequate clearance cannot be maintained.
10. Where the minimum 18-inch clearance at utility crossings cannot be achieved, provide a prominent note stating the substandard clearance and that proper bedding/encasement will be determined by the inspecting engineer.
11. Provide a note stating if dewatering is anticipated or encountered during construction, then a dewatering plan must be submitted to the Engineering Division for review.

Water Lead

12. Water service would be provided by extension of the existing 1-inch domestic lead stub from the bank parking lot to the north of the site. **A private utility easement, granted by the bank property to the developer, will be required to**

install, use, and maintain the extended domestic lead. The existing ingress-egress easement (L.19445, P.893) does not grant permission for utilities installed by the grantee.

Sanitary Lead

13. Sanitary sewer service would be provided by extension of an existing 6-inch lead stub from the 10-inch sanitary sewer main on the adjacent golf course property to the east of the site. **A private utility easement, granted by the golf course property to the developer, will be required to install, use, and maintain the extended sanitary lead.**
14. Show the approximate limits on the plan of the existing sanitary lead – capped at approximately 25 feet upstream of the existing main - based on OCWRC's August investigation.
15. Provide a sanitary sewer monitoring manhole, unique to this site, within a dedicated access easement. Provide a 20-foot wide access easement to the monitoring manhole from the public road right-of-way (or from the existing easement for the 10-inch sewer on the golf course).
16. Provide a sanitary sewer basis of design for the development on the utility plan sheet.
17. Note on the construction materials table that 6-inch sanitary leads shall be a minimum SDR 23.5.

Storm Sewer

18. Provide a 0.1-foot drop in the downstream invert of all storm structures where a change in direction of 30 degrees or greater occurs.
19. Provide profiles for all storm sewer 12-inch and larger.
20. Label the 10-year HGL on the storm sewer profiles and ensure the HGL remains at least 1-foot below the rim of each structure.
21. Illustrate all pipes intersecting storm structures on the storm profiles.
22. Provide a schedule listing the casting type, rim elevation, diameter, and invert sizes/elevations for each proposed, adjusted, or modified storm structure on the utility plan. Round castings shall be provided on all catch basins except curb inlet structures.
23. Consider Nyloplast or other plastic yard drains in lieu of the 2-foot diameter concrete structures proposed for the roof drains.

Storm Water Management Plan

24. The Storm Water Management Plan (SWMP) for this development shall be designed in accordance with the Storm Water Ordinance and Chapter 5 of the Engineering Design Manual.
25. **The proposed 4-foot diameter manhole between the outlet control structure and existing catch basin appears it will conflict with the existing sanitary force main. Consider locating this structure in the curb line (as a catch basin) instead, to space it from the force main.**

26. Provide calculations verifying the post-development runoff rate directed to the proposed receiving drainage course does not exceed the pre-development runoff rate for the site.
27. As part of the Storm Drainage Facility Maintenance Easement Agreement, provide an access easement for maintenance over the storm water detention system and the pretreatment structure. Also, include an access easement to the detention area from the public road right-of-way.
28. Provide manufacturer's sizing calculations for the pretreatment structure on the plans. The treated flow rate should be based on the 1-year storm event intensity (~1.6 In/Hr). Higher flows shall be bypassed.
29. Provide release rate calculations for the three design storm events (first flush, bank full, 100-year).
30. Due to maintenance concerns, each restricting orifice in the control structure shall be a minimum of **1 square-inch in size**, even though this may result in a flow rate above that calculated.
31. **Provide a soil boring in the vicinity of the proposed underground detention system to determine bearing capacity and the high water elevation of the groundwater table.**
32. Provide critical elevations (low water, first flush, bank full, 100-year, and pavement elevation) for the detention system. Also, provide a cross-section for the underground detention system. **Ensure that there is at least 1 foot of freeboard between the 100-year elevation and the subgrade elevation beneath the pavement.**
33. The porosity of the stone fill is allowed up to 34%; consider increasing the stone storage volume in calculations from the 20% currently shown.
34. The underground storage system shall include either:
 - a. 4-foot diameter manholes at one end of each header and footer for maintenance access purposes.
 - b. The access risers depicted in the Contech details.Either way, show the locations of all manholes or access risers in plan view.
35. Other than in rows containing access risers or manholes, provide inspection ports throughout the underground detention system at the midpoint of all storage rows. Also, include an additional inspection port in the center of the header and footer.
36. Show the overland routing that would occur in the event the underground system cannot accept flow. This route shall be directed to a recognized drainage course or drainage system.
37. Provide an underdrain along the downstream side of the underground detention system which is tied into a manhole as a means of secondary storm water conveyance to the outlet.

Paving & Grading

38. Provide a construction materials table on the Paving Plan listing the quantity and material type for each pavement cross-section being proposed.

39. Provide spot elevations at the intersection of the proposed sidewalk with the existing sidewalk on Novi Road.
40. Detectable warning plates are required at all barrier free ramps, hazardous vehicular crossings and other areas where the sidewalk is flush with the adjacent drive or parking pavement. The barrier-free ramps shall comply with current MDOT specifications for ADA Sidewalk Ramps. Provide the latest version of the MDOT standard detail for detectable surfaces.
41. Label specific ramp locations on the plans where the detectable warning surface is to be installed.
42. Verify the slopes along the ingress/egress routing to the building from the barrier-free stalls. All barrier-free stalls shall comply with Michigan Barrier-Free regulations.
43. Provide additional spot grades at corners of sidewalks to demonstrate 2% maximum cross slope.
44. Provide additional top of curb/walk and pavement/gutter grades.
45. Revise the top of curb grades to reflect the 4-inch high curb for the north parking bank.
46. Label the boulder retaining walls flanking the sidewalk connection on the grading plan.

Flood Plain

47. The 100-year flood plain does not appear to traverse the property.

Soil Erosion and Sediment Control

48. A SESC permit is required. A full review has not been completed at this time. The review checklist detailing all SESC requirements is attached to this letter. Please address the comments below and submit a SESC permit application under separate cover. The application can be found on the City's website at <http://cityofnovi.org/Reference/Forms-and-Permits.aspx>.

Off-Site Easements

49. The off-site utility easements anticipated must be executed **prior to final approval of the plans**. Drafts of the easements and a recent title search shall be submitted to the Community Development Department as soon as possible for review, and shall be approved by the Engineering Division and the City Attorney prior to executing the easements.
50. Approval from the neighboring property owner for the removal of the off-site portion of the tennis courts and restoration shall be forwarded to the Engineering Division **prior to Stamping Set approval**.
51. **For both neighboring parcels granting easements**, submit up-to-date Title Policies (dated within 90 days) for the purpose of verifying that the parties signing the easement documents have the legal authority to do so. Please be sure that all parties of interest shown on the title policy (including mortgage holders) either sign the easement documents themselves or provide a Subordination Agreement. Please be aware that the title policy

may indicate that additional documentation is necessary to complete the acceptance process.

The following must be submitted with the Final Site Plan:

52. A letter from either the applicant or the applicant's engineer must be submitted with the Final Site Plan highlighting the changes made to the plans addressing each of the comments listed above and indicating the revised sheets involved. **Additionally, a statement must be provided stating that all changes to the plan have been discussed in the applicant's response letter.**
53. An itemized construction cost estimate must be submitted to the Community Development Department 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 estimate must be itemized** for each utility (water, sanitary, storm sewer), on-site paving (square yardage), grading, and the underground detention system (including control structure and pre-treatment structure).

The following must be submitted with the Stamping Set:

(Please note that all documents must be submitted together as a package with the Stamping Set submittal with a legal review transmittal form that can be found on the City's website. Partial submittals will not be accepted.)

54. A draft copy of the Storm Drainage Facility Maintenance Easement Agreement (SDFMEA), as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department. Once the agreement is approved by the City's Legal Counsel, this agreement will then be sent to City Council for approval/acceptance. The SDFMEA will then be recorded at the office of the Oakland County Register of Deeds. This document is available on our website.
55. A draft copy of the 20-foot wide easement for the sanitary sewer monitoring manhole access to be constructed onsite must be submitted to the Community Development Department. This document is available on our website.
56. Executed copies of approved off-site utility easements must be submitted.
57. An executed copy of the off-site temporary construction agreement must be submitted.
58. Title policies for both neighboring parcels granting easements must be submitted.

The following must be addressed prior to construction:

59. A pre-construction meeting shall be required prior to any site work being started. Please contact Sarah Marchioni in the Community Development

- Department to setup a meeting (248-347-0430). **Be advised that scheduling the pre-construction meeting can take 2-4 weeks.**
60. 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 required). No fee is required for this permit.
 61. Material certifications must be submitted to Spalding DeDecker for review prior to the construction of any onsite utilities. Contact Ted Meadows at 248-844-5400 for more information.
 62. Construction inspection fees in an amount to be determined must be paid to the Community Development Department.
 63. Legal escrow fees in an amount to be determined must be deposited with the Community Development Department. **All unused escrow will be returned to the payee at the end of the project.** This amount includes engineering legal fees only. There may be additional legal fees for planning legal documents.
 64. A storm water performance guarantee in an amount to be determined (equal to 120% of the cost required to complete the storm water management facilities) as specified in the Storm Water Management Ordinance must be posted at the Community Development Department.
 65. Water and Sanitary Sewer Fees must be paid prior to the pre-construction meeting. Contact the Water & Sewer Division at 248-347-0498 to determine the amount of these fees.
 66. A street sign financial guarantee in an amount to be determined (\$400 per traffic control sign proposed) must be posted at the Community Development Department. Signs must be installed in accordance with MMUTCD standards.
 67. A Soil Erosion Control Permit must be obtained from the City of Novi. Contact Sarah Marchioni in the Community Development Department, Building Division (248-347-0430) for forms and information. The financial guarantee and inspection fees will be determined during the SESC review.
 68. A permit for all proposed work activities within the road right-of-way must be obtained from the City of Novi. This application is available from the City Engineering Division or on the City website and can be filed once the Final Site Plan has been submitted. Please contact the Engineering Division at 248-347-0454 for further information. Please submit the cover sheet, standard details and plan sheets applicable to the permit only.

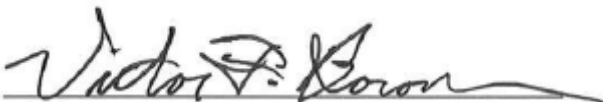
The following must be addressed prior to issuance of a Temporary Certificate of Occupancy (TCO) approval for the development:

69. The amount of the incomplete site work performance guarantee for any outstanding site improvement items (limited to top course of pavement and other minor items), is calculated at 1.2 times the amount required to complete the site improvements (as specified in the Performance Guarantee Ordinance).
70. All easements and agreements referenced above must be executed, notarized, and approved by the City Attorney and Engineering Division.
71. The City's consultant Engineer Spalding DeDecker will prepare the record drawings for this development. The record drawings will be prepared in accordance with Article XII, Design and Construction Standards, Chapter 11 of the Novi Code of Ordinances.
72. Submit an up-to-date Title Policy (dated within 90 days of City Council consideration of acceptance) for the purpose of verifying that the parties signing the easement documents have the legal authority to do so. Please be sure that all parties of interest shown on the title policy (including mortgage holders) either sign the easement documents themselves or provide a Subordination Agreement. Please be aware that the title policy may indicate that additional documentation is necessary to complete the acceptance process.

Prior to preparing stamping sets, the Applicant is advised to provide any revised sheets directly to the Engineering Division for an informal review and approval.

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 Victor Boron at (248) 735-5695 with any questions.



Victor Boron
Project Engineer

cc: Christian Carroll, Community Development
Ben Croy, PE; Engineering
Humna Anjum, Engineering
Kate Purpura, Engineering

LANDSCAPE REVIEW



PLAN REVIEW CENTER REPORT
October 14, 2021
Novi Medical Building
PUD Amendment Review - Landscaping

Review Type

PUD Amendment - Landscape Review

Job #

JSP21-0033

Property Characteristics

- Site Location: 31074 Novi Road
- Site Acreage: 0.42 ac.
- Site Zoning: RA with PUD
- Adjacent Zoning: North, East, South: RA; West: RM-1
- Plan Date: 8/31/2021

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 Site Plan submittal. Underlined items must be addressed on Final Site Plans. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review is a summary and is not intended to substitute for any Ordinance.

Recommendation

This project is **recommended for approval for Preliminary Site Plan if the waivers are granted by the Planning Commission.** The other revisions noted below can be addressed on the electronic stamping set.

LANDSCAPE WAIVERS REQUIRED FOR PROPOSED LAYOUT:

- Berm is not large enough to comply with RA requirements. *Supported by staff.*
- No street trees are provided. *Supported by staff as the right-of-way's utilities don't provide room for the trees.*
- Lack of berm or wall between commercial use and residentially zoned property. *Supported by staff as a 6 foot high fence is proposed along the property line.*
- Lack of foundation landscaping on two sides of the building visible from Novi Road. *Not supported by staff.*

PUD WAIVER/AMENDMENT

- Lack of the required 40 foot buffer between the site and the adjacent residential area. *Supported by staff.*

Please work to reduce or eliminate the need for the unsupported waiver requests.

Ordinance Considerations

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

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

1. The project is adjacent to residentially-zoned property but no new screening vegetation or berms are proposed.
2. A 6 foot fence is proposed along the property line in lieu of the berm on the site plan but not the landscape plan. **Please show the fence on the landscape plan too.**
3. **A landscape waiver is required to not provide the required screening.** *It is supported by staff as long as the fence is opaque.*
4. **In addition, the PUD requires a forty (40) foot buffer between the residential area and the site.** *This is not provided. Please request the waiver. Unlike the landscape waiver, it will need to be approved by City Council. Planning staff has indicated it will support this waiver due to the small size of the site.*

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

1. The required greenbelt width is provided.
2. The required greenbelt landscaping is not proposed at this time but the plans can easily be revised to provide the required canopy and subcanopy trees.
3. The required berm for RA is not provided, but the berm provided is sufficient for the office use. **A landscape waiver is required for the proposed configuration** *but it is supported by staff.*
4. The required street trees are not provided. **A landscape waiver is required for this,** *but it is supported by staff because utility conflicts in the right-of-way do not allow the trees to be planted there.*

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

1. The required interior area and trees, and perimeter trees are proposed.
2. **Please see the chart for ways to reconfigure the proposed trees to better satisfy the ordinance requirements.**

Building foundation Landscaping (Zoning Sec 5.5.3.D)

1. The required area is provided on the east and south sides of the building.
2. No landscaping is provided on two of the three sides of the building visible from Novi Road. **A landscape waiver is required for this deficiency.** *It is not supported by staff.*

Plant List (LDM 4, 10)

1. The tree diversity needs to be improved and the number of native species needs to be increased.
2. **Please see the Landscape Chart for details.**

Planting Notations and Details (LDM 10)

1. Provided
2. Please use \$375 for the standard cost of subcanopy trees on the cost table.

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

No detention basin exists or is proposed.

Irrigation (LDM 10)

1. If an irrigation system is to be used, please provide the plans in the Final Site Plans. See the Landscape Chart for details on what should be in the irrigation system.
2. If an alternative means of providing water to the plants for their establishment and long-term survival, please provide that information on the Final Site Plans.

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.

A handwritten signature in black ink, appearing to read "Rick Meader". The signature is written in a cursive, flowing style.

Rick Meader – Landscape Architect

LANDSCAPE REVIEW SUMMARY CHART – PUD Amendment

Review Date: October 14, 2021
Project Name: JSP21 – 0033: Novi Road Medical Building
Plan Date: September 8, 2021
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.

LANDSCAPE WAIVERS REQUIRED FOR PROPOSED LAYOUT:

- Berm is not large enough to comply with RA requirements. *Supported by staff.*
- No street trees are provided. *Supported by staff as the right-of-way's utilities don't provide room for the trees.*
- Lack of berm or wall between commercial use and residentially zoned property. *Supported by staff as a 6 foot fence is provided in lieu of the berm.*
- Lack of foundation landscaping on two sides of the building visible from Novi Road. *Not supported by staff.*

Item	Required	Proposed	Meets Code	Comments
Landscape Plan Requirements (LDM (2))				
Landscape Plan (Zoning Sec 5.5.2, LDM 2.e.)	<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 (LDM 2.d.)	Name and Address	Yes	Yes	
Owner/Developer Contact Information (LDM 2.a.)	Name, address and telephone number of the owner and developer or association	Yes	Yes	
Landscape Architect contact information (LDM 2.b.)	Name, Address and telephone number of RLA/PLA/LLA who created the plan	Brian Devlin	Yes	
Sealed by LA. (LDM 2.g.)	Requires original signature	Yes	Yes	<u>Live signatures required on stamping sets</u>
Miss Dig Note (800) 482-7171	Show on all plan sheets	Yes	Yes	

Item	Required	Proposed	Meets Code	Comments
(LDM.3.a.(8))				
Zoning (LDM 2.f.)	Include all adjacent zoning	<u>Parcel:</u> RA (PUD) – Plan shows B1 <u>North South, East:</u> RA <u>West:</u> RM-1	No	Please show zoning of adjacent parcels on landscape plan.
Survey information (LDM 2.c.)	<ul style="list-style-type: none"> ▪ Legal description or boundary line survey ▪ Existing topography 	Sheet V-1.0	Yes	
Existing plant material Existing woodlands or wetlands (LDM 2.e.(2))	<ul style="list-style-type: none"> ▪ Show location type and size. Label to be saved or removed. ▪ Plan shall state if none exists. 	<ul style="list-style-type: none"> ▪ A line of offsite arborvitae east of property are shown as remaining ▪ Trees and shrubs on adjacent parcels are shown. ▪ Tree chart is provided ▪ No trees are shown as being removed. 	Yes	Please add tree protection fence to the Demolition Plan when one is created.
Soil types (LDM.2.r.)	<ul style="list-style-type: none"> ▪ As determined by Soils survey of Oakland county ▪ Show types, boundaries 	Yes – Marlette sandy loam	Yes	
Existing and proposed improvements (LDM 2.e.(4))	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	Yes	Yes	
Existing and proposed utilities (LDM 2.e.(4))	Overhead and underground utilities, including hydrants	Yes – overhead and underground utilities in Novi Road ROW	Yes	
Proposed grading. 2' contour minimum (LDM 2.e.(1))	Provide proposed contours at 2' interval	Yes	Yes	
Snow deposit (LDM.2.q.)	Show snow deposit areas on plan	Yes	Yes	
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 proposed plantings will block views	Yes	
Name, type and number of ground cover (LDM 1.c.(5))	As proposed on planting islands	Daylilies are proposed	Yes	

Item	Required	Proposed	Meets Code	Comments
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 	The islands provided have sufficient area and width.	Yes	
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.	19'/17'	Yes	
Contiguous space limit (i)	Maximum of 15 contiguous spaces	7 is maximum bay length	Yes	
Plantings around Fire Hydrant (d)	<ul style="list-style-type: none"> • No plantings with matured height greater than 12' within 10 ft. of fire hydrants • Plant trees at least 5 ft from underground utility lines • Plantings near hydrants or FDCs should be no taller than 12" 	The closest hydrant is off-site	Yes	
Landscaped area (g)	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	Yes	Yes	
Clear Zones (LDM 2.3.(5))	<ul style="list-style-type: none"> • 25 ft corner clearance required. • Refer to Zoning Section 5.5.9 • NA – no entry onto Novi Road 	No	Yes	
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"> • $A = x \text{ sf} * 7.5 \% = A \text{ sf}$ • $7830 * 7.5\% = 587 \text{ sf}$ 	650 sf	Yes	
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"> • $B = x \text{ sf} * 1\% = B \text{ sf}$ • $(xxx - 50000) * 1\% = xx \text{ sf}$ 	NA		

Item	Required	Proposed	Meets Code	Comments
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%	$A = x \text{ sf} * 6\% = A \text{ sf}$	NA		
B = Total square footage of additional paved vehicular use areas over 50,000 SF x 0.5%	$B = 0.5\% \times 0 \text{ sf} = B \text{ SF}$	NA		
All Categories				
C = A+B Total square footage of landscaped islands	<ul style="list-style-type: none"> • C = A + B • C = 578 + 0 = 587 SF 	650 sf	Yes	
D = C/200 Number of canopy trees required	<ul style="list-style-type: none"> ▪ D = C/200 trees ▪ 578/200 = 3 Trees 	3 trees	Yes	<ol style="list-style-type: none"> 1. Please add a tree to the north island at the entrance. Since the two greenbelt oaks can double-count as perimeter trees, one of the sugar maples east of the parking lot could be moved to that island. 2. Please convert the two narrow gingkoes at the southwest corner of the building to one canopy tree species with a wider canopy.
Perimeter Green space	<ul style="list-style-type: none"> ▪ 1 Canopy tree per 35 lf ▪ 267 /35 = 8 trees ▪ Greenbelt canopy trees within 15 feet of the parking lot may be double-counted as a parking lot perimeter tree. 	10 provided, including two greenbelt canopy trees that can be double-counted as perimeter trees.	Yes	See notes above regarding possible reconfiguration of the provided trees.
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 	NA		Accessway perimeter is included with parking lot perimeter
Parking land banked	<ul style="list-style-type: none"> ▪ NA 	None		
Berms, Walls and ROW Planting Requirements				
Berms				

Item	Required	Proposed	Meets Code	Comments
<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 topsoil. 				
Residential Adjacent to Non-residential (Sec 5.5.3.A) & (LDM 1.a)				
Berm requirements (Zoning Sec 5.5.3.A)	A berm or wall 6-8 feet high is required between commercial and residential	<ul style="list-style-type: none"> • A 6-foot tall fence is shown on the site plan, but no detail indicating what the fence will look like is provided. • A line of arborvitae exists east of the property but as it is not on the property, it cannot count as meeting the requirement. 	No	<ol style="list-style-type: none"> 1. A landscape waiver is required for the berm/wall not provided. <i>It would be supported by staff if the fence is opaque.</i> 2. Please also show the fence on the landscape plan. 3. <u>Please provide a detail for the fence on Final Site Plans.</u> 4. Please provide justification for not providing the required buffer.
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.B)	An undulating berm a minimum of 4 feet high with a 4-foot wide crest is required	A berm 3 ft high with a crest 0-2 ft wide is proposed	Yes	<ol style="list-style-type: none"> 1. A landscape waiver for the non-compliant berm would be required. 2. <i>As there is insufficient room for the full berm and the vehicles face away from the road, the proposed berm would be supported by staff.</i>
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 with 6' top layer of topsoil. 	Yes	Yes	
Type of Ground Cover		NA		
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft.	Overhead lines are in ROW	Yes	

Item	Required	Proposed	Meets Code	Comments
	setback from closest pole			
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		NA		
ROW Landscape Screening Requirements (Sec 5.5.3.B.ii)				
Greenbelt width	34 ft	20 ft	Yes	
Min. berm crest width	4 ft	2 ft	Yes	
Minimum berm height	4 ft	3 ft	Yes	
3' wall	(4)(7)	No wall is proposed		
Canopy deciduous or large evergreen trees	<ul style="list-style-type: none"> • 1 tree per 40 ft • $118/40 = 3$ trees 	2 red oaks	No	<ol style="list-style-type: none"> 1. Please correct the calculation per the current ordinance (shown here, to the left) 2. Please add a third canopy tree
Sub-canopy deciduous trees No shrubs are required for this project	<ul style="list-style-type: none"> • 1 tree per 25 ft • $118/25 = 5$ trees 	4 serviceberries	No	<ol style="list-style-type: none"> 1. Please correct the calculation per the current ordinance (shown here, to the left). 2. Please add a fifth subcanopy tree
Canopy deciduous trees in area between sidewalk and curb	<ul style="list-style-type: none"> ▪ 1 tree per 35 lf ▪ $118/35 = 3$ trees 	0 trees	No	<ol style="list-style-type: none"> 1. A landscape waiver is required for the lack of street trees. 2. As there are both underground and overhead utilities in the right-of-way severely limiting the space available for trees, the waiver request would be supported by staff.
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		No loading or storage area will be proposed		

Item	Required	Proposed	Meets Code	Comments
(Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)				
Transformers/Utility boxes (LDM)	<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 	No transformer is indicated on the plan 12 shrubs have been added to the plant list to screen the transformer when it is added.	Yes	
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 depth of 4 ft. ▪ A: 190 lf x 8 ft = 1520 SF ▪ A minimum 4 ft wide strip of landscaping must be included around the building, except at entrances. 	1702 sf is provided on the east and south sides of the building.	Yes	The quantity provided exceeds the requirement
Zoning Sec 5.5.3.D.ii.	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	None	No	<ol style="list-style-type: none"> 1. Please provide landscaping along at least 60% of the north, south and west building frontages. 2. A landscape waiver is required for the proposed configuration. It would not be supported by staff.
Detention/Retention Basin Requirements (Sec. 5.5.3.E)				
Planting requirements (Sec. 5.5.3.E, LDM)	<ul style="list-style-type: none"> ▪ Clusters of large native shrubs shall cover 70-75% of the basin rim area at 10 lf from permanent water level ▪ 10" to 14" tall grass along sides of basin ▪ Refer to wetland for basin mix ▪ Deciduous canopy tree 1/35 of east, south and west sides of pond at 10 feet from permanent water level 	The detention basin will be underground so no detention landscaping is required.		
Phragmites and Japanese Knotweed	<ul style="list-style-type: none"> ▪ Any and all populations of 	None indicated	TBD	1. Please survey the site for any populations

Item	Required	Proposed	Meets Code	Comments
Control (Sec 5.5.7)	Phragmites australis and/or Japanese Knotweed on site shall be included on tree survey. <ul style="list-style-type: none"> Treat populations per MDEQ guidelines and requirements to eradicate the weed from the site. 			<p>of Phragmites australis and Japanese Knotweed</p> <p>2. If any is found, show it on the topo survey and add plans for its removal.</p> <p>3. If none is found, please indicate that on the survey.</p>
LANDSCAPING NOTES, DETAILS AND GENERAL REQUIREMENTS				
Landscape Notes – Utilize City of Novi Standard Notes				
Installation date (LDM 2.l. & Zoning Sec 5.5.5.B)	Provide intended date	No later than Nov 15	Yes	
Maintenance & Statement of intent (LDM 2.m & Zoning Sec 5.5.6 & 7)	<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. 	Yes	Yes	
Plant source (LDM 2.n & LDM 3.a.(2))	Shall be northern nursery grown, No.1 grade.	Yes	Yes	
Irrigation plan (LDM 2.s.)	<ul style="list-style-type: none"> A fully automatic irrigation system or a method of providing sufficient water for plant establishment and survival is required on Final Site Plans. If irrigation won't be used, note how trees will get sufficient water for establishment and long-term survival 	No	No	<p>1. <u>Please add an irrigation plan or information as to how plants will be watered sufficiently for establishment and long- term survival.</u></p> <p>2. <u>An irrigation system should follow the requirements provided at the bottom of this chart.</u></p> <p>3. <u>If xeriscaping is used, please provide information about plantings included.</u></p>
Other information (LDM 2.u)	Required by Planning Commission	NA		
Establishment period (Zoning Sec 5.5.6.B)	2 yr. Guarantee	Yes	Yes	
Approval of substitutions.	City must approve any substitutions in writing	Yes	Yes	

Item	Required	Proposed	Meets Code	Comments
(Zoning Sec 5.5.5.E)	prior to installation.			
Plant List (LDM 4) – Include all cost estimates				
Quantities and sizes	Tree diversity: 15% per species, 25% per genus Percentage of native species is determined by count of species used and does not consider the number of plants used as long as token numbers of natives are not used.	Yes	Yes	1. Please substitute native species for some of the non-native species to use at least 50% native. 2. Please reduce the number of serviceberries used to no more than 20% of the total number of trees used. 3. Please reduce the total number of maples used to no more 3 per species or 5 total.
Root type		Yes	Yes	
Botanical and common names		<ul style="list-style-type: none"> • 6 of 15 species used (40%) are native to Michigan) • Serviceberries comprise 27% of the trees planted on site • Maples comprise 36% of the trees used. 	<ul style="list-style-type: none"> ▪ No ▪ No ▪ No 	
Type and amount of lawn		Yes	Yes	
Cost estimate (LDM 2.f)	For all new plantings, mulch and sod as listed on the plan	Yes	Yes	
Planting Details/Info (LDM 2.i) – Utilize City of Novi Standard Details				
Canopy Deciduous Tree	Refer to LDM for detail drawings	Yes	Yes	
Evergreen Tree		Yes	Yes	
Shrub		Yes	Yes	
Perennial/ Ground Cover		Yes	Yes	
Tree stakes and guys. (Wood stakes, fabric guys)		Yes	Yes	
Tree protection fencing	Located at Critical Root Zone (1' outside of dripline)	NA		
Other Plant Material Requirements (LDM 3)				
General Conditions (LDM 3.a)	Plant materials shall not be planted within 4 ft. of property line	Yes	Yes	
Plant Materials & Existing Plant Material (LDM 3.b)	Clearly show trees to be removed and trees to be saved.	Yes	Yes	
Landscape tree credit (LDM3.b.(d))	<ul style="list-style-type: none"> ▪ Substitutions to landscape standards 	No		

Item	Required	Proposed	Meets Code	Comments
	for preserved canopy trees outside woodlands/ wetlands should be approved by LA. ■ Refer to Landscape tree Credit Chart in LDM			
Plant Sizes for ROW, Woodland replacement and others (LDM 11)	■ Size determined by use detailed in LDM Table 11.b.(2)a.i ■ Indicate on plant list	Yes	Yes	
Plant size credit (LDM 3.c.(2))	NA	No		
Prohibited Plants (LDM 3.d)	No plants on City Invasive Species List	None are used	Yes	
Recommended trees for planting under overhead utilities (LDM 3.e)	Label the distance from the overhead utilities			
Collected or Transplanted trees (LDM 3.f)		No		
Nonliving Durable Material: Mulch (LDM 4)	■ 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.				

Irrigation System Requirements

- Any booster pump installed to connect the project's irrigation system to an existing irrigation system must be downstream of the RPZ.
- The RPZ must be installed in accordance with the 2015 Michigan Plumbing Code.

- The RPZ must be installed in accordance with the manufacture installation instructions for winterization that includes drain ports and blowout ports.
- The RPZ must be installed a minimum of 12-inches above FINISHED grade.
- Attached is a handout that addresses winterization installation requirements to assist with this.
- A plumbing permit is required.
- The assembly must be tested after installation with results recorded on the City of Novi test report form.

TRAFFIC REVIEW



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

Project name:
 JSP21-33 – Novi Medical Building Preliminary
 Site Plan Traffic Review

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

From:
 AECOM

Date:
 October 5, 2021

CC:
 Lindsay Bell, Madeleine Daniels, Kate Purpura,
 Victor Boron, Christian Carroll, Humna Anjum

Memo

Subject: JSP21-33 – Novi Medical Building Preliminary Site Plan Traffic Review

The preliminary site plan was reviewed to the level of detail provided and AECOM recommends **approval with conditions, as indicated**, for the applicant to move forward with the condition that the comments provided below are adequately addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, AJSS Property LLC, is proposing a 2,652 SF (2249 SF GLA) medical office building.
2. The development is located on the east side of Novi Road, south of 14 Mile Road. Novi Road is under the jurisdiction of the City of Novi.
3. The site is zoned RA (Residential Acreage). Applicant is proposing rezoning the site to B-1 (General Business).
4. The following traffic-related deviations may be required:
 - a. The applicant has indicated they are seeking a variance for lack of a loading zone.

TRAFFIC IMPACTS

1. AECOM performed an initial trip generation based on the ITE Trip Generation Manual, 10th Edition, as follows.

ITE Code: 720 (Medical-Dental Office Building)
 Development-specific Quantity: 2249 SF GLA
 Zoning Change: RA to B-1

Trip Generation Summary				
	Estimated Trips	Estimated Peak-Direction Trips	City of Novi Threshold	Above Threshold?
AM Peak-Hour Trips	8	6	100	No
PM Peak-Hour Trips	10	7	100	No
Daily (One-Directional) Trips	78	N/A	750	No

2. The City of Novi generally requires a traffic impact study/statement if the number of trips generated by the proposed development exceeds the City's threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour, or if the project meets other specified criteria.

Trip Impact Study Recommendation	
Type of Study:	Justification
None	City of Novi suggested this project is not a rezoning, but a consideration of a use B-1 in the PUD Agreement.

TRAFFIC REVIEW

The following table identifies the aspects of the plan that were reviewed. Items marked O are listed in the City's Code of Ordinances. Items marked with ZO are listed in the City's Zoning Ordinance. Items marked with ADA are listed in the Americans with Disabilities Act. Items marked with MMUTCD are listed in the Michigan Manual on Uniform Traffic Control Devices.

The values in the 'Compliance' column read as 'met' for plan provision meeting the standard it refers to, 'not met' stands for provision not meeting the standard and 'inconclusive' indicates applicant to provide data or information for review and 'NA' stands for not applicable for subject Project. The 'remarks' column covers any comments reviewer has and/or 'requested/required variance' and 'potential variance'. A potential variance indicates a variance that will be required if modifications are not made or further information provided to show compliance with the standards and ordinances. The applicant should put effort into complying with the standards; the variances should be the last resort after all avenues for complying have been exhausted. Indication of a potential variance does not imply support unless explicitly stated.

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
1	Driveway Radii O Figure IX.3	N/A	N/A	
2	Driveway Width O Figure IX.3	N/A	N/A	
3	Driveway Taper O Figure IX.11			
3a	Taper length	N/A	N/A	
3b	Tangent	N/A	N/A	
4	Emergency Access O 11-194.a.19	N/A	N/A	
5	Driveway sight distance O Figure VIII-E	N/A	N/A	
6	Driveway spacing			
6a	Same-side O 11.216.d.1.d	N/A	N/A	
6b	Opposite side O 11.216.d.1.e	N/A	N/A	
7	External coordination (Road agency)	N/A	N/A	
8	External Sidewalk Master Plan & EDM	N/A	N/A	
9	Sidewalk Ramps EDM 7.4 & R-28-J	N/A	N/A	
10	Any Other Comments:			

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
11	Loading zone ZO 5.4	None	Not Met	Required for B-1 zoning, applicant has indicated intent to pursue a variance.
12	Trash receptacle ZO 5.4.4	In rear	Met	

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
13	Emergency Vehicle Access	Turning movements provided	Met	
14	Maneuvering Lane ZO 5.3.2	24'	Inconclusive	Dimension from ADA ramp to parking space, 24' required.
15	End islands ZO 5.3.12			
15a	Adjacent to a travel way	Appears 3' shorter	Inconclusive	Dimension length of end island and radii. Outer radius could be increased to 15', inner (adjacent to parking space) decreased to 2'.
15b	Internal to parking bays	N/A	N/A	
16	Parking spaces ZO 5.2.12			
17	Adjacent parking spaces ZO 5.5.3.C.ii.i	Less than 15	Met	
18	Parking space length ZO 5.3.2	17' and 19'	Met	
19	Parking space Width ZO 5.3.2	9' typical	Met	
20	Parking space front curb height ZO 5.3.2	4" and 6"	Met	6" curb at 19' spaces, 4" curb at 17' spaces.
21	Accessible parking – number ADA	1	Met	
22	Accessible parking – size ADA	8' with 8' aisle	Met	
23	Number of Van-accessible space ADA	1	Met	
24	Bicycle parking			
24a	Requirement ZO 5.16.1	2 spaces	Met	
24b	Location ZO 5.16.1	<120' from door	Met	
24c	Clear path from Street ZO 5.16.1	Not present	Not Met	Ensure a 6' clear path is provided, either widen sidewalk to 6' or add an additional ramp.
24d	Height of rack ZO 5.16.5.B	36"	Met	
24e	Other (Covered / Layout) ZO 5.16.1	Layout provided	Met	
25	Sidewalk – min 5' wide Master Plan	5' and 4'	Not Met	Sidewalk on east side should be 5' wide.
26	Sidewalk ramps EDM 7.4 & R-28-J	Included at main entrance and ADA space	Partially Met	Include ramp at sidewalk connection and parking lot. Include sidewalk ramp details in future submittals.
27	Sidewalk – distance back of curb EDM 7.4	No offset	N/A	Applicant could consider providing a sidewalk offset where the sidewalk does not abut parking spaces.
28	Cul-De-Sac O Figure VIII-F	N/A	-	-
29	EyeBrow O Figure VIII-G	N/A		
30	Minor/Major Drives ZO 5.10	N/A	-	-
31	Any Other Comments:			

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
32	Signing: Sizes MMUTCD	None indicated	Not Met	Indicate sign sizes.
33	Signing table: quantities and sizes	None indicated	Not Met	Include table.
34	Signs 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post MMUTCD	Not present	Not Met	Include note in future submittals.
35	Signs greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post MMUTCD	Not present	Not Met	Include note in future submittals.
36	Sign bottom height of 7' from final grade MMUTCD	Not present	Not Met	Include note in future submittals.
37	Signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign MMUTCD	Not present	Not Met	Include note in future submittals.
38	FHWA Standard Alphabet series used for all sign language MMUTCD	Included	Met	
39	High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity MMUTCD	Included	Met	
40	Parking space striping notes	Included	Met	Adjust diagram to indicate blue striping is not optional, to match notes on the same sheet.
41	The international symbol for accessibility pavement markings ADA	Included	Met	
42	Crosswalk pavement marking detail	Not Included	Not Met	Include detail in future submittals.
43	Any Other Comments:			

Note: Hyperlinks to the standards and Ordinances are for reference purposes only, the applicant and City of Novi to ensure referring to the latest standards and Ordinances in its entirety.

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

Sincerely,

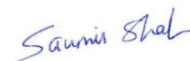
AECOM



Patricia Thompson, EIT
Traffic Engineer



Paula K. Johnson, PE
Senior Transportation Engineer



Saumil Shah, PMP
Project Manager

FAÇADE REVIEW



October 5, 2021

Façade Review Status:
Approved, Full Compliance

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

Attn: Ms. Barb McBeth – Director of Community Development

Re: **FACADE ORDINANCE - Final Site Plan**
Novi Medical, JSP21-33, Façade Region: 1, Zoning District: R-4

Dear Ms. McBeth:

The following Façade Review is based on the drawings prepared by GK Consulting Inc., dated 7/21/21. The percentages of materials proposed for each façade are as shown on the table below. The maximum (and minimum) percentages listed in the Schedule Regulating Façade Materials of Ordinance Section 5.15 are shown in the right hand column. Materials in non-compliance with the Façade Schedule, if any, are highlighted in bold.

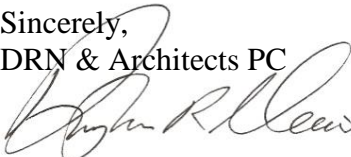
	North (Front)	South	East	West	Ordinance Maximum (Minimum)
Brick	55%	54%	51%	55%	100% (30%)
Stone	15%	10%	10%	15%	50%
EIFS	5%	0%	0%	5%	25%
Asphalt Shingles	25%	36%	39%	25%	50% (Footnote 14)

As shown above this application is in full compliance with the Façade Ordinance. A Section 9 Waiver is not required for this project.

Notes to the Applicant:

1. It should be noted that all roof top equipment must be screened from view from all vantage points both on-site and off-site using materials in compliance with the Façade Ordinance.
2. Inspections – The Façade Ordinance requires inspection(s) for all projects. Materials displayed on the approved sample board (in this case the adjacent existing material) will be compared to materials to be installed. 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 review, please do not hesitate to call.

Sincerely,
 DRN & Architects PC

 Douglas R. Necci, AIA

FIRE REVIEW



September 24th, 2021

TO: Barbara McBeth - City Planner
Lindsay Bell - Plan Review Center
Christian Carroll - Plan Review Center
Madeleine Daniels – Plan Review Center
Ben Peacock – Planning Assistant

CITY COUNCIL

Mayor
Bob Gatt

Mayor Pro Tem
Dave Staudt

Andrew Mutch

Laura Marie Casey

Hugh Crawford

Justin Fischer

Julie Maday

City Manager
Peter E. Auger

**Director of Public Safety
Chief of Police**
David E. Molloy

Fire Chief
Jeffery R. Johnson

Assistant Chief of Police
Erick W. Zinser

Assistant Chief of Police
Scott R. Baetens

Assistant Fire Chief
John B. Martin

RE: Proposed Medical Building

JSP21-33
PSP# 21-0071

Project Description:

Build a one story 2652 S.Q. F.T. structure Novi Rd south of Fourteen Mile.

Comments:

- **All** fire hydrants **MUST** be installed and operational prior to any combustible material is brought on site. **IFC 2015 3312.1**
- For new buildings and existing buildings, you **MUST** comply with the International Fire Code Section 510 for Emergency Radio Coverage. This shall be completed by the time the final inspection of the fire alarm and fire suppression permits.
- Fire apparatus access drives to and from buildings through parking lots shall have a **minimum fifty (50) feet outside turning radius** and designed to support a minimum of thirty five (35) tons. **(D.C.S. Sec 11-239(b)(5))** Plans showed 50 ft. turning radius on the actual plan however, **calculation below Fire Truck on page SP02 showed 45 ft.**
- A hazardous chemical survey is required to be submitted to the Planning & Community Development Department for distribution to the Fire Department at the time any Preliminary Site Plan is submitted for review and approval. Definitions of chemical types can be obtained from the Fire Department at (248) 735-5674.

Recommendation: APPROVED With Conditions

Sincerely,

Tim Krajnovich-Acting 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

**PLANNING COMMISSION MEETING MINUTES
EXCERPT
NOVEMBER 17, 2021**

Chair Pehrson asked if a motion was needed.

City Planner McBeth said no motion is needed, but on the second page of the motion sheet, the chart begins. It addresses the ordinance standards and has some of staff's comments as to whether the applicant's request meets those standards. Our thought was for the Commission to not make a motion, but rather to provide some input or say whether the Commission agrees with the parameters of the project. For example, the first item on the chart gives examples that are more strict or limiting. The applicant is also proposing a historical marker feature that could potentially demonstrate the partnership between MI CAT and the City of Novi over the years. That could be something considered a benefit.

Member Becker said I think if you look at what could go on that lot with it being zoned I-1 versus Michigan CAT obtaining the rest of the space for storage, that could be considered a benefit and is more strict or limiting than we would typically expect. I'm not sure how many people go down Catherine Industrial Drive, but it is going to look a lot nicer once they install the screening and landscaping they've proposed. I think they've done an outstanding job of concealing what could be an ugly sight.

Member Dismondy said I also think a benefit would be that you are increasing your business and your presence in Novi as a result. You're also being flexible with a piece of land that you already own.

Applicant Potosnak said we already own it, and, quite frankly, we don't utilize enough of it.

Member Dismondy said in my opinion, it isn't a big request.

Chair Pehrson said from my standpoint, I find the comments from staff on pages 2 and 3 of the packet to be accurate, and I would like to see this move forward to City Council as well.

Since no motion was necessary, Chair Pehrson closed the discussion on this item.

2. NOVI MEDICAL BUILDING (AKA MAPLES OF NOVI TENNIS COURTS) JSP21-33

Public Hearing at the request of AJSS Property, LLC for a request to amend the Planned Unit Development (PUD) Agreement & Area Plan for the Maples of Novi. The subject property contains 0.42 acres and is located in Section 2, east of Novi Road and south of Fourteen Mile Road. The applicant is proposing to remove the existing tennis courts on the site and construct a 2,558 square foot medical office.

Planner Carroll said this is a 0.42-acre site is located south of Fourteen Mile Road and east of Novi Road. It was formerly used as a tennis court, but it has not been used as a tennis court for some time now. The site is located near a bank and a shopping center to the north, an assisted living facility and single-family residential to the west, the golf course maintenance building to the south, and single-family residential to the east. It is zoned RA, and it is part of the Planned Unit Development for the Maples of Novi, which is similar to the surrounding area. Across the street is property zoned RM-1, Low Density Multi-Family, and R-4, Single-Family Residential. The Future Land Use for the site indicates Local Commercial, which is consistent with the B-1 Zoning District Standards and the uses to the north of the property. The subject site does not contain any regulated woodlands or wetlands.

Planner Carroll continued saying as indicated on the site plan, the applicant is proposing

to remove the existing tennis courts and construct a 2,558 square foot medical office. In the provided narrative, the applicant is asking that the proposed site be reviewed as part of the Local Business (B-1) Zoning District as a medical office is consistent with the commercial developments to the north. The hours of operation will be from 9am to 9pm, and most required site conditions are met. One item of note is a 6-foot-high screening fence that is proposed along the east property line to provide proper buffering from the residential area nearby and to provide additional protection from the golf course. If permitted by the adjacent property owner, the applicant would like to remove the existing fencing near this east property line, so only one fence will exist along this line. The applicant has been advised to work with the adjacent property owner throughout the process, so that is in motion. Concerning items related to the PUD Amendment request, the only site related item that could be considered with the PUD Amendment would be the requirement for a 40-foot-wide transition strip between residential and commercial area per Sec. 27-2, e of the PUD Ordinance. The applicant has asked that this requirement be waived due to the size of the site and its relative distance from residential units. This site is about 175 feet from the nearest residential unit, and 150 feet is required. This requirement is recommended to be waived by staff due to the size of the site and because proper landscape screening has been provided along the east property line.

Planner Carroll concluded by saying although the PUD Ordinance was retracted many years ago, the ordinance remains in place for Novi's existing PUDs. It provides a process for requesting changes to the existing developments, which includes review by the Planning Commission with a public hearing. To summarize, staff's report indicates the following:

- The request should be considered a major change to the PUD Agreement & Area Plan as the project proposes a change in use and character of the development.
- The proposed use of the site is recommended for approval by staff as it is a reasonable alternative to the uses provided in the PUD Agreement and as recommended in the Master Plan for Land Use.
- The proposed use of the site as a medical office is consistent with the commercial developments immediately to the north and is recommended by staff to be reviewed as part of the Local Business (B-1) Zoning District.
- The requirement for a 40-foot-wide transition strip between residential and commercial area is recommended to be waived by staff due to the site size and acceptable landscape screening being provided along the east property line.

The Planning Commission is asked tonight to hold the public hearing and recommend approval or denial to City Council of the Request to Amend the Maples of Novi PUD Agreement & Area Plan. The applicant, Rami Farah, is here representing the project tonight. Staff is available to answer any questions.

Chair Pehrson asked the applicant if he would like to say anything regarding the request.

Rami Farah said the project is only 2,560 square feet of medical office space. Currently, I have a plaza and I have Beaumont urgent care. There is a critical variance for this, and it is the 4-foot foundation planting rule. I do request that variance on the north and west side because if I must comply with this then the building will be very small and would not reflect the intent of the investment. Therefore, I ask the Planning Commission to waive that. Also, for 0.42 acres, the landscaping that is being suggested is too congested. There were a lot of plants asked to be put on the site; I believe it was around 36 trees in addition to shrubbery and smaller plants. We will comply with the code regardless, but this requirement puts too much vegetation on the lot and I'm not sure you would be able to see the building from

the street.

Chair Pehrson said this is a public hearing and asked any member of the audience wishing to speak to come forward. Seeing none, Chair Pehrson noted that one written response was received that was not in support of the request. Chair Pehrson closed the public hearing and turned it over to the Planning Commission for discussion or a motion.

Member Dismondy said my first question is: what is the history of this property? How has it evolved to this point?

City Planner McBeth said I believe the entire development was approved in the 1990s. It was developed over the course of several years. There was an open space component and a commercial component, and, of course, the golf course and the residential homes surrounding it. This part was initially set up as tennis courts, but at some point, the property was split. The courts were not used for a number of years, and the lot sat vacant with a for sale sign. However, it seems now that someone would like to pick it up for an office use that is more consistent with the commercial developments to the north and could serve as a transitional development between the commercial and residential areas. I am not sure about the exact location of the property lines, why it was split, or when it was split. We just know that it has been sitting there for sale for quite a while.

Member Dismondy said I think it has too. I drive by it all the time, and I have been confused as to who owned them. It seems like it was a neighborhood amenity at one point, and they must have sold it along the way. I'm just confused as to how it became something separate from the neighborhood.

City Planner McBeth said that is the part we do not know the answer to. I don't think we know how, why, or when it was split up, but it is not owned by that association anymore.

Member Dismondy I was expecting a response from the neighborhood, as we had in the last meeting. Nevertheless, I am confused why some of our requests are getting such a heated response from the neighbors, but something like this has not. This isn't saying I support or do not support the request, though. I do have a question for the applicant – do you have Beaumont lined up as your tenant?

Mr. Farah said yes.

Member Dismondy asked under LOI for this location, or is this speculative?

Mr. Farah said it is spec. However, I might add that I have been in touch with four homeowners' associations. They all responded via email, and they did not have any negative responses. Some of them do have an issue with the golf course being affected and the building on 14 Mile Road, but others want to get rid of the tennis courts and clean it up.

Member Becker asked Planner Carroll to display the zoning map of the property on the front screen.

Member Becker said the Flagstar Bank to the north is shown in green, which is zoned R-A. Was this part of the original planned unit development to designate part of the R-A area for commercial buildings, or did that happen after?

Planner Carroll responded the PUD is set up with an overarching R-A zoning designation, but it lists other uses in the area. In the PUD itself, it lists this area as the shopping center, the bank, and uses more consistent with the B-1 district.

Member Becker asked it was part of the original PUD, then?

Planner Carroll replied yes.

Member Becker said to me, that establishes that this proposal is not out of the realm of what was originally intended. It's fine if they had tennis courts there before, but in looking at the applicant's proposal, the building is very much similar in look to the bank and would not stand out.

Member Roney said I don't have any concerns with this. In fact, I think it is better to have a building there getting some use out of it with some nice landscaping rather than a vacant tennis court with a for sale sign on it. I support this, especially considering the homeowners' associations' responses to the applicant.

Chair Pehrson asked the neighborhood was notified? This did have the normal public hearing notice, correct?

City Planner McBeth said yes, this had the normal notice, which would be 300 feet from this property line. Concerning the childcare proposal in the same area back in June, the property line ran through the whole development, so many more people were notified. However, we did ask the applicant, and he apparently talked with the association presidents.

Chair Pehrson said I missed this from earlier, but we do not know who owns the property?

City Planner McBeth said we do know who owns it. We just don't know when, why, or how they sold it or how it got out of the hands of the Maples PUD.

Chair Pehrson asked City Attorney Saarela if there is anything to be concerned about regarding the situation.

City Attorney Saarela said no. All we really need to do under the PUD ordinance is hold a public hearing.

Member Verma had no further comments.

Motion made by Member Roney and seconded by Member Verma.

In the matter of Novi Medical Building, JSP 21-33, motion to recommend approval to the City Council to amend the Maples of Novi Planned Unit Development Agreement and Area Plan as a major change based on and subject to the following:

- a. The requested amendment constitutes a major change to the PUD Agreement and Area Plan because the modification proposed includes a change in use and character of the development as indicated by Article 27, Section 9, Subheading C, specifically, as a change in use and character of the development since the applicant is changing the use from a tennis court to a**

medical office;

- b. The application does not constitute a minor change as described in the ordinance to the PUD Agreement and Area plan *since it does not meet the following criteria: Modifications to be considered minor changes, for which approved plans may be revised rather than amended, shall include, among other similar modifications, the following:*
 - a. *A change in residential floor area;*
 - b. *A change in nonresidential floor area of five (5) percent or less;*
 - c. *Minor variations in layout which do not constitute major changes; and or*
 - d. *A change in lot coverage and FAR of the entire PUD of one (1) percent or less;*
- c. The proposed use of the site as a medical office is recommended for approval to the City Council as an amendment to the PUD Agreement and Area Plan as a reasonable alternative to the uses provided in the PUD Agreement and as recommended on the Master Plan for Land Use;
- d. The proposed use of the site as a medical office is consistent with the commercial developments immediately to the north and should be reviewed as part of the Local Business (B-1) Zoning District as requested by the applicant;
- e. The requirement for a 40 foot wide transition strip between residential and commercial area is recommended to be waived by the City Council *because the site is 0.42 acres in size and is properly screened along the east property line from the existing homes by the existing open space/golf course and proposed landscape improvements; and*
- f. The applicant shall comply with the findings of compliance with Ordinance standards in the staff and consultant review letters and the conditions and the items listed in those being addressed on the Preliminary Site Plan following consideration and approval of the Planned Unit Development Amendment by the City Council.

ROLL CALL VOTE TO RECOMMEND APPROVAL OF THE MAPLES OF NOVI PUD AGREEMENT AND AREA PLAN AMENDMENT TO CITY COUNCIL MADE BY MEMBER RONEY AND SECONDED BY MEMBER VERMA.

*Motion to recommend approval of the PUD agreement and Area Plan to City Council.
Motion carried 5-0.*

MATTERS FOR CONSIDERATION

1. APPROVAL OF THE OCTOBER 6, 2021 PLANNING COMMISSION MINUTES

Motion made by Member Roney and seconded by Member Becker.

ROLL CALL VOTE TO APPROVE THE PLANNING COMMISSION MINUTES FOR OCTOBER 6, 2021 MADE BY MEMBER RONEY AND SECONDED BY MEMBER BECKER.

Motion to approve the Planning Commission minutes from October 6, 2021. Motion carried 5-0.

CONSENT AGENDA REMOVALS FOR COMMISSION ACTION

There were no removal items on the Consent Agenda.

SUPPLEMENTAL ISSUES/TRAINING UPDATES

PUD ORDINANCE

See Ord. 91-18,100
ARTICLE 27. PLANNED UNIT DEVELOPMENT (PUD)

Sec. 2700. PUD regulations.

1. *Purpose and Location of a PUD.* The general purpose of a PUD development is to allow innovative and efficient-land use development which will protect the natural environment conserve natural resources and energy, and insure compatibility of proposed PUD development with adjacent uses of land and to promote the use of land in a socially and economically desirable manner. A PUD shall be located in areas of the City designated on the City's Master Plan as suitable and desirable for such development. An application for a PUD district in all other locations shall either follow or proceed simultaneously with an amendment to the Master Plan. If the PUD request is not approved, the underlying zoning district remains in place and the property can be developed pursuant to existing zoning requirements.

2. *District Regulations.*

- a. *General.* All uses, structures, and properties shall comply with all regulations in Section 2400, Schedule of Regulations and with all other regulations and requirements of Ordinance No. 84-18, as amended, except as provided in this Section.
- b. *Minimum PUD Area.* The minimum PUD area to be developed under the regulations of this Section shall be twenty (20) acres, provided, however, that the minimum PUD area may be waived by the City Council if the parcel in question has unique characteristics such as, but not limited to, significant topographic change, significant trees or wooded areas, wet lands or poor soil conditions on portions of the property, water courses or utility easements crossing the parcel, unusual shape or proportions, and isolation from other undeveloped or developable lands. In such case, the applicant shall submit information to the City Council to support the request for a waiver of the minimum PUD size requirements. The City Council shall consider the request and act thereon, and shall inform the applicant of the action in writing. The request for a

waiver and the City Council's action shall be made prior to the applicant's submittal of application for a PUD district classification. The City Council shall not consider any request for a waiver in the twenty (20) acre minimum until it has received a recommendation from the Planning Commission on said request.

c. *Mixing of Uses.*

- (1) A residential area, designated on a proposed site plan, may contain one or more types of dwelling units, provided that such combination of dwelling unit types will not interfere with orderly and reasonable platting of an area, if such area is to be platted.
- (2) Single family detached dwelling units shall comprise not less than twenty (20) percent of all dwelling units in a PUD.
- (3) Multiple-family dwelling units may be located in buildings containing, or intended to contain, commercial and/or office activities, provided that commercial uses shall be permitted only on the first, ground, or main floor, however defined. Dwelling units shall not be permitted on any floor on which commercial and/or offices are located or intended to be located.
- (4) Home occupations shall not be permitted in any dwelling unit, including a manufactured housing unit, other than a single-family detached dwelling unit.
- (5) Commercial and/or office uses shall be permitted in such areas and size as are necessary or desirable to serve the residential development of the same PUD district provided such district is at least two hundred (200) acres in size.

d. *Density Regulations.*

- (1) The maximum permitted residential density for a PUD district shall not exceed the average residential density for the area included in the PUD as shown on the City's Master Plan.
- (2) The maximum lot coverage of all uses in the PUD district including accessory buildings shall not exceed twenty-five

- (25) percent. For example, the total "foot print" of all buildings, structures and accessory buildings and structures in a PUD development of one hundred (100) acres could not exceed one million eighty-nine thousand (1,089,000) square feet.
- (3) The maximum floor area ratio (FAR) for all uses in the PUD district shall not exceed 0.35. For example, in an one hundred (100) acre PUD development the maximum floor area for all floors in residential and non-residential buildings could not exceed one million five hundred twenty-four thousand six hundred (1,524,600) square feet.
 - (4) Land areas to be used in calculating gross densities, ground floor coverages, and floor areas as provided in this Section shall each be delineated on the preliminary site plan, the phasing plan and the final site plan, so that the acreage and density computations can be confirmed.
 - (5) The land area used for calculating gross residential density shall include the total residential land area designated on the preliminary site plan or final site plan, less any area within existing public street rights-of-way.
 - (6) The horizontal surface area of lakes, streams, ponds (natural, man-made, or storm water retention), marshlands, and similar areas may be included in the acreage used for calculating gross residential density if fifty (50) percent of the frontage of such areas are part of lands devoted to parks and open space used for and accessible by residents of the PUD.
 - (7) Lot coverage and FAR calculations for residential structures shall be based upon the acreage designated for gross residential density, lot coverage and FAR calculations for nonresidential uses shall be based upon land areas including acreage for private drives, parking and loading areas, open spaces around structures, landscape areas, and similar areas, but not including acreage in existing public street right-of-ways.
 - (8) Land once used to provide acreage sufficient to meet density regulations in a project within a PUD shall not again be used to compute density in another project unless the gross and net densities, lot coverage, and FAR of the subject project and all previous projects are maintained at or less than the limits established in the approved area plan.
 - (9) Top decks of underground parking structures may be included in the land area used in density calculations if such area is fully landscaped and is not used for circulation and parking of vehicles.
 - (10) The lot coverage and FAR for the PUD shall include estimated ground floor area and total floor area for the single-family detached dwelling units proposed in the PUD. The applicant shall list such estimated floor areas, and shall provide backup information to justify those estimates.
- e. *Yard Setbacks.*
- (1) A yard setback fifty (50) feet wide shall be provided along the perimeter of the PUD district fronting on a public street.
 - (2) A yard forty (40) feet wide shall be provided along the perimeter of the PUD district not fronting on a public street. Such yard shall be designed and landscaped as a buffer strip; parking lots and driveways shall not be permitted in such yard, except that drives may cross such yard.
 - (3) A yard at least thirty-five (35) feet wide shall be provided along the right-of-way of a collector street proposed within the PUD, and a yard fifty (50) feet wide shall be provided along the right-of-way of a major thoroughfare proposed within the PUD.
 - (4) A landscaped yard at least ten (10) feet wide shall be provided between a parking lot of five (5) or more spaces and a property line within the PUD, and

twenty (20) feet from the perimeter property line of the PUD, except when adjacent to a public street right-of-way line, existing or proposed, in which case the preceding setbacks shall apply.

- (5) A transition strip at least forty (40) feet wide shall be required on any commercial or office site when adjacent to a residential area, school site, park, and similar areas. Such strips shall be landscaped with trees, shrubs, mounds, ground covers, and other materials. The distance between any residential building and a nonresidential building shall not be less than one hundred fifty (150) feet unless waived by the City Council after recommendation by the Planning Commission.
- (6) The preceding yard requirements, except those in Section 2700,2,3 (1) and (2), herein, may be modified or waived when approved by the City Council upon recommendation of the Planning Commission. The modification or waiver shall be justified by the applicant and shall be based upon findings that topographic conditions, existing trees and other vegetation, proposed land grading and plant materials, or other site conditions perform the same functions as the required yards. Such modifications or waivers shall be clearly shown on the approved area plan.
- (7) All required yards shall be landscaped and adequately and permanently maintained by the property owner, tenant, or organization responsible for maintaining common areas as provided in Section 2509.

f. *Distances Between Buildings.*

- (1) Any single-family dwelling structure shall be located at least twenty (20) feet from any other single-family dwelling structure unless structurally attached thereto.
- (2) The location of buildings and uses and the distances between buildings shall be clearly shown on the area plan and

shall control the development and continued use of the property.

- (3) Distances between the buildings other than single family dwelling structures shall conform to the requirements for such uses where first permitted in Ordinance No. 84-18, as specified in Section 2400.
- g. *Height.* Maximum height of buildings in the PUD district shall be thirty-five (35) feet or three (3) stories or as regulated by the FAR, whichever is lower.
- h. *Circulation and Access.*
- (1) Each lot, principal building and principal use within a PUD district shall have vehicular access from a public street. All such streets shall be designed and constructed in accordance with the City of Novi Design and Construction Standards.
 - (2) The City Council, upon Planning Commission recommendation, may permit certain lots, principal buildings or principal uses to maintain vehicular access solely to a private street, provided that (a) such private street is constructed in accordance with the City of Novi Design and Construction Standards and (b) the continued maintenance of such private streets as common areas is provided for in accordance with Subsection 2700-8.
 - (3) The standards for the design and construction of private streets may be modified where strict application of the provisions would result in practical difficulties or undue hardship to the developer, provided that the City Engineers determine that the proposed modification will adequately provide the anticipated service required. Where such modification is permitted, the City of Novi may, as a condition to subsequently proposed dedication of such streets, require the owner to bear the full expense of reconstruction or other action necessary to bring the streets into compliance with the design and construction standards.

- (4) Where deemed necessary by the City Council upon recommendation of the Planning Commission, each lot or principal building in a PUD district shall have pedestrian access from a public or private sidewalk as part of the area plan. All parts of the PUD shall be interconnected by a nonmotorized safety path which will provide for the necessary safe, and convenient movement of the pedestrians. A bicycle path system shall also be provided in the PUD which may be part of the nonmotorized safety path system.
- (5) An individual dwelling unit in any single-family, two-family, townhouse, manufactured housing unit, or similar residential structure shall not have direct access to a major thoroughfare or collector street.
- i. *Utilities.*
- (1) Each principal building in a PUD district shall be connected to public water and sanitary sewer lines.
- (2) Each site in a PUD district shall be provided with adequate storm drainage. Open drainage courses and storm water retention ponds may be permitted by the City Council upon recommendation by the City Engineering Consultant consistent with the City's Stormwater Management Plan.
- (3) Electrical, telephone, and cable television lines shall be underground. Surface-mounted transformers and similar equipment for the underground wires shall be shown on the final site plan and shall be landscaped and screened from view.
Location should be flexible and shall impose minimum environmental impact.
- j. *Open Space Regulations.*
- (1) Buildings, parking lots, drives, and similar improvements may be permitted in open space areas if related and necessary to the functions of the open space. Other buildings and improvements shall be prohibited therefrom. Any permitted uses shall be designated as being available to the public or Property Owners Association.
- (2) Open space areas shall be conveniently and equitably located throughout the PUD in relation to the location of dwelling units and natural features.
- (3) Open space areas shall have minimum dimensions which, in the Planning Commission's opinion, are usable for the functions intended and which will be maintainable.
- (4) There shall be a concerted effort to create focal points of interest in entry points to the PUD through use of art, civic design, enhancement of natural landscape, and vistas.
- (5) The City Council may require, upon recommendation of the Planning Commission, that natural amenities such as ravines, rock outcrops, wooded areas, tree or shrub specimens, unique wildlife habitats, ponds, streams, and marshes be preserved as part of the open space system of the PUD.
- k. *Phasing.* Development within a PUD district may be phased as delineated on the approved area plan. Phasing shall be subject to the following requirements:
- (1) Any phase containing commercial and/or office uses shall have a residential land area containing at least one hundred (100) dwelling units.
- (2) A phase shall not be dependent upon subsequent phases for safe and convenient vehicular and pedestrian access, off-street parking, adequate utility services, and open spaces and recreation facilities, and shall be capable of substantial occupancy, operation, and maintenance upon completion of construction and development of that phase.
- (3) The City Council, upon recommendation of the Planning Commission, may require that development be phased so that City, school districts, and County property tax revenues resulting from such development will generally balance the expenditures required by pub-

lic agencies to properly service that development so that serious overloading of utility services and community facilities will not result, so that the various amenities and services necessary to provide a safe, convenient, and healthful residential environment will be available upon completion of any one phase. The Planning Commission may require the applicant to provide housing and commercial market analyses, traffic studies, and other information necessary for the Commission to properly and adequately analyze a PUD project for recommendation to the City Council with respect to this requirement.

- (4) The Planning Commission may require, as part of a final site plan review of a development phase, that land shown as common open space on the approved area plan be held in reserve as part of a phase to be developed, in order to guarantee that density limits for the entire PUD as shown on the approved area plan will not be exceeded when the subject phase is completed. Such reserved land may be included in subsequent phases if the density regulations will not be exceeded upon completion of that phase or if other land is similarly held in reserve.
- (5) No building permits shall be issued for any commercial or office use in a PUD until building permits have been issued for at least fifty (50) dwelling units or one-quarter ($\frac{1}{4}$) of the total number of units in the approved area plan, whichever is less.

1. *Off-Street Parking and Loading/Unloading Requirements.* Off-street parking and loading/unloading requirements set forth in Section 2505, shall apply except that the number of spaces required may be reduced in a PUD if approved by the City Council, upon recommendation of the Planning Commission, as part of the area plan. Such reduction shall be justified by the applicant and shall be based upon a finding that sufficient parking will be available through

sharing of spaces by different uses, that the parking requirement is excessive for the type of use proposed, that walk-in trade for commercial centers will reduce parking demand, or similar factors.

- m. *Compliance with Area Plan and Site Plans.* A parcel of land that has been the subject of PUD approval shall not thereafter be developed or used except in accordance with the approved area plan and all preliminary and final site plans approved subsequent thereto, absent amendment in accordance with Sec. 2700-9. The approved area plan, preliminary site plans and final site plans shall be binding upon all subsequent owners of the parcel or portions thereof.

- n. *Construction.* No construction, grading, tree removal, soil stripping, or other site improvements or changes shall commence, and no permit shall be issued therefor, on a lot with or under application for a PUD classification, until the requirements of this Section have been met.

3. *Pre-Application Conference.*

- a. A potential applicant for a PUD district classification shall request a pre-application conference with City officials prior to filing an application. The request shall be made to the Department of Planning and Community Development which shall set a date and shall inform the Mayor, the City Council and Planning Commission members of the conference and invite their attendance. The Department shall also invite other officials who might have an interest in the proposed development, or who might assist the City in the review process.

- b. The purpose of the meeting is to inform City and other officials of the concept of the proposed development and to provide the potential applicant with information regarding land development policies, procedures, standards, and requirements of the City and other agencies in terms of the proposed development. To this end, the applicant is encouraged to present schematic plans, site data, and other information that will explain the proposed development.

- c. Statements made in the conference shall not be legally binding commitments.

4. *Area Plan Requirements.*

a. *Procedure for Petition and Area Plan Approvals; Public Hearing Requirement.*

- (1) Application for a PUD district classification shall be for an amendment to the City Zoning Map and approval of an area plan. An application for a PUD district classification for a parcel of land may be made by the owner(s) of record or by any person(s) acting on behalf of the owner(s) of record of the subject parcel. The applicant shall have a substantial interest in the subject property prior to filing for a PUD district classification; said filing shall be in the name of and signed by all owners. The applicant shall provide evidence of full ownership of all land in a PUD, such as legal title or execution of a binding sales agreement, prior to approval of the petition and area plan by the City Council.
- (2) The application shall be filed with the City Clerk who shall transmit the petition and the area plan to the Department of Planning and Community Development. The application must be filed at least three (3) weeks prior to the Planning Commission meeting at which it is first to be considered. Fees shall be paid to the City Treasurer; no transmittals shall be made unless the required fees have been paid in full.
- (3) Upon receipt of the petition and plan from the City Clerk, the Planning Commission shall undertake a study of the same and shall complete said study within ninety (90) days of receipt by the Planning Commission. The Planning Commission shall advise the applicant in writing of any recommended changes in the area plan as are needed to conform to the regulations and standards of Ordinance No. 84-18.
- (4) The Planning Commission shall, at the meeting at which it receives the petition and area plan from the Clerk, establish a public hearing on the petition and area plan, said hearing to be held within thirty-one (31) days of the date received by the Planning Commission. The Planning Commission shall give notice of the public hearing as required in Section 3006.
- (5) At the public hearing the applicant shall present evidence regarding the following characteristics of the proposed development:
 - (a) general character and substance;
 - (b) objectives and purpose to be served;
 - (c) compliance with regulations and standards;
 - (d) scale and scope of development proposed;
 - (e) development schedules;
 - (f) compliance with the City's Master Plan;
 - (g) demonstration that the proposed PUD represents a recognizable and substantial benefit to the residents and users of the PUD and to the City which would not be feasible or likely occur without the PUD being developed;
 - (h) demonstration that there would be no significant or material adverse effect by the PUD on the City's Master Plan;
 - (i) a showing that there would be no unreasonable impacts by the PUD on public utilities, facilities or services, on surrounding properties, or on the natural environment;
 - (j) a showing that there would be no unreasonable negative economic impact on surrounding property values or for City as a whole;
 - (k) evidence that the basic integrity of required open space, and existing woodlands and wetlands on site are substantially preserved; and
 - (l) status of single ownership or control of PUD such that there is a single person or entity hearing responsibility for completing the PUD

in conformity with the approved plan.

To this end, factual evidence and expert opinion shall be submitted by the applicant in the form of maps, charts, reports, models, and other tangible materials, and in the form of testimony by experts such as lawyers, architects, engineers, landscape architects, realtors, professional community planners, and economists as will clearly state for the record the full nature and extent of the proposal. Tangible materials shall be submitted in sufficient quantity for review by the Planning Commission and other officials.

- (6) At the public hearing or within a reasonable time following the public hearing, the Planning Commission shall make its final consideration of the request, and shall recommend to the City Council denial, approval, or approval with conditions, of the request. The Planning Commission shall have prepared a report stating its conclusions on the PUD request, the basis for its recommendations, its recommendations, and any conditions relating to an affirmative recommendation. If an amendment to the zoning ordinance is necessary to permit the proposed PUD, the Planning Commission shall also make a recommendation on the proposed zoning amendment. The public hearing held pursuant to this subsection shall also serve as the public hearing for the proposed zoning amendment.
- (7) The City Council shall be provided with a copy of the Planning Commission's report, a summary of comments received at the public hearing, minutes of all proceedings, and all documents related to the PUD request. Within a reasonable time of the action of the Planning Commission, the City Council shall deny, approve or approve with conditions, the request.
- (8) If the petition and area plan are approved by the City Council, the applicant shall review the petition and area

plan in their approved form. The applicant and all owner(s) of record or the legal representative of the owner(s) of record of all property included within the PUD shall then sign an agreement that the approved petition and area plan, and the conditions of approval, shall be binding upon the applicant and owner(s) of record and upon their heirs, successors, and assigns. The petition and area plan shall not be officially approved nor may the applicant submit a preliminary site plan, where applicable, or a final site plan for the lot or any part thereof, until said agreement has been signed as required herein and has been received by the City Clerk.

- (9) Within three (3) days of the official approval of the petition and the area plan by the City Council, the City Clerk shall attest the PUD district designation for the lot in question on the Zoning Map.
 - (10) The approved area plan and signed agreement shall be recorded by the petitioner with the Oakland County Register of Deeds within ten (10) days of the date of approval of the petition and the area plan by the City Clerk. The petitioner shall immediately provide a certified copy of the recorded documents to the City Clerk.
 - (11) The City Council may enforce any or all provisions of the approved area plan and agreement, and conditions of approval, against the petitioners, owners, successors, assigns, or agents.
 - (12) Performance guarantees to assure compliance with the approved area plan and conditions of approval may be required by the City Council at the time of approval of the area plan. Guarantee to assure completion of site improvements shall be provided in accordance with Section 3005,8,c.
- b. (1) An area plan for a PUD consisting of eighty (80) acres or less shall contain all the information required for a preliminary site plan as set forth in Sec-

- tion 2516a and the City's Site Plan Manual, and the following information:
- (a) density of use for each use area of the site;
 - (b) location, size, and uses of common open space and recreation areas;
 - (c) general description of the organization to be established to own and maintain common open space;
 - (d) general description of covenants, grants, easements, or other restrictions to be imposed upon land or buildings, including easements for public utilities, by-laws, and articles of incorporation for any home owners' association or cooperative association;
 - (e) description of applicant's intentions regarding selling or leasing of all or portions of land in the PUD and of dwelling units;
 - (f) description of all proposed nonresidential uses, including types of stores and offices;
 - (g) general landscape concept showing woodlands and vegetation to be preserved or added, topography, and similar features;
 - (h) recognition of existing wetlands;
 - (i) delineation of areas to be subdivided; and
 - (j) average initial sales prices of dwelling units for sale and/or average initial rents of rental dwelling units.
- (2) An area plan for a PUD consisting of more than eighty (80) acres shall contain the information as required in Section 2700,4,b(1)(a) through (j), preceding, and the following information:
- (a) location, type, and land area of each land use; density of dwelling units (dwelling units per acre); type of dwelling units;
 - (b) general location and right-of-way width of proposed public streets; general location and surface width of major private streets/drives;
 - (c) general location of proposed parking areas and approximate number of spaces to be provided in each area;
 - (d) general delineation of areas of intended cutting or filling; existing natural features to be preserved or removed; location of existing structures, streets, and drives; location and purpose of existing easements;
 - (e) adjacent land uses;
 - (f) location and area of each development phase; summary of land use information as required in Subsection (a) preceding for each phase; and
 - (g) general description of proposed water, sanitary sewer, and storm drainage systems.
- c. *Standards for Petition and Area Plan Review.* The Planning Commission's report to City Council shall include its determination as to whether the petition and area plan meet the following standards:
- (1) The proposed development shall conform to the City Master Plan or any part thereof, or represents land use policy which, in the Planning Commission's opinion, is a logical and acceptable change in the Master Plan.
 - (2) The proposed development shall conform to the intent and to all regulations and standards of the PUD district and of Ordinance No. 84.18.
 - (3) The proposed development shall be adequately served by public facilities and services such as: highways, streets, police and fire protection, drainage courses, water and sanitary sewer facilities, refuse disposal, or that the persons or agencies responsible for the proposed development shall be able to provide in a manner acceptable to the City Council, any such facilities and services.
 - (4) The common open space, any other common properties, individual properties, and all other elements of the PUD are so planned that they will achieve a unified open and recreation area sys-

- tem with open space and all other elements in appropriate locations, suitably related to each other, the site, and the surrounding land.
- (5) The applicant shall have made provision, satisfactory to the City Council, to assure that those areas shown on the plan for use by the public or by occupants of the development will be or have been irrevocably committed for that purpose. Provision, satisfactory to the City Council, shall have been made to provide for the financing of any improvements shown on the plan for open space area, and common use areas which are to be included within the development, and that maintenance of such improvements is assured by a means satisfactory to the City Council.
 - (6) The location of the proposed uses, layout of the site, and its relation to streets giving access to it, shall be such that traffic to, from, and within the site and assembly of persons in connection therewith, will not be hazardous or inconvenient to the project or the neighborhood. In applying this standard the Planning Commission shall consider, among other things, convenient routes for pedestrian traffic, particularly of children, relationship of the proposed project to major thoroughfares and street intersections, and the general character and intensity of the existing and potential development of the neighborhood.
 - (7) The mix of housing unit types and densities, and the mix of residential and nonresidential uses shall be acceptable in terms of convenience, privacy, compatibility, and similar measures.
 - (8) Where applicable, the Planning Commission shall determine that noise, odor, light, or other external effects from any source whatsoever, which is connected with the proposed use, will not adversely affect adjacent and neighboring lands and uses.
 - (9) The proposed development shall create a minimum disturbance to natural features and land forms.
 - (10) Streets shall follow topography, be properly spaced, and be located and aligned in accordance with the intended function of each street. The property shall have adequate access to public streets. The plans shall provide for logical extensions of public streets and shall provide suitable street connections to adjacent parcels, where applicable.
 - (11) Major pedestrian circulation shall be provided for within the site, and shall interconnect all residential areas, community areas, and commercial and other services where applicable. The pedestrian system shall provide a logical extension of pedestrian ways from outside the site and shall provide pedestrian connections to the edges of the site, where appropriate.
- d. *Effect of Approval of Petition and Area Plan.* Approval of the petition and area plan by the City Council shall have the following effects:
- (1) Approval shall confer a right to the applicant, for a period of three (3) years from the date of approval, that existing zoning regulations as they apply to the land included in the petition, and the area plan, shall remain unchanged, provided that required subsequent planning and/or construction are diligently pursued in accordance with the approved area plan within this time period.
 - (2) Approval of an area plan shall indicate the City Council's and Planning Commission's acceptance of uses, building location in the case of a PUD of eighty (80) acres or less in area, layout of streets, dwelling unit count and type, floor areas, densities, and all other elements of the area plan.
 - (3) Approval of an area plan of eighty (80) acres or less in area shall authorize the applicant to file an application for

final site plan approval for all or any phase of the development shown on the approved area plan. Final site plans shall not be required of any area which is to be platted for single-family detached residential use. Such approval shall also authorize construction to begin onsite improvements such as streets and drives, parking lots, grading, installation of utilities, and building foundations, provided the City Council gives permission for such construction after recommendation by the Planning Commission. Grading, tree removal, and other changes in the existing topography and natural features shall be limited to the minimum required to permit construction as authorized in this Sub-Section. Construction shall be limited to those elements whose location, size, alignment, and similar characteristics will not require review as part of a final site plan or any plat. Engineering plans and specifications shall be approved, and performance guarantees shall be provided as required by Section 3005,8,c before such construction may commence.

- (4) Approval of an area plan of more than eighty (80) acres shall authorize the applicant to file a preliminary site plan on each phase of the proposed development as delineated on the approved area plan and phasing plan. No construction shall begin within any phase until after a preliminary site plan is approved.
- (5) Approval of an area plan by the City Council shall authorize the applicant to file a preliminary plat for tentative approval in accordance with the Subdivision Control Act (Act 288, P.A. 1967, as amended), and the City's Subdivision Control Ordinance No. 77-45 [Code of Ordinances, Chapter 32, Article II], as amended, for all or parts of the areas included within the PUD which are to be platted.
- (6) No deviations for the area plan approved by the City Council shall be permitted except as provided in this Section.

5. *Preliminary Site Plan Requirements.* A preliminary site plan shall be submitted for approval for each phase of development as delineated on the approved area plan only for PUDs consisting of more than eighty (80) acres of land area. The preliminary site plan shall be submitted and reviewed, and shall meet all provisions of Section 2516. In addition to these provisions, the preliminary site plans shall conform to the approved area plan.

6. *Final Site Plan Requirements.* A final site plan shall be approved for each phase of a PUD as delineated on the approved area plan. Each final site plan shall be submitted and reviewed, and shall meet all provisions of Section 2516. Landscaping plans shall be submitted and be in accordance with the standards set forth in Section 2509. Landscaping within a given phase shall conform to those requirements applicable to the type of development within that phase, i.e., detached single-family development shall conform to the requirements applicable to subdivisions, etc. The Planning Commission shall transmit the approved final site plan to the city Council for its information.

7. *Subdivision Plats.*

- a. A preliminary plat for all or part of a PUD may be submitted for review and approval following approval of the PUD area plan by the City Council.
- b. The City Council shall have the authority to deny or table an application for tentative approval of a preliminary plat if, in its opinion and after a report thereon from the Planning Commission, such plat will result in premature development of the area involved or will result in improper scheduling of various public improvements such as, but not limited to, roads, utilities, and schools.
- c. A preliminary or final site plan shall not be required for any parts of a PUD which are to be platted for single-family detached residential development.
- d. Plats in a PUD shall conform to the Act 288, P.A. 1967, as amended, the City Ord-

nance No. 77-45 [Code of Ordinances, Chapter 32, Article III], as amended, the regulations of the PUD district, and the approved area plan.

8. *Common Areas and Facilities.*

- a. The location, extent, and purpose of all common areas and facilities shall be clearly identified on the area plan, on the preliminary site plan where applicable, and on each final site plan. All such areas and facilities which are to be conveyed to any agency if accepted by said agency, shall be clearly identified accordingly on the final site plan(s).
- b. All public areas and facilities which are to be dedicated to and occupied by a public agency shall be so dedicated and accepted by said agency of a final site plan, unless a binding agreement for dedication is provided in lieu of dedication.
- c. Legal instruments setting forth a plan or manner of permanent care and maintenance of common areas and facilities shall be submitted to the City Attorney for review as to legal form and effect, and to the City Council or Planning Commission, whichever is applicable, for review, as to the suitability of such areas and facilities for the proposed use. Said legal instrument shall become a part of the approved plat or final site plan, whichever is applicable.
- d. Where Property Owners Associations (POA) are to be used to maintain and preserve common areas and facilities, the developer shall file a declaration of covenants and restrictions that will govern the POA(s), same to be filed with the area plan application. The provisions shall include, but shall not be limited to the following:
 - (1) A POA shall be established before any homes or businesses in the PUD are sold or leased.
 - (2) Membership in the POA shall be mandatory for each buyer and for any successive buyer and shall be so specified in the covenants.
 - (3) Restrictions shall be permanent.

- (4) The POA shall be made responsible for liability insurance, local taxes, and maintenance of common areas and facilities.
- (5) Property owners shall pay their pro rated share of the costs and it shall be so specified in the covenants. Assessments levied by the POA can become a lien on the property.
- (6) A POA shall have authority to adjust the assessment to meet changed needs.
- (7) The City Council shall review the proposed by-laws and articles of incorporation of any POA prior to approval of the area plan.

- e. The permanence and integrity of common open space may be secured by conveyance of development rights of such areas to a public agency if accepted by said public agency. Such rights shall not include those needed to improve the common open space areas in accordance with an approved area plan, approved preliminary site plan, where applicable, phasing plan, and final site plan.
- f. Common areas and facilities may be deeded to a trustee who shall be responsible for the collection and disbursement of funds, and who shall account to the individual owners as to the use of their monies. If a trustee is utilized, the trustee shall employ a professional manager. The trustee may be a home owners' association, a trust company, or similar organization.
- g. Easements shall be given to each individual owner for the use of such areas and facilities.
- h. Where facilities are to be constructed as part of the common area open space system performance guarantees shall be provided as required by Section 3005,8,5.

9. *Amendment and Revisions.*

- a. A developer may request an amendment to an approved area plan, an approved preliminary site plan, or an approved final site plan. Any amendment to an approved preliminary or final site plan which results

- in a major change in the approved area plan, as defined in this Section, shall require an amendment to the approved area plan. All amendments shall follow the procedures and conditions herein required for original submittal and review, in full.
- b. A request for amendment shall be made in writing to the Planning Commission and shall clearly state the reasons therefor. Such reasons may be based upon such considerations as changing social or economic conditions, potential improvements in layout or design features, unforeseen difficulties, or reasons mutually affecting the interests of the City and developer, such as technical causes, site conditions, state or Federal projects and installations, and statutory revisions. The Planning Commission, upon finding such reasons and requests reasonable and valid, shall so notify the applicant in writing. Following payment of the appropriate fee as required for original submittal, the developer shall submit the required information to the Planning Commission for review. If the approved plan is to be amended, the Planning Commission shall immediately notify the City Council.
- c. Modifications to be considered major changes, for which amendment is required, shall include one or more of the following:
- (1) change in concept of the development;
 - (2) change in use or character of the development;
 - (3) change in type of dwelling unit as identified on the approved area plan;
 - (4) change in the number of dwelling units;
 - (5) change in nonresidential floor area of over five (5) percent;
 - (6) change in lot coverage and FAR of the entire PUD of more than one (1) percent;
 - (7) rearrangement of lots, blocks, and building tracts;
 - (8) change in the character or function of any street;
 - (9) reduction in land area set aside for common open space or the relocation of such area(s); or
 - (10) increase in building height.
- d. A developer may request Planning Commission approval of modifications which constitute minor changes, as defined in this Section, in an approved area plan, in an approved preliminary site plan, where applicable, or in an approved final site plan. The Planning Commission shall notify the City Council and any other applicable agency of its approval of such minor changes. The revised drawings as approved shall each be signed by the applicant and the owner(s) of record or the legal representative(s) of said owner(s).
- e. Modifications to be considered minor changes, for which approved plans may be revised rather than amended, shall include, among other similar modifications, the following:
- (1) a change in residential floor area;
 - (2) a change in nonresidential floor area of five (5) percent or less;
 - (3) minor variations in layout which do not constitute major changes; and/or
 - (4) a change in lot coverage and FAR of the entire PUD of one (1) percent or less.
- [f. Reserved.]
- g. The Planning Commission shall have the authority to determine whether a requested change is major or minor, in accordance with this Section. The burden shall be on the applicant to show the reasons for any requested change owing to changed physical or economic factors, or consumer demand.
10. *Expiration of Plan Approvals.*
- a. An area plan shall expire eighteen (18) months after approval by the City Council unless a final site plan for the first phase of the project, or the entire property in the PUD if development is not to occur in phases, is submitted to the Planning Commission for review and approval. Thereafter the final site plan for each subsequent phase shall be submitted to the Planning Commission for review and approval within two (2) years of the date of approval of the immediately preceding final site plan.

- b. A final site plan for the entire area classified as a PUD, or all final site plans for all phases thereof, shall have received approval of the Planning Commission within three (3) years, in the case of PUD of eighty (80) acres or less in area, or within five (5) years for a PUD of more than eighty (80) acres in area, of the date to City Council approval of the area plan. All final plats in the PUD shall have been approved and recorded within the preceding time periods.
- c. Expiration of an approved area plan as set forth in Section 2700,10,a, preceding and failure to obtain approval of final site plans and final plats as provided in Sections 2700,10, a and b, shall authorize the City Council to revoke the right to develop under the approved area plan, after a hearing, unless the developer has requested, and the City Council has approved an extension of time. (See SEC 2700,11.) Where the plan has been revoked the City Council may require that a new area plan be filed and reviewed in accordance with the requirements for the original application. Said expiration shall also authorize the City Council to initiate a zoning amendment to place the subject property into one or more zoning districts deemed by the City Council to be appropriate. Expiration of an approved area plan shall be duly noted on the Official Zoning Map, and shall be signed by the Mayor and attested by the City Clerk. The Building Inspector [Official] shall notify the City of the expiration of an approved area plan.
- d. Approval of a final site plan in a PUD shall expire and be of no effect one hundred eighty (180) days after the date of approval of the Planning Commission unless the Building Inspector [Official] shall have issued a building permit for the development authorized by said approved plan. A final site plan in a PUD shall expire and be of no effect five hundred forty-five (545) days after the date of approval by the Planning Commission unless construction is begun and is diligently pursued in accordance with the approved final site plan. Expiration of an approved final site plan shall authorize the Planning Commission to require filing and review of a new final site plan in accordance with the provisions of this Section.
- e. Development shall be completed within two (2) years of the date of approval of a final site plan. If said development is not so completed, the Planning Commission shall not review or approve final site plans for any subsequent phases of the PUD unless the developer has requested and the Planning Commission has approved an extension of time. (See SEC. 2700,11.)
- f. If an approved area plan or an approved final site plan has expired as set forth in this Section, no permits for any development or use of the property included in the PUD shall be issued until the applicable requirements of this Section have been met.
11. *Extension of Time Limits.* Time limits set forth in this Section may be extended upon showing by the developer that changed physical or economic factors, or consumer demand require a time extension, and by written agreement, between the applicant and the City Council, in the case of area plans, and between the applicant and the Planning Commission, in the case of final site plans.
12. *Modifications During Construction.* All site improvements and building construction shall conform to all approved plans required in this Section which authorizes such improvements and construction, and to all approved engineering and architectural plans related thereto. If the applicant or developer makes any changes in the improvements and buildings during construction in relation to such approved plans he shall do so at his own risk, without assurance that the City Council, Planning Commission, or City Official, whichever is applicable, will approve such changes. Where field changes are necessary, the applicant or developer shall, if reasonably possible, first obtain approval from the appropriate body or official. If such prior approval cannot be obtained, and the changes are made, the applicant shall immediately notify the appropriate body or official of such changes and shall, as soon thereafter as is reasonable, submit as-built drawings of all

such changes. The City Council, Planning Commission, Building Director, or City Consulting Engineer, whichever is applicable, may require the applicant to correct any change made in the field without prior approval so as to conform to the approved plans.

13. *Performance Guarantees.* Performance guarantees to assure compliance with the approved area plan and conditions of approval may be required by the City Council at the time of approval of the area plan. Guarantees to assure completion of site improvements shall be provided in accordance with Section 3005,8,c.

14. *Violations.*

- a. An area plan, preliminary plan, or final site plan approved under the provisions of this Section shall have the full force of the Zoning Ordinance. Any violation of such approved plan shall be grounds for the City Council to order that all construction be stopped, and to order that building permits and certificates of occupancy be withheld until the violation is removed or adequate guarantee of such removal is provided to the City Council.
- b. Violations of any plan approved under this Section, or failure to comply with any requirements of this Section, including any agreements and conditions attached to any approved plan, shall be considered a violation of this Ordinance as provided in Section 3800.

(Ord. No. 86-18.28, Pt. I, 11-3-86; Ord. No. 88-18.63, Pt. II, 12-12-88; Ord. No. 90-18.94, Pt. IV, 10-1-90)

ARTICLE 28. RESERVED*

Secs. 2800—2803. Reserved.

*Editor's note—Ord. No. 88-18.59, Pt. I, adopted Sept. 12, 1988, repealed former App. A, Art. 28, §§ 2800—2803, relative to senior citizen housing, which derived from Ord. No. 87-18.41, Pt. I, adopted July 6, 1987, and Ord. No. 88-18.54, Pt. II, adopted April 18, 1988.

Supp. No. 14

ARTICLE 29. GENERAL EXCEPTIONS

Sec. 2900. Area, Height and Use Exceptions.

The regulations in this Ordinance shall be subject to the following interpretations and exceptions.

Sec. 2901. Essential Services.

Essential services serving the City of Novi shall be permitted as authorized and regulated by law and other ordinances of the Municipality. Overhead or underground lines and necessary poles and towers to be erected to service primarily those areas beyond the Municipality shall receive the review and recommendation of the Planning Commission to the City Council, and the review and approval, after public hearing, of the City Council. Such a review of the City Council shall consider abutting property and uses as they relate to easements, rights-of-way, overhead lines, poles and towers and further, shall consider injurious effects on property abutting or adjacent thereto and on the orderly appearance of the City.

Sec. 2902. Voting Place.

The provisions of this Ordinance shall not be so construed as to interfere with the temporary use of any property as a voting place in connection with a municipal or other public election.

Sec. 2903. Height Limit.

The height limitations of this Ordinance shall not apply to farm buildings, chimneys, church spires, flagpoles, public monuments or commercial wireless transmission towers; provided, however, that the Board of Appeals may specify a height limit for any such structure requires authorization as a conditional use and provided further that the height of any such structure shall not be greater than the distance to the nearest property line.

Sec. 2904. Lot Area.

Any lot existing and of record on the effective date of this Ordinance may be used for any principal use permitted in the district [in] which such lot is located, other than conditional uses for which

PUD AGREEMENT & AREA PLAN

PLANNED UNIT DEVELOPMENT AGREEMENT

92 113168

125907755

THIS AGREEMENT is made and entered into this 10th

day of July, 1989, by and between the CITY OF NOVI, a Michigan municipal corporation ("CITY") whose address is 45175 West Ten Mile Road, Novi, Michigan 48050, and the undersigned Property Owners ("PROPERTY OWNERS"), represented collectively by Classic Construction Corporation, a Michigan corporation whose address is 7001 Orchard Lake Road, Suite 130, West Bloomfield Township, Michigan 48322.

A#36 REG/DEEDS PAID
0001 MAY.08'92 11:52AM
9480 MISC 321.00

RECITALS

A. The Property Owners are the owners of property located in Sections 1 and 2 of the City of Novi, Oakland County, State of Michigan, described in Exhibit A attached hereto ("PROPERTY").

A#36 REG/DEEDS PAID
0001 MAY.08'92 10:52AM
9480 RMT FEE 2.00

B. Article 27 of the City's Ordinance No. 84-18, as amended, the City of Novi Zoning Ordinance, provides for the Planned Unit Development as a method of development designed to allow a combination of single-family residential, multiple-family dwellings, commercial and office uses in a manner which is innovative, efficient and which will protect and conserve natural resources and be compatible with adjacent uses of land.

#4 Ent

C. The Property Owners wish to develop the Property as a Planned Unit Development pursuant to Article 27 of the City of Novi Zoning Ordinance.

D. The Property Owners have applied to the City for permission to develop the Property as a Planned Unit Development by submission of a petition and area plan. The petition and area plan were approved by the Novi City Council on January 9, 1989.

Success P4

00230

30 5 5
91

NOW, THEREFORE, in consideration of the mutual covenants provided herein, the parties agree as follows:

1. That the Property Owners shall have the right to development of the Property as a Planned Unit Development in accordance with the approved petition and area plan, attached hereto as Exhibit B, and made a part hereof, and those conditions imposed by the City at the time of approval of the petition and area plan, as contained in the minutes of the meeting of the Novi City Council of January 9, 1989, and in accordance with all applicable statutes, ordinances, rules and regulations, including but not limited to

O.K. - LM DP per [unclear]

125902756

Article 27 of the City of Novi Zoning Ordinance. The Property shall not be developed or used except in accordance with the approved area plan, the conditions set forth in the minutes of the meeting of the Novi City Council held on January 9, 1989, and all preliminary and final site plans subsequently approved, absent amendment as permitted under Article 27 of the City of Novi Zoning Ordinance.

2. By approval of the petition and area plan, the City accepts the proposed uses, the layout of streets, the dwelling units count and type, and all other elements of the petition and area plan. The Property Owners are authorized to submit a preliminary site plan as to each phase of the development. No construction of any phase shall commence until approval by the City of a preliminary site plan and final site plan for that phase. The City may, pursuant to City ordinances, require the Property Owners to provide financial guarantees for the completion of road, water mains, sanitary sewers, and storm drains for the entire planned unit development. Where such guarantees are required, no construction of any phase shall commence until such guarantees have been provided. For those areas of the development to be platted, the Property Owners are authorized to submit a preliminary plat for tentative approval in accordance with Act 288 of the Public Acts of 1967, as amended, the Subdivision Control Act, and City of Novi Ordinance No. 77-45, as amended, the City of Novi Subdivision Ordinance. The approved petition and area plan shall expire on July 9, 1990, eighteen (18) months after approval, unless the Property Owners have submitted to the City of Novi Planning Commission for review and approval of a final site plan for the first phase of the development. Thereafter, the site plans for subsequent phases shall be submitted in accordance with Section 2700-10b of City of Novi Ordinance No. 84-18, as amended, the City of Novi Zoning Ordinance.

3. The Property Owners designate Classic Construction Corporation, a Michigan corporation, as their representative for purposes of dealing with the City relative to this Agreement and development of the Planned Unit Development.

4. This Agreement shall be deemed to run with the land and shall bind the heirs, successors and assigns of the parties hereto and all subsequent owners of the land within the development.

12590757

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first written above.

WITNESSES:

Nancy Beutter
Nancy Keatter
Monique M. Skinner
Monique M. Skinner

CITY OF NOVI, a Michigan municipal corporation

BY: Matthew Quinn
MATTHEW QUINN - Mayor

BY: Geraldine Stipp
GERALDINE STIPP - City Clerk

Thomas S. Lydick
THOMAS S. LYDICK
James E. Beyer
JAMES E. BEYER

THE MAPLE GROUP, a Michigan co-partnership

BY: Sam Blumenstein
Sam Blumenstein

Its: Preston

Thomas S. Lydick
THOMAS S. LYDICK
James E. Beyer
JAMES E. BEYER

CLASSIC CONSTRUCTION CORPORATION, a Michigan corporation,

BY: Sam Blumenstein
Sam Blumenstein

Its: 1225. 05. 17

Renee Szymaniowski
Renee Szymaniowski
Melissa A. Sundquist
Melissa A. Sundquist

MANUFACTURERS NATIONAL BANK OF DETROIT, a Michigan corporation (Mortgage Holder only)

BY: James D. Preston
James D. Preston

Its: Vice President

STATE OF MICHIGAN)
) SS:
COUNTY OF Oakland)

On this 10th day of July, 1989, before me a Notary Public personally appeared MATTHEW QUINN and GERALDINE STIPP, Mayor and City Clerk, and who, after being first duly sworn, did say they executed this Agreement on behalf of the City of Novi and acknowledged the same to be the free act and deed of the City of Novi, made and executed by them on the City's behalf by the authority of Novi City Council.

Agnes C. Durbin
Notary Public
Oakland, County, Michigan
My Commission Expires: 8/19/92

AGNES C. DURBIN
NOTARY PUBLIC STATE OF MICHIGAN
OAKLAND COUNTY
MY COMMISSION EXP. AUG. 19, 1992

STATE OF MICHIGAN)
) SS:
COUNTY OF OAKLAND)

LIBER 12590758

On this 4th day of May, 1989, before me a Notary Public personally appeared James D. Preston, Vice President, and who, after being first duly sworn, did say they executed this Agreement on behalf of the Manufacturers National Bank of Detroit, a Michigan corporation, and acknowledged the same to be the free act and deed of the Manufacturers National Bank of Detroit, made and executed by him/her on the Bank's behalf by the authority of Manufacturers National Bank of Detroit.

Brenda Ann Tait
Notary Public
Wayne, County, Michigan
My Commission Expires: _____

BRENDA ANN TAIT
Notary Public, Wayne County, MI
My Commission Expires June 17, 1991
Acting in Oakland County, MI

STATE OF MICHIGAN)
) SS:
COUNTY OF Dublin)

On this 26th day of April, 1989, before me a Notary Public, personally appeared Sam Blumenstein
partner of The Maple Group AND President of
Classic Construction Corp.

who are the representatives of the Property Owners and who did say that they executed this Agreement on behalf of said Property Owners.

ARLEEN R. BLUMENSTEIN
Notary Public, Oakland County, MI
My Commission Expires 8-18-91

Arleen Blumenstein
Notary Public
Oakland County, Michigan
My Commission Expires: 8-18-91

~~DRAFTED BY AND WHEN~~
~~RECORDED RETURN TO:~~

DENNIS WATSON, ESQ.
FRIED & LEVITT, P.C.
30700 Telegraph Road, Suite 3655
Birmingham, MI 48010-3979

GREW PICK UP

12590759

EXHIBIT APARCEL I AND II:

Land situated in the Township of Novi, Oakland County, State of Michigan, described as the West half of the Northeast fractional quarter of Section 2, Town 1 North, Range 8 East, EXCEPT: A parcel of land situated in the West 1/2 of the Northeast fractional 1/4 of Section 2, Town 1 North, Range 8 East, City of Novi, Oakland County, Michigan, more particularly described as follows: Beginning at a point on the North line of the Northeast fractional 1/4 of Section 2, said point being located South 88 degrees 44 minutes 36 seconds East 220.19 feet from the North 1/4 corner of said Section; thence parallel to the North and South 1/4 line of said Section, South 00 degrees 54 minutes 00 seconds West 500.27 feet to a point of curve; thence along the arc of a curve to the right, 304.54 feet to a point of tangent, said curve having a radius of 775.51 feet, central angle 22 degrees 30 minutes 00 seconds and chord bearing and distance, South 12 degrees 09 minutes 00 seconds West 302.59; thence South 23 degrees 24 minutes 00 seconds West 249.74 feet to a point of curve; thence along a arc of a curve to the left 338.31 feet to a point of tangent, said curve having a radius of 861.51 feet, central angle 22 degrees 30 minutes 00 seconds and chord bearing and distance, South 12 degrees 09 minutes 00 seconds West 336.14 feet; thence along the North and South 1/4 line of said Section, South 00 degrees 54 minutes 00 seconds West 1845.17 feet to the center of Section 2; thence along the East and West 1/4 line of said Section, South 89 degrees 33 minutes 08 seconds East 86.00 feet; thence parallel to the North and South line of said Section, North 00 degrees 54 minutes 00 seconds East 1844.49 feet to a point of curve; thence along the arc of a curve to the right 304.54 feet to a point of tangent, said curve having a radius of 775.51 feet, central angle 22 degrees 30 minutes 00 seconds and chord bearing and distance North 12 degrees 09 minutes 00 seconds East 302.59 feet; thence North 23 degrees 24 minutes 00 seconds East 249.74 feet to a point of curve; thence along the arc of a curve to the left 338.31 feet to a point of tangent, said curve having a radius of 861.51 feet, central angle 22 degrees 30 minutes 00 seconds and chord bearing and distance North 12 degrees 09 minutes 00 seconds East 336.14 feet; thence parallel to the North and South 1/4 line of said Section, North 00 degrees 54 minutes 00 seconds East 499.92 feet to the North line of the Northeast fractional 1/4 of Section 2; thence along said North line, North 88 degrees 59 minutes 36 seconds West 43.00 feet to the South 1/4 corner of Section 35, Town 2 North, Range 8 East, thence along the North line of the Northeast fractional 1/4 of Section 2, North 88 degrees 44 minutes 36 seconds West 43.00 feet to the point of beginning. Subject to the rights of the public and of any governmental unit in any part thereof taken, used or deeded for street, road or highway purposes.

Parcel Identification No. 22-02-201-001.
22-02-200-004.

PARCEL III:

Beginning the East 18 1/2 acres of the Southeast 1/4 of the Northeast fractional 1/4 of Section 2, Town 1 North, Range 8 East, City of Novi, Oakland County, Michigan. Subject to the rights of the public and of any governmental unit in any part thereof taken, used or deeded for street, road or highway purposes.

Parcel Identification No. 22-02-200-003.

PARCEL IV:

Being the West 40 acres of the North 160 acres of the Northwest fractional 1/4 of Section 1, Town 1 North, Range 8 East, City of Novi, Oakland County, Michigan. Subject to the rights of the public and of any governmental unit in any part thereof taken, used or deeded for street, road or highway purposes.

Parcel Identification No. 22-01-200-001.

PARCEL V:

125903760

The East 1/2 of the Northeast fractional 1/4, except the East 18.5 acres of the Southeast 1/4 of said Northeast fractional 1/4 of Section 2, Town 1 North, Range 8 East, City of Novi, Oakland County, Michigan. Subject to the rights of the public and of any governmental unit in any part thereof taken, used or deeded for street, road or highway purposes.

Parcel Identification No. 22-02-200-002.

LIBER 12590761

EXHIBIT A (RESTATED)

The legal descriptions on the prior pages are now described as:

LEGAL DESCRIPTION:

Land in the City of Novi, Oakland County, Michigan, described as:

PARCEL A: Part of the Northeast 1/4 of Section 2, Town 1 North, Range 8 East, Novi Township, now City of Novi, Oakland County, Michigan, described as beginning at the North 1/4 corner of said Section 2 and proceeding thence South 88 degrees 44 minutes 36 seconds East 220.16 feet along the North line of Section 2 to the West right of way of Decker Road (86 feet wide); thence thence following four (4) courses and distances along said right of way line South 00 degrees 54 minutes 00 seconds West 500.09 feet and 304.54 feet along an arc of a curve to the right, radius 775.51 feet, central angle 22 degrees 29 minutes 59 seconds, chord length 302.59 feet and a chord bearing of South 12 degrees 09 minutes 00 seconds West and South 23 degrees 24 minutes 00 seconds West 249.74 feet and 338.31 feet along an arc of a curve to the left, radius 861.51 feet, central angle 22 degrees 29 minutes 59 seconds chord length 336.14 feet and a chord bearing of South 12 degrees 09 minutes 00 seconds West to the North and South 1/4 line of Section 2; thence North 00 degrees 54 minutes 00 seconds East 1358.82 feet along said 1/4 line to the point of beginning.

~~22-02-201-001~~

PARCEL B1: ALL OF THE MAPLES OF NOVI, MAPLE HILLS CONDOMINIUM, according to the Master Deed recorded in liber 11034, pages 593 through 635, both inclusive, and First Amendment to the Master Deed recorded in liber 11315, pages 681 through 688, both inclusive, Oakland County Records, and Second Amendment to the Master Deed recorded in liber 11522, pages 526 and 527, and Third Amendment to the Master Deed recorded in liber 11550, pages 354 through 363, both inclusive, and Fourth Amendment to the Master Deed recorded in liber 11597, pages 861 through 862, both inclusive, and Fifth Amendment to the Master Deed recorded in liber 11724, pages 783 through 795, both inclusive, Oakland County Records and designated as Oakland County Condominium Subdivision Plan No. 627 together with rights in general common elements and limited common elements, as set forth in the above described Master Deed and as described in Act 59 of the Public Acts of 1978, as amended.

~~22-01-101-000~~ 9000 627

PARCEL B2: ALL OF THE MAPLES OF NOVI, MAPLE GREENS CONDOMINIUM, according to the Master Deed recorded in liber 11034, pages 636 through 677, both inclusive, and amended by First Amendment recorded in liber 11478, pages 891 through 901, both inclusive, and Second Amendment recorded in liber 11607, page 465 through 474, both inclusive, and Third Amendment to the Master Deed recorded in liber 11635, pages 778 through 798, both inclusive, and Fourth Amendment to the Master Deed recorded in liber 11666, pages 755 through 759, both inclusive, and Fifth Amendment to the Master Deed recorded in liber 12179, pages 156 through 167, both inclusive, and Sixth Amendment to Master Deed recorded in liber 12246, pages 058, through 066, both inclusive, Oakland County Records, and designated as Oakland County Condominium Subdivision Plan No. 628 together with rights in general common elements and limited common elements, as set forth in the above described Master Deed and as described in Act 59 of the Public Acts of 1978, as amended.

~~22-02-226-000~~ 95006 28

PARCEL B3: ALL OF THE MAPLES OF NOVI, MAPLE POINTE CONDOMINIUM, according to the Master Deed recorded in liber 11664, pages 616 through 675, both inclusive, and First Amendment to the Master Deed recorded in liber 11737, pages 626 through 632, both inclusive, and Second Amendment to the Master Deed recorded in liber 12038, pages 338 through 348, both inclusive, and Third Amendment to the Master Deed recorded in liber 12115, pages 428 through 440, both inclusive, Oakland County Records, and designated as Oakland County Condominium

Continued on next page

LIBER 12590762

LEGAL DESCRIPTION 'CONTINUED':

Subdivision Plan No. 709 together with rights in general common elements and limited common elements, as set forth in the above described Master Deed and as described in Act 59 of the Public Acts of 1978, as amended.

22-02-202-000

9080709

PARCEL B4: ALL OF THE MAPLES OF NOVI, MAPLE HEIGHTS, according to the Master Deed recorded in liber 12350, pages 545 through 514, both inclusive, Oakland County Records, and designated as Oakland County Condominium Subdivision Plan No. 750 together with rights in general common elements and limited common elements, as set forth in the above described Master Deed and as described in Act 59 of the Public Acts of 1978, as amended.

PT OF 22-02-200-017 (INDIVIDUAL SIDWALLS NOT YET ASSIGNED)

9080750 unit 0

PARCEL B5: Part of the Northwest 1/4 of Section 1 and part of the Northeast 1/4 of Section 2, beginning at the Northwest corner of Section 1, thence South 88 degrees 38 minutes 01 seconds East 649.63 feet; thence South 02 degrees 05 minutes 07 seconds West 691.80 feet; thence South 87 degrees 46 minutes 02 seconds East 17 feet; thence South 00 degrees 49 minutes 18 seconds West 1835.59 feet; thence North 88 degrees 39 minutes 42 seconds West 682.52 feet; thence South 01 degrees 32 minutes 29 seconds West 649.34 feet; thence North 89 degrees 33 minutes 08 seconds West 2570.63 feet; thence North 00 degrees 54 minutes 00 seconds East 1844.49 feet; thence along curve to the right, radius 775.51 feet, chord bears North 12 degrees 09 minutes 00 seconds East 302.59 feet, distant of 304.54 feet; thence North 23 degrees 24 minutes 00 seconds East 249.74 feet; thence along curve to the left, radius 861.51 feet, chord bears North 12 degrees 09 minutes 00 seconds East 336.14 feet, distant of 338.31 feet; thence North 00 degrees 54 minutes 00 seconds East 499.75 feet; thence South 89 degrees 00 minutes 02 seconds East 2385.96 feet to beginning, except that part taken for THE MAPLES OF NOVI, MAPLE GREENS, Oakland County Condominium Plan No. 628, and THE MAPLES OF NOVI, MAPLE HILLS, Oakland County Condominium Plan No. 627 and THE MAPLES OF NOVI, MAPLE POINTE, Oakland County Condominium Plan No. 709, and THE MAPLES OF NOVI, MAPLE HEIGHTS, Oakland County Condominium Plan No. 750.

22-02-200-017

not

LIB# 12590763

X-FILE

Classic
CONSTRUCTION
CORPORATION

Proposed
Maples of Novi

AREA PLAN

LIBER 12590764

TABLE OF CONTENTS

<u>HEADING</u>	<u>PAGE NO.</u>
1. INTRODUCTION.....	1
2. LOCATION.....	1
Location Map.....	2
Area Map.....	3
Adjacent Land Uses.....	4
Density Map.....	5
3. DUE DILIGENCE.....	6
Survey.....	7
Aerial.....	8
Neyer, Tiseo & Hindo, Ltd. Soil Borings Report.....	Supplement-A
Engineering Statamnet.....	9-11
Existing Easements & Structures.....	12
Easements on Survey.....	13
Easements Descriptions.....	14
4. SITE CHARACTERISTICS.....	15
Landscape Concepts.....	16-17
Wetland Map.....	18
J.J.R. Wetland Report.....	Supplement-B
Golf Maintenance.....	Supplement-C
Metropolitan Forestry Woodland Map.....	19
Woodland Report.....	Supplement-D
Soils Report.....	Supplement-E

LIBR 12590 765

TABLE OF CONTENTS CONT.

<u>HEADING</u>	<u>PAGE NO.</u>
5. SCOPE OF DEVELOPMENT.....	20
6. PARKS AND OPEN SPACE.....	21
7. PROGRAMS AND ACTIVITIES.....	22
8. CONVENANTS AND BY-LAWS.....	22-23
9. TRAFFIC STUDIES.....	23
Reid, Cool, Michalski Traffic Report.....	Supplement-F
10. ROADWAY SYSTEM.....	24
11. DEVELOPMENT PARKING.....	24
12. RESIDENTIAL DEVELOPMENT.....	25-26
Zone Map.....	27
Site Plan.....	28
A.C.L.F. Type Elevation.....	29
Adult Unit Elevation.....	30
Adult Unit Floor Plan.....	31
Golf Villa Unit Elevation.....	32
Golf Villa Unit Floor Plan.....	33
Family Starter Unit Elevation.....	34
Family Starter Unit Floor Plan.....	35
13. NON-RESIDENTIAL.....	36
Convenience Commercial/Office.....	36

NUMBER 12590766

TABLE OF CONTENTS CONT.

<u>HEADING</u>	<u>PAGE NO.</u>
14. PROPOSED STORE SIZES, TENANT MIX, AND PHASING.....	37-38
Convenience/Office Facility Sq. Ft.....	39
Vilican Leman & Associates Elderly Housing	
Analysis.....	Supplement-G
15. PROJECT IMAGE	40
Illustrative Convenience Commercial.....	41
Illustrative Convenience Commercial	
With City Entrance Enhancements.....	42
16. Development Phasing.....	43
Phasing Schedule.....	44
Phasing Diagram.....	45
17. Site Calculations (F.A.R.).....	46
18. Master Plan & Economic Impact.....	47
19. P.U.D. Request.....	48

12590767

<u>P.U.D. ORDINANCE ITEM</u>	<u>PAGE</u>
b(1) (a)	48
b(1) (b)	21
b(1) (c)	22, 23
b(1) (d)	23
b(1) (e)	25, 26
b(1) (f)	36
b(1) (g)	16, 17, 27, 28
b(1) (h)	18, Supplement B
b(1) (i)	Does not apply
b(1) (j)	25, 26
b(2) (a)	5, 25, 26
b(2) (b)	24
b(2) (c)	24
b(2) (d)	12, 13, 14, 16, 17
b(2) (e)	4
b(2) (f)	42-46
b(2) (g)	9-11

LIBER 12590768

III. PROJECTION DESCRIPTION

The Maples of Novi

1. INTRODUCTION

Since June, 1985, The Maple Group, owners of land in Section 2, Novi, Michigan encompassing 228 acres, have worked with the City of Novi and its consultants in an effort to create a land use Master Plan. This working relationship was important in that Section 2 in Novi is a unique parcel of land, both due to its location as an entrance to the city and natural site characteristics.

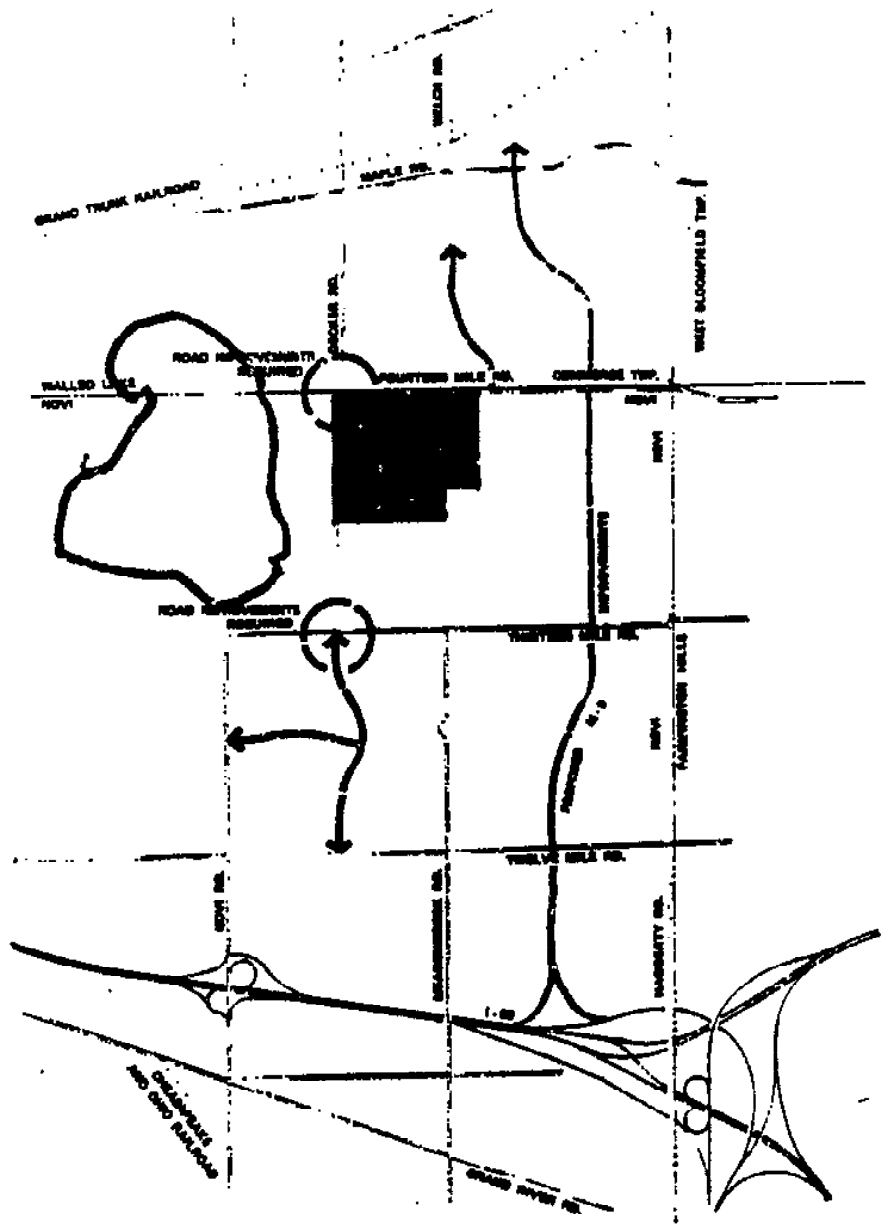
2. LOCATION

The site is situated in the northeast quadrant bordered by Decker and Haggerty Roads west and east, Thirteen and Fourteen Mile Roads south and north.

The site is 2 miles north of the designated City's town center which includes the Twelve Oaks Regional Mall, Sheraton Oaks Hotel, Novi Hilton, West Oaks Shopping Center and the proposed Midwest Fashion and Convention Exposition Complexes.

188R 125907769

City of Novi, Proposed P.U.D., 228 acres located at the S.E. corner of 14 Mile and Decker Roads. Section #2



SITE LOCATION MAP

NOVI, MICHIGAN

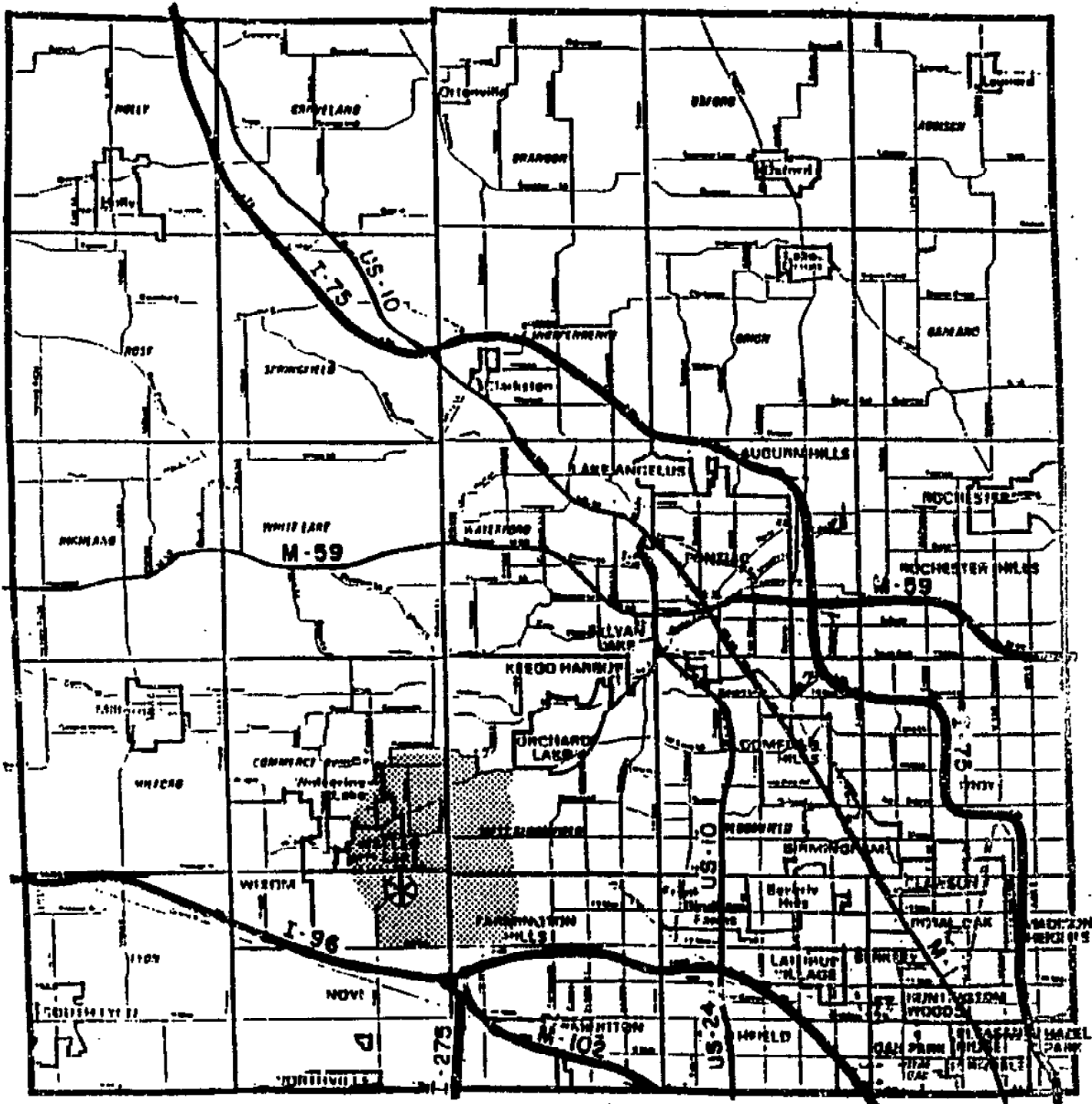
DEVELOPER:	CLARIC CONST. WEST BLOOMFIELD TWP., MI.
PLANNER:	ROBERT LEVITON, ASSOC. ANN ARBOR, MI.
ARCHITECT:	PROGRESSIVE ARCHT. BLOOMFIELD HILLS, MI.
ENGINEER:	ZIMET - WERNER SOUTHFIELD, MI.



OAKLAND COUNTY

MICHIGAN

HEC 12590770



 CLASSIC CONSTRUCTION SITE

LIBR 12590771

Adjacent Land

The site size is 228 acres located on the north east corner of Fourteen Mile and Decker Roads. Surrounding our site are existing and planned developments.

Northwest- On the corner is the older Pulte Development with a density of 8 per acre.

North- Directly north will be a community of 1800 apartments and 300 homes with an overall density of 15 per acre. There is industrial, office and commercial at 14 and Haggerty, 1-1/2 miles from our site.

East- Due east is the Haverhill Farm with the potential M9 expressway extension at its easterly boundary. It's master planned at .8 units per acre.

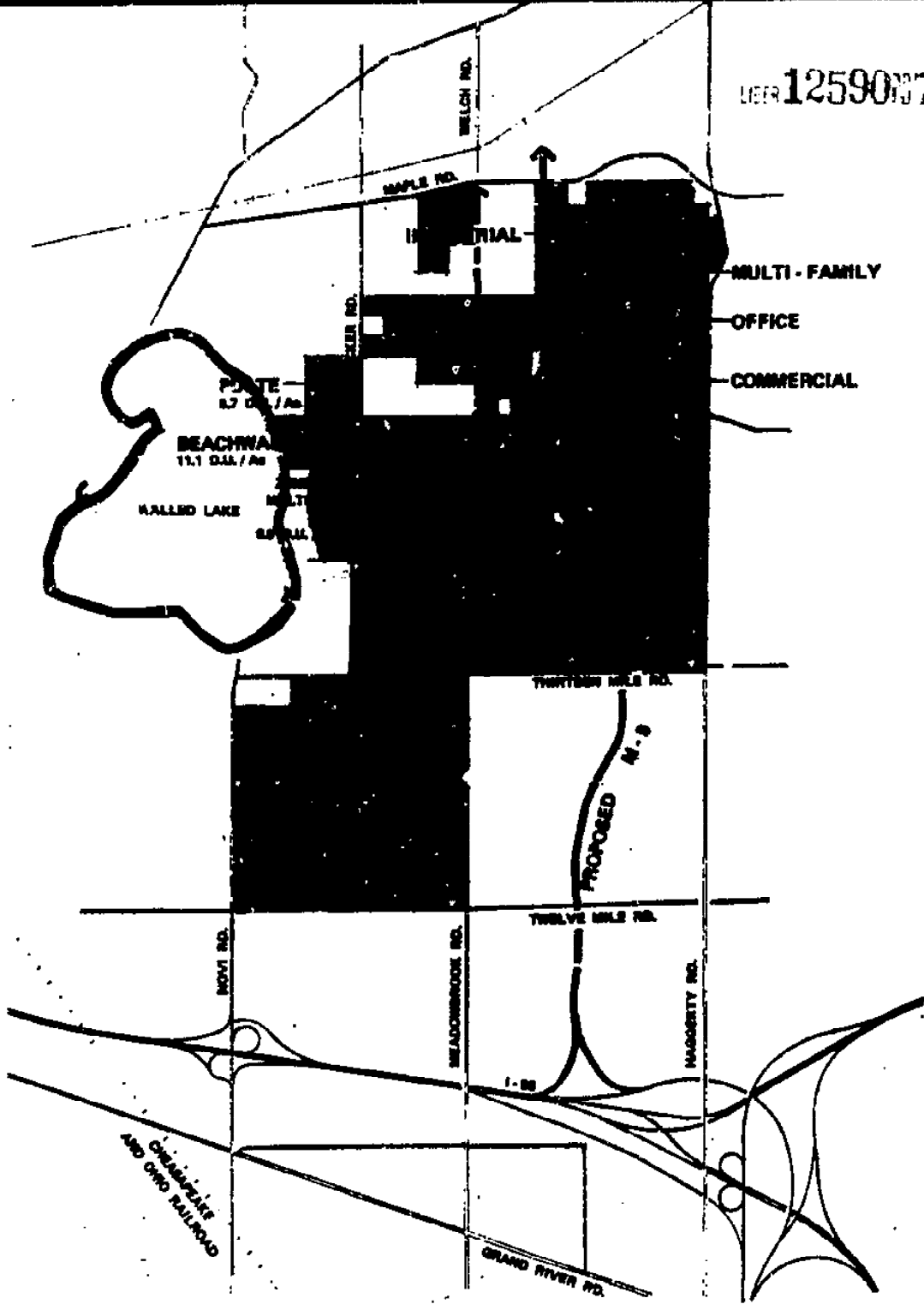
South- South is the Chateau Estates Mobile home park with a density of 7.3 per acre.

South West- Southwest of Chateau Estates is the planned Sandstone community P.U.D with a density of 5 unit per acre plus commercial and office.

West- To planned Woods of Novi development with a density of 5 per acre, a designated multiple site 9 units per acre, a congregate care facility and the existing Beachwalk apartments with a density of 11 units per acre. The average D. U. Density surrounding the site is 7.4 units per acre.

The average D. U. Density surrounding the site, in Novi alone is 6.4.

UGR 12590772



SURROUNDING DENSITIES

NOVI, MICHIGAN

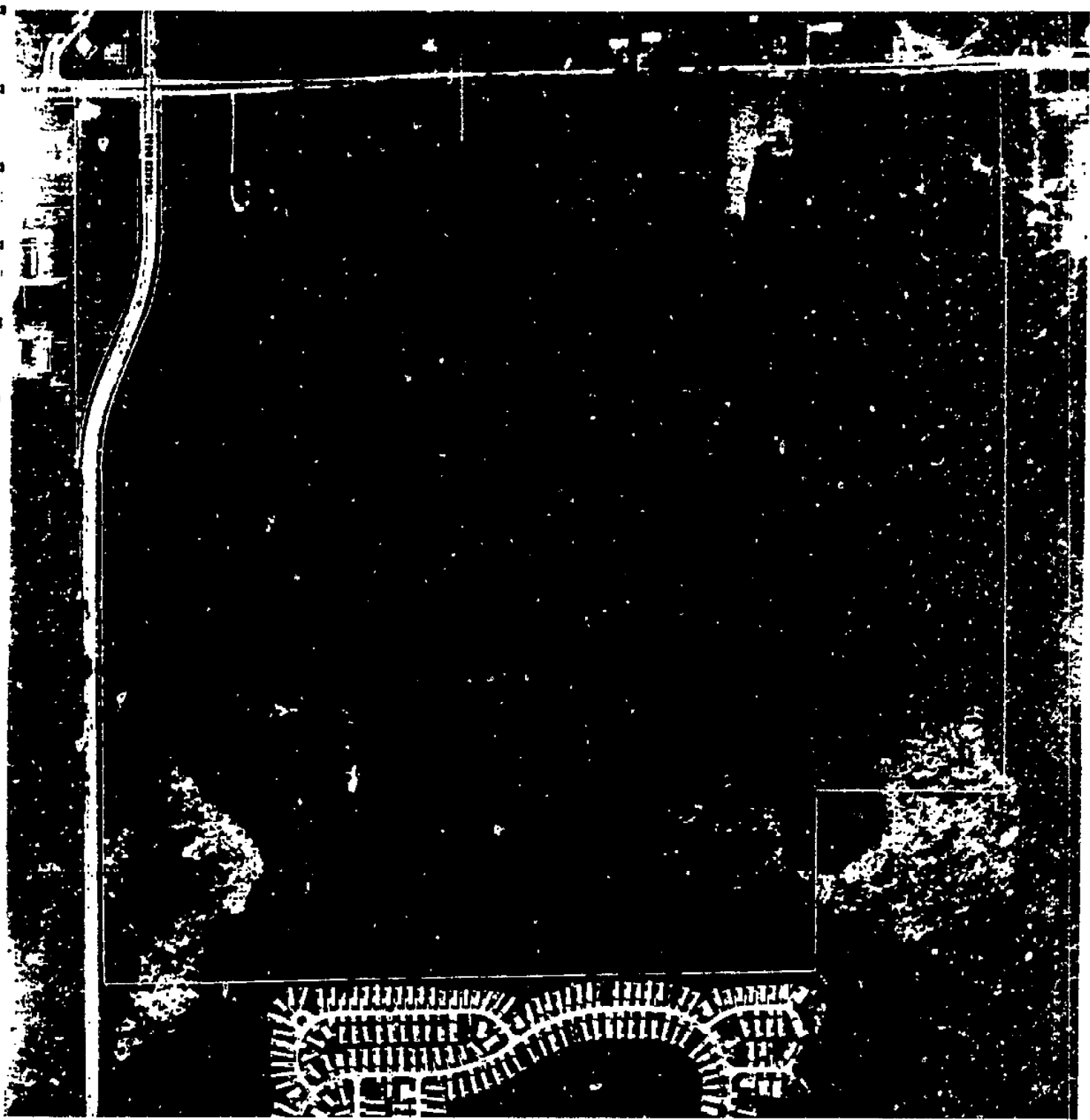
- DEVELOPER: CLASSIC COMBT. WEST BLOOMFIELD TWP., MI.
- PLANNER: ROBERT LEHNTON, ASSOC. ANN ARBOR, MI.
- ARCHITECT: PROGRESSIVE ASSOC. BLOOMFIELD HILLS, MI.
- ENGINEER: ZIEMET - WOZNIAK SOUTHFIELD, MI.



LIBER 12590 PG 773

3. DUE DILIGENCE

USR 12590774



Site Aerial
8

LIBR 1259073775



NEYER, TISEO & HINDO, LTD.

Consulting Engineers and Geologists

REPORT ON PRELIMINARY GEOTECHNICAL INVESTIGATION

PROJECT NO: 87366 OG

DESIGNATION: Proposed Commercial and Residential Development

LOCATION: Fourteen Mile and Decker Roads
Novi, Michigan

DEVELOPER: Classic Construction Corporation

DATE: August 17, 1987

1259078776



NEYER, TISEO & HINDO, LTD.

Consulting Engineers and Geologists

38955 Hills Tech Drive, Farmington Hills, Michigan 48018 313 553-6300

August 17, 1987
Project No. 87366 OG

Classic Construction Corporation
21177 Hilltop
Southfield, Michigan 48034

Attn: Mr. William Bronson

Re: Preliminary Geotechnical Investigation
Proposed Commercial and Residential Development
Fourteen Mile and Decker Roads
Novi, Michigan

Dear Mr. Bronson:

We have performed a preliminary geotechnical investigation at the site of the proposed commercial and residential development in Novi, Michigan. The purpose of our investigation was to determine the general subsurface conditions at the site to help evaluate the feasibility of developing the site for commercial and residential use.

The results of our investigation indicate that site subsoils generally consist of topsoil underlain by deposits of loose silty sand, which in turn are underlain by strata of stiff to hard silty clay. Deposits of medium compact to very compact sand and gravel are generally present beneath these cohesive soils. Groundwater is present in some areas of the site at depths varying from about 4 to 12 feet below the surface. Additionally, in some areas of the site the groundwater appears to be under hydrostatic pressure.

Based on preliminary evaluations, the proposed structures can be supported on conventional shallow foundations. If basements are planned for these structures, provisions for controlling groundwater during and following construction will be required in most areas of the site. The data obtained during this investigation along with our evaluations, analyses and recommendations are presented in the subsequent portions of this report.

Proposed Development

Development plans for the site have not yet been finalized; however, we understand that both residential and commercial structures are under consideration. Building types and locations have not been established, but most buildings are expected to be 2 to 3 stories in height, with possible basements. Site development will include earthwork operations, constructing roadways and installing utilities to service the proposed buildings.

NH

LIBER 12590777

Mr. William Bronson
Project No. 87366 OG
August 17, 1987
Page 2

Site Conditions

The site is located southeast of the intersection of Fourteen Mile and Decker Roads in Novi, Michigan. The site is rectangular in shape, and contains approximately 190 acres of mostly vacant land. The topography of the site is characterized by rolling hills and scattered low areas, with an overall slope towards the south. Based upon a topographic map of the site prepared by Kucera & Associates, elevations at the site range from 995 to 933.

Vegetation at the site consists of dense woods in the southeast portion, and heavy grasses, ranging in height from 3 to 7 feet, in the remaining portions. Drainage at the site appears to be towards several scattered low areas or wetlands. The approximate locations of the low areas are shown on Plate 1. An existing house is located in the northwest corner of the site. Additionally, the remains of a foundation were noted adjacent to Decker Road in the southwest corner of the site.

Previous Soil Investigation

The subsurface conditions at the project site were previously investigated by McDowell & Associates. The results of this study were presented in a report dated January 24, 1986. The locations of the borings drilled during this previous investigation are shown on the Test Boring Location Plan, Plate 1. We have reviewed the information contained in the previous report with respect to the data developed during the present investigation.

Present Field Investigation

We investigated subsurface conditions at the accessible parts of the site, drilling 10 test borings designated TB-1A through TB-10A. Soil conditions within the low swampy and wetland portions of the site were not investigated as part of this study. We understand that these low areas are being evaluated as part of a separate study. The borings were drilled by American Drilling Company under the full time supervision of a senior engineering technician with our firm. These borings were made at the locations shown on Plate 1, and extended to depths ranging from 15 to 20 feet. The test borings were located approximately in the field by pacing from existing surface features. Ground surface elevations at the boring locations were interpolated from elevations shown on a map of the site prepared by Kucera & Associates.

Within each test boring, soil samples were taken at intervals of generally 2.5 feet within the upper 10 feet and at intervals of 5 feet below that depth. These samples were taken by the Standard Penetration Test method (ASTM D-1586) which involves driving a 2-inch diameter split-spoon sampler into the soil with a 140-pound weight falling 30 inches.

The sampler is generally driven three successive 6-inch increments, with the number of blows for each increment recorded. The number of blows required to advance the sampler the last 12 inches is termed the Standard Penetration Resistance (N). The blow counts for each six-inch increment and the resulting

Mr. William Bronson
Project No. 87366 OG
August 17, 1987
Page 3

LIBRARY 12590 778

N-values are presented on the individual Logs of Test Boring. The soil samples obtained with the split-barrel sampler were sealed in containers and transported to our laboratory for further classification and testing. We will retain these soil samples for 60 days after the date of this report. At that time, we will dispose of the samples unless we are otherwise instructed.

We have evaluated the soil and groundwater conditions encountered in the test borings and have presented these conditions in the form of individual Logs of Test Boring on Figure Nos. 1 through 10. General Notes defining the nomenclature used on the boring logs and elsewhere in this report are presented on Plate 2. The stratification shown on the test boring logs represents the soil conditions at the actual boring locations. Variations may occur between the borings. Additionally, the stratigraphic lines represent the approximate boundary between the soil types; however, the transition may be more gradual than what is shown. We have prepared the logs included with this report on the basis of laboratory classification and testing as well as field logs of the soils encountered.

Laboratory Testing

Representative soil samples were subjected to laboratory testing to determinate pertinent soil parameters. The testing included the determination of the natural moisture content, in-situ dry density, grain size distribution and unconfined compressive strength. The results of these laboratory tests are presented on Figure Nos. 11 and 12. The natural moisture content, in-situ dry density and unconfined compressive strength values are also presented on the respective Logs of Test Boring.

Subsoil Conditions

On the basis of the information developed during the course of this investigation, it appears that subsoil conditions vary considerably throughout the site. However, the subsoils can be generalized into a soil profile consisting of topsoil underlain by loose silty sand, which is in turn underlain by strata of stiff to hard silty clay. These subsoils are then underlain by deposits of medium compact to very compact silty sand and gravelly sand that are water-bearing in some locations.

The topsoil consists of dark brown clayey silt and sandy silt with a trace of roots, and varies in thickness from about 4 to 15 inches at the boring locations. The topsoil is generally underlain by a deposit of loose brown silty sand which extends to depths ranging from approximately 1.4 to 5.5 feet.

The silty sand deposit is generally underlain by strata of brown and gray silty clay. The consistency of the clay is generally in the very stiff to hard range; however, in the areas of borings TB-4A and TB-6A, a stratum of medium to stiff clay is present between the approximate depths of 3 and 5.5 feet. The clay soils contain streaks of sand and extend to depths ranging from approximately 8 to 19 feet, and to the maximum depth explored in boring TB-3A.



 LOG# 12590779

Mr. William Bronson
 Project No. 87366 OG
 August 17, 1987
 Page 4

The silty clay cohesive soils are generally underlain by deposits of water-bearing medium compact brown silty sand and compact to very compact brown gravelly sand. These granular soils extend to depths of about 17 and 18.5 feet in borings TB-1A and TB-2A, respectively, and to the maximum depths explored in borings TB-4A through TB-10A. In borings TB-1A and TB-2A, these granular soils are underlain by a layer of very stiff gray silty clay. These cohesive soils extend to the 20-foot maximum depth of these borings.

Boring TB-3A and TB-4A vary slightly from this generalized profile in that a stratum of very stiff to hard silty clay is present between the topsoil and upper loose silty sand deposit.

Borings TB-9A and TB-10A also vary from the generalized profile in that no upper sand deposit is present. In these borings, clay soils are present directly beneath the topsoil and extend to the lower granular deposits.

Subsoil Evaluations

Based on visual classification, the surface topsoil layer on this site is moderately to highly organic. Therefore, we do not consider the topsoil suitable for the support of building foundations, floor slabs or pavements, or for use as engineered fill material. However, this material could be used for landscaping in nonstructural areas.

We consider the upper loose sand deposit, in its present condition, to be somewhat susceptible to densification and compression when subjected to moderately heavy loads and, particularly vibratory loads. Accordingly, we recommend that this layer be densified in proposed building and pavement areas. This procedure will be discussed in more detail in the "Site Preparation" section of this report.

We consider the very stiff to hard silty clay to be suitable for the support of light to moderate structural loads. The medium to stiff clay layer present in borings TB-4A and TB-6A is considered to be weaker and somewhat more compressible than the surrounding more competent clays.

When undisturbed by groundwater effects, the lower granular stratum is considered to be suitable for the support of light to moderate structural loads. However, with improper groundwater controls, these granular soils could present significant difficulties for the support of foundations. These adverse groundwater conditions and our recommendations for controlling groundwater in construction excavations are discussed in the following section.

Groundwater Conditions and Control

Groundwater level observations were made at each of the test borings during and following the completion of drilling operations. Groundwater was initially encountered at most of the borings at depths of approximately 4 to 12 feet below the ground surface. Upon completion and up to 4 hours following

IN

LIBER 12590780

Mr. William Bronson
Project No. 87366 OG
August 17, 1987
Page 5

completion, the water levels in the test borings were noted to be at depths of about 5 to 10 feet below the ground surface. The observed water levels in the borings range from approximately Elevation 969 to 926. A comparison of water level readings taken in borings drilled during the winter months verses borings drilled during the summer, indicates as much as a 2 to 3 foot decrease in groundwater level readings in some areas of the site. Therefore, fluctuations in groundwater levels should be anticipated due to seasonal variations and following periods of prolonged precipitation.

In boring TB-2A, the final water level was noted to have risen above the encountered water level. This may be indicative of a hydrostatic pressure head (i.e. an artesian condition) within the lower granular deposits in this area.

It should be noted that groundwater observations during drilling operations in predominantly cohesive soils are not necessarily indicative of the static groundwater level. This is due to the low permeability of such soils and the tendency of drilling operations to seal off the natural paths of groundwater flow.

No significant groundwater problems are anticipated for excavations within the upper cohesive soil strata. Seepage of water perched above the clay or from sand seams within the clay should be controllable with properly constructed sump pumps.

However, we anticipate that moderate to heavy volumes of groundwater will be encountered if excavations are extended below the groundwater table within the more pervious granular soil deposits. In addition, a "quick" condition may develop as groundwater migrates toward the excavation, resulting in the disturbance of the soils and in a reduction of their supporting capability. Based on these considerations, it is recommended that groundwater control measures be employed before making excavations extending below the groundwater table within the granular soils. If excavations extend only 1 to 2 feet below the groundwater table, it may be feasible to control groundwater by pumping from properly constructed sumps. If excavations extend to greater depths below the groundwater table, such as those required for basement construction in some areas of the site, or for utility installation, positive methods of groundwater control such as pumping from construction sumps extending into the underlying clay or wellpoints in the sand may be required for effective groundwater control. In addition, the excavation of drainage ditches around the construction area and the early installation of the storm sewer system can help to depress the groundwater level at the site, and facilitate construction operations.

If excavations terminate in the cohesive soil just above the underlying water bearing granular formations, care should be taken to prevent a blow out or heave of the excavation base caused by hydrostatic pressure. This can be achieved by maintaining an adequate thickness of clay below the bottom of the excavation to resist the upward hydrostatic pressure. However, if the thickness of the clay base is inadequate, relief wells should be provided at the bottom of the excavation to allow water to come into the excavation where it can be pumped from specially constructed sumps.



Mr. William Bronson
Project No. 87366 OG
August 17, 1987
Page 6

LIBER 12590781

To prevent the development of hydrostatic pressures on the basement floor and walls, a subdrainage system should be installed at the foundation level. The perforated or slotted subdrains should be protected with coarse aggregates and wrapped with a suitable filter fabric to prevent the migration of natural soil fines into the subdrains. The subdrains should then be connected to a suitable sump pump or drained by a gravity discharge system. All exterior walls and floors below grade should be damp-proofed at the minimum. Waterproofing measures will be required in place of damp-proofing measures if the basement walls and floor are expected to be watertight.

Foundation Recommendations

Based on an overall evaluation of the subsurface data developed during the course of this investigation, and following satisfactory site preparation operations as outlined in the following section, we recommend that the proposed buildings be supported on shallow spread and/or strip footings. The footings should extend through the loose upper sands and medium to stiff silty clays and be founded on the underlying very stiff and hard silty clay or on engineered fill. For buildings with basement levels, we recommend that the depth of excavation be minimized as much as possible to avoid groundwater related difficulties. In the low areas of the site, this could be achieved by raising basement level above the groundwater level.

Exterior footings should be extended to a depth of at least 3.5 feet below the exposed finished grade for protection against frost penetration. Interior footings not exposed to frost penetration during or after construction can be installed at shallower depths provided that suitable bearing soils are present.

In general, net allowable soil bearing pressures on the order of 4000 to 5000 pounds per square foot (psf) may be used for the design of footings founded on the very stiff to hard clay or engineered fill. If footings have to be supported in the upper loose sand and medium clay deposits the allowable soil bearing pressure should be limited to about 2500 psf. We recommend that strip footings be at least 12 inches in width and isolated spread footings should be at least 18 inches in their least dimension regardless of the resulting bearing pressure.

All foundation excavations should be observed and tested to verify that adequate in-situ soil bearing pressures, compatible with the design value, are achieved.

Site Preparation

As previously discussed, the locations and finished grades for the buildings are not presently available. Accordingly, the amount of required earthwork to achieve finished grades is uncertain. Regardless of the amount, we recommend that all earthwork be performed under adequate specifications and properly monitored in the field. At the start of earthwork operations, any surface



LIBR 12590 782

Mr. William Bronson
Project No. 87366 OG
August 17, 1987
Page 7

vegetation should be cleared and the existing topsoil and any other organic soils should be removed in their entirety from below the proposed building and pavement areas.

After rough grade has been achieved in cut areas and prior to fill placement in fill areas, the subgrade should be thoroughly proof-rolled with a 10 ton vibratory roller by making a minimum of 10 passes in each of two perpendicular directions covering the proposed development area. Any areas that exhibit excessive pumping and yielding during proof-rolling should be stabilized by aeration, drying and compaction if weather conditions are favorable, or removal and replacement with engineered fill. If the instability exhibited during proofrolling is attributed to groundwater effects, the proofrolling operation should be halted and water control measures provided. In addition to detecting unstable areas, the proof-compaction operation should serve to densify the shallow loose sand deposits that overlie the site.

Water retained in the upper sand deposits may result in some pumping and instability of the subgrade during earthwork operations. Accordingly, it may be necessary to provide drainage ditches and/or sumps around the construction area to facilitate subsurface drainage and help stabilize the subgrade.

Material for backfill or engineered fill required to achieve design grades should consist of non-organic soils. The on-site soils that are free of organic matter and debris may be used for engineered fill provided that they are at approximately the optimum moisture content.

The fill should be placed in uniform horizontal layers, that are not more than 12 inches in loose thickness. Within building areas and the upper 18 inches of pavement subgrades, the fill should be compacted to achieve a density of at least 95 percent of the maximum dry density as determined by the Modified Proctor compaction test (ASTM D-1557). Below the 18-inch depth of pavement subgrade, the fill compaction requirement may be reduced to 90 percent of the same standard. All fill material should be placed and compacted at approximately the optimum moisture content. Frozen material should not be used as fill, nor should fill be placed on a frozen subgrade.

In general, the site conditioning procedures discussed above are expected to result in fairly stable subgrade conditions throughout most of the site. However, the on-site silt, fine sand and silty clay soils could become sensitive to softening when wet or when disturbed by construction traffic. Therefore, depending on weather conditions, the type of equipment and construction procedures used, surface instability may develop in parts of the site. If this occurs, additional corrective procedures may be required, such as in-place stabilization or undercutting.

If site conditioning and earthwork operations are to be performed during wet or cold weather, significant difficulty should be anticipated in drying or stabilizing the on-site silty clay soils. Under such circumstances, it may become necessary to undercut the wet soils and backfill with clean granular



UBER 12590783

Mr. William Bronson
Project No. 87366 OG
August 17, 1987
Page 8

soils to achieve proper stabilization. However, if site preparation operations are performed during the summer months, it should be possible to stabilize wet soils in place and to use cohesive soils as fill with proper moisture control in the field.

Floor Slabs and Pavements

The subgrade resulting from the satisfactory completion of site preparation operations can be used for the support of concrete floor slabs and asphalt pavements. We recommend that all concrete floor slabs be suitably reinforced and separated from the foundation system to allow for independent movement.

For pavements, we recommend that "stub" or "finger" drains be provided around catch basins and other low parts of the site to minimize the accumulation of water above and within the frost susceptible subgrade soils. The pavement should be properly sloped to promote effective surface drainage and prevent water ponding.

Supplemental Studies

The evaluations and recommendations presented in this report are based on 10 widely spaced test borings, and with no specific information relating to the location, structural loading, or finished grades for the proposed developments. As such, these evaluations and recommendations are considered to be general and preliminary in nature and should be verified with a more detailed supplemental investigation once development plans are finalized.

We recommend that additional borings or test pits be performed in the area of major buildings with basements and particularly in the area of TB-2A to better predict the construction and post construction groundwater control measures which will be required as a result of the possible artesian groundwater conditions in the area. The additional borings should also help to locate other areas containing layers of medium to stiff soils which could adversely affect building foundations. Furthermore, if any developments are proposed for the low wetland areas, we recommend that they be further investigated prior to construction.

General Comments

This preliminary geotechnical investigation was performed in accordance with generally accepted soil and foundation engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied. The scope of this investigation was primarily to aid in evaluating the feasibility of developing the site rather than to provide specific design recommendations for foundations and site preparations of a specific project. No environmental, hydrogeological or chemical investigations were included as part of the scope of work for this investigation.



12590784

Mr. William Bronson
Project No. 87366 OG
August 17, 1987
Page 9

If you have any questions about this report or if we may be of further assistance to you in any respect, please call. We appreciate the opportunity to have been of service to you, and we look forward to participating in future phases of this project.

Very truly yours,

NEYER, TISEO & HINDO, LTD.

Christopher J. Cruickshank
Christopher J. Cruickshank

D. Nona
D. Nona, P.E.

CJC/DII/jm
Attachments

11519 12590 785

APPENDIX

TEST BORING LOCATION PLAN	PLATE 1
GENERAL NOTES	PLATE 2
LOGS OF TEST BORING NOS. TB-1A THROUGH TB-10A	FIGURES 1 - 10
TABULATION OF TEST DATA	FIGURES 11 - 12

NEYER, TISEO & HINDO, LTD.

GENERAL NOTES

LIBR 125907786

TERMINOLOGY

Unless otherwise noted, all terms utilized herein refer to the Standard Definitions presented in ASTM D 653.

PARTICLE SIZES

Boulders	-	Greater than 12 inches (305mm)
Cobbles	-	3 inches (76.2mm) to 12 inches (305mm)
Gravel - Coarse	-	3/4 inches (19.05mm) to 3 inches (76.2mm)
Fine	-	No. 4 - 3/16 inches (4.75mm) to 3/4 inches (19.05mm)
Sand - Coarse	-	No. 10 (2.00mm) to No. 4 (4.75mm)
Medium	-	No. 40 (0.425mm) to No. 10 (2.00mm)
Fine	-	No. 200 (0.074mm) to No. 40 (0.425mm)
Silt	-	0.005mm to 0.074mm
Clay	-	Less than 0.005mm

COHESIONLESS SOILS

Classification	Density Classification	Relative Density %	Approximate Range of (N)	
The major soil constituent is the principal noun, i.e. sand, silt, gravel. The second major soil constituent and other minor constituents are reported as follows:	Very Loose	0-15	0-4	
	Loose	16-35	5-10	
	Medium Compact	36-65	11-30	
Second Major Constituent (percent by weight)	Minor Constituents (percent by weight)	Compact	66-85	31-50
Trace - 1 to 12%	Trace - 1 to 12%	Very Compact	86-100	Over 50
Adjective - 12 to 35% (clayey, silty, etc.)	Little - 12 to 23%	Relative Density of Cohesionless Soils is based upon the evaluation of the Standard Penetration Resistance (N), modified as required for depth effects, sampling effects, etc.		
And - Over 35%	Some - 24 to 33%			

COHESIVE SOILS

If clay content is sufficient so that clay dominates soil properties, clay becomes the principal noun with the other major soil constituent as modifier; i.e., silty clay. Other minor soil constituents may be included in accordance with the classification breakdown for cohesionless soils; i.e., silty clay, trace of sand, little gravel.

Consistency	Unconfined Compressive Strength (psf)	Approximate Range of (N)
Very Soft	Below 500	0-2
Soft	500-1000	3-4
Medium	1000-2000	5-8
Stiff	2000-4000	9-15
Very Stiff	4000-8000	16-30
Hard	8000-16000	31-50
Very Hard	Over 16000	Over 50

Consistency of cohesive soils is based upon an evaluation of the observed resistance to deformation under load and not upon the Standard Penetration Resistance (N).

SAMPLE DESIGNATIONS

AS	- Auger Sample - Directly from auger flight
BS	- Miscellaneous Samples - Bottle or Bag
S	- Split Spoon Sample with Liner Insert - ASTM D 1586
LS	- Liner Sample S with liner insert 3 inches in length.
ST	- Shelby Tube Sample - 3 inch diameter unless otherwise noted.
PS	- Piston Sample - 3 inch diameter unless otherwise noted.
RC	- Rock Core - NX core unless otherwise noted.

STANDARD PENETRATION TEST (ASTM D 1586) - A 2.0" outside-diameter, 1-3/8" inside-diameter split barrel sampler is driven into undisturbed soil by means of a 140-pound weight falling freely through a vertical distance of 30 inches. The sampler is normally driven three successive 8-inch increments. The total number of blows required for the final 12 inches of penetration is the Standard Penetration Resistance (N).

UBR 12590787

NEYER, TISEO & HINDO, LTD.

LOG OF TEST BORING NO. TB-1A

Project Name: CLASSIC CONSTRUCTION SITE
Project Location: 14 MILE & DECKER ROADS; NOVI, MI

NTH Proj. No: 87366 0G
Chk. By: *ajc*

SUBSURFACE PROFILE			SOIL SAMPLE DATA						
ELEV. (FT)	PROF. FRZ	GROUND SURFACE ELEVATION: 954.0 FT	DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/6-INCHES	STD. PEN. RESISTANCE (PS)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSI)
		TOPSOIL: DARK BROWN SANDY SILT WITH LITTLE CLAY	1.0						
		LOOSE BROWN SILTY FINE SAND WITH TRACE OF CLAY AND GRAVEL	3.0	LS-1	2	6	-	-	-
950		VERY STIFF TO HARD BROWN AND GRAY SILTY CLAY WITH TRACE TO LITTLE SAND AND GRAVEL AND OCCASIONAL FINE SAND STREAKS	5	LS-2	5 6 8	14	12.7	125	6200
			8.0	LS-3	5 8 12	20	-	-	8200*
945		VERY STIFF TO HARD GRAY SILTY CLAY WITH TRACE OF SAND AND GRAVEL	10	LS-4	4 7 10	17	-	-	7900*
940			15	LS-5	5 7 9	16	11.1	129	8240
		MEDIUM COMPACT BROWN GRAVELLY SAND	17.0						
		VERY STIFF GRAY SILTY CLAY WITH LITTLE FINE SAND AND TRACE OF GRAVEL	18.5						
935			20	LS-6	5 7 9	16	-	-	7200*
		END OF BORING	20.0						

* POCKET PENETROMETER VALUE.

TOTAL DEPTH: 20.0 FT
 DRILLING DATE: 7-28-87
 INSPECTOR: D. VENSEL
 CONTRACTOR: AMERICAN DRILLING CO.
 DRILLER: B. MILLS

DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE DIAMETER SOLID STEM AUGER

PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

WATER LEVEL OBSERVATION:
 8.0 FEET DURING DRILLING.
 12.0 FEET AT COMPLETION.
 10.8 FEET 1 HOUR FOLLOWING COMPLETION.
 10.2 FEET 4 HOURS FOLLOWING COMPLETION.

FIGURE NO. 1

12590788

NEYER, TISEO & HINDO, LTD.

LOG OF TEST BORING NO. TB-2A

Project Name: CLASSIC CONSTRUCTION SITE
Project Location: 14 MILE & DECKER ROADS; NOVI, MI

NTH Proj. No: 87366 03
Chk. By: *CJC*

SUBSURFACE PROFILE		SOIL SAMPLE DATA							
ELEV. (FT)	PROF. (FT)	GROUND SURFACE ELEVATION: 938.0 FT	DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/6-INCHES	STD. PEN. RESISTANCE (q)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSF)
	0.7	TOPSOIL: DARK BROWN SANDY SILT WITH TRACE OF CLAY							
	2.5	LOOSE LIGHT BROWN AND GRAY SILTY FINE SAND WITH SOME CLAY		S-1	1 2 4	6	-	-	-
935	4.5	VERY STIFF MOTTLED BROWN AND GRAY SILTY CLAY	5	LS-1	4 6 10	16	19.2	110	6480
	7.8	VERY STIFF TO HARD BROWN AND GRAY SILTY CLAY WITH SOME SAND, TRACE OF GRAVEL AND SANDY STREAKS		S-2	5 7 8	15	-	-	-
930	12.5	MEDIUM COMPACT TO LOOSE GRAY CLAYEY SAND WITH TRACE OF GRAVEL	10	LS-2	3 3 4	7	-	-	-
	17.0	MEDIUM COMPACT GRAY SILTY FINE SAND	15	S-3	4 3 6	11	-	-	-
925	20.0	VERY STIFF GRAY SILTY CLAY WITH LITTLE SAND AND TRACE OF GRAVEL	20	S-4	2 3 7	12	-	-	4200*
920	20.0	END OF BORING							

* POCKET PENETROMETER VALUE.

TOTAL DEPTH: 20.0 FT
 DRILLING DATE: 7-28-87
 INSPECTOR: D. VENSEL
 CONTRACTOR: AMERICAN DRILLING CO.
 DRILLER: B. MILLS

DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE
 DIAMETER SOLID STEM AUGER

PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

WATER LEVEL OBSERVATION:
 12.5 FEET DURING DRILLING.
 8.8 FEET AT COMPLETION.

FIGURE NO. 2

LOG 125907790

NEYER, TISEO & HINDO, LTD.

LOG OF TEST BORING NO. TB-4A

Project Name: CLASSIC CONSTRUCTION SITE
 Project Location: 14 MILE & DECKER ROADS; NOVI, MI

NTH Proj. No: 87366 0G
 Chk. By: *CAC*

SUBSURFACE PROFILE		SOIL SAMPLE DATA							
ELEV. (FT)	PROF. FILE	GROUND SURFACE ELEVATION: 980.0 FT	DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/6-INCHES	STD. PEN. RESISTANCE (q)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSF)
980		TOPSOIL: DARK BROWN CLAYEY SILT WITH LITTLE FINE SAND	0.9						
		HARD BROWN SILTY CLAY WITH LITTLE SAND AND TRACE OF GRAVEL	3.0	LS-1	4 4 8	10	-	-	9000*
975		STIFF BROWN SANDY CLAY WITH LITTLE GRAVEL	5	LS-2	3 4 4	8	11.6	122	3000* 1060
		VERY STIFF BROWN SILTY CLAY WITH LITTLE SAND AND SOME GRAVEL	8.0	LS-3	17 11 13	24	-	-	6700*
970		VERY STIFF TO HARD BROWN SILTY CLAY WITH LITTLE SAND AND TRACE OF GRAVEL	10	LS-4	6 12 12	24	12.4	129	8610
		VERY COMPACT BROWN SAND AND GRAVEL	13.0						
965		END OF BORING	15.0	LS-5	19 27 34	61	-	-	-
960			20						

* POCKET PENETROMETER VALUE.

TOTAL DEPTH: 15.0 FT
 DRILLING DATE: 7-28-87
 INSPECTOR: D. VENSEL
 CONTRACTOR: AMERICAN DRILLING CO.
 DRILLER: B. MILLS

WATER LEVEL OBSERVATION:
 BORING DRY AT COMPLETION.

DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE
 DIAMETER SOLID STEM AUGER
 PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

FIGURE NO. 4

LOG 12590791

NEYER, TISEO & HINDO, LTD.											
LOG OF TEST BORING NO. TB-5A											
Project Name: CLASSIC CONSTRUCTION SITE					NTH Proj. No: 87368 0G						
Project Location: 14 MILE & DECKER ROADS; NOVI, MI					Chk. By: <i>CX</i>						
SUBSURFACE PROFILE					SOIL SAMPLE DATA						
ELEV. (FT)	PROF. FILE	GROUND SURFACE ELEVATION: 968.0 FT			DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/8-INCHES	STD. PEN. RESISTANCE (q)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSF)
		TOPSOIL: DARK BROWN SANDY SILT			1.3						
965		LOOSE BROWN SILTY FINE SAND WITH LITTLE CLAY			5	LS-1	2	4	9.6	-	-
		VERY STIFF BROWN SILTY CLAY WITH LITTLE SAND AND TRACE OF GRAVEL			8.0	LS-2	5	13	-	-	7700*
960		VERY STIFF TO HARD GRAY SILTY CLAY WITH TRACE OF SAND AND GRAVEL WITH SOME SEAMS OF BROWN SAND			10	LS-3	6	13	11.8	129	8330
955		HARD BROWN SANDY CLAY WITH LITTLE GRAVEL			17.0	S-2	4 11 24	35	-	-	-
950		VERY COMPACT BROWN FINE GRAVELLY SAND			20	LS-4	30 34 38	72	-	-	-
		END OF BORING			20.0						
* POCKET PENETROMETER VALUE.											
TOTAL DEPTH: 20.0 FT					WATER LEVEL OBSERVATION:						
DRILLING DATE: 7-28-87					4.3 FEET DURING DRILLING.						
INSPECTOR: D. VENSEL					3.0 FEET AT COMPLETION.						
CONTRACTOR: AMERICAN DRILLING CO.											
DRILLER: B. MILLS											
DRILLING METHOD:											
HOLE ADVANCED USING A 4-INCH OUTSIDE DIAMETER SOLID STEM AUGER											
PLUGGING PROCEDURE:											
HOLE PLUGGED WITH SOIL.											

FIGURE NO. 5

LIBR 12590792

NEYER, TISEO & HINDO, LTD.

LOG OF TEST BORING NO. TB-6A

Project Name: CLASSIC CONSTRUCTION SITE
Project Location: 14 MILE & DECKER ROADS; NOVI, MI

NTH Proj. No: 87386 GG
Chk. By: *JAC*

SUBSURFACE PROFILE				SOIL SAMPLE DATA					
ELEV. (FT)	PROF. FILE	GROUND SURFACE ELEVATION: 975.0 FT	DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/6-INCHES	STD. PEN. RESISTANCE (PSF)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSF)
975		TOPSOIL: DARK BROWN SANDY SILT	0.8						
		LOOSE BROWN SILTY FINE SAND WITH LITTLE CLAY	1.4	LS-1	4	10	-	-	9000*
		VERY STIFF BROWN SANDY CLAY WITH LITTLE GRAVEL	3.0						
970		MEDIUM TO STIFF BROWN SANDY CLAY WITH LITTLE GRAVEL	4.5	LS-2	2	5	15.8	114	2650
		STIFF TO VERY STIFF BROWN SILTY CLAY WITH LITTLE SAND AND TRACE OF GRAVEL	5.9	LS-3	3	13	-	-	3200*
965		HARD BROWN SILTY CLAY WITH LITTLE GRAVEL AND GRAVELLY STREAKS	10	LS-4	6 21 13	34	-	-	-
		COMPACT BROWN FINE GRAVELLY SAND	12.9						
960		END OF BORING	15.0	LS-5	15 25 22	47	-	-	-
955			20						

* POCKET PENETROMETER VALUE.

TOTAL DEPTH: 15.0 FT
DRILLING DATE: 7-29-87
INSPECTOR: D. VENSEL
CONTRACTOR: AMERICAN DRILLING CO.
DRILLER: B. MILLS
DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE DIAMETER SOLID STEM AUGER
PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

WATER LEVEL OBSERVATION:
 BORING DRY AT COMPLETION.

FIGURE NO. 6

LIBR 12590 793

NEYER, TISEO & HINDO, LTD.

LOG OF TEST BORING NO. TB-7A

Project Name: CLASSIC CONSTRUCTION SITE
 Project Location: 14 MILE & DECKER ROADS; NOVI, MI

NTH Proj. No: 87386 0G
 Chk. By: *CAC*

SUBSURFACE PROFILE			SOIL SAMPLE DATA						
ELIV. (FT)	PRO-FILE	GROUND SURFACE ELEVATION: 076.0 FT	DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/6-INCHES	STD. PEN. RESISTANCE (S)	MOISTURE CONTENT (PERCENT)	GRY DENSITY (PCF)	UNCONS. COMP. ST. (PSF)
975		TOPSOIL: DARK BROWN SANDY SILT	0.9						
		VERY STIFF TO HARD BROWN SANDY CLAY WITH LITTLE GRAVEL AND OCCASIONAL SAND STREAKS	3.0	LS-1	3 4	8	12.3	117	9710
		MEDIUM COMPACT BROWN FINE SAND WITH TRACE OF GRAVEL AND CLAY	5	LS-2	3 7	12	7.4	-	-
971		MEDIUM COMPACT BROWN GRAVELLY SAND WITH LITTLE CLAY (STREAKS OF HARD BROWN CLAY FROM 8 TO 9.8 FEET)	6.0	LS-3	7 8 9	17	-	-	-
		VERY STIFF GRAY SILTY CLAY WITH TRACE OF SAND AND GRAVEL	9.8	10	LS-4	7 9 9	18	-	-
965									
			15	S-1	6 9 11	20	-	-	7900*
960									
			18.0						
			20.0	20	LS-5	5 12 35	47	-	-
955		END OF BORING							

* POCKET PENETROMETER VALUE.

TOTAL DEPTH: 20.0 FT
 DRILLING DATE: 7-28-87
 INSPECTOR: D. VENSEL
 CONTRACTOR: AMERICAN DRILLING CO.
 DRILLER: B. MILLS
 DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE
 DIAMETER SOLID STEM AUGER
 PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

WATER LEVEL OBSERVATION:
 6.5 FEET DURING DRILLING.
 6.5 FEET AT COMPLETION.

FIGURE NO. 7

USER 12590794

NEYER, TISEO & HINDO, LTD.									
LOG OF TEST BORING NO. TB-8A									
Project Name: CLASSIC CONSTRUCTION SITE					NTH Proj. No: 87366 0G				
Project Location: 14 MILE & DECKER ROADS; NOVI, MI					Chk. By: <i>CAC</i>				
SUBSURFACE PROFILE				SOIL SAMPLE DATA					
ELEV. (FT)	PROF. FILE	GROUND SURFACE ELEVATION: 976.0 FT	DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/6-INCHES	STD. PEN. RESISTANCE (q)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSF)
975		TOPSOIL: DARK BROWN CLAYEY SILT WITH LITTLE FINE SAND	1.2						
		LOOSE BROWN SILTY FINE SAND WITH TRACE OF CLAY	2.3	S-1	3	7	-	-	-
			5	LS-1	4	9	13.4	-	-
970		VERY STIFF BROWN AND GRAY SANDY CLAY WITH LITTLE TO SOME GRAVEL AND FEW SAND STREAKS		LS-2	6	15	-	-	-
			10	LS-3	4	13	12.2	128	-
965		VERY STIFF GRAY SILTY CLAY WITH TRACE OF SAND AND GRAVEL	11.5						
		MEDIUM COMPACT BROWN GRAVELLY SAND	13.5						
		END OF BORING	15.0	LS-4	4	16	-	-	-
960			20						
955									

TOTAL DEPTH: 15.0 FT
 DRILLING DATE: 7-29-87
 INSPECTOR: D. VENSEL
 CONTRACTOR: AMERICAN DRILLING CO.
 DRILLER: B. MILLS
 DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE
 DIAMETER SOLID STEM AUGER
 PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

WATER-LEVEL OBSERVATION:
 8.0 FEET DURING DRILLING.
 14.0 FEET AT COMPLETION.
 11.7 FEET 2 HOURS FOLLOWING COMPLETION.

FIGURE NO. 8

12590795

NEYER, TISEO & HINDO, LTD.

LOG OF TEST BORING NO. TB-9A

Project Name: CLASSIC CONSTRUCTION SITE
Project Location: 14 MILE & DECKER ROADS; NOVI, MI

NTH Proj. No: 87366 0G
Chk. By: *CAC*

SUBSURFACE PROFILE			SOIL SAMPLE DATA						
ELEV. (FT)	PRO-FILE	GROUND SURFACE ELEVATION: 975.0 FT	DEPTH (FT)	SAMPLE TYPE/NO.	BLOWS/8-INCHES	STD. PEN. RESISTANCE (Q)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSF)
975		TOPSOIL: DARK BROWN FINE SANDY SILT	0.9						
		HARD BROWN SILTY CLAY WITH TRACE OF FINE SAND AND GRAVEL	2.5	LS-1	5 8 12	20	-	-	9000*
970		HARD BROWN AND GRAY SILTY CLAY WITH TRACE OF SAND AND GRAVEL	5	LS-2	7 12 12	24	11.5	123	9900
		VERY STIFF TO HARD BROWN SILTY CLAY WITH LITTLE SAND AND TRACE OF GRAVEL	6.0	LS-3	5 8 10	18	-	-	9000*
965		VERY STIFF GRAY SILTY CLAY	10.5	LS-4	7 10 13	23	-	-	7200*
		COMPACT BROWN FINE GRAVELLY SAND	12.0						
960		END OF BORING	15.0	LS-5	16 24 22	46	-	-	-
955			20						

* POCKET PENETROMETER VALUE.

TOTAL DEPTH: 15.0 FT
 DRILLING DATE: 7-29-57
 INSPECTOR: D. VENSEL
 CONTRACTOR: AMERICAN DRILLING CO.
 DRILLER: B. MILLS

DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE
 DIAMETER SOLID STEM AUGER

PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

WATER LEVEL OBSERVATION:
BORING DRY AT COMPLETION.

FIGURE NO. 9

12590796

NEYER, TISEO & HINDO, LTD.

LOG OF TEST BORING NO. TB-10A

Project Name: CLASSIC CONSTRUCTION SITE
 Project Location: 14 MILE & DECKER ROADS; NOVI, MI

NTH Proj. No: 87366 0G
 Chk. By:

SUBSURFACE PROFILE

SOIL SAMPLE DATA

ELEV. (FT)	PRO-FILE	GROUND SURFACE ELEVATION: 965.0 FT	DEPTH (FT)	SOIL SAMPLE DATA					
				SAMPLE TYPE/NO.	BLOWS/8-INCHES	STD. PEN. RESISTANCE (PS)	MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	UNCONF. COMP. ST. (PSF)
965		TOPSOIL: DARK BROWN FINE SANDY SILT	1.0						
		HARD LIGHT BROWN CLAYEY SILT	2.3	LS-1	5 7 8	15	-	-	-
		VERY STIFF BROWN SILTY CLAY WITH LITTLE SAND AND TRACE OF GRAVEL	5	LS-2	3 4 6	10	-	-	7000*
960		STIFF BROWN SILTY CLAY WITH LITTLE SAND, GRAVEL AND SANDY STREAKS	8.5	LS-3	3 4 4	8	10.8	-	-
		MEDIUM COMPACT BROWN SILTY FINE SAND WITH TRACE OF CLAY AND GRAVEL [CLAY STREAKS FROM 12 FEET]	10	LS-4	3 5 6	11	3.9	-	-
955		END OF BORING	15.0	LS-5	4 8 11	19	14.2	-	-
950									
945									

* POCKET PENETROMETER VALUE.

TOTAL DEPTH: 15.0 FT
 DRILLING DATE: 7-29-87
 INSPECTOR: D. VENSEL
 CONTRACTOR: AMERICAN DRILLING CO.
 DRILLER: B. MILLS
 DRILLING METHOD:
 HOLE ADVANCED USING A 4-INCH OUTSIDE
 DIAMETER SOLID STEM AUGER
 PLUGGING PROCEDURE:
 HOLE PLUGGED WITH SOIL.

WATER LEVEL OBSERVATION:
 BORING DRY AT COMPLETION.

FIGURE NO. 10

USDA 12590-797

PROJECT NO. 87366 OG		NEYER, TISEO & HINDO, LTD.										SHEET 1 OF 2								
TABULATION OF LABORATORY TEST DATA																				
Test Boring or Test Pit Number	Sample Number	Depth of Sample Tip	Elevation of Sample Tip	Unconfined Compressive Strength (PSF)	Failure Strain (Percent)	Natural Water Content (Percent of Dry Weight)	In-Place Dry Density (Pounds per Cubic Foot)	Particle Size Distribution							Atterberg Limits			Apparent Specific Gravity	Loss on Ignition (Percent)	
								Colloids (Percent)	Clay (Percent)	Silt (Percent)	Fine Sand (Percent)	Medium Sand (Percent)	Coarse Sand (Percent)	Gravel (Percent)	Liquid Limit (Percent)	Plastic Limit (Percent)	Plasticity Index (Percent)			
TB-1A	LS-2	5.0	949.0	6200	12.7	12.7	124.7	-	-	-	-	-	-	-	-	-	-	-	-	-
	LS-5	15.0	939.0	8240	20.0	11.1	128.9	-	-	-	-	-	-	-	-	-	-	-	-	-
TB-2A	LS-1	5.0	933.0	6480	12.7	19.2	110.4	-	-	-	-	-	-	-	-	-	-	-	-	-
	LS-1	2.5	953.5	5260	7.2	14.6	114.0	-	-	-	-	-	-	-	-	-	-	-	-	-
TB-3A	LS-4	10.0	946.0	3770	17.7	13.1	125.4	-	-	-	-	-	-	-	-	-	-	-	-	-
	LS-2	5.0	975.0	1060	6.4	11.6	121.7	-	-	-	-	-	-	-	-	-	-	-	-	-
TB-4A	LS-4	10.0	870.0	8610	18.8	12.4	129.1	-	-	-	-	-	-	-	-	-	-	-	-	-
	LS-1	2.5	965.5	-	-	9.6	-	-	-	↑	62	13	5	5	-	-	-	-	-	-
TB-5A	LS-3	10.0	958.0	8330	20.0	11.8	129.4	↓	19	-	-	-	-	-	-	-	-	-	-	-
	LS-2	5.0	970.0	2650	20.0	15.8	113.8	-	-	-	-	-	-	-	-	-	-	-	-	-
TB-7A	LS-1	2.5	973.5	9710	5.5	12.3	117.4	-	-	↑	-	-	-	-	-	-	-	-	-	-
	LS-2	5.0	971.0	-	-	7.4	-	↓	17	-	55	18	4	6	-	-	-	-	-	-

125907798

PROJECT NO. 87366 OG		NEYER, TISEO & HINDO, LTD.		SHEET 2 OF 2																
TABULATION OF LABORATORY TEST DATA																				
Test Pit Number	Sample Number	Depth of Sample Tip	Elevation of Sample Tip	Unconfined Compressive Strength (PSF)	Failure Strain (Percent)	Natural Water Content (Percent of Dry Weight)	In-Place Dry Density (Pounds per Cubic Foot)	Particle Size Distribution			Atterberg Limits			Apparent Specific Gravity	Loss on Ignition (Percent)					
								Colloids (Percent)	Clay (Percent)	Silt (Percent)	Fine Sand (Percent)	Medium Sand (Percent)	Coarse Sand (Percent)	Gravel (Percent)	Liquid Limit (Percent)	Plastic Limit (Percent)	Plasticity Index (Percent)			
TB-8A	LS-1	5.0	971.0	-	-	13.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LS-3	10.0	966.0	-	-	12.2	127.7	-	-	-	-	-	-	-	-	-	-	-	-	-
TB-9A	LS-2	5.0	970.0	9900	7.3	11.5	123.4	-	-	-	-	-	-	-	-	-	-	-	-	-
	LS-3	7.5	957.5	-	-	10.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TB-10A	LS-4	10.0	955.0	-	-	3.9	-	-	16	↑	66	14	-	-	-	-	-	-	-	-
	LS-5	15.0	950.0	-	-	14.2	-	-	65	↑	32	3	-	-	-	-	-	-	-	-

LIBR 125907799

ZEIMET WOZNIAK
& ASSOCIATES, INC

28450 FRANKLIN ROAD
SOUTHFIELD, MICHIGAN 48034

(313) 352-8950

CONSULTING CIVIL ENGINEERS

LAND SURVEYORS

Eugene F. Zemet, PE, RLS
Thaddeus A. Wozniak, PE, RLS
Gary W. Peterson, PE
Richard A. Hofsess, PE
Wendell E. Peterson, PE, RLS
John J. Emg, RLS

November 2, 1988

Maples of Novi
Section 1 & 2
Novi, Michigan

SITE UTILITIES

Storm Water Management

The existing site slopes generally from northeast to southwest with north-south ridge lines on the central portion of the site. This configuration directs runoff to two major wetlands along the south property line except where smaller "pocketed" wetlands intercept overland flow holding it on-site.

The southeast corner of the site outlets to the enclosed storm sewer system of the Chateau Estates mobile home park and then to the wetlands at the southwest corner of the site. All runoff eventually crosses Decker Road through four parallel culverts approximately 350' north of the southwest corner.

The existing wetlands have been mapped and will be used for temporary holding of storm water runoff to provide sedimentation and attenuation of peak discharge, limiting the maximum discharge to 0.2 cfs per acre. Storage for the 10-year storm will be provided in the wetland areas.

Except for outlet pipes from the enclosed on-site storm system, culverts for road crossings and outflow control structures, the wetlands are to remain undisturbed.

During construction, appropriate soil erosion control measures will be used to prevent excessive accumulation of sediment in the wetlands.

Sanitary Sewer

The site is in the Walled Lake District North sanitary sewer district which flows to the Walled Lake Wastewater Treatment Plant. The treatment plant has a current capacity of 2.1 million

Maples of Novi
Sections 1 & 2
Page 2

USER 125903800

Sanitary Sewer Cont.'d

gallons per day (MGD) and although the City of Novi is not using its entire allocated capacity, combined development proposed in the district will exceed the current capacity of the plant. For this reason, the Oakland County DPW is negotiating a contract for design of a plant expansion to 3.5 MGD which will provide adequate capacity for this and other proposed developments. No firm dates for completion of the plant expansion are available at this writing. If a contract for construction can be let in Spring of 1989, the expansion could be completed in 1990. On November 18, 1988 the DPW anticipates finalizing the design contract. At that time, projected "on-line" dates for the expanded plant can be more accurately projected.

Until the expanded plant is operational, sanitary sewer extensions are limited to the unused capacity. However, given the time required for this and other projects to develop the land and construct buildings, taps to the system should be available on an "as-needed" basis.

Because of the topography of the sewer district, a lift station will be required to serve this project. On-site sewers for the area of the site east of Decker Road will flow to a pump station located midway along the Decker Road Right-of-Way (R.O.W.). A force main from the pump station is proposed to run northerly to 14 Mile Road and in the 14 Mile Road R.O.W. westerly to the existing 18" gravity sewer running around the lake to the treatment plant.

The proposed Congregate Care facility west of Decker Road will run to the 8" gravity sewer in 14 Mile Road.

Projected Sanitary Sewer flows for this development are as follows:

TYPE	DWELLING UNITS	UNIT FACTOR	EQUIVALENT UNITS
Congregate	100	0.60	60
Adult Village	300	0.60	180
Golf & Family	500	1.0	500
Commercial	60,000 S.F.	1.1/1000 S.F.	66
Office	20,000 S.F.	0.40/1000 S.F.	8
Total			814

814 x 3.5 = 2,849 persons

Average Flow: 2,849 x 100 gal/day = 284,900 gal/day = 0.44 cfs

Peak Flow: 2,849 x 400 gal/day = 1,139,600 gal/day = 1.76 cfs

All proposed facilities will be designed to accommodate anticipated sewer flows.

LIBER 12599 PG 801

Maple of Novi
Section 1 & 2
Page 3

Water Mains

There is an existing 42" DWSB Transmission Main in 14 Mile Road and a metered 36" main on the west side of Decker Road. A 16" stub was provided downstream of the meter. The proposed development will connect to the stub and distribute water throughout the development and provide stubs for future connection at the northeast and southwest corners.

Using projected population units as calculated for the sanitary sewer system, water demand will be as follows:

Average Flow: 2,849 persons x 100 gal./day = 284,900 gal./day

Maximum Daily Demand: 284,900 x 2.5 = 712,250 gal./day

The water distribution system will be designed to provide for the required maximum and average daily flows as well as required fire protection demands and will not have any adverse effect on the system.

1102s2t

LIBR 125907802

Existing Easements and Structures

As indicated previously, generally the site topography has dictated the foundation of our site plan design and layout. The effect is to minimize areas of heavy cuts. The primary areas of fill will occur along golf course fairways and greens, with the exception of those areas that abut wetlands. The purpose of these berms are twofold; one is to create an attractive and challenging golf course, as well as to provide a measure of privacy and safety for those homes and homeowners along the golf course.

Along with contouring of the golf course, areas of fill will occur in berming of site perimeters and entrances to serve as both community buffers and creation of the community identity. In as much as these criteria are discussed at length in the area treating the general landscape concept for this site, earlier in this area plan, any further discussion here would be redundant.

To identify any other areas of cut and fill on this site beyond the general perimeters discussed thus far, would require a complete engineering review and design, including a site grading and storm drainage plan. An obvious prerequisite to a fully detailed engineering plan would be approval of our P.U.D. request and preliminary site plan approval, any further discussion of site grading details would be premature at this point. As the planning and approval process proceeds, an engineering review and design will take place, and more information will become available.

The property as it exists today could best be described as old farm field. With exception of an old foundation from the farm house that used to stand just east of the corner of Decker and 14 Mile and the gravel drive that serviced the previous home and a vacant, boarded up house at the eastern property edge, the only other structure on the site is an underground water meter station on the southwest corner of 14 Mile and Decker Roads.

Oakland County records indicate that there are presently four existing easements on the property. One easement is held by Oakland County for the purpose of sanitary sewer.

Two easements are in the name of the City of Novi. One of these is a temporary easement for the purpose of slope and grading which apparently were executed for road improvements and drainage along Decker Road. The other easement in favor of Novi is for the water supply system, likely pertaining to the installation of the water meter station on the southwest corner of Decker and Fourteen Mile Roads. The fourth easement of record runs parallel to Fourteen Mile Road for the purpose of communication facilities. For your reference, those easements have been indicated on the attached boundary survey of the property.

LIBERS 125908803

Maples of Novi - Existing Easements

- L. 6655 P. 262 30' Permanent easement for water supply system & 20' Permanent easement for water supply system.
- L. 5315 P. 718 27' Permanent easement for sanitary sewer.
- L. 8408 P. 700 27' Permanent easement to Michigan Bell Telephone.
- L. 8845 P. 282 27' Permanent easement to Michigan Bell Telephone.
- L. 8845 P. 284 27' Permanent easement to Michigan Bell Telephone.
- L. 7870 P. 592 Grading rights easement for improvement of Decker. This easement was to expire upon completion of the improvement of Decker Road.

Note: These easements are listed here by the liber and page number of the first page only where there is more than one page.

1108s2n

LIBER 125900804

4. SITE CHARACTERISTICS

- 1.) Rolling topography;
- 2.) Natural wetland areas;
- 3.) Wooded;
- 4.) Sloping terrain; and
- 5.) Wide open space.

In creating a Master land use concept, the following criteria are used as standards.

- 1) Self contained single family attached and detached home ownership community.
- 2) Preservation of site qualities.
- 3) Existing trees, significant topography, drainage patterns, significant views, wetlands, habitat, etc.
- 4) To develop a community-wide open space system that allows for the creation of an inter-connecting park system golf course throughout the community.
- 5) To develop a roadway system which allows for the creation of collector roads linking to the overall roadway network in the City of Novi.
- 6) Establish design and development standards of architecture materials, landscape design and all other site-related elements.
- 7) Provide a broad range of housing values to serve the widest possible spectrum of consumers in the Novi market, such as:
 - a) Empty nesters
 - b) Young urban professionals
 - c) First time home buyers
 - d) Retirees

Our goal is to use Classic's traditional standards for a single family condominium home ownership community living, emphasizing the natural environment and preservation of the existing.

125901805

Landscape Concepts

The general landscape concept envisioned for this site will generally reinforce the existing indigenous plant materials found on site. The streetscape of both collector and cul de sac roads will be planted primarily with shade trees and some evergreen material. The unit typical plantings will consist of a creative mix of ornamental shrubs near the home with large herbaceous trees spread around the homes.

The wetlands will remain in tact as they are today. Wherever crossing of a wetland is required it will be done at the narrowest point to minimize any impact. There will be no grading or disturbance in wetland areas.

This site contains areas of wetlands and ridges of steep grades. The topography of the site has primarily dictated patterns and flows of both the main collector and secondary cul de sac roads. Using the existing topography of the site as the dominant design criteria assures minimal cut and fill activities, as well as minimal resultant environmental impact while at the same time affording unit orientations with impressive views of site amenities.

The heaviest areas of fill activities will be confined to contouring of the golf course, as well as berming to be installed around the site perimeters for the sake of privacy and screening. Berming and landscaping will be heavy in the area of the three development entrances to create a unique identity with key focal points for this development. As well as the site entries, there will be substantial berms created on the southeast and southwest corners of Decker and Fourteen Mile Roads for the purpose of screening of the commercial center. These berms also serve to create the City of Novi entrances with inviting fountains and landscape treatments which lend both esteem and an identity, linking this corridor as the northeast entrance to the City of Novi.

The foundation of the landscape concept for this development rests upon creation of an on-site nursery from existing trees. Prior to our clearing and land balance activities it is our intention to selectively choose trees of appropriate size and shape to transplant into a nursery and later replant in our landscaping operations. This again will reinforce the indigenous plant life on site and help to create a harmonious blend between the large tracts of woodlands and wetlands with the more manicured golf course, green belts and open space. It has been our experience on an existing development that this concept works and become a valuable asset in the design and presentation of an attractive and creative landscape plan.

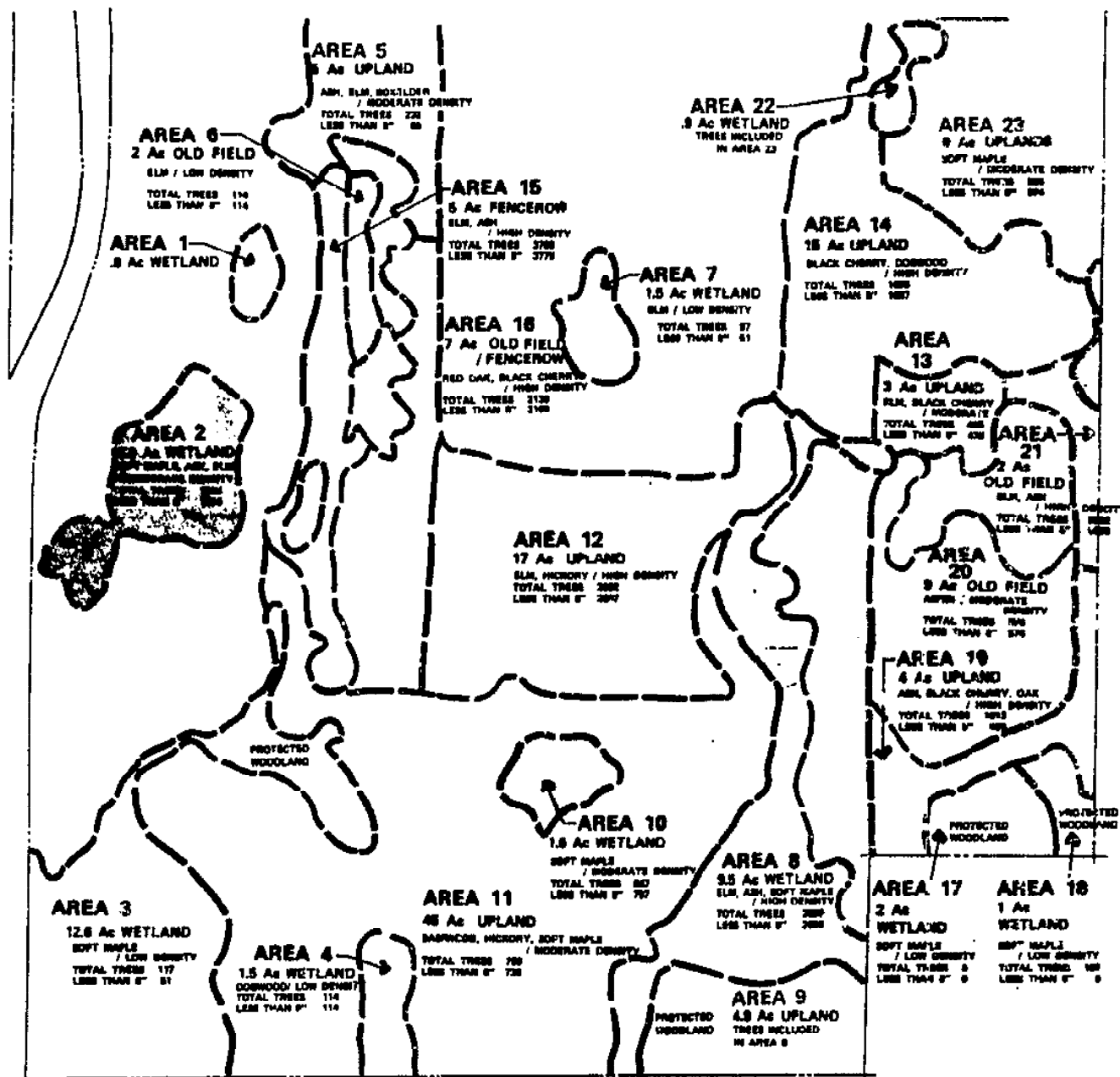
125907806

Through the process of numerous conceptual meetings with city planning officials and consultants, various wetlands and woodlands have been identified and mapped. The most substantial and high quality woodland tract runs from east to west at the southern-most property line. It has been agreed that Classic Construction will preserve this woodland tract in its' present state. This area of wooded wetlands and woodlands approximates forty acres. The benefits of this preservation are obvious. While it provides a very substantial on-site amenity, it also affords the City of Novi with the first leg of the "Farm Trails" portion of the "Rhythms" trail concept.

As well as this area, the other various wooded-wetlands and wetlands on site will be preserved. While it has been generally agreed between Classic Construction, Classics' Woodland consultant, and Novi Woodland Consultants, that the balance of vegetation on-site is of a much lower quality woodlands and, in fact does not even qualify as an emergent woodlands by U.S. Department of Forestry standards, Classic will preserve existing stands of trees wherever possible on the balance of the site. Throughout the process of our existing developments where woodland/wetland ordinances similar to Novi's exist, Classic Construction is very environmentally conscience, to which our track record and reputation will attest.

Incorporated into this document for your review is the Wetland report and mapping prepared on this property. In it you will see the primary criteria of wetland identification spelled out; plant material, insect and wildlife, soils, etc.... These wetlands will be preserved and serve as amenities and hazards to the golf course and as well, will be incorporated into the Maples of Novi storm water management and retention system. The woodlands report is also incorporated into this document for your review. This report defines woodlands by d.b.h., the primary criteria employed by the U.S. Department of Forestry. Also included for your review is the Soil Survey taken from the Soil Survey of Oakland County and the U.S. Department of Agriculture, Soil Conservation Service in cooperation, with the Michigan Agricultural Experiment Station.

12590807



JJR/

303 N. Main Street
Ann Arbor, Michigan 48104
313 632 4457

2828 Routh Street, Suite 600
Dallas, Texas 75201
214 871 9220

Planning
Landscape Architecture
Urban Design Civil Engineering

USER 12590808

Johnson, Johnson & Roy, Inc.

12 March 1988

Mr. Larry DePriest
7001 Orchard Lake Road, Suite 130
West Bloomfield, MI 48322

Re: Classic Construction - Novi
JJR No. 14554A

Dear Mr. DePriest:

Wetland boundaries for the site located at 14 Mile and Decker were identified on 18 February 1988. These boundaries are located on the enclosed copies of the aerial photograph of the site. There are 14 wetland areas on the site. Five of these wetland areas fall under jurisdiction of the City of Novi and four of these five fall under jurisdiction of the Michigan Department of Natural Resources. Three of the 14 wetlands are less than 0.1 acre, six of the 14 are less than 2 acres, and 5 are greater than 2 acres. The wetland acreage on site totals approximately 31 acres. Wetland boundaries were flagged in the field, and more accurate area calculations are being processed. Of the total 205 acres of the site, the wetlands exist on approximately 15 percent.

Soils within wetland areas on site are classified by the USDA Soil Conservation Service as Houghton and Adrian mucks and as hydric soils. All field soil samples taken within wetland boundaries tested as hydric soils.

The two major wetland areas contain a variety of hydrological conditions including open water and stream systems. The remaining smaller wetland areas are, for the most part, low-lying areas of scrub/shrub wetland with very few areas of open water.

A wide variety of wetland vegetation types exist on the site. Approximately 13 acres of the total wetlands consist of forested wetlands. These forests are primarily ash, elm, maple, and poplar. The smaller wetland areas within the agricultural fields are primarily scrub/shrub and comprise approximately 12 acres of the total wetlands on the site. These areas consist primarily of scrub willow, red osier dogwood, gray dogwood, and reed canarygrass. Cattails and sedges occupy the emergent wetland areas on approximately 6 acres of the total wetland area.

Supplement-B

MSR 125908809

Mr. Larry DePriest
12 March 1988
Page 2

The wetland numbered 8 is regulated by the City of Novi, and wetlands numbered 1, 2, 7, 11, and 17 are regulated by MDNR and the City of Novi because of their size. The current language of the Wetland Protection Act calls for preserving wetlands or maintaining no net loss of wetland areas. The proposed activity must be dependent on being on the wetland. Should you propose any type of mitigation, it is most likely that wetlands created would have to be done on a ratio of two acres per every acre of wetland filled. These observations and boundaries are based on our current understanding of Michigan Department of Natural Resources (MDNR) methods and policy. The MDNR has final decision on all wetland matters.

Sincerely,

JOHNSON JOHNSON & ROY/inc



Kevin F. Noon

KFN/wjf

Encl.

LIBR 12590810

WETLAND DESCRIPTIONS

Maples of Novi

Wetland #1- Largely a forested wetland with patches of shrub-scrub wetlands. Considerable standing water 2 - 8" deep. Open water covered with Duckweeds. Mallard ducks observed. Vegetation mostly Red Maple, along with American Elm and Red Ash. Understory of Carex sedge, Spikerush, Beggar-tick (Bidens sp.), Willow and saplings. Ditch outlet on southwest margin. Sandy soil. Moderate to high value. DNR regulated.

Wetland #2- A shrub-scrub wetland dominated by Button bush which applies permanent water. Other plant species include Wild Grape, Wild Rose, Nightshade, Canary Grass, as well as Red Maple and Red Ash along the shoreline. Swale leading upland on east side; more Dogwood there. Soils indicate 6-10" clay over mucky peat. Moderate value; stormwater storage especially. Not DNR regulated.

Wetland #3- Basically a Carex sedge wet meadow, surrounded by patches of Grey Dogwood and fringe of forested wetland. In addition to sedges, emergent marsh has Sensitive Fern, Joe Pye Weed, Jewel Weed and Arrow Arrowhead. No standing water. This wetland drains south and is hydrologically connected to Wetland #4 and to #5. Soils consist of gray, dense clay. Wetland of moderate value. DNR regulated because connected to other wetlands.

Wetland #4- Primarily a Red Maple swamp or forested wetland. Also some American Elm, Red Ash, and Silver Maple, with an understory of Jewel Weed, Sensitive Fern, and False Nettle. Although widespread standing water covered by Duckweed, may dry out in late summer. Ditch drains south into Chateau Mobile Home Park; rather stagnant water flows through. Wetland #15 flows into Wetland #4. Some logging of trees. Wetland of low to moderate value. Soils consist of 1-2 feet of black muck over sand. DNR regulated.

Wetland #5- Trail cuts off this wetland from Wetland #3. Black Walnut trees on boundary between them. Vegetation consists of Red Ash and American Elm trees, along with understory of Grey Dogwood, Wild Grape, and Black Raspberry.

12590811

Wetland #5 Cont.- Some standing water in places, especially along dirt trail where sedges occur. Soil not checked. Value is low to moderate. Not DNR regulated, unless hydrologic connection to Wetland #3 is established.

Wetland #6- Seasonally wet emergent marsh. Vegetation mostly Swamp Goldenrod, along with canary Grass, Swamp Dock, and a few patches of Willow-Dogwood, especially on east side. A few large Eastern Cottonwood trees on north and south margins. No standing water at time of field survey. Soils are clayey mucks at surface, with more clay at depth. Value is low; mostly runoff water storage. not DNR regulated.

Wetland #7- Mixed shrub-scrub, forested and emergent wetlands. Much Willow brush and Grey Dogwood in center. On south and east margins, more Tussock Sedge and Canary Grass marsh. No standing water now, but evidence of standing water in Spring as shrubs have water marks. No outlets or inflow ditches. Soils are clayey muck. Could be a groundwater recharge area. Value is low to moderate. Not DNR regulated.

Wetland #8- Part of deciduous woodland near Decker Road. Seasonally flooded swamp. Contained 6-10" of standing water at time of field survey. Numerous tadpoles, frogs, and mosquito larvae observed. Open water surrounded by Red Ash, with some Red Maple and American Elm 4 - 18" in diameter. Evidence of higher water levels. No hydrologic connection to Wetland #7. No outlet. Relatively high value. Not DNR regulated.

Wetland #9- Mere pothole adjacent to a Red Ash tree and large Swamp Oak, located south of Wetland #8, along Decker Road. Depression colonized by Brome Grass, as well as Smartweed, Swamp Dock, and Canary Grass. Soils are mucky. No standing water. No inlets or outlets. Low value. Not DNR regulated.

Wetland #10- This wetland is a large, drowned swamp. Located along Decker Road, this wetland receives drainage from Wetland #1, and in turn drains across Decker Road via a quadruple culvert. Construction of Decker Road the placement of the culverts probably resulted in the slight increase in water depths in this wetland. Standing water is widespread and colonized by Duckweeds. Most of the partially drowned trees are Red Maple, with an understory of Buttonbush, Sparganium, Canary Grass, various sedges, and Jewel Weed.

UGER 125907812

Wetland #10 Cont.- Numerous Bullfrogs and Red Winged Blackbirds. Two sets of four 24" oval culverts drain this wetland. Soils were not checked. Value is moderate to high. DNR regulated.

Wetland #11- A mixed shrub-scrub, open water, forested wetland, and sedge marsh. Much of the vegetation consists of Black Willow trees, Buttonbush shrubs, as well as Grey Dogwood, Willow brush, Wild Rose and swamp tree saplings. The southern end had more open water, and Mallard ducks were observed. The north end ended in lowland hardwoods and a dry ditch leading northward. Hydrologically, the wetland is isolated. The soils were mucky. Value is moderate to high. Not DNR regulated.

Wetland #12- Basically a small depression in which a seasonally wet, forested wetland occurs at about 200 feet northeast of Wetland #11. Most of the trees are Box Elder with Wild Grape intertwined. About the upland edge is Black Cherry and Black Walnut. Unfortunately, this wetland is currently being utilized as a garbage dump by a nearby resident. Rats were observed climbing over the household garbage which is a health hazard. The soils were not checked. Because of impacts, the value is very low. Not DNR regulated, but a violation has occurred.

Wetland #13- Located 250 feet south of 14 Mile Road, this forested wetland is oval-shaped. Standing water 6 - 12" deep prevailed at the time of analysis. Eastern Cottonwood trees 12 - 24" in diameter occur around the edges. Tadpoles and mosquito larvae colonize the brown, leaf-ridden pools. A slight swale leads toward Wetland #14. Otherwise no hydrologic connections. Soils are sandy with high water table. Value appears moderate. Not DNR regulated.

Wetland #14- Adjacent to 14 Mile Road, north of Wetland #13. Is a seasonally wet forested wetland. Vegetation consists mostly of Box Elder along with American Elm, Red Ash, and Red Maple. Very little understory. No standing water, but evidence of previous ponded water. Sandy clay soil. Possible subsurface connection with Wetland #13. Some road drainage into this wetland from the east. Value appears low. Not DNR regulated.

Wetland #15- A large forested wetland located northeast of the Mobile Home Park. Largely a Red Maple swamp, slightly drowned as evidenced by dead trees. Also some logging and tree tops.

DEP 12590813

Wetland #15 Cont.- Widespread standing water covered by dense Duckweeds. Vegetation is mostly Red and Silver Maples with an understory of Swamp Goldenrod, Jewel Weed, various sedges, and Beggar Ticks. In places where previous logging occurred, it was very brushy. Soil consists of 12" of clayey muck, then black & gray clay, and finally gray sand at -24". No moderate. DNR regulated.

Wetland #16- A forested wetland that has less standing water than Wetlands #10 and #15. Also does not appear to be drowned. Basically a Red Maple swamp, with an understory of Jewel Weed, Sensitive Fern, and False Nettle on dead logs and slight knolls. Numerous tadpoles, frogs and mosquito larvae in pools, which were drying up. Soils were mucks over gray sand. Far east side of this wetland not mapped. Hydrologically connected to Wetland #15, with flow probably into Wetland #15. Value appears low to moderate. Could be a groundwater recharge area. DNR regulated.

Wetland #17- Isolated forested wetland. Some standing water, but drying up. Red and Silver Maple swamp, seasonally wet, with understory of Sensitive Fern, Forest Nettle, and saplings of Red Maple and American Elm. Southern end had more open water, Buttonbush, and perhaps ducks in it. Saw two Woodcock. A dry ditch on northern edge leading toward Wetland #15 was mapped; no flow at this time. Soils not checked. Value appears moderate to high. Not DNR regulated unless connection to Wetland #15 is established.

Wetland #18- Basically a Buttonbush shrub swamp with permanent open water. Buttonbush was dense, appeared very healthy, and 6-8' tall. Frogs were heard. Along wetland edges observed Nightshade, Grey Dogwood, Sensitive Fern, and Smartweed. Generally, 2 to 4' of relief about the edges. Soils consist of a surficial muck, then gray clay, followed by black peat at -20". Water depths averaged 12 - 18". Value is probably moderated. Not DNR regulated.

Wetland #19- Located about 50 feet southeast of Wetland #18, but no direct hydrologic connection. Is a Button bush shrub swamp like Wetland #18. Widespread standing water. Croaking frogs heard. Along margins are Grey Dogwood, along with Red Maple, Red Ash, and Swamp Oak. Soils exhibit 6" of mucky peat over sandy gray clay. No inlets or outlets. Does not appear to be connected to Wetland #18. Less Duckweed in this wetland, perhaps due to Ducks feeding. Value is probably moderate to high. Not DNR regulated, even if connected to Wetland #18.

125908814

ENVIRONMENTAL DATA FORM - WETLANDS PRIORITY STUDY

I. LOCATION

SITE# A - Sec. 2
 SIDWELL# 22-01-100-001
 22-02-200-002
 22-02-200-003
 22-02-201-001
 22-02-200-004

MAJOR CROSSROADS East of Decker Rd. bet. 13 & 14 Mile Rds.

II. STORM WATER CLASSIFICATION

EASEMENT NEEDED 20' SIZE

III. ZONING CLASSIFICATION (S)

R-A Residential agricultural
Master Planned 3.3/.08, P.U.D. Planned 5.0.

IV. HYDROLOGY

GROUND WATER DEPRESSION, Drains into Walled Lake.

V. SOIL DESCRIPTION

1. Adrian muck

2. Soil inspection

If site is inundated average water depth: 6-12"

3. Soil Classification

A. Organic (greater than 20% organic matter and deeper than 12")

Muck (highly decomposed, original plant parts not recognizable)

B. MINERAL (less than 20% organic matter or if greater than 20%, shallower than 12").

1. Describe the soil horizons, from the surface down.

12590815

DEPTH	TEXTURE	COLOR

TEXTURE

S-Sand
 SL-Sandy Loam
 LS-Loamy Sand
 L-Loam
 SIL-Silt Loam
 CL-Clay Loam
 C-Clay
 RC-Rock/Cobbles
 CS-Cobbly Sand
 note other

COLOR

R-Red
 BR-Brown
 B-Black
 Y-Yellow
 G-Gray
 RB-Reddish Brown
 GB-Grayish Brown
 RY-Reddish Yellow
 note other

4. Soil drainage class

Poorly Drained

VI. VEGETATION

Open water & Emergent (70-80%)
 Shrub-scrub & forest (20-30%)

Species of trees, flowers, etc. observed and rank on abundance scale.

<u>NAME</u>	<u>SCIENTIFIC NAME</u>	<u>ABUNDANCE RATING</u>
Marsh Fern	<i>Thelypteris palustris</i>	MA
Cut Grass	<i>Leersia oryzoides</i>	A
White Aster	<i>Aster vimineus</i>	UC
Nedding Smartweed	<i>Polygonum</i>	UC-MA
U K Sedge (Beak Rush)	<i>Rynchospora alba</i>	A
Common Chicory	<i>Cichorium intybus</i>	MA
Common Ragweed	<i>Ambrosia artemisiifolia</i>	MA
Common Dandelion	<i>Taraxacum officinale</i>	UC
Curled Dock	<i>Rumex crispus</i>	MA
Canary Reed Grass	Phalaun App.	A
Buttonbush	<i>Cephalanthus occidentalis</i>	A
Goldenrod	<i>Solidage spp.</i>	A
Red Maple	<i>Acer rubrum</i>	A

US 12590816

<u>NAME</u>	<u>SCIENTIFIC NAME</u>	<u>ABUNDANCE RATING</u>
Wild Carrot	<i>Daucus carota</i>	A
Sandbar Willow	<i>Salix interior</i>	A
Shrub Willows	<i>Salix</i> spp.	A
Lance-leaved Goldenrod	<i>Solidago graminifolia</i>	A
Eastern Cottonwood	<i>Populus deltoides</i>	A
Prickly Lettuce	<i>Lactuca scariola</i>	MA
Poison Ivy	<i>Rhus radicans</i>	MA
Yarrow	<i>Achillea millefolium</i>	UC
Bittersweet Nightshade	<i>Solanum dulcamara</i>	A
Swamp Fly Honeysuckle	<i>Lonicera oblongifolia</i>	UC
Common Cattail	<i>Typha latifolia</i>	A
Clearweed	<i>Pilea pumila</i>	MA-A
Peachleaf Willow	<i>Salix amygdaloides</i>	MA
Duckweed	<i>Lemna</i> spp.	A
Misc. Swamp Mosses		A
Beggar Ticks	<i>Bidens connata</i>	MA
Water Horehound	<i>Lycopus americana</i>	A
Spotted Touch Me Not	<i>Impatiens capensis</i>	A
Evening Primrose	<i>Oenothera Biennis</i>	MA
Misc. Mushrooms		A
Giant Bur-reed	<i>Sparganium eurycarpum</i>	A
White Ash	<i>Fraxinus americana</i>	MA
False Nettle	<i>Boeheria cylindrica</i>	A
Nodding Bur Marigold	<i>Bidens cernua</i>	UC
American Elm	<i>Ulmus americana</i>	A
Wild Grape	<i>Vitus</i> spp.	A
Hog Peanut	<i>Amphicarpa bracteata</i>	MA
Turtlehead	<i>Clelone glabra</i>	UC
Great Lobelia	<i>Lobelia Siphilitica</i>	UC
Wild Mint	<i>Mentha arvensis</i>	MA
American Basswood	<i>Tilia americana</i>	UC
Boneset	<i>Eupatorium perfoliatum</i>	MA
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	A
Crack Willow	<i>Salix fagilis</i>	UC
Black Ash	<i>Faxinus nigra</i>	UC-MA
Gray Dogwood	<i>Cornus racemosa</i>	MA
Swamp White Oak	<i>Quercus bicolor</i>	MA
Common Winterberry	<i>Ilex verticillata</i>	UC
Coontail	<i>Ceratophyllum demersum</i>	A
Swamp Rose	<i>Rosa polustris</i>	A
Blue Vervain	<i>Verbena hastata</i>	UC
Staghorn Sumge	<i>Rhus typhina</i>	MA
Highbush Cranberry	<i>Viburnum trilobum</i>	UC
Shining Rose	<i>Rosa nitida</i>	A

LICR 12590 817

Abundance rating

A-abundant

MA-moderately abundant

UC-uncommon

R-rare

Ecological system according to the National Wetlands Inventory Maps.
 PFOY _____.

Approximate number of trees greater than 2 1/2" >100 .

VII. WILDLIFE

	<u>SPECIES</u>	<u>EVIDENCE OF</u>	<u>OBSERVED</u>	<u>SPECIES EXPECTED</u>
	<u>OBSERVED</u>	<u>REPRODUCTION</u>	<u>OBSERVED</u>	<u>BUT NOT OBSERVED</u>
1. MAMMALS				
Raccoon	X	No	tracks	
Whitetail Deer				X
Opossum				X
Chipmunk				X
2. BIRDS				
Red-winged Blackbird	X	Yes	nest found	
Wood Duck			good habitat	X
European Starlings	X	No	flock	
Downy Woodpecker	X	No	picking	
Eastern Wood Pewee	X	No		
Green-backed Heron	X	No	common	
Mallard	X	No	several	
Blue Jay	X		abundant	
B C Chickadees	X		abundant	
Common Grackle	X		flew over	
Black Duck				X
Great Blue Heron				X
Common Egret				X
3. REPTILES/ AMPHIBIANS				
Green Frog	X	No		
Tree Frog			heard	X
Leopard Frog	X	No		
Wood Frog				X
Water Snakes				X
Snapping Turtle				X

USFS 125900318

SPECIES	EVIDENCE OF	SPECIES EXPECTED
OBSERVED	REPRODUCTION	BUT NOT OBSERVED
4. FISH		
Minnows		X
Bluegills		X
5. INSECTS		
Short-horned Grasshoppers	X Yes	mating
Long-horned Grasshoppers	X Yes	singing
Snowy Tree Cricket	X Yes	calling
Viceroy Butterfly	X No	abundant
Damselflies	X No	"
Carpenter Ants	X No	dead stump
Water Bugs	X No	abundant
Red Skimmer Dragonfly	X No	
Misc. Dragonflies	X Yes	mating
Skippers	X No	
Drone Fly	X No	
Craneflies	X No	abundant
Leafhoppers	X No	abundant
Bush Katydid (scudderia)	X No	woodsedge
Ctenuchis Moths	X No	
Fishflies		eggs maybe
Bark Beetles	X Yes	dead wood
Wood-borin Beetles	X Yes	" "
Aphids	X Yes	" "
Paper Wasps	X No	abundant
Greenbottle Fly	X No	
Marsh Flies	X Yes	mating
Mound-building ants	X Yes	mounds
6. OTHER INVERTEBRATES		
Shamrock Spider	X No	
Banded Garden Spider	X No	
Funnel Web Spider	X No	

LIBR 125907819

6. OTHER
INVERTEBRATES (CONT)

Pond Snails	X	No	
Sac Spiders (clubionid)	X	No	on bur-reed

SPECIES <u>OBSERVED</u>	EVIDENCE OF <u>REPRODUCTION</u>	<u>OBSERVED</u>	SPECIES EXPECTED <u>BUT NOT OBSERVED</u>
----------------------------	------------------------------------	-----------------	---

6. OTHER
INVERTEBRATES (Cont.)

Daddy-long-legs	X	No	woods
Orb Weavers	X	No	common
Fishing Spiders	X	No	watersurface
Misc. Snails	X	No	on cattails

7. RARE OR
ENDANGERED
SPECIES

None

VIII. USE AND USE POTENTIAL

1. Site is not currently being used by the public.
2. Site has potential for use in:
 - Nature study/birdwatching
 - Hunting
3. Classification of the wetland is common within the city.

LIBER 12590820



WILLIAM
NEWCOMB
Associates

November 7, 1988

Mr. Sam Blumenstein, Pres.
Classic Construction Corp.
21177 Hilltop
Southfield, MI 48034

RE: THE MAPLES

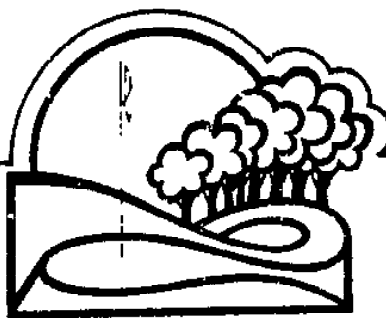
Dear Mr. Blumenstein,

The Maples Executive Golf Course is routed through the residential areas and represents the highest quality executive course. The holes are designed to meld with the topography of the site to create an interesting golfing challenge.

The course is routed adjacent to several wetlands areas to provide a "double wide" greenbelt running throughout the development. Locating golf holes adjacent to wetlands calls for special design construction and maintenance techniques to preserve the wetlands. These special concerns require special solutions which will be enacted from the point of beginning construction to, eventually, maintaining the course on a daily basis.

First, the wetlands are protected during the construction phase by protective soils erosion and sedimentation control methods. In its natural state, the site runoff often goes toward these wetlands. In many instances, this flow direction will be reversed, by regrading; allowing the increased flow, created by a lower runoff coefficient, to be directed away from the isolated wetlands and directed into the storm water system.

This reverse flow grading will also provide an additional buffer for normal golf course maintenance practices such as fertilizer and fungicide application. And, as a final measure of executing safeguards, there



LIBR 12590821

Mr. Sam Blumenstsein, Pres.
November 7, 1988
Page 2

will be specific turf maintenance practices which will minimize any potential problems.

First, fertilizer application will be light and frequent. This will allow for all of the material to be absorbed and avoid runoff of excess fertilizer which occurs in applications which are infrequent and heavy.

Second, strict water use controls will be practiced. To help accomplish this control, the golf course irrigation system will be fully automated. This will allow for individual irrigation sprinkler control to within one minute increments. By careful observation of the golf course terrain and water needs, the irrigation program is controlled by a central computer panel. This master control system has additional built in ground sensors to shut down the system automatically when the moisture level is adequate or in the event it is raining during a normal irrigation cycle.

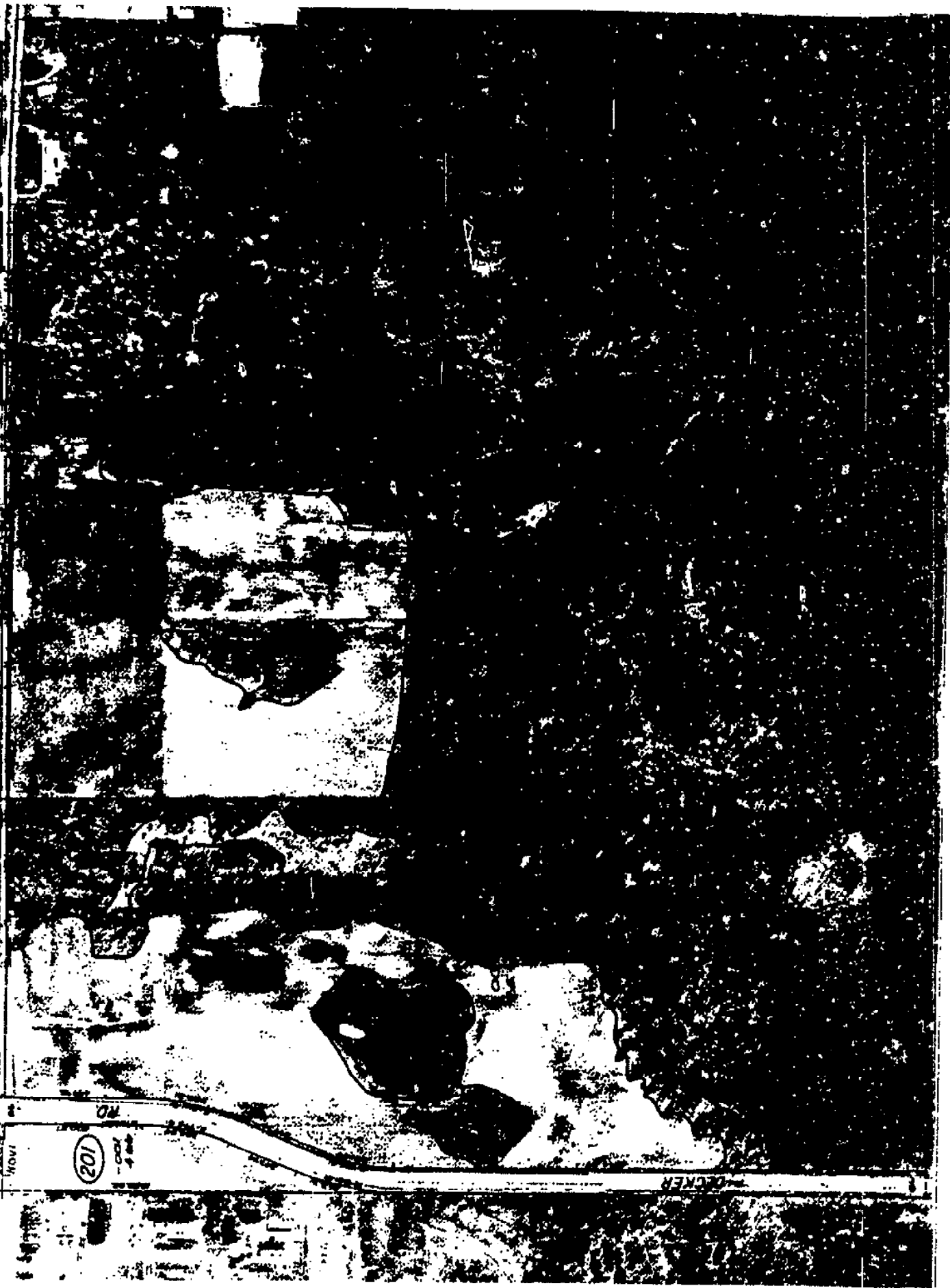
These special construction and maintenance practices will allow for the course to become part of the overall landscape without disrupting the natural wetlands features of the site.

Sincerely,

William K. Newcomb, M.L.A.

WKN/tls

REF 125901822



Woodland Map
- 19

125907823



Metropolitan Forestry Consultants, Inc.

WOODLANDS STUDY
BY INDIVIDUAL
TIMBER TYPE
(DETERMINATION OF
MAJORITY TREE SIZE)

ON

CLASSIC CONSTRUCTION CORP.

PROPERTY LOCATED AT
THE SOUTHEAST CORNER
OF FOURTEEN MILE ROAD
AND DECKER ROAD

(CONTAINING APPROXIMATELY
230 ACRES)

IN THE CITY OF
NOVI, MICHIGAN

MARCH 11, 1982

BY METROPOLITAN FORESTRY CONSULTANTS, INC.

Robert A. Cool, R.F. #310, M.A.C.F. #16

12590824

Classic Construction Corp.
14 Mile and Decker
Novi, MI
March 11, 1988
Page 2

DETERMINATION OF MAJORITY TREE SIZE

Table of Contents

- 1. Purpose of Study
- 2. Majority of Tree Size Data by Timber Type and Description
(23 Timber Type Areas defined on property)
- 3. Aerial Photographs of Property Showing Numbered Timber Types
- 4. Request for Determination of Actual Woodlands
- 5. Appendix

LIBR 125902825

Classic Construction Corp.
14 Mile and Decker
Novi, MI
March 11, 1988
Page 3

DETERMINATION OF MAJORITY TREE SIZE

Purpose of Study

The City of Novi, Michigan has adopted an ordinance which was established to help preserve existing woodlands. The developer must gather and present data showing timber types and majority tree size to the City of Novi. This data will be used to delineate the actual woodlands for locating, rating, tagging and mapping. The ordinance states * that a group of trees is considered an official woodlands whenever the majority of the trees are eight (8) inches diameter or greater. Conversely, whenever the majority of the trees are less than eight (8) inches diameter, the group of trees are not considered official woodlands.

* ORDINANCE NO. 86-125

Section 4.01. Lands to Which Ordinance Applies

sub 3) "All large or small tracts of land which have a canopy cover of at least 10,000 square feet formed by trees, a majority of which have a d.b.h. of 8" or greater."

Page 4

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 4

UBER 125900826

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 1

Description - Major species/ Density: Ash/Moderate
 Site: Wetland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	857	
2"	458	857	
3"	0	409	
4"	0	409	sum 1"-7" = 672
5"	0	409	
6"	102	409	
7"	112	307	
<hr/>			
8"	29	195	
9"	68	166	
10"	18	98	sum 8"+ = 195
11"	45	80	
12"	13	35	
13"	22	22	

Timber Type Area # 2

Description - Major species/ Density: Soft maple, Elm/Moderate
 Site: Wetland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	938	
2"	458	938	
3"	407	480	sum 1"-7" = 938
4"	0	73	
5"	73	73	

LIBER 12590 PG 827

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 5

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 3

Description - Major species/Density: Soft maple/Low
 Site: Wetland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	117	
2"	0	117	
3"	0	117	
4"	0	117	sum 1"-3" = 51
5"	0	117	
6"	51	117	
7"	0	66	
8"	29	66	
9"	0	37	sum 8"+ = 66
10"	37	37	

Timber Type Area # 4

Description - Major species/Density: Dead trees/Low
 Site: Wetland

No live trees found in this area.

Timber Type Area # 5

Description - Major species/Density: Logwood/Low
 Site: Old field

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	114	
2"	0	114	
3"	0	114	sum 1"-3" = 114
4"	114	114	

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 6

12590828

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 6

Description - Major species/Density: Ash, Elm, Boxelder/Moderate
 Site: Upland

d.b.h.	N.O.T./acre	sum in reverse order	
1"	0	232	
2"	0	232	
3"	102	232	
4"	0	130	sum 1"-3" = 172
5"	0	130	
6"	51	130	
7"	19	79	
8"	43	60	
9"	0	17	
10"	0	17	
11"	0	17	
12"	13	17	sum 8"+ = 60
13"	0	4	
14"	0	4	
15"	0	4	
16"	4	4	

Timber Type Area # 7

Description - Major species/Density: Elm/Low
 Site: Old field

d.b.h.	N.O.T./acre	sum in reverse order	
1"	0	114	
2"	0	114	
3"	0	114	sum 1"-3" = 114
4"	114	114	

LIBR 12590 PG 829

Robert A. Cool

Page 2

PROFESSIONAL ASSOCIATIONS: American Forestry Association, member
 Arboreal Research and Education Committee, member
 Ontario Shade Tree Commission, member
 Michigan Christmas Tree Growers Association, member
 National Christmas Tree Growers Association, member
 Michigan Recreation and Park Association, member
 Michigan Safety Conference-Forestry Section, chairperson
 Michigan Chapter, American Planning Association,
 1987 Annual Conference and Professional Development
 Program, speaker

CERTIFICATIONS: State of Michigan certified pesticide applicator
 State of Michigan licensed pesticide applicator
 State of Michigan registered forester, #310
 Michigan Association of Consulting Foresters, #16
 Michigan Certified Nurseryman, #1305
 Grounds Management Specialist (MCN - GM--9)
 Licensed Nursery Stock dealer

AWARDS: Recipient, The American Society of Landscape
 Architects, Merit Award. Participation as Grounds
 Maintenance Expert in Michigan State Housing Development
 Authority's Landscape Maintenance Guide.

14 Mile and Decker
Novi, MI
March 11, 1988
Page 7

LECR 125902830

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 8

Description - Major species/Density: Elm/Low
Site: Wetland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	87	
2"	0	87	
3"	0	87	
4"	0	87	sum 1"-3" = 51
5"	0	87	
6"	51	87	
7"	0	36	
8"	0	36	
9"	23	36	sum 8"+ = 36
10"	0	13	
11"	0	13	
12"	13	13	

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 8

12590831

DETERMINATION OF MAJORITY TREE SIZE:

Majority Tree Siz. Data

Timber Type Area # 9

Description - Major species/Density: Soft Maple/Low
 Site: Wetland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	120	
2"	0	120	
3"	0	120	
4"	0	120	sum 1"-7" = 0
5"	0	120	
6"	0	120	
7"	0	120	
<hr/>			
8"	43	120	
9"	0	77	
10"	28	77	
11"	0	49	
12"	25	49	
13"	5	24	
14"	5	19	
15"	4	14	
16"	7	10	
17"	0	3	sum 8"-26" = 120
18"	0	3	
19"	0	3	
20"	0	3	
21"	0	3	
22"	0	3	
23"	0	3	
24"	2	3	
25"	0	1	
26"	1	1	

Classic Construction Corp.
14 Mile and Decker
Novi, MI
March 11, 1988
Page 9

12590832

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 10

Description - Major species/Density: Soft maple/Moderate
Site: Wetland

d.b.h.	N.O.T./acre	sum in reverse order	
1"	0	947	
2"	455	947	
3"	0	389	
4"	229	389	sum 1"-4" = 707
5"	73	160	
6"	0	87	
7"	37	87	
<hr/>			
8"	29	50	
9"	0	21	
10"	0	21	
11"	0	21	sum 8"+ = 50
12"	13	21	
13"	0	0	
14"	0	0	
15"	0	0	

Chas. Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 10

12590/833

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 11

Description - Major species/Density: Basswood, Hickory, Soft maple/Moderate
 Site: Upland

d.b.h.	N.O.T./acre	sum in reverse order	
1"	458	796.5	
2"	115	349.5	
3"	102	225.5	
4"	10	123.5	sum 1"-7" = 733
5"	24	113.5	
6"	5	89.5	
7"	16	81.5	
8"	12	65.5	
9"	9	53.5	
10"	11	44.5	
11"	14	33.5	
12"	7	19.5	
13"	4	12.5	
14"	3	8.5	
15"	4	5.5	
16"	1	1.5	
17"	0	0.5	
18"	0	0.5	
19"	0.1	0.5	
20"	0	0.1	sum 9"+ = 65.5
21"	0	0.1	
22"	0	0.1	
23"	0	0.1	
24"	0	0.1	
25"	0	0.1	
26"	0	0.1	
27"	0	0.1	
28"	0	0.1	
29"	0	0.1	
30"	0	0.1	
31"	0	0.1	
32"	0	0.1	
33"	0.1	0.1	

LIBER 12590834

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 11

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 12

Description - Major species/Density: Elm, Hickory/High
 Site: Upland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	sum in <u>reverse order</u>	
1"	1833	2592	
2"	458	859	
3"	136	401	
4"	76	265	sum 1"-7" = 2,667
5"	147	189	
6"	17	42	
7"	0	25	
<hr/>			
8"	10	25	
9"	0	15	
10"	6	15	sum 8"+ = 25
11"	5	9	
12"	0	4	
13"	4	4	

Timber Type Area # 13

Description - Major species/Density: Elm, Ash/High
 Site: Wetland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	sum in <u>reverse order</u>	
1"	1833	2710	
2"	458	877	
3"	204	419	
4"	0	215	sum 1"-7" = 2,656
5"	73	215	
6"	51	142	
7"	37	91	
<hr/>			
8"	0	54	
9"	23	54	
10"	18	31	sum 8"+ = 54
11"	0	13	
12"	13	13	

LIBR 125902835

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 12

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 14

Description - Major species/Density: Elm, Black cherry/Moderate
 Site: Upland

d.b.h.	N.O.T./acre	sum in reverse order	
1"	0	485	
2"	0	485	
3"	204	485	
4"	229	281	sum 1"-7" = 433
5"	0	52	
6"	0	52	
7"	0	52	
8"	29	52	
9"	23	23	sum 8"+ = 52

Timber Type Area # 15

Description - Major species/Density: Black Cherry, Dogwood/High
 Site: Upland

d.b.h.	N.O.T./acre	sum in reverse order	
1"	1375	1635	
2"	115	320	
3"	51	205	
4"	29	154	sum 1"-7" = 1,657
5"	55	125	
6"	13	70	
7"	19	57	
8"	29	38	
9"	6	9	
10"	0	3	
11"	0	3	sum 8"+ = 38
12"	0	3	
13"	3	3	

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 13

USDA 125903836

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 16

Description - Major species/Density: Elm, Ash/High
 Site: Fencerow

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	2750	3793	
2"	688	1043	
3"	102	355	
4"	115	253	sum 1"-2" = 3,779
5"	73	138	
6"	51	65	
7"	0	14	
8"	14	14	sum 7"+ = 14

Classic Construction Corp.
14 Mile and Decker

12590837

Classic Construction Corp.
14 Mile and Decker
Novi, MI
March 11, 1988
Page 14

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 17

Description - Major species/Density: Red oak, Black cherry/High
Site: Old field, fencerow

d.b.h.	N.O.T./acre	sum in reverse order	
1"	917	2131	
2"	917	1213	
3"	0	296	
4"	229	296	sum 1"-7" = 2,100
5"	37	67	
6"	0	30	
7"	0	30	
8"	0	30	
9"	11	30	
10"	9	19	
11"	9	10	
12"	0	2	
13"	0	2	
14"	0	2	
15"	0	2	
16"	0	2	
17"	0	2	
18"	0	2	
19"	0	2	
20"	0	2	sum 8"+ = 30
21"	0	2	
22"	0	2	
23"	0	2	
24"	0	2	
25"	0	2	
26"	1	2	
27"	0	1	
28"	0	1	
29"	0	1	
30"	0	1	
31"	0	1	
32"	0	1	
33"	0	1	
34"	1	1	

Classic Construction Corp.
14 Mile and Decker
Novi, MI
March 11, 1988
Page 16

UBER 125907838

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 19

Description - Major species/Density: Soft maple/Low
Site: Wetland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	107	
2"	0	107	
3"	0	107	
4"	0	107	sum 1"-7" = 0
5"	0	107	
6"	0	107	
7"	0	107	
<hr/>			
8"	0	107	
9"	23	107	
10"	0	94	
11"	30	34	
12"	25	5	
13"	0	20	
14"	0	20	
15"	0	20	
16"	0	20	
17"	13	20	
18"	5	16	sum 8"+ = 107
19"	0	10	
20"	5	10	
21"	0	5	
22"	0	5	
23"	0	5	
24"	3	5	
25"	0	2	
26"	0	2	
27"	0	2	
28"	2	2	

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 17

12590839

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 20

Description - Major species/Density: Ash, Black cherry, Oak/High
 Site: Upland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	1013	
2"	688	1013	
3"	0	325	
4"	57	325	sum 1"-7" = 906
5"	73	268	
6"	51	195	
7"	37	144	
<hr/>			
8"	29	107	
9"	23	78	
10"	18	55	
11"	15	37	
12"	5	22	
13"	11	16	
14"	0	5	
15"	4	2	
16"	0	1	
17"	0	1	
18"	0	1	
19"	0	1	sum 8"+ = 107
20"	0	1	
21"	0	1	
22"	0	1	
23"	0	1	
24"	0	1	
25"	0	1	
26"	0	1	
27"	0	1	
28"	0	1	
29"	0	1	
30"	0	1	
31"	1	1	

Classic Construction Corp.
 14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 18

12590840

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 21

Description - Major species/Density: Aspen/Moderate
 Site: Old field

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	0	576	
2"	0	576	
3"	204	576	
4"	115	372	sum 1"-7" = 576
5"	220	357	
6"	0	37	
7"	37	37	

Timber Type Area # 22

Description - Major Species/Density: Elm, Ash/High
 Site: Old field, fencerow

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	5500	5502	
2"	0	2	
3"	0	2	
4"	0	2	sum 1"-7" = 5,500
5"	0	2	
6"	0	2	
7"	0	2	
8"	0	2	
9"	0	2	
10"	0	2	
11"	0	2	
12"	0	2	
13"	0	2	
14"	0	2	
15"	0	2	
16"	0	2	
17"	0	2	
18"	0	2	sum 8"+ = 2
19"	0	2	
20"	0	2	
21"	0	2	
22"	0	2	
23"	0	2	
24"	0	2	
25"	0	2	
26"	0	2	
27"	0	2	
28"	0	2	
29"	0	2	
30"	2	2	

Cassals Construction Corp.
 14 Mile and Ducker
 Novi, MI
 March 11, 1988
 Page 19

125907841

DETERMINATION OF MAJORITY TREE SIZE

Majority Tree Size Data

Timber Type Area # 23

Description - Major species/Density: Soft Maple/Moderate
 Site: Upland

<u>d.b.h.</u>	<u>N.O.T./acre</u>	<u>sum in reverse order</u>	
1"	917	985	
2"	0	68	
3"	0	68	
4"	57	68	sum 1"-3" = 974
5"	0	11	
6"	0	11	
7"	0	11	
8"	0	11	
9"	11	11	sum 8"+ = 11

Aerial Photographs of Property Showing Numbered Timber Types

See aerial photographs.

14 Mile and Decker
 Novi, MI
 March 11, 1988
 Page 20

LIBER 125903842

DETERMINATION OF MAJORITY TREE SIZE

Request for Determination of Actual Woodlands

The data presented is a request for determining the actual woodlands, according to the City of Novi ordinance, and dismissal of non-qualifying woodlands.

QUALIFYING WOODLANDS AREAS

(Majority of tree sizes are eight (8) inches diameter or larger).

<u>Timber Type Area</u>	<u>Acres</u>	<u>Majority Tree Size</u>	<u>Site</u>
3	2	8"	Wetland
9	7	12"	Wetland
18	2	18"	Wetland
19	1	12"	Wetland

Classic Construction Corporation requests that because these areas lay totally in wetlands, and are undevelopable, the locating, tagging and mapping the trees will serve no purpose and therefore should be excused.

NON-QUALIFYING WOODLAND AREAS

(Majority of tree sizes are less than eight (8) inches diameter).

<u>Timber Type Area</u>	<u>Acres</u>	<u>Majority Tree Size</u>	<u>Site</u>
1	2	5"	Wetland
2	4	3"	Wetland
4	9	0	Wetland
5	3	4"	Old field
5	5	6"	Upland
7	2	4"	Old field
8	3	7"	Wetland
10	1.5	5"	Wetland
11	4.5	2"	Upland
12	17	2"	Upland
13	3	2"	Wetland
14	3	4"	Upland
15	15	2"	Upland
16	5	2"	Fencerow
17	7	2"	Old field/Fencerow
20	4	4"	Upland
21	0	5"	Old field
22	2	1"	Old field/Fencerow
23	9	1"	Uplands

Classic Construction Corporation requests that because these areas contain a majority of tree sizes less than eight (8) inches diameter, they should be officially removed from the woodland map, and locating, tagging and mapping requirements should be dismissed.

Appendix

USIA 12590 Pgs 843

Robert A. Cool
1608 Kingswood Drive
Lansing, MI 48912
Off. 482-4202
Bus. 485-4245
H. 482-2232

D.O.B. 10/31/43

WORK EXPERIENCE: 1970 to present - assistant city forester, Lansing, MI
1970 to present - president, Metropolitan Forestry Consultants, Inc.
1973-1985 - owner, Arbor Lawn, Inc.
1975 to present - owner, Robert Cool Tree Farm; joint owner, three choose and cut Christmas tree farms; volunteer, tree farm inspector; past instructor, Lansing Community College.
1967-1969 - technical control forester, ITT-Rayonier, Inc., S.E. Timber Division, Florida.

EDUCATION: 1971 - M.S. Forestry, Michigan State University
1967 - B.S. Forestry, Michigan State University
1964 - A.B.S. Civil Engineering Technology, Lansing Community College.

COMMUNITY: Boy Scouts of America, assistant scout master, troop 130; chairperson, properties committee, Chief Okemos Council.
Asbury United Methodist Church, chairperson of council board.
P.T.A., past member
Jaycees, past member
United Way Campaign, Volunteer Leader

PROFESSIONAL ASSOCIATIONS: Society of American Foresters, member Michigan Chapter, Society of American Foresters, Lower-Michigan Section. 2nd Vice-Chairperson Michigan Association of Consulting Foresters, member Michigan Forestry and Parks Association, secretary-treasurer, editor and past committee chairperson Michigan Academy of Science, Arts and Letters, member and past chairperson Society of Municipal Arborists, member, past president, vice-president and board member.
International Society of Arboriculture, member
Society of Commercial Arborists, Member
Utility Arborists Association, member
Municipal Arborists and Urban Foresters Society, member
Professional Grounds Maintenance Society, member
S.E. Branch, Professional Grounds Management Society, member
National Institute on Parks and Grounds Management, member



Metropolitan Forestry Consultants, Inc.

12590814

May 5, 1988

Mr. Larry DePriest
Classic Construction Corp.
7001 Orchard Lake Road, Suite 130
West Bloomfield, MI 48322

Dear Mr. DePriest:

I am including this letter as the beginning of my report on the possible woodland impact of a golf course construction on your Decker Road/Fourteen Mile Road property.

The task is particularly difficult due to the fact that the majority of the acreage is not a woodlands. In fact it is non-productive land with very early plant successional stages composed of grasses, herbaceous plants, woody shrubs and pioneer trees. This type of plant growth is so new that it will take 80-100 years before the area will be covered with what is considered as true woodland or forest. Such a woodland is characterized by either the sub-climax oak-hickory stand type or the climax maple-beech stand type.

This land which was predominantly agricultural 20- 25 years ago, then abandoned to become old field in nature with areas of young elm and ash trees. It is safe to say that virtually none of the present trees in the old fields will be present or alive when the woodland finally develops decades into the future. Further, this land is so young in the successional stages in becoming a woodland that grasses are still prevalent on the land, a tell tale sign that reproduction, or the natural regeneration process of a woodland is totally absent on the majority of the land where the new trees exist. The absence of other components of a woodland such as herbaceous plants as part of the understory, natural duff and woods produced humus is also lacking.

It is my opinion that these lands fail in the most critical ways to be classified as woodlands, and not from a forestry management viewpoint but from an ecological viewpoint. I believe that a woodlands determination should be based on scientific facts and not on an empirical wish.

I am enclosing my study of the proposed golf course with this letter. Each group of trees in the old fields which fell near a fairway was examined for impact. Three things were evident: 1) the size, type, age and species of trees were such that impact would be minimal even if the trees occurred in a real woodlands; 2) fairways can be narrowed when passing low areas to reduce impact and create a unique golfing hazard; 3) normal landscaping following golf course construction would easily recreate a treed setting which would be superior to the short lived tree species present.

Please contact me if I can be of further assistance.

Sincerely,
Robert A. Cool

Robert A. Cool, R.F. #310, M.A.C.F. #16
Box 2502, Lansing, Michigan 48908

517 485-4245



Metropolitan Forestry Consultants, Inc.

LIBER 125903845

May 5, 1986

This study refers to the Woodlands Study by Individual Timber Type (Determination of Majority Tree Size) for Classic Construction Corp., compiled on March 11, 1985, and presented to the City of Novi, Michigan by Robert A. Cool, Metropolitan Forestry Consultants, Inc.

Fairway 1: Agriculture field - no trees present.

Fairway 2: Partially in Timber Type Areas:

6 - Upland site with mixed elm and ash; 6" diameter majority tree size.

17 - Old field site with black cherry dominant; 2" diameter majority tree size.

There will be no woodland impact because these Timber Type Areas are not woodlands (less than 8" diameter majority tree size).

Fairway 3: Partially in Timber Type Areas:

1 - Wetland site with ash dominant; 6" diameter majority tree size.

2 - Wetland site with mixed elm and soft maple; 3" diameter majority tree size.

There will be no woodland impact because these Timber Type Areas are not woodlands (less than 8" diameter majority tree size).

Fairway 4: Partially in Timber Type Areas:

3 - Wetland site with soft maple dominant; 8" diameter majority tree size.

Fairway should be narrowed through this site to minimize woodland impact.

11 - Upland site with mixed basswood/hickory; 2" diameter majority tree size.

There will be no woodland impact because this Timber Type Area is not a woodland (less than 8" diameter majority tree size).

Fairway 5: Partially in Timber Type Areas:

5 - Old field with few trees; Dogwood dominant; 4" diameter majority tree size.

11 - Upland site with mixed basswood/hickory; 2" diameter majority tree size.

There will be no woodland impact because these Timber Type Areas are not woodlands (less than 8" diameter majority tree size).

May 5, 1988
page two

125901846

Fairway 6: Partially in Timber Type Areas:

- 10 - Wetland site with soft maple dominant; 5" diameter majority tree size.
- 11 - Upland site with mixed basswood/hickory; 2" diameter majority tree size.
- 12 - Upland site with mixed elm and ash; 2" diameter majority tree size.

There will be no woodland impact because these Timber Type Areas are not woodlands (less than 8" diameter majority tree size).

Fairway 7: Partially in Timber Type Area 12 - Upland site with mixed elm/ash; 2" diameter majority tree size.

There will be no woodland impact because this Timber Type Area is not a woodland (less than 8" diameter majority tree size).

Fairway 8: Partially in Timber Type Areas:

- 11 - Upland site with mixed basswood/hickory; 2" diameter majority tree size.
- 12 - Upland site with mixed elm/ash; 2" diameter majority tree size.
- 13 - Wetland site with mixed elm/ash; 2" diameter majority tree size.

There will be no woodland impact because these Timber Type Areas are not woodlands (less than 8" diameter majority tree size).

Fairway 9: Partially in Timber Type Areas:

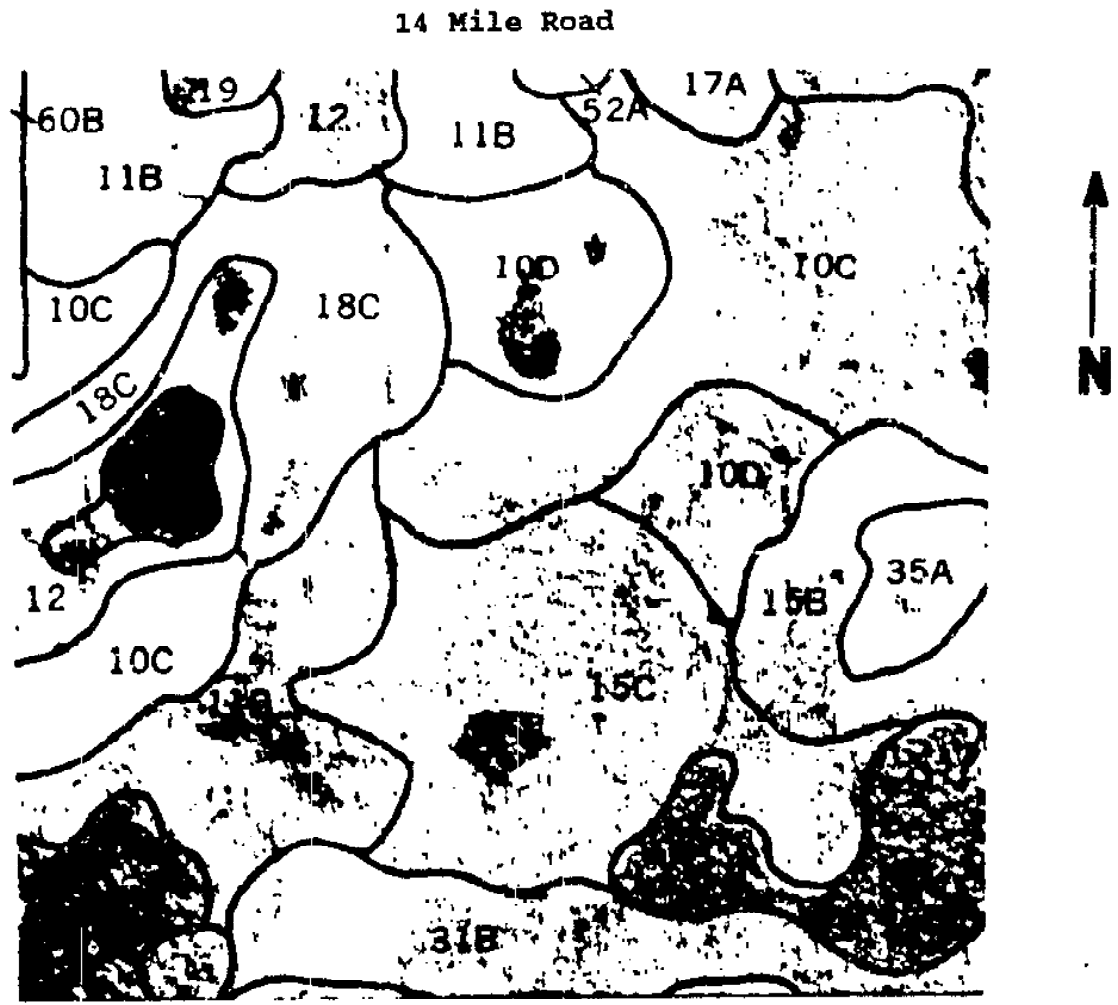
- 11 - Upland site with mixed basswood/hickory; 2" diameter majority tree size.
- 13 - Wetland site with mixed elm/ash; 2" diameter majority tree size.
- 14 - Upland site with mixed elm/black cherry; 4" diameter majority tree size.
- 15 - Upland site with black cherry dominant; 2" diameter majority tree size.
- 21 - Old field with aspen dominant; 5" diameter majority tree size.

There will be no woodland impact because these Timber Type Areas are not woodlands (less than 8" diameter majority tree size).

12590847

Soils

The Oakland County U.S. Soil Conservation Service Soil Survey indicates that there are 16 soil types within the property.



U.S. SOILS CONSERVATION SERVICE
SOIL SURVEY MAP

Supplement - E

LCE: 12590848

60B- Urban land-Marlette complex, 0 to 8 percent slopes. This complex consists of Urban land and nearly level to gently rolling, moderately well drained Marlette soils on knolls, ridges, and side slopes. Areas of this complex are 10 to 500 or more acres and contain 40 to 75 percent Urban land and 20 to 30 percent Marlette soils. The areas of Urban land and Marlette soils are so intermingled or so small that mapping them separately is not practical at the scales used.

The Urban land is covered by streets, sidewalks, driveways, parking lots, houses, and other structures that so obscure or alter the soils that identification of the soils is not feasible.

Typically, the Marlette soils have a surface layer of dark grayish brown sand loam about 7 inches thick. The subsoil is firm clay loam about 30 inches thick. In the upper part it is dark yellowish brown, and in the lower part it is yellowish brown and mottled. The substratum to a depth of about 60 inches is brown, mottled, calcareous loam. In some places, the soil has been radically altered. Some of the higher areas have been levelled, and some of the lower areas have been filled. Other small areas have been built up or smoothed.

Included in mapping are small areas of the somewhat poorly drained Capac, Metamore, Kibbie, and Selfridge soils that are on low-lying positions and in drainageways. These included soils make up 2 to 10 percent of this complex.

Permeability of the Marlette soils is moderately slow, and the available water capacity is high. Surface runoff is medium. The seasonal high water table is at a depth of 2 1/2 to 6 feet in winter and spring.

Most areas of this complex are used for residential, commercial, and light industrial development. Some areas are used for schools. The Marlette soils, which make up the open parts of the complex, are used for lawns, gardens, and environmental plantings and to a lesser extent for parks and woodland. They are well suited to use as sites for lawns, vegetable and flower gardens, trees, and shrubs and fairly to poorly suited to use as sites for playgrounds. They are fairly suited to use as sites for buildings.

If grasses, flowers, vegetables, trees, and shrubs are grown, the main concern is controlling erosion. Mulching, grass seeding or sodding with fertilization, and the use of diversions, erosion control structures, and grassed waterways help to prevent erosion. In areas where the subsoil is exposed, topsoil should be added.

USDA 125907849

The Marlette soils are suited to building site development, but wetness is a limitation. Raising the site with well compacted fill material and installing subsurface drains can help to overcome this limitation. The Marlette soils are poorly suited to use as septic tank absorption fields because of moderately slow permeability. Sanitary facilities should be connected to public sewers and sewage treatment facilities.

This complex is not assigned to interpretive groupings.

11B-Marlette loam, 18 to 35 percent slopes. This hilly and steep, well drained soil is on knolls and ridgetops and on short side slopes next to streams, drainageways, depressions, and lakes. Slopes vary considerably in gradient within short distances. They are smooth and convex and are generally less than 100 feet long. Areas are irregular in shape and are 2 to 160 acres in size.

Typically, the surface layer is dark brown loam about 6 inches thick. The subsoil is firm and is about 20 inches thick. In the upper part it is dark yellowish brown clay loam, and in the lower part it is yellowish brown clay loam. The substratum to a depth of about 60 inches is brown, mottled, calcareous loam. In some places the depth to calcareous loam is less than 30 inches.

Included in mapping are small areas of Arkport and Spinks soils that are on landscape positions similar to those of the Marlette soil. These soils are more droughty than the Marlette soil. The included soils make up 1 to 5 percent of the map unit.

Permeability is moderately slow in the Marlette soil, and the available water capacity is high. Runoff is very rapid.

In most areas this soil is used as woodland and pasture or is idle land. It is well suited to use as woodland. It is poorly suited to use as cropland and pasture and to recreation uses.

This soil generally is not suited to building site development because of slope. It generally is not suited to use as septic tank absorption fields because of slope and moderately slow permeability.

If this soil is used as woodland, the major management concerns are slope and erosion. The erosion hazard and slope limitation necessitate locating roads, skid trails, and landings on gentle grades and providing for water removal with water bars, out-sloping road surfaces, culverts, and drop structures.

This soil is in capability subclass Vile and Michigan soil management group 2.5a.

LDBR 125900850

19-Sebewa loam. This nearly level, poorly drained soil is in depressions and drainageways. It is subject to frequent ponding. Areas are irregular in shape and are 2 to 100 acres or more in size.

Typically, the surface layer is very dark gray loam about 11 inches thick. The subsoil is gray, mottled, firm clay loam about 21 inches thick. The substratum to a depth of about 60 inches is grayish brown, mottled calcareous gravelly sand. In some places the subsoil has more clay.

Included in mapping are small areas of the very poorly drained Houghton and Adrian soils that are in small depressions. Also included are somewhat poorly drained Wasepi and Matherton soils that are on low knolls. The included soils make up 2 to 10 percent of the map unit.

Permeability is moderate in the subsoil of this Sebewa soil and very rapid in the substratum. The available water capacity is moderate. Runoff is very slow to ponded. The high water table is at or above the surface from September to May.

In most areas this soil is used as woodland or pasture or is idle land. It is well suited to use as cropland and pasture and is poorly suited to most recreation uses and to woodland use.

This soil is generally not suited to building site development because of wetness. It should not be used as a site for buildings with basements. If this soil is used as a site for buildings without basements, the use of well compacted fill to raise the site and the use of surface or subsurface drains to lower the water table can help to overcome the wetness limitation. This soil is generally not suited to use as conventional septic tank absorption fields because of its wetness and poor filtering capacity. Sanitary facilities should be connected to public sewers and sewage treatment facilities.

If this soil is used as cropland, the main management concerns are overcoming wetness and maintaining good tilth. Providing adequate surface and subsurface drainage helps to overcome wetness. Tilling only when the soil is not wet and using conservation tillage, which does not invert the soil and leaves all or part of the crop does not invert the soil and leaves all or part of the crop residue on the surface, improve soil tilth.

If this soil is used as woodland, the major management concerns are equipment limitations, seedling mortality, and windthrow. The use of heavy equipment for planting, tending, and harvesting trees is restricted during wet periods. Woodland operations can be timed to seasons of the year when the soil is relatively dry or frozen. Seedling loss is high because of wetness.

LIBER 125908851

Special site preparation, such as bedding, can be used in some areas to reduce seedling loss. Selecting harvest methods that do not leave trees standing alone or widely spaced helps to control windthrow.

This soil is in capability subclass 11w and Michigan soil management group 3/5c.

12-Brookston and Colwood loams. This map unit consists of nearly level, very poorly drained soils in broad, flat areas and in drainageways. These soils are subject to frequent ponding. Areas are irregular in shape and are 2 to 200 acres or more in size. In many areas of this map unit, the Brookston soil is the only major soil. In other areas the Colwood soil is the only major soil. Both soils are present in some areas.

Typically, the surface layer of the Brookston soil is very dark gray loam about 11 inches thick. The subsurface layer is very dark gray, mottled, friable loam about 5 inches thick. The mottled subsoil is about 20 inches thick. In the upper part it is grayish brown, firm clay loam; in the middle part it is grayish brown, friable clay loam; and in the lower part it is grayish brown, firm silty clay loam. The substratum to a depth of about 60 inches is mottled gray, calcareous loam. In some places the surface layer is lighter in color and is less than 10 inches thick.

Typically, the surface layer of the Colwood soil is very dark brown loam about 11 inches thick. The mottled, friable subsoil is about 26 inches thick. In the upper part it is dark grayish brown loam, in the middle part it is light olive gray loam and silty clay loam, and in the lower part it is light brownish gray silt loam. The substratum to a depth of about 60 inches is gray, mottled, calcareous, stratified silt loam and very fine sand. In some places the surface layer is lighter in color and is less than 10 inches thick.

Included in mapping are small areas of Sebewa and Gilford soils that are more droughty than the Brookston soil and are on landscape positions similar to those of the Brookston soil. Also included are small areas of somewhat poorly drained Capac, Kibbie, Metamore, and Selfridge soils that are on low knolls and ridges. The included soils make up 5 to 15 percent of the map unit.

Permeability is moderate in the Brookston and Colwood soils, and available water capacity is high. Runoff is very slow or ponded. Both soils have a high water table that is at or above the surface from October to May.

USDA 125901852

In most areas these soils are used as woodland or pasture or are idle land. In a few areas they are used for crops. They are well suited to use as cropland and pasture if excess water is removed. They are poorly suited to use as woodland or pasture and to recreation uses because of wetness.

These soils are poorly suited to building site development and generally are not suited to use as septic tank absorption fields because of wetness. They should not be used as sites for buildings with basements. If they are used as sites for building without basements, the use of surface or subsurface drainage to lower the water table and the use of well compacted fill to raise the site help to overcome the wetness limitation. Sanitary facilities should be connected to public sewers and sewage treatment facilities.

If these soils are used as cropland, the main management concerns are removing excess water and maintaining good tilth. Surface and subsurface drains are not wet and using tillage practices that do not invert the soil and that leave all or part of the crop residue on the surface help to improve tilth.

If these soils are used as woodland, the major limitation is wetness. The main management concerns are equipment restrictions, seedling mortality, and windthrow. The use of heavy equipment for planting, tending, and harvesting trees is restricted during wet periods. Woodland operations should be timed to seasons of the year when the soils are relatively dry or frozen. Seedling loss can be high because of wetness. In some areas special site preparation, such as bedding, helps to reduce seedling mortality. The use of harvesting methods that do not leave trees standing alone or widely spaced helps to control windthrow.

These soils are in capability subclass 11w and Michigan soil management groups 2.5c and 2.5c-s.

52A-Selfridge loamy sand, 0 to 3 percent slopes. This nearly level, somewhat poorly drained soil is on broadly, flat areas of low knolls. Slopes are slightly convex and are less than 50 feet long. Areas are irregular in shape and are 2 to 80 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 9 inches thick. The subsurface layer is brown loamy sand or light yellowish brown sand about 23 inches thick. The subsoil is brown, mottled, friable loam about 9 inches thick. The substratum to a depth of about 60 inches is grayish brown, mottled, calcareous loam. In the southern part of the county, this soil is clayey below a depth of 40 inches.

LRR 125907853

Included in mapping are small areas of Capac and Metamore soils on landscape positions similar to those of the Selfridge soil. These soils are not as droughty as the Selfridge soil. Also included are small areas of the very poorly drained Brookston, Houghton, and Thomas soils that are in depressions and drainageways and small areas of the well drained Metea soils that are on higher knolls and ridges. The included soils make up 5 to 10 percent of the map unit.

Permeability is rapid in the sand surface soil and moderately slow in the loamy subsoil and substratum. The available water capacity is moderate. Runoff is slow. The seasonal high water table is at a depth of 1 to 2 feet from November through May.

In most areas this soil is used as woodland or pasture or is idle land. In a few areas it is used as cropland. This soil is well suited to use as pasture. It is fairly suited to use as cropland and woodland and to recreation uses.

This soil is poorly suited to building site development because of wetness and is poorly suited to use as septic tank absorption fields because of wetness and moderately slow permeability. If the soil is used as a site for buildings, the use of surface or subsurface drains to lower the water table and the use of well compacted fill to raise the site can help to overcome the wetness limitation. For septic tank absorption fields, special construction, such as filling or mounding the absorption field site with suitable soil material, may be needed to raise the field above the water table and into more permeable soil material.

If this soil is used as cropland, the major management concerns are wetness, water erosion and soil blowing, droughtiness, and organic matter content. Subsurface drainage helps to reduce the wetness limitation. Cover crops, such as rye, protect fields from water erosion and soil blowing. The use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, helps to conserve moisture. The use of crop rotations that include grasses and legumes and the use of crop residue management can help to maintain organic matter content.

If this soil is used as woodland, the major management concern is seedling mortality. Some seedling loss can be expected due to droughtiness during dry summer months. Exposing soil just prior to the production of the seed crop can help desirable tree seedlings become established quickly and get a head start on competing vegetation.

This soil is in capability subclass 111w and Michigan soil management group 4/2b.

125907854

17A-Wasepi sandy loam, 0 to 3 percent slopes. This nearly level, somewhat poorly drained soil is in broad flat areas on low knolls. Slopes are slightly convex and are less than 100 feet long. Areas are irregular in shape and are 2 to 80 acres in size.

Typically, the surface layer is very dark gray sandy loam about 8 inches thick. The subsurface layer is brown, friable sandy loam about 7 inches thick. The subsoil is brown, mottled, friable sandy loam about 15 inches thick. The substratum to a depth of about 60 inches is grayish brown, calcareous gravelly sand. In some places the substratum is sand. In places the soil is moderately well drained.

Included in mapping are small areas of Matherton soils. These soils are on landscape positions similar to those of the Wasepi soil. They are not as droughty as the Wasepi soil. Also included are small areas of poorly drained Granby soils and very poorly drained Gilford soils that are in depressions. The included soils make up 2 to 8 percent of the map unit.

Permeability is moderately rapid in the subsoil of this Wasepi soil and very rapid in the substratum. The available water capacity is low. Runoff is slow. The seasonal high water table is at a depth of 1/2 foot to 2 feet from November to May.

In most areas this soil is used as woodland or pasture or is idle land. In a few areas it is used for crops. This soil is suited to use as cropland. It is well suited to use as pasture and woodland. It is poorly suited to most recreation uses.

This soil is poorly suited to building site development because of wetness and is poorly suited to use as septic tank absorption field because of wetness and poor filtering capacity. If this soil is used as a site for buildings, the use of surface or subsurface drains to lower the water table and the use of well compacted fill to raise the site help to overcome the wetness limitation. Special construction measures, such as elevating the systems, are needed for sewage disposal to overcome the wetness and poor filtering capacity.

If this soil is used as cropland, the main management concerns are overcoming wetness, conserving soil moisture during dry periods, maintaining organic matter content, and preventing soil blowing. The use of surface and subsurface drainage reduces wetness. Cover crops, such as rye, protect fields from soil blowing. The use of grasses and legumes in the crop rotation and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, help to maintain organic matter content and to overcome droughtiness.

This soil is in capability subclass 111w and Michigan soil management group 4b.

USDA 125907855

10C-Marlette sandy loam, 6 to 12 percent slopes. This moderately sloping and gently rolling, well drained soil is on low knolls and ridges and on short, uneven side slopes. Most areas are dissected by shallow drainageways. Slopes are smooth and convex and are generally less than 100 feet long. Areas are irregular in shape and are 2 to 140 acres in size.

Typically, the surface layer is dark grayish brown sandy loam about 8 inches thick. The subsoil is firm and is about 23 inches thick. In the upper part it is dark yellowish brown clay loam, and in the lower part it is yellowish brown clay loam. The substratum to a depth of about 60 inches is yellowish brown and pale brown, mottled, calcareous loam. In some places the depth to calcareous loam is less than 30 inches.

Including in mapping are small areas of the well drained Fox and Oshtemo soils that are on landscape positions similar to those of the Marlette soil. These soils are more droughty than the Marlette soil. Also included are the somewhat poorly drained Blount, Capac, and Metamore soils that are on lower landscape positions. The included soils make up 5 to 15 percent of the map unit.

Permeability is moderately slow in this Marlette soil and the available water capacity is high. Runoff is medium or rapid.

In most areas this soil is used as woodland or pasture or is idle land. In a few areas it is used for crops. It is well suited to use as woodland and pasture and to recreation uses. It is fairly suited to cropland use.

This soil is suited to building site development. Slope is a limitation to this use. Land shaping and installing retaining walls help to overcome this limitation. This soil is poorly suited to use as septic tank absorption fields because of moderately slow permeability and slope. Special construction measures, such as enlarging or alternating the absorption fields, are needed to overcome the permeability limitation. Installing the absorption field across the slope helps to overcome the slope limitation.

If this soil is used as cropland, the major management concerns are controlling runoff and erosion, maintaining organic matter content, and keeping the soil in good tilth. Practices that help prevent erosion and control runoff are the use of a crop rotation that includes hay or cover crops, The use of grassed waterways, and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface. Crop residue or green manure helps to maintain the organic matter content and improve tilth.

L125907856

This soil is in capability subclass 111e and Michigan soil management group 2.5a.

10D-Marlette loam, 12 to 18 percent slopes. This strongly sloping and rolling, well drained soil is on knolls and ridgetops and on short side slopes that are adjacent to drainageways, depressions, and swales. Some areas are dissected by small gullied drainageways. Slopes are smooth and convex and are generally less than 100 feet long. Areas are irregular in shape and are 2 to 160 acres in size.

Typically, the surface layer is dark brown loam about 6 inches thick. The subsoil is firm and is about 21 inches thick. In the upper part it is dark yellowish brown clay loam and pale brown loam, and in the low part it is yellowish brown clay loam. The substratum to a dept of about 60 inches is brown, mottled, calcareous loam. In some places the depth to calcareous loam is less than 30 inches.

Included in mapping are small areas of the well drained Oshtemo soils that are on landscape position similar to those of the Marlette soil. These soils are more droughty than the Marlette soil. Also included are the somewhat poorly drained Blount, Capac, and Metamora soils that are on foot slopes. The included soils make up 5 to 15 percent of the map unit.

Permeability is moderately slow in this Marlette soil, and the available water capacity is high. Runoff is rapid to very rapid.

In most areas this soil is used as woodland or pasture or is idle land. It is well suited to use as woodland. It is fairly suited to use as pasture. It is poorly suited to use as cropland and to recreation uses.

This soil is poorly suited to building site development because of slope and generally is not suited to use as septic tank absorption fields because of slope and moderately slow permeability.

This soil is in capability subclass IVE and Michigan soil management group 2.5a.

18C-Fox sandy loam, 6 to 12 percent slopes. This moderately sloping or gently rolling, well drained soil is on side slopes, knolls, and ridges. Most areas of this soil are dissected by shallow drainageways. Slopes are smooth and convex and are less than 100 feet long. Areas are irregular in shape and are 2 to 200 acres in size.

LEFR 12590PG857

Typically, the surface layer is dark grayish brown sandy loam about 9 inches thick. The subsoil is firm and is about 24 inches thick. In the upper part it is dark brown gravelly sandy clay loam, and in the lower part it is dark yellowish brown gravelly clay loam. The substratum to a depth of about 60 inches is brown, calcareous, stratified sand and gravelly sand. In spots the soil is severely eroded.

Included in mapping are small areas of well drained Spinks, Boyer, and Marlette soils that are on landscape positions similar to those of the Fox soil. These soils, except the Marlette soils, are more droughty. The Marlette soils are less droughty and have a slower permeability rate. Also included are the somewhat poorly drained Matherton soils that are on low knolls, ridges and narrow drainageways at lower elevations. Also included are the poorly drained Sebewa soils and very poorly drained Gilford soils that are in small depressions or narrow drainageways. The included soils make up 4 to 15 percent of the map unit.

Permeability is moderate in the subsoil of this Fox soil and very rapid in the substratum. The available water capacity is moderate. Runoff is medium. The shrink-swell potential is moderate.

In most areas this soil is used as woodland or pasture or is idle land. In a few areas it is used for crops. This soil is well suited to use as woodland and pasture and to recreation uses. It is fairly suited to cropland use.

This soil is suited to building site development, but slope is a limitation. Land shaping and installing retaining walls help to overcome the slope limitation. This soil is suited to use as septic tank absorption fields, but slope and poor filtering capacity are limitations. Land shaping and installing the absorption field across the slope help to overcome the slope limitation. The effluent drains satisfactorily, but there is a danger of ground water pollution.

If this soil is used as cropland, the major management concerns are controlling runoff and erosion, maintaining organic matter content, and keeping the soil in good tilth. Among the practices that help to prevent erosion and runoff are the use of a crop rotation that includes hay, the use of cover crops and grassed waterways, and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface. Crop residue and green manure help to maintain the organic matter content and improve the tilth of the soil.

This soil is in capability subclass 111e and Michigan soil management group 3/5a.

LIBR 12590858

27-Houghton and Adrian mucks. These nearly level, very poorly drained soils are in bogs or upland depressions. They are subject to ponding. Areas are irregular in shape and are 2 to 200 acres in size. Many areas of this map unit are predominantly Houghton soil; other areas are predominantly Adrian soil. Both soils are present in some areas.

Typically, the surface layer of the Houghton soil is black muck about 8 inches thick. The material below that, to a depth of about 60 inches, is black muck also.

Typically, the surface layer of the Adrian soil is black muck about 10 inches thick. The subsurface layer is black, friable muck about 20 inches thick. The substratum, to a depth of 16 to 50 inches. In some places there is a soil similar to the Houghton soil except it has thicker layers of mucky peat or sedimentary peat.

Included in mapping are small areas of Brookston and Granby soils that are on narrow areas along the outer edges of the map unit. The Brookston soils have slower permeability and Granby soils are more droughty than the Houghton soil. The included soils make up 3 to 8 percent of the map unit.

Permeability is moderately slow to moderately rapid in the muck and rapid in the underlying material. The available water capacity is high. Runoff is very slow. These soils have a high water table at or above the surface from November to May.

In most areas these soils are used as woodland or are idle land. In a few areas they are used for unimproved pasture, crops, or sod production. They are poorly suited to use as woodland and pasture and to recreation uses. These soils are not suited to building site development or to use as septic tank absorption fields because of ponding.

If suitable drainage outlets are available and these soils are drained and protected from soil blowing, they are suited to corn or to specialty crops, such as potatoes, carrots, onions, and mint.

If these soils are used as woodland, the major management concerns are seedling mortality, equipment limitations, and windthrow. The use of heavy equipment for planting, tending, and harvesting trees is restricted during wet periods. Woodland operations can be timed to seasons of the year when the soils are relatively dry or frozen.

These soils are in capability subclass Vw and Michigan soil management groups Mc and M/4c.

125903859

15B-Spinks loamy sand, 0 to 6 percent slopes. This nearly level and undulating, well drained soil is in broad nearly level areas and on low knolls and ridges. Slopes are smooth and convex and are generally less than 100 feet long. Areas are irregular in shape and are 2 to 100 acres in size.

Typically, the surface layer is dark brown loamy sand about 9 inches thick. The substance layer is pale brown sand about 17 inches thick. The next layer, to a depth of about 60 inches, consists of brown, loose sand and thin strata of reddish brown, very friable loamy sand. In some areas gravelly sand is below a depth of about 40 inches, and in places loamy or clayey material is below a depth of 50 inches. Also, some areas are moderately well drained.

Included in mapping are small areas of Arkport and Oshtemo soils that are on landscape positions similar to those of the Spinks soil. These soils are not as droughty as the Spinks soil. Also included are small areas of somewhat poorly drained Tedrow and Thetford soils that are on lower landscape positions that the Spinks soil and areas of the poorly drained Granby soils and very poorly drained Gilford and Houghton soils that are in depressions and drainageways. The included soils make up 5 to 15 percent of the map unit.

Permeability is moderately rapid in the Spinks soil, and the available water capacity is low. Runoff is slow.

In most areas this soil is used as pasture or woodland or is idle land. In a few areas it is used for crops and for apple orchards and nursery stock. It is fairly suited to use as cropland, pasture and woodland. This soil is well suited to building site development and to use as septic tank absorption fields.

If this soil is used as cropland, the major management concerns are controlling soil blowing, overcoming droughtiness, and maintaining organic matter content. Cover crops, such as rye, protect fields from soil blowing. The use of grasses and legumes in the crop rotation and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, can help to maintain the organic matter content and to overcome droughtiness.

If this soil is used as woodland, the major management concern is seedling mortality. Some seedling loss can be expected during dry summer months. Special site preparation, such as furrowing, helps to overcome this problem.

This soil is in capability subclass 111s and Michigan soil management group 4a.

125907860

15C-Spinks loamy sand, 6 to 12 percent slopes. This moderately sloping or gently rolling, well drained soil is on knolls and ridgetops. Slopes are smooth and convex and are generally less than 100 feet long. Areas are irregular in shape and are 2 to 200 acres in size.

Typically, the surface layer is dark brown loamy sand about 8 inches thick. The subsurface layer is pale brown sand about 17 inches thick. The next layer to a depth of about 60 inches consists of yellowish brown, loose sand and thin strata of dark reddish brown, very friable loamy sand. In some areas gravelly sand is below a depth of about 35 inches. In some areas loamy or clayey material is below a depth of 50 inches.

Included in mapping are small areas of Arkport and Oshtemo soils that are on landscape positions similar to those of the Spinks soil. These soils are not as droughty as the Spinks soil. Also included are small areas of the somewhat poorly drained Tedrow and Thetford soils that are on low foot slopes and in drainageways and the very poorly drained Gilford soils and the poorly drained Granby soils that are in narrow drainageways. The included soils make up 2 to 8 percent of the map unit.

Permeability is moderately rapid in the Spinks soil, and the available water capacity is low. Runoff is medium to slow.

In most areas this soil is used as pasture or woodland or is idle land. In a few areas it is used as cropland. It is fairly suited to use as pasture, woodland, and cropland and to recreation uses.

This soil is suited to building site development and to use as septic tank absorption fields. Slope is a limitation to these uses. For buildings, land shaping and the use of retaining walls help to overcome the slope limitation. For septic tank absorption fields, land shaping and installing the absorption field across the slope help to overcome this limitation.

If this soil is used as cropland, the major management concerns are controlling water erosion and soil blowing, overcoming droughtiness, and maintaining organic matter content. Cover crops, such as rye, protect fields from water erosion and soil blowing. The uses of grasses and legumes in the crop rotation and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, can help to maintain the organic matter content and to overcome droughtiness.

If this soil is used as woodland, the major management concern is seedling mortality. Some seedling loss can be expected during dry summer months. Special site preparation, such as furrowing, helps to overcome this problem.

LEER 125908861

This soil is in capability subclass 11e and Michigan soil management group 4a.

35A-Thetford loamy fine sand, 0 to 3 percent slopes. This nearly level, somewhat poorly drained soil is on broad plains characterized by slight rises. Slopes are slightly convex. Areas are irregular in shape and are 2 to 100 acres in size.

Typically, the surface layer is very dark grayish brown loamy fine sand about 9 inches thick. The subsurface layer is light yellowish brown loamy fine sand about 11 inches thick. The subsoil consists of pale brown, mottled fine sand and thin, discontinuous strata of dark brown, very friable loamy sand about 25 inches thick. The substratum to a depth of about 60 inches is pale brown and light brownish gray, mottled, calcareous fine sand and sand. In some places the surface layer contains pebbles or is lighter colored. In some places the subsoil contains layers of gravelly sand or contains thicker, discontinuous layers of finer textured material.

Included in mapping are small areas of the Metamora, Dixboro, and Kibbie soils that are on landscape positions similar to those of the Thetford soil. These soils are not as droughty as the Thetford soil. Also included are small areas of poorly drained Gilford and Thomas soils that are in depressions and drainageways. The included soils make up 2 to 9 percent of the map unit.

Permeability is moderately rapid in this Thetford soil. The available water capacity is low. Runoff is slow. The seasonal high water table is at a depth of 1 to 2 feet from February through May.

In most areas this soil is used as woodland or pasture or is idle land. In a few areas it is used as cropland. This soil is well suited to pasture. It is fairly suited to use as cropland and woodland and to recreation uses.

This soil is poorly suited to building site development and to use as septic tank absorption fields because of wetness. If this soil is used as a site for buildings, the use of surface or subsurface drainage to lower the water table and the use of well compacted fill to raise the site help to overcome the wetness limitation. For septic tank absorption fields, special construction, such as filling or mounding the absorption field site with suitable soil material, may be needed to raise the field above the water table.

LIBR 12590862

If this soil is used as cropland, the main management concerns are overcoming wetness and droughtiness, preventing soil blowing, and maintaining the organic matter content. Subsurface drains reduce the wetness limitation. Cover crops, such as rye, protect fields from soil blowing. The use of grasses and legumes in the crop rotation and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, help to maintain the organic matter content and conserve moisture.

If this soil is used as woodland, the major management concern is seedling mortality. Some seedling loss can be expected because of droughtiness during dry summer months. Special site preparation, such as furrowing, helps to overcome the seedling mortality.

This soil is in capability subclass 111w and Michigan soil management group 4b.

31B-Metea loamy sand, 0 to 6 percent slopes. This nearly level and undulating, well drained soil is on flat plains, knolls, and ridges. Slopes are smooth and convex and are less than 100 feet long. Areas are irregular in shape and are 2 to 200 acres in size.

Typically, the surface layer is dark brown loamy sand about 10 inches thick. The subsurface layer consists of brown sand and yellowish brown loamy sand and is about 20 inches thick. The subsoil is brown loam about 8 inches thick. The substratum to a depth of 60 inches is brown, calcareous loam.

Included in mapping are small areas of Arkport, Owosso, Marlette, and Spinks soils that are on landscape positions similar to those of the Metea soil. The Owosso and Marlette soils are less droughty and the Spinks soils are more droughty than the Metea soil. Arkport soils are more permeable. Also included in mapping are the somewhat poorly drained Selfridge soils that are on low knolls below the Metea soil and the poorly drained Sebewa soils that are in depressions and drainageways. The included soils make up 2 to 10 percent of the map unit.

Permeability is very rapid in the upper part of this Metea soil and moderate in the subsoil and in the substratum. The available water capacity is moderate. Surface runoff is slow.

In most areas this soil is used as pasture or woodland or is idle land. In a few areas it is used for crops. This soil is well suited to use as pasture. It is fairly suited to use as cropland and woodland and to recreation uses.

125902863

This soil is well suited to building site development. It is suited to use as septic tank absorption fields, but moderate permeability is a limitation to this use. Special construction measures, such as enlarging or alternating the absorption fields, may be needed to overcome the permeability limitation.

If this soil is used as cropland, the major management concerns are controlling soil blowing, overcoming droughtiness, and maintaining the organic matter content. Cover crops, such as rye, protect field from soil blowing. The use of grasses and legumes in the crop rotation and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, can help to maintain the organic matter content and overcome droughtiness.

If this soil is used as woodland, the major management concern is seedling mortality. Seedling loss can be high because of the droughtiness of the soil. Special site preparation, such as furrowing, help to overcome this problem.

This soil is in capability subclass iiie and Michigan soil management group 4/2a.

LICER 125902864

5. SCOPE OF DEVELOPMENT

This Section 2 Planned Unit Development concept encompasses an area of 228 acres. The development as proposed would provide for a total open space system comprising 120 acres, or approximately 55% (excluding open spaces surrounding units) of the total land area. The development area comprises 118 acres, or approximately 45% of the land. Within these proportions of the 228 acres, a planned unit development will take form. This plan will focus towards affordable single family detached condominium home ownership, as well as attached affordable rental units.

The plan will result in an open space system which will have amenities such as wetlands, bike, jogging, exercise and nature trails tied to the city rhythms trails system, and major areas of undisturbed natural habitat. This open space system will be the major focus for the residential units within the community.

6. PARKS AND OPEN SPACES

184 acres, or 80.6% of the Maples of Novi community will be landscaped park, golf course and open space.

Similar to the roadway system, the Maples of Novi park system also has a hierarchical organization. The hierarchy is divided into three classifications; General public, Semi-private and Private.

The general public park system begins with the community-wide park/golf course. This area includes a 9-hole golf course which winds around the wetland and wooded areas and will provide a visual amenity for a large percentage of the housing in the community.

The following table lists the specifications for each golf hole:

<u>Golf Hole</u>	<u>Length</u>	<u>Par</u>
1	344	4
2	160	3
3	320	4
4	167	3
5	174	3
6	314	3
7	317	4
8	154	3
9	320	4

125903865

Woodlands and wetlands encompass 72.5 acres or 32% of the total site. Included in this number is a 40 acre tract of woodlands and wetlands which will remain in a natural, undisturbed state. Intertwined throughout the site are nature trails, jogging trails and bike paths. Also included in the nature trails system is the City's proposed Rhythms Trails system which winds through the south end of the Maples of Novi. Other park/open space amenities include steep slopes, rolling topography and even the availability for cross-country skiing during the winter season.

The overall park/open space system will be regulated and subject to the community wide rules. These will all be addressed in the condominium by-laws which will evolve with each phase of development.

The semi-private parks/open spaces include the specialized clubhouses and facilities. There will be a total of three clubhouses. The first clubhouse will service the Golf Villas and also the golf course. This specialized clubhouse will provide meeting rooms, locker rooms, a kitchen, and will include an exterior swimming pool. This area of the clubhouse will service only those residents of the Golf Villas. Attached to this clubhouse, but separate, is the facilities to manage the golf course. This area would include a small pro shop and golf course offices.

The second clubhouse will service the needs of the starter families only. This clubhouse will include such facilities as game rooms, card rooms, an exercise room, lock rooms and a kitchen. An exterior swimming pool is also planned, as well as some park areas.

The third clubhouse has been specially designed for the adult community. This specialty clubhouse includes amenities such as an indoor exercise room, pool, locker rooms, card room, a kitchen and a large meeting room which can be divided into smaller rooms. This clubhouse will service those residents of the adult community and also the residents of the congregate type facility. Other amenities of this clubhouse being considered includes a shuttle bus transporting residents to and from the clubhouse and also an enclosed walkway from the clubhouse to the convenience commercial/office center.

Lastly, all homes will have adjacent areas of open space such as patios and courtyards which will serve as private green spaces.

The Maples of Novi community, excluding the commercial/office, rentals, golf course space and part of the Golf Villa clubhouse will be held in common ownership and maintained by the community association.

LIBR 125908866

7. PROGRAMS & ACTIVITIES

In addition to the physical amenities of the clubhouses, we are also investigating several programs to augment and improve the quality of life for the residents of The Maples of Novi. Included are programs such as a day care center for the starter family community which would be placed in their clubhouse. Likewise, programs and activities are being considered for the adult/congregate residents which might include programs such as, films, guest speakers, and even a shuttle bus which would service both communities. This shuttle system would allow for easy transportation to the clubhouse and commercial center from the residents home. Therefore, providing for an independent adult community.

8. COVENANTS AND BY-LAWS

As previously indicated in this document and elsewhere, the Maples of Novi represents a P.U.D. development consisting of four relatively distinct residential communities; each with their own identity and general common open space and limited common space relegated to individual homes. Simultaneously, the general common space of each community is intertwined with the general common space of the other communities to form a network of open space and green belts that comprise the total site amenities and recreation areas.

It is intended that each community will have to set and administer policy (within limitations) and handle any issues specific to that community by means of a Board of Directors nominated and elected from the general population of that community. The power and scope of these Board of Directors will be defined in the by-laws of the Master Deed. From each Village Board of Directors, the President of each Board of Director will sit on the General, Maples of Novi Board of Directors. This Board of Directors will deal with all issues relating to the general public lands of the open, general common space.

For purposes of simplicity and clarity, as expressed before, the open space of the Maples of Novi can be divided and identified according to three classifications. The general public open space pertains to the golf course and all jogging and nature paths in the development, as well as all wetlands and woodlands. The general Board of Directors, made up of the President of each community Board of Directors, will address any and all issues relating to those general public open spaces.

The semi-private open space will consist primarily of the three different clubhouses and facilities. Each of the communities' Board of Directors will deal with all issues relating to the maintenance of and expenditures relating to these clubhouses and facilities.

125903867

As well, a third classification of land exists and that is private or limited common. This land is set aside for each individual homeowners use. Rules regarding appropriate use of this private land will be spelled out in the condominium by-laws of the Master Deed. Any use of this land outside of the rules established in the Master Deed will require the owner in question to petition his/her community association for its' approval of this non-specified use.

In summation, it can be stated generally that each individual community Board of Directors will handle issues relating to exterior improvements and architectural continuity, landscape, decks and individual homeowner requests within that community.

The general Maples of Novi Board of Directors will deal in issues pertaining to golf course, jogging and nature trails, maintenance and snow removal of roads, maintenance of landscape, etc. In as much as there are economies of scale to be achieved by issuance of one landscape maintenance contract, one snow plow contract, versus three snow plow contacts relating to roads within each village, the only sensible approach is to allow one common Board of Directors to handle these issues.

As well as addressing the administration and maintenance of above ground facilities the Master Deed for the Maples of Novi will allow for the creation of and assignment to the Board of Directors, all necessary easements to the utility companies for maintenance and repair of underground facilities. These would include, gas electric, phone and cable service. As well, the Master Deed will allow for easements to the City of Novi regarding repair and maintenance of water and sewer systems upon dedication by the developer of the city. Likewise, an easement to Oakland County will be reserved in the Master Deed regarding the storm water drainage system.

Provisions in the Master Deed will allow for other, more specific easements which benefit either to the City of Novi or the Maples of Novi. These types of easements relate to bike paths, sidewalks, road rights of way, etc...

9. TRAFFIC STUDIES

In our normal course of site development it is important to study our development and its market. At the same time the impact of the development must be studied as to its impact on the surrounding communities as a whole. The traffic studies by Reid Cool and Michalski that follow are based on our site plan plus sites planned and/or submitted to Novi, Walled Lake and Commerce Township. In order to present the development at the price ranges we anticipate, we are requesting help from the city in this area.

125901888
MAPLES OF NOVI

Introduction

A proposal has been made to develop a combination residential/retail/office complex, known as Maples of Novi, on currently vacant land located basically east of Decker Road (a smaller area is also located west of Decker Road) and south of 14 Mile Road. The complex is planned to consist of 700 dwelling units (the majority will be detached) as well as 100,000 square feet of retail and 35,000 square feet of office development. The available area is approximately 228 acres. Maples of Novi is expected to be built in five phases (approximately 1989 - 1993). Plans call for two major access points to/from 14 Mile Road with approximately four access locations for Decker Road.

Data Collection

The factual data utilized in our analysis was obtained through field studies at the site. Traffic counts and turning movements were collected through the use manual (human) counts techniques. This information can be found in the Appendix. Additionally, field measurements and observations were made to obtain roadway and traffic signal information on traffic flow distributions and roadway volumes.

Study Procedure

Roadway operations are examined and analyzed by traffic flow and delay characteristics. This concept, and the methods of study, are detailed in the Transportation Research Board publication entitled Highway Capacity Manual. This manual formed the basis of our study on this project. We further utilized the City of Novi design and construction standards to identify if right turn lanes/tapers and left turn by-pass lanes were necessary to assist the ingress movements to the site.

Analysis

A) Existing Traffic - Figures 1 through 6 identify the existing A.M. and P.M. peak hour traffic volumes for the three intersections studied: 14 Mile and Haggerty, 14 Mile and Decker, and 13 Mile and Decker.

B) Background Growth and Other Development Traffic - This item is intended to provide an estimate of traffic increases in the area due to factors other than the subject project itself. Generally, this code B traffic can be rather easily identified. In this particular situation, four features have been identified as having an influence on existing traffic volumes at one or more of the three key

12590869

intersections being studied. The four areas are as follows;

- 1) general growth of traffic volumes in the area - 10 percent;
- 2) traffic pattern modification resulting from the proposed closure of East Lake Drive at 14 Mile Road - diversions in traffic data from Barton - Aschman;
- 3) traffic pattern modification resulting from the proposed extension of Decker Road between 13 Mile and 12 Mile Roads - diversion in traffic volumes based on knowledge of traffic in area; and,
- 4) growth in traffic volumes due to proposed project north of 14 Mile Road opposite the subject project - incremental increase utilized is similar to incremental increase in traffic volume due to Maples of Novi project.

Each of the above factors were applied (as appropriate) to develop code B traffic volumes as shown in Figures 1 through 6.

C) Project Traffic - The number of new trips expected to be generated was developed from information provided in the Institute of Transportation Engineers publication entitled Trip Generation (Fourth Edition). This data was then applied for the type and size of development proposed. Based on this, the following table was then developed:

Use	A.M. Peak Trips		P.M. Peak Trips	
	Enter	Exit	Enter	Exit
Single Family Detached Housing - Code 210	109	216	354	208
Office - Code 710	70	11	13	69
Retail - Code 820	122	52	291	302
Totals	301	279	658	579

These trip total were then assigned to the public road network as follows:

- 40 percent to/from the east;
- 5 percent to/from the west;
- 15 percent to/from the north; and,
- 40 percent to/from the south.

USER 12590870

These trip assignments were then carried to, and through, the three intersections under study as shown in Figure 7 (residential) and Figure 8 (office/commercial). Those trips which will pass through the intersections were then added to the code B trips to produce the final volumes shown as code C traffic (see Figures 1-6). These final volumes represent the input data utilized in our analysis.

The highway capacity study results for the total traffic scenario is summarized in the following table with the full analysis provided in the Appendix.

Level of Service - 14 Mile/Haggerty Roads Intersection

<u>Approach</u>	<u>A.M. Peak Delay (Sec/Veh)-LOS</u>	<u>P.M. Peak Delay (Sec/Veh)-LOS</u>
Northbound	8.9 - B	*
Southbound	28.6 - D	22.4 - C
Eastbound	*	*
Westbound	23.8 - C	*
Average	*	*

* results are not meaningful

Level of Service - 14 Mile/Decker Roads Intersection

<u>Approach</u>	<u>A.M. Peak Delay (Sec/Veh)-LOS</u>	<u>P.M. Peak Delay (Sec/Veh)-LOS</u>
Northbound	14.9 - B	*
Southbound	*	*
Eastbound	11.7 - B	19.6 - B
Westbound	45.5 - E	43.1 - E
Average	*	*

* results are not meaningful

Level of Service - 13 Mile/Decker Roads Intersection

<u>Approach</u>	<u>A.M. Peak Delay (Sec/Veh)-LOS</u>	<u>P.M. Peak Delay (Sec/Veh)-LOS</u>
Northbound	(NOT APPLICABLE WITH CURRENT GEOMETRY AND RIGHT OF WAY CONTROL)	
Southbound		
Eastbound		
Westbound		
Average		

City of Novi standards require that LOS C or better be maintained during peak hour traffic operations. Results from the above analysis indicate that the first two intersections

LIBER 12590871

fall below this level. Therefore, an analysis of these two intersections was performed utilizing code B traffic volumes as input data. This would reflect the projected traffic operations with all traffic except the Maples of Novi new volumes. Results indicate that the intersections continue to operate below LOS C under those conditions. It can be concluded that the subject development will add new traffic to the public roadway network, and these traffic demands will warrant certain road improvements. However, not all of the operational problems result solely from the Maples of Novi project.

To achieve the required LOS C rating during the peak hour, the following modifications were made to the intersection geometry (see analysis in Appendix):

14 Mile/Haggerty - The intersection was improved from a three lane cross-section to a five lane cross-section on all four legs. This provides one additional approach lane and one additional departure lane.

14 Mile/Decker - For eastbound traffic an exclusive right turn lane was added. The left / through lane was changed to an exclusive left turn lane. For westbound traffic the northerly most eastbound lane was converted to an exclusive westbound left turn lane. This was done to create opposing left turn lanes. For northbound traffic a lane was added to the easterly side to provide for through / right movements. This lane shall be extended north of the intersection also. No improvements are necessary on the southbound approach.

13 Mile/Decker - Decker Road is currently planned to be extended to the south. As part of that project other improvements will take place including signalized control of traffic movements. Laneage assumed in our capacity analysis is as follows. Exclusive left turn and a single through / right turn lane for eastbound traffic. West, north and southbound approaches will consist of one of each of the following lane types - exclusive left, exclusive through, and exclusive right.

D) Newly projected driveway movements for the A.M. and P.M. peak hours (based on trip assignments as shown in Figures 7 and 8) are shown in the table below.

12590872

Driveway Movements - A.M. Peak

<u>Driveway</u>	<u>Left In</u>	<u>Right In</u>	<u>Left Out</u>	<u>Right Out</u>
14 Mile (east)	35	19	39	69
14 Mile (west)	54	11	21	45
Decker Road				
a) North Drive east side	39	39	13	13
b) North Drive west side	38	38	12	12
c) South Drive east side	0	27	54	0

Driveway Movements - P.M. Peak

<u>Driveway</u>	<u>Left In</u>	<u>Right In</u>	<u>Left Out</u>	<u>Right Out</u>
14 Mile (east)	113	64	37	67
14 Mile (west)	114	35	21	105
Decker Road				
a) North Drive east side	61	61	74	75
b) North Drive west side	61	60	74	74
c) South Drive east side	0	88	52	0

E) Recommended Improvements - The intersection capacity analysis results indicate that the intersections studied can achieve peak hour operations at LOS C with the improvements cited above.

REF 12590873

Information related to driveway movements presented in item E) above, and average daily traffic of 9,798 on Decker Road and 7,636 on 14 Mile Road, were applied to the warrant graphs to determine if a right turn deceleration lane/taper or a left turn by-pass lane are required at the project driveway. This analysis (attached) indicates that right turn entry tapers are warranted at each driveway to allow easier ingress movements. Additionally, both 14 Mile Road access points warrant a by-pass lane to allow westbound through movement to continue unimpeded around left turning ingress vehicles. The two northerly Decker Road driveway pair (opposite each other) also warrant by-pass lanes. Consideration should be given to continuing these lanes at full twelve foot width northerly to the intersection. Ideally, a five lane cross-section on Decker Road should be used in this area to assist in left turn movements and benefit the intersection capacity.

A field review of driveway sight distance was performed utilizing a 3.5 foot eye height (located 15 feet from the near pavement edge) viewing an object 3.5 feet in height. This test determined available sight distances as follows:

- a) 14 Mile Road (east) - greater than 750 feet to the east and 565 feet to the west;
- b) 14 Mile Road (west) - greater than 750 feet to the east and clear to the intersection to the west; and,
- c) Decker Road (northerly pair) - clear to the intersection to the north and greater than 600 feet to the south.

All of the above are acceptable except for driveway a) where the view to the west falls below acceptable standards.

Summary

It is concluded that, with improvements to the three intersections and with the use of deceleration tapers and by-pass lanes as identified above, the public roadway system will operate at a desirable Level of Service after development of the Maples of Novi project.

LIBER 12590 PG 874

10. ROADWAY SYSTEM

The roadway system is based on a hierarchy of scale. All roadways in this development will be private. The hierarchy begins with the major collector road, consisting of a loop system which internalizes the development. The major collector road will be constructed 24' wide and will include curbing and gutters. The developer proposes a design speed of 25 mph on the major collector road. In addition, parallel parking will not be allowed.

The secondary collector roadway is the individual cluster drive or cul de sac. A roadway in this category is proposed to be constructed (20' in width) with a rolled asphalt curb and is designed for 15 mph speeds.

All roadway systems were designed with the natural site amenities in mind. Therefore, there is minimal cutting and filling necessary in developing the road systems. Also, all wetland crossings have been designed at the narrowest points in an effort to minimize disturbance. All of these considerations allow for minimal disruption of the natural site topography and amenities.

11. PARKING

The developer proposes that all major and secondary roads be free of parking. Parking will be provided as follows:

Starter Family Detached= two-car attached garage and a two-car apron outside garage for each unit

Golf Villas Detached= two-car attached garage and a two-car apron outside garage for each unit.

Adult Attached= one-car attached garage and a one-car apron outside garage for each unit.

All residential (two-car) aprons will be 16' wide. All residential one-car aprons will be 8' wide. All parking spaces will be 9' wide except for barrier free parking, which will be 12' wide. All parking areas of the clubhouses and non-residential areas will be landscaped or screened and will meet or exceed the requirements established by the ordinance.

LICR 12590875

12. RESIDENTIAL NEIGHBORHOODS

It is the intent of the developers of Maples of Novi to provide a range of single-family condominium ownership housing units. The developers also intend to control the architecture and strive for coordinated continuity and balance with controller interest. The result of this careful control will be a community with a "Classic identity". The community will have a strong image much like Hilton Head, Boca West and other similar golf course communities around the country. Similar to the open space, the architecture will be regulated by the developer in concert with the development of the condominium by-laws.

The developer is proposing four basic unit types: (Zone map, site plan and some examples of units floor plans and elevations follow)

- 1.) Congregate Type Facility rental units only.
- 2.) Single Family Attached (Adult) rentals and for sale units.
- 3.) Single Family Detached (Golf Villa) for sale units only.
- 4.) Single Family Detached (Starter Family) for sale units only.

The Proposed Adult Congregate Type Facility (Zone G) This adult congregate type facility will include 100 units on 4.66 acres. (21.45 D.U./Ac). The initial proposed rental rate will be \$400.00/month including all utilities. The size of the base unit will be approximately 550'. This will include 1 bedroom, living room, galley kitchen, dining-nook and 1 bathroom. This facility will not include the normal food preparation facilities, but will include only minimal core facilities.

The Proposed Single Family Attached (Adult) Rental Units (Zones B, C & D) These adult rental and for sale units will include 300 units on 60.7 acres (4.9 D.U./Ac). The initial proposed rental rate will be \$600/month including all utilities. Our marketing analysis has not specifically defined whether these units should also be considered as "for sale" units. We will reserve this option and let our customers dictate the need for units for sale. The sizes of the units will range from 750' to 900'. The location of this Village was selected to provide easy access to the commercial and office, using the natural topography of the site to maintain the individuality and security for the proposed elderly units. Separate, yet part of the community as a whole.

The Proposed Single Family Detached Golf Unit (Zone E) The Golf Village will include 350 units on 98.3 acres (3.56) D.U./Ac.). Generally located in the central part of the development, the Golf Village is oriented to the golf course and natural amenities. The initial price of the Golf Villas units will start at \$110,000. The size of the units will range from 1450' to 2000'. All units will be architecturally related and the exterior materials will blend with the established community standards.

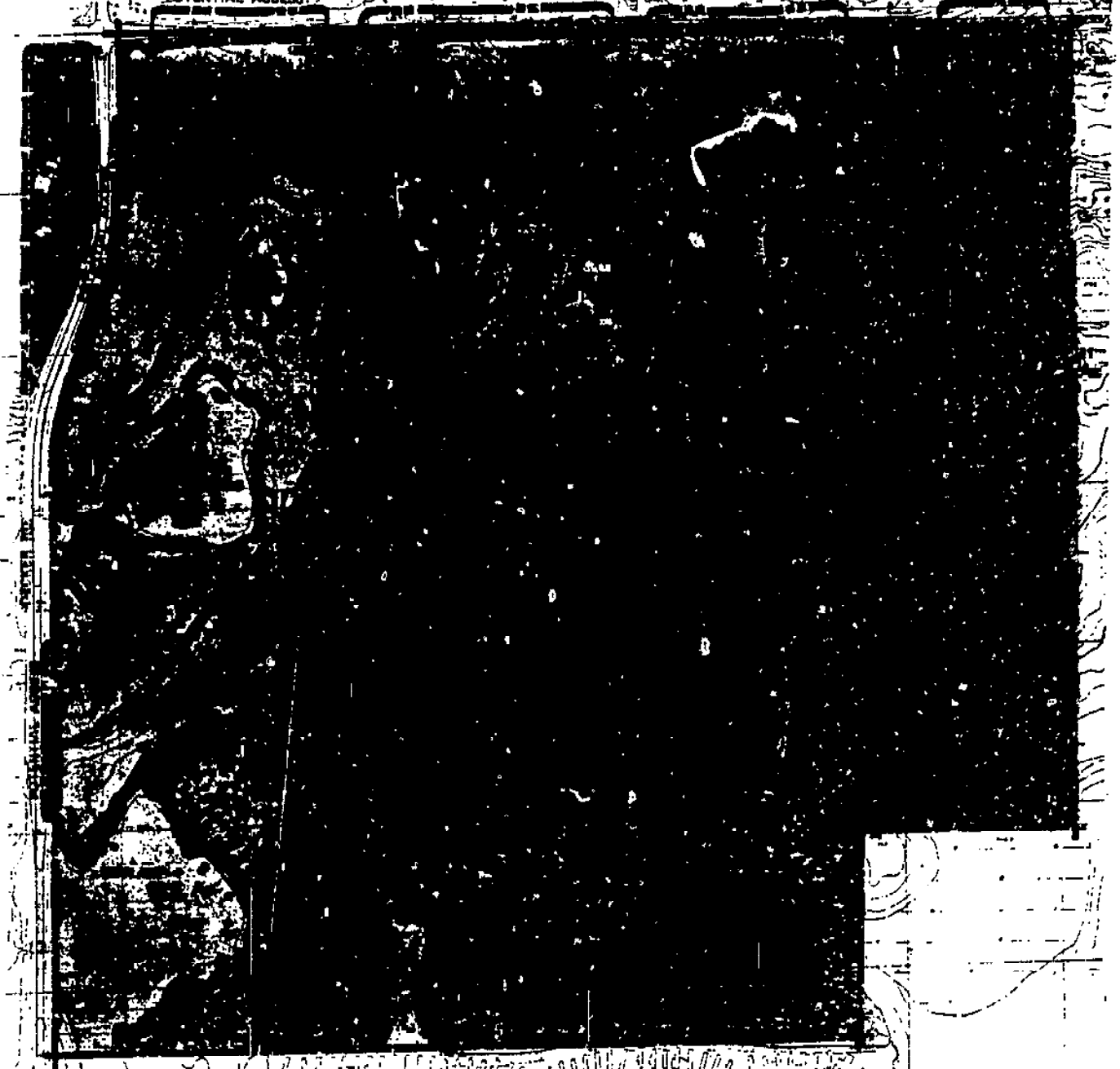
LIBER 125903876

The Proposed Single Family Detached Starter Units (Zone F) The Family Starter Village will include 150 units on 53.9 acres (2.78 D.U./Ac.). Located along the eastern and southern boundaries of the site, this village is adjacent to several natural amenities which include woodlands and wetlands. The initial price of the Family Starter home will start in the low \$70,000 range. The size of the units will range from 1100' to 1500'.







LIBER 125908877
FOURTEEN MILE RD.

POTENTIAL ACCESS

POTENTIAL ACCESS



LEGEND

-  EXISTING WETLAND
-  RIDGELINE
-  DRAINAGE SWALE
-  STEEP SLOPES
-  EDGE OF WOODLAND
-  EDGE OF BUILDING ZONE

SITE CALCULATIONS

TOTAL SITE AREA	228.18	Ac
TOTAL STEEP SLOPES	6.8	Ac
TOTAL WETLAND	34.0	Ac
PROTECTED WOODLAND IN WETLAND AREA	(8.5)	Ac
PROTECTED WOODLAND IN UPLAND AREA	4.8	Ac
NET BUILDING AREA	182.40	Ac

NORTH
1/4"=100'

SITE ANALYSIS

**THE MAPLES OF NOVI
NOVI, MICHIGAN**

DEVELOPER: CLARIC CONSTRUCTION CORP.
2000 OAKLAND LAKE, SUITE 100
WEST BLOOMFIELD TWP, MI 48306
(313) 771-8888

PLANNER: FOREST LEVITON ASSOC. INC.
1217 ADVEN DRIVE
42175-1022
CANTON, MI 48106
(313) 999-0000

ARCHITECT: PROGRESSIVE ARCH., INC.
636 W. LUNA LAKE ROAD
SUITE 200
BLOOMFIELD HILLS, MI 48304
(313) 350-8800

ENGINEER: REDMET - O'NEAL & ASSOC.
2040 FRANCHISE RD.
SOUTHFIELD, MI 48064
(313) 392-8888

LIBR 125900878

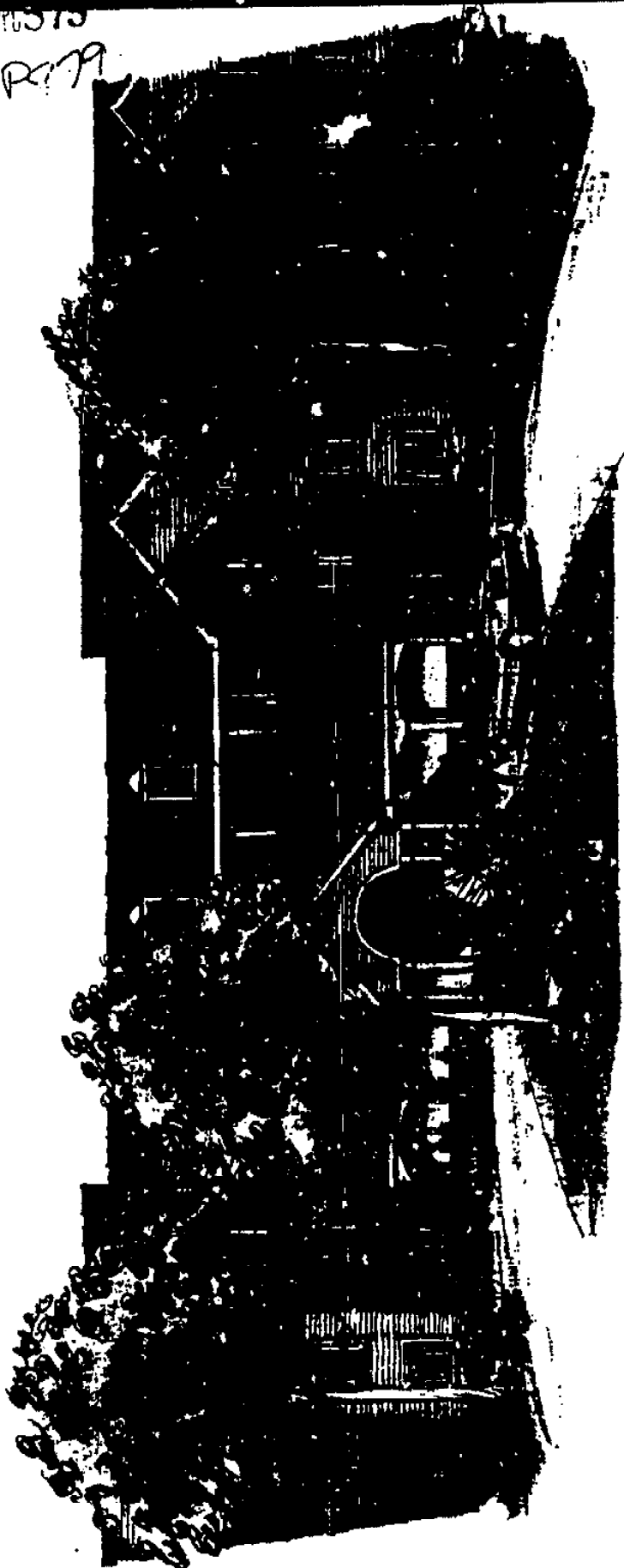


**ILLUSTRATIVE
SITE PLAN**

**THE MAPLES OF NOVI
NOVI, MICHIGAN**

-
-
-
-

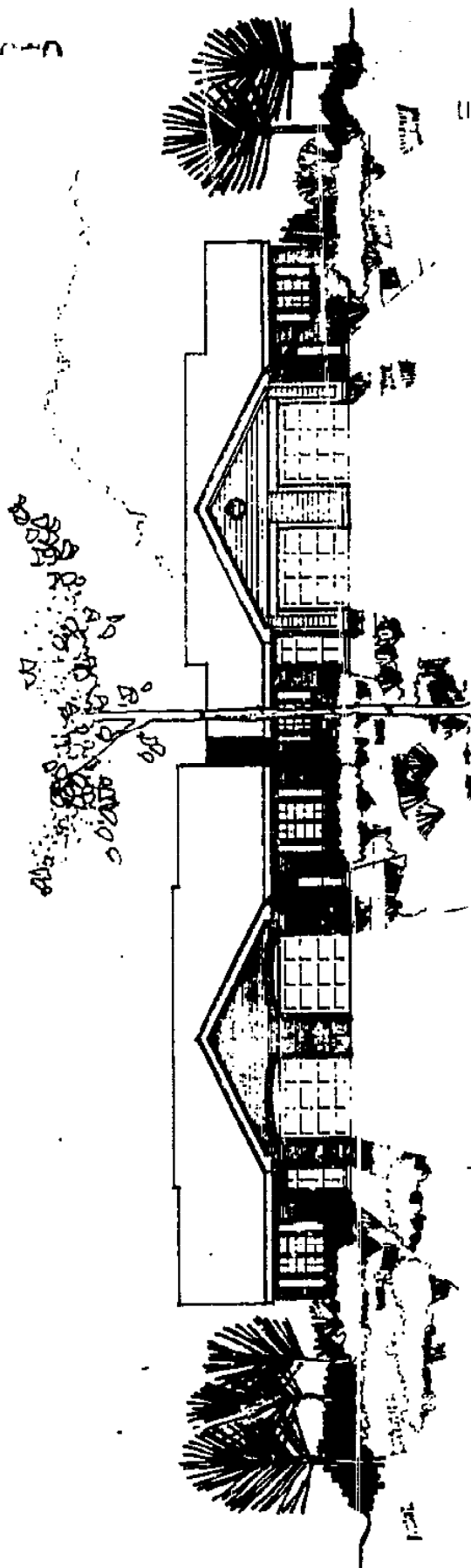
UBR 125907575
L12590R79



A.C.L.F. Type
Elevation

00500000

LIBR 125908860

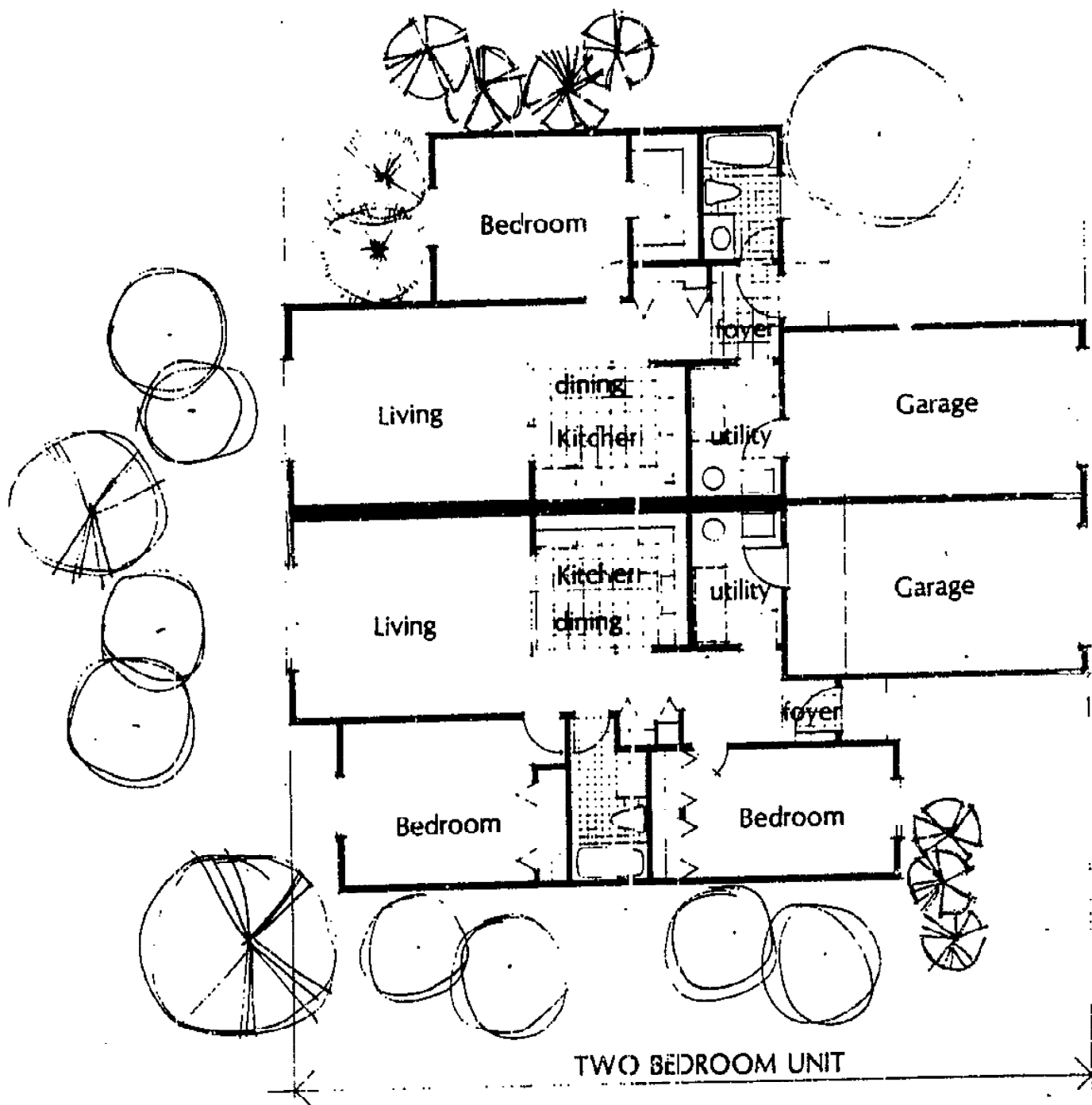


ELEVATION CONCEPT
ADULT UNIT

Typical Adult Elevation

125908881

ONE BEDROOM UNIT



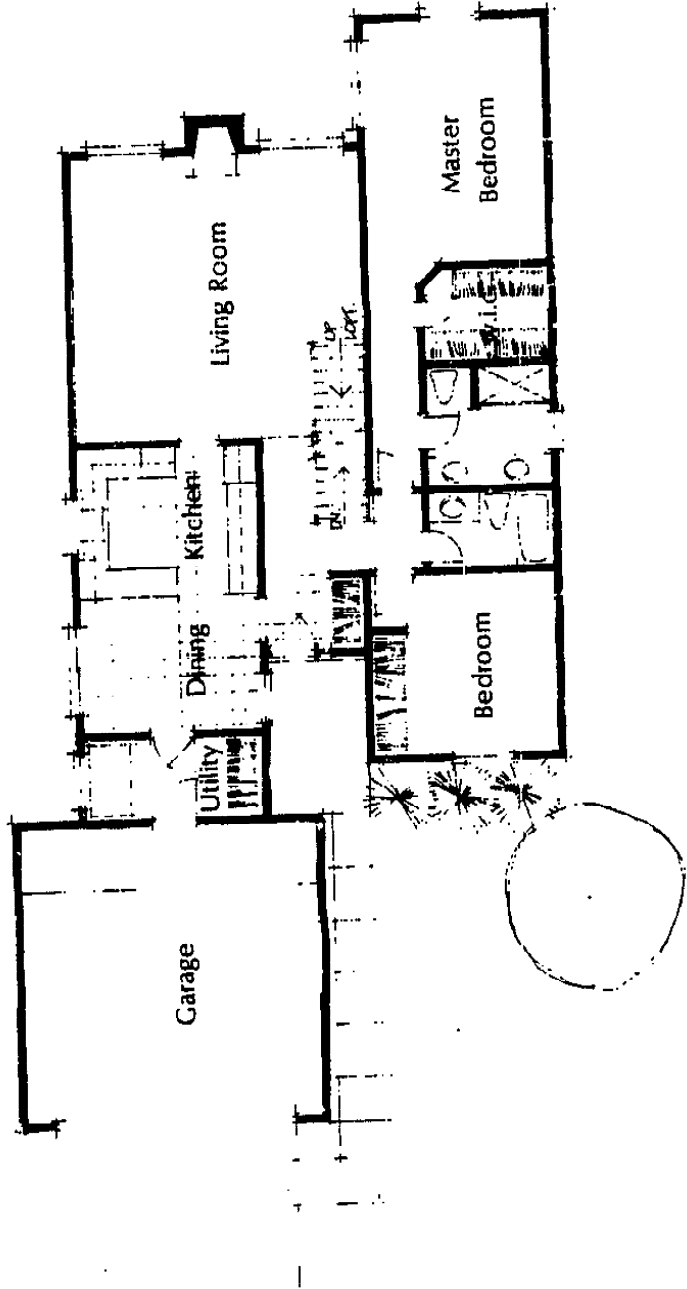
Typical Adult Floor Plan

12590882



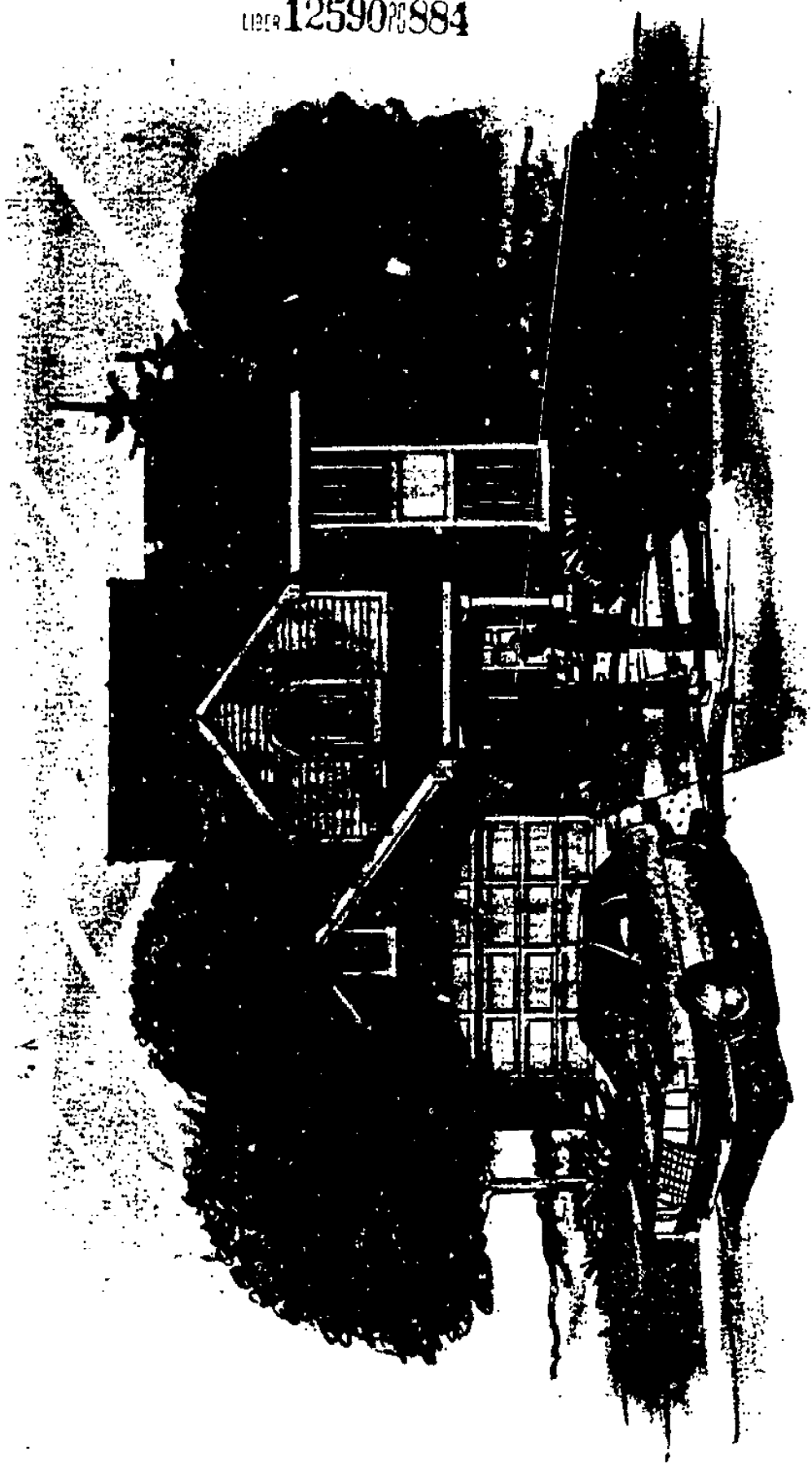
Typical Golf Villa
Unit Elevation

UNIT 125907883



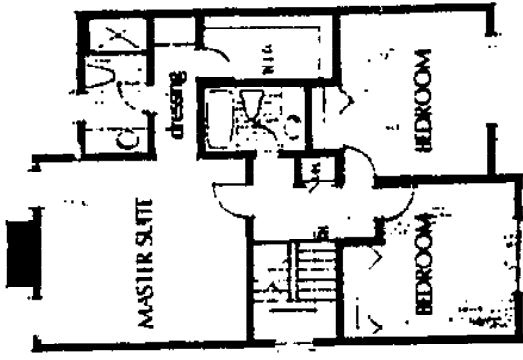
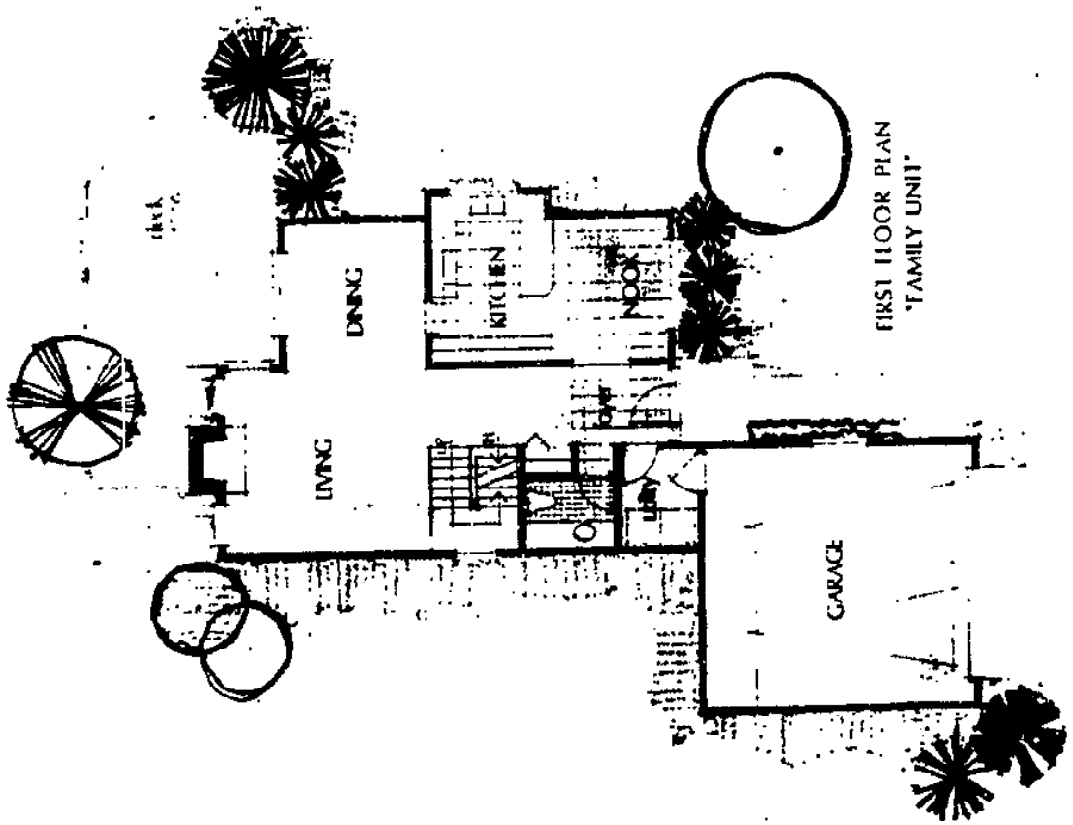
Typical Golf Villa
Unit Floor Plan

LIBER 1259075884



Typical Family Starter Unit
Elevation

12590885



Typical Family Starter Unit Floor Plan

125908886

13. NON-RESIDENTIAL (Zone A)

The development of the non-residential areas will be coordinated with that of the housing areas and their immediate environs. The development will include 60,000 sq.ft. of convenience commercial, 20,000 sq.ft. of office, health and fitness, adult and child care functions necessary to service the needs of the community.

Convenience Commercial/Office

The type of convenience commercial and office envisioned is basically listed on all reports as required by an adult community and are in order of preference; Beauty shop, Barber shop, Drug store, Supermarket, Variety store, Restaurant, Bank, Department store, Gift shop. We were reminded that this is an entrance to the City of Novi. Please note our planned heavy green belts and entrance treatments. Offices on the second floor are intended for Doctors, Dentists and professional needs. Note the bridge from the adult clubhouse. In foul weather an adult can take the internal bus to the clubhouse, access the shopping and office by crossing the security card accessed bridge. An elevator is planned to the office area.

An adult community requires convenience commercial within a maximum 1500'. Mishta & H.U.D. require convenience commercial as a prerequisite for an adult development. A mentally and physically healthy adult is one that has the ability to be as independent as possible. The ability to shop and take care of ones personal needs is the key to the desired independence.

Following are the uses noted below, along with the typical square footage of each area. These are the normal group of use projections for this type of project.

UEIR 12590887

14. PROPOSED STORE SIZES, TENANT MIX AND PHASING

Based on the total sales potential projected for 1991 and 1996, the resultant gross leasable area shown Classic Construction has proposed opening the service center in two phases. The first phase would contain 25,000 square feet. The second phase would contain 35,000 square feet, resulting in a total center size, at full build-out of 60,000 square feet.

The proposed center size envisions space for a 3,000 square foot specialty hardware store and a small appliance store. A grocery store of approximately 14,000 square feet with 20,000 square feet of eating, drinking and entertainment establishments. A drug store of 6,000 square feet and other food outlets totalling 3,000 square feet. Personal service and miscellaneous other convenience stores of 4,500 square feet and comparison type stores of 11,000 square feet. Miscellaneous other uses could total 14,000 square feet.

The proximity of the subject site to a high concentration of apartments and condominium units - many of which are anticipated to contain either young singles or married, offers a unique opportunity to create a form of food-based specialty center, rather than a traditional neighborhood center.

For the singles and young married generally in two earner households with no children, proximity to a mix of dining establishments and specialty food outlets, featuring a mix of snack, desert and main meal options offers a time-saving convenience so important to this busy age group.

Of special significance is the subject site's proximity to the complex proposed to cater to the housing needs of persons in or near their retirement years. Dining out creates continuing opportunities for social interaction - so important to those no longer working - and especially those who have relocated from neighborhoods containing concentrations of long term neighbors and friends. Additionally, convenient, potentially walking, access to a source of fresh meats, produce, and other perishables, as well as specialized food products - both as carry-out items and as dining-out opportunities - is especially important to this age group.

Thus, in lieu of a major supermarket or drug superstore anchor at the proposed center, a moderately sized grocery store, and a mix of smaller scale food stores and dining establishments is envisioned.

The center is also proposed to contain a mix of comparison goods and services in addition to its convenience stores. Given the concentration of residential development either existing or anticipated in the area, the site offers a great opportunity to be the most convenient location for special purpose comparison shopping trips.

125307888

Such trips, in addition to being food and dining oriented, may be focused toward a mix of specialty apparel and home furnishings shops offering a rapidly changing mix of specialty items, not readily found elsewhere without the major parking-walking-time involvement characteristic of the area's regional malls.

As a major supermarket or department store provides an anchor draw for a neighborhood or community shopping center, the wide mix of specialty food, dining and entertainment establishments proposed could act as a draw for specialty comparison stores. Coupled with ongoing, coordinated direct mail campaigns, coordinated media advertising efforts by all tenants, and frequent special event sales and activities, much as take place at regional malls - and the more successful specialty centers in the Detroit area, successful high levels of occupancy are anticipated.

In addition to the shopping facilities noted above, space is being allocated for a separate area for the development of professional office space. This would occur as an elevator-served second story to the retail complex.

Provision of space for medical and other offices would enable convenient access to same for the immediate residents of the area. Convenient access to medical services is a factor often important to elderly residents of housing developments.

As the general market area of the proposed center becomes more completely residentially developed, unless convenient neighborhood level shopping and support services are provided, even greater demands on the existing and proposed road network will be created. Specifically, to the extent to which long trips on major roadways can be avoided for daily and weekly shopping and personal service needs by area residents, the burden created by such residential developments on area roads will be lessened.

An additional benefit to be gained by the provision on a conveniently located cluster of shopping and service facilities will be the linked planned pedestrian and bicycle paths to surrounding residential developments and nearby recreational facilities, a greater sense of community for area residents will be created. This is of special importance for prospective older residents of the area who move into various developments which are designed to appeal to their changing housing needs. The more ready creation of "community" would assist such new residents to become more immediately comfortable in their surrounds, facilitating their adjustment to the area - and thus enhancing their quality of life.

12590889

Convenience Facility

Food Store	14,000 sf
Drug Store	6,000 sf
Hardware/Appliance	4,000 sf
Hair/Beauty Salon	7,500 sf
Misc. Eatery/Entertainment	20,000 sf
Misc. Clothing/Apparel	4,000 sf
Misc. Personal Service	<u>4,500 sf</u>
TOTAL	<u>60,000 sf</u>

Office Facility

Legal Offices	2,400 sf
Dental Facilities	2,000 sf
Clinic/Medical Offices	5,000 sf
Health Club/Aerobics	5,000 sf
Accounting	2,000 sf
Insurance	2,000 sf
Financial Services	<u>1,600 sf</u>
TOTAL	<u>20,000 sf</u>

UBCR 125907890

**HOUSING THE ELDERLY
DETERMINING THE NEED FOR PROXIMATE COMMERCIAL
FACILITIES AND SERVICES**

Prepared For
Classic Construction Corporation
2177 Hilltop
Southfield, Michigan 48034

Prepared By
Vilican-Leman & Associates, Inc.
28318 Franklin Road
Southfield, Michigan 48034

LEIS 125907891

**HOUSING THE ELDERLY: DETERMINING THE NEED FOR
PROXIMATE COMMERCIAL FACILITIES AND SERVICES**

Villican-Leman and Associates, Inc. was retained by Classic Construction Corporation to conduct an inquiry into whether there was academic as well as other less formal support for Classic's position concerning the need for proximity between elderly housing and retail support facilities. Classic Construction is interested in developing a shopping center in Novi, Michigan adjacent to a planned residential community in which a large portion of the housing is oriented to the elderly - specifically to persons in their pre-retirement and retirement years (55+ years of age).

Accordingly, over a two month period, Villican-Leman and Associates, Inc. researchers contacted state and federal housing officials as well as Michigan-based experts in elderly housing. Further, the experience of elderly housing activists in Novi itself was drawn upon. Additionally, we conducted an extensive review of literature on this topic.

The general conclusion which can be drawn from our interviews and review of literature is that there is a need, if not outright necessity for commercial services and facilities to be located in close proximity to housing complexes containing large concentrations of elderly households. Preferably, such facilities would be located in a place of convenient access to the majority of the elderly residents.

In most instances, the scale of a specific elderly housing development is insufficient to create sufficient economic justification for an internal shopping facility. When this is the case, it is recommended by almost all consulted sources dealing with this issue, that the shopping and personal service facilities in high demand by the elderly be located within convenient walking or short, safe driving distances.

A safe driving distance for the older, possibly partially disabled driver, is considered to be along a route which crosses no major thoroughfares, railroads, freeways or large expanses of undeveloped land.

Interviews

A series of interviews was conducted to determine if various "experts" or persons extensively involved with the elderly and their housing needs had any comments or opinions concerning the need for proximity between commercial facilities and housing designed to be attractive to the elderly. Their comments are summarized below.

REF 125907592

1. Dr. James Morgan, economist and specialist in the economics of the aging, University of Michigan, Institute of Social Research. Date interviewed: 3/8/1988. His direct comments on this issue:

"While people believe they'll drive their cars forever, friendship networks are facilitated by having a variety of facilities and opportunities nearby. Walking is a very important activity to the elderly - both in terms of physical health and in terms of perception of their own mental health. Nearby facilities and activity opportunities give the well-elderly destination goals, important to their well-being. Such facilities as restaurants, drugstores, groceries as well as formal activity rooms offer opportunities for casual interaction."

Dr. Morgan referred to a recent paper he presented ("Designing Environments for Older People In Order to Facilitate Productive Activities." August, 1986, University of Michigan.) He provided a copy of said paper to our researchers. Key comments from this paper are as follows: Dr. Morgan asks: "What are the desirable characteristics of optimal communities for older people?" and lists:

"Privacy and independence and freedom of choice are clearly important.
Easy access to a wider community and community activities including shopping and recreation..."

2. Dr. Robert Marans, architect and specialist in design of retirement communities, urban planner, and researcher at University of Michigan Institute of Social Research. Interview date: 3/8/1988.

Dr. Marans indicated that his various research projects supports the desirability of proximity between elderly housing and such community support services as shopping.

3. Mr. Douglas Mernitz, Director of Home Ownership and Development, Michigan State Housing Development Authority. Interview date: 2/22/1988.

Mr. Mernitz states that it is both a strongly enforced MSHDA policy as well as his own personal opinion that housing for the independent and dependent elderly should have shopping nearby. This MSHDA requirement for proximate shopping has been recently reviewed and reaffirmed with respect to MSHDA involvement in non-subsidized housing projects. Previously, it had been a requirement for subsidized projects. MSHDA elderly housing location standards are as follows:

Mandatory Services

Supermarket or Food Store
 Drug Store

12590⁰⁰893
 1,500 feet
 1,500 feet

Desirable Services

Department Store or Clothing Store 2,000 feet
 Bank 2,000 feet
 Medical Services 2,500 feet
 Beauty Parlor 2,500 feet
 Barber Shop 2,500 feet
 Restaurant 3,000 feet
 Post Office 3,000 feet

As recently as January, 1988, MSHDA turned down financing for an independent elderly complex proposed in Novi, on Haggerty Road between Nine and Ten Mile Roads. This denial was primarily because the proposed complex lacked the required proximity to a grocery store. The decision by MSHDA was appealed by Ms. Cathy Crawford of the City, on behalf of the Senior Citizen Housing Needs Study Committee, and by the City Manager, Mr. Ed Kriewald. Mr. Mernitz has stated to our researchers that the lack of proximate commercial of the type and character required by MSHDA was critical to the financing review process.

While other projects have been approved by MSHDA for financing which also lack convenient shopping, apparently other factors, such as site uniqueness or the availability of other proximate support factors such as adjacent nursing care and medical offices, lakes, etc., have sufficiently added to the site's merits and have, thereby, won MSHDA's approval.

4. Ms. Cathy Crawford, Novi Parks and Recreation Department and liaison to the Novi Senior Citizen Housing Needs Study Committee. Interview date: 2/23/1988.

As a follow-up to the petition of Ms. Crawford's committee, our researchers contacted her at the City's Parks and Recreation offices. She provided us with a copy of the recently completed Senior Citizen Housing Needs Study Committee Survey administered by her organization.

This questionnaire was administered to 394 seniors in Novi. Among questions concerning their housing preferences with respect to a prospective senior complex in Novi, 99% (390 of the 394 respondents) indicated that they felt such housing should be within walking distance to shopping. No other preference was as strongly indicated. This extremely strong response is significant given that 90% of those surveyed indicated that they had a car and drive.

LIBER 125907894

- 5. Ms. Sherry Forbear of the U.S. Department of Housing and Urban Development, Housing Development Programs, Detroit Office. Interview date 3/7/1988.

Ms. Forbear was asked if HUD had in effect any specific locational standards for HUD financed or coinsured elderly housing. She indicated that no specific distance standards were in place. However, for at least assisted housing (Section 8), more points were given to projects which were accessible to commercial and other community services, as part of the competitive ranking process. With respect to coinsured market rate projects, the availability of off-site features is not a required element of the market evaluation performed by HUD. Ms. Forbear indicated she was of the opinion that proximate retail services would aid the marketability of such projects, and, as such, may be indirectly considered by HUD reviewers in their market reviews.

Literature Search

A review of available academic and planning studies concerning the potential link between elderly housing and proximate shopping was conducted. While extensive data is not available on this topic, that which was identified is summarized below.

- 1. Ontario Ministry of Municipal Affairs, Research and Special Projects Branch, Community Development Wing, 1988: Planned Retirement Communities.

"Commercial facilities such as a bank or variety store are often present in a retirement community. These services are important to residents who otherwise would have to drive up to several kilometers to the nearest service center to meet their every day needs."

- 2. Elizabeth D. Huttman, Housing and Social Services for the Elderly, Social Policy Trends. Praeger Publishers, New York, New York, 1977. The chapter on "Special Issues in Housing the Elderly" offered the following findings.

"Location of housing for the elderly is a major decision that will affect the elderly's satisfaction with the housing and, in fact, their desire and ability to stay in this type of housing. Their physical limitations, as well as lack of a car in many cases, mean a decreased mobility; their social world and their spatial orientation will be mainly in terms of the development and its immediate neighborhood of a five-to-ten block radius."

125901895

Additional text comments indicate that accessibility by foot to grocery store and medical services are very much desired by the elderly. Elderly living in "residential area" locations (typical suburban locales) complained considerably of facility inaccessibility and, as a result, were less likely to get out and about from their homes on a daily basis.

In her comparisons of the elderly living in downtown type environments versus those in suburban locations, those living downtown indicated a greater ease of access to important facilities - often by walking. This was in comparison to locations in the suburbs which typically were not within walking distance to desired facilities. The few suburban projects in which the elderly residents made relatively few complaints about facility inaccessibility were those which provided transportation for their residents.

Additionally, one development had high ratings on questions of accessibility for the reason that it was next door to a shopping center. For this development, two-thirds of the residents surveyed by Huttman got out daily for one or more hours.

Huttman's research indicates a major difference in the activity levels of elderly residents living in downtown areas or in projects proximate to a wide range of community facilities compared to the activities of those in more remote living environments. The number of trips and duration of travel outside the home increased when there were more proximate activities and facilities. Involvement in community organizations also increased.

When elderly residents of various projects were queried concerning satisfaction with location, the most predominant answers given on reasons for satisfaction were: "close to everything" or "close to shopping." At least one open-ended response given to Huttman concerning locational dissatisfaction was "too far to store".

Huttman found that the elderly do not necessarily want all possible services accessible to them, though service accessibility is highly important. The most important proximate services according to Huttman's research, are groceries and medical clinics or medical offices.

Huttman also cites a HUD-sponsored survey of elderly subsidized housing. That survey indicated that services most important to the elderly in terms of proximity to their homes were convenient shopping.

LD 125908896

3. Irene K. Malozemoff, John G. Anderson and Lidia V. Rosenbaum, Housing for the Elderly, Evaluation of the Effectiveness of Congregate Residences, Westview Press, Boulder, Colorado, 1978. While this source placed its greatest focus on congregate housing, and, as a result, the more dependant elderly, attention was also paid to the locational desires of the well-elderly who are often also occupants of congregate housing.

"...as the frequency of activity outside the facility increases (i.e., frequency of shopping...), the proportion of residents citing accessibility as a key choice factor increases." In other words, for relatively independent elderly residents of congregate facilities who would be active regardless of the location of their residence, the complex's accessible location facilitates residents' pursuit of various interests, encouraging them to maintain high levels of activity.

4. Irwin Altman, M. Powell Lawton, Joachim F. Wohlwill (eds), Elderly People and the Environment, Plenum Press, New York, New York, 1984.

Chapter 3, "Retirement Communities," is written by Robert W. Marans, Michael E. Hunt, and Kathleen L. Vakalo. This chapter describes several different living environments specifically developed for the older (50 years+) person. Of the several discussed, that of the retirement village and retirement subdivision appears to have the most similarity to the development proposed by Classic Construction Corporation.

Retirement villages are medium-sized communities, distinct from the self-contained retirement new-towns. Retirement villages emphasize a wide selection of outdoor recreational facilities and programs. However, they contain only limited amounts of internal, resident-oriented commercial and medical care facilities. They are not planned to be self-contained, often housing too few residents to adequately and economically support internal commercial and health care facilities. Thus, they rely heavily on the availability of nearby facilities.

Retirement subdivisions, like retirement villages, are planned for a predominately independent and healthy older population. Generally smaller in scale, they have usually have more limited outdoor and indoor recreational facilities and support services. They are intentionally planned to be integral parts of the surrounding community.

Retirement subdivisions and the smaller villages represent the "least supportive" form of retirement lifestyles. In

12590897

such situations, where the interaction between the elderly resident population and the exterior community is great, the match between resident need and available supporting infrastructure is of great importance in terms of providing a high quality of life. "For example, where shopping is inconveniently located and residents either do not have automobiles or are no longer able to drive, the level of person-environment congruence will be low".

Chapter 8, "The Effects of Residential and Activity Behaviors on Old People's Environmental Experiences," by Stephen M. Golant, also had some pertinent findings as well as citations of other research.

Golant indicates various studies confirm that as persons age, their activity levels can be expected to decrease. Additionally, the extent of vehicle use declines with age. As people age, behavior becomes more restricted, resulting in an increase of dwelling-centered activities. "...facilities intended for use by the elderly should be within certain critical walking distances of their residence; otherwise, dissatisfaction is expressed." Golant cites studies which have documented the importance of walking as an important mode of transportation for elderly people.

Frances M. Carp and Abraham Carp, in Chapter 9, "A Complementary/Congruence Model of Well-Being or Mental Health for the Community Elderly," cite conclusions of a special committee of the Gerontological Society as follows:

"...immediate neighborhood may be more important to well-being than the residence. For some older people, economic, physical, and social limitations may restrict movement to a point where their neighborhoods are the only salient supraperson environments."

5. Victor Regnier and Jon Pynoos (eds) Housing the Aged, Design Directives and Policy Considerations, Elsevier, New York, New York, 1987.

Chapter 5, by David Christensen and Galen Cranz, "Examining the Physical and Managerial Aspects of Urban Housing for the Elderly," offers the following:

In a study of frequency of facility use, the three most frequently used facilities having a social orientation were restaurants, churches and beauty/barber shops. Elderly residents surveyed indicated that these facilities were visited at least monthly by near or over 80% of those sampled.

REF 125902898

Chapter 9, by Victor Regnier, concerns "Programming Congregate Housing: The Preferences of Upper Income Elderly." While not 100% appropriate to the proposed independent living housing project, findings of this article may have application.

The study surveyed potential in-movers to a hypothetical congregate facility and asked them to state the type of facilities and services most important to them at such a place. Included in the list of items were housing - particular items as well as support services and facilities. "All convenient retail neighborhood facilities, with the exception of the dry cleaner, are located in the upper half of the positively rated services." (Emphasis added). The study found that on an index of 0 to 100, beauty/barber shop, pharmacy, and small convenience grocery had ratings in excess of 90%. Restaurants were rated 89.7% with gift shops and dry cleaners at 64.7 and 60 % respectively.

In Regnier's study of potential in-movers into an age segregated retirement housing community in Atlanta, Georgia, middle- to higher-income respondents were interviewed. Such prospective in-movers preferred services and amenities in the following order: protective, convenience (shopping), health, transportation, common spaces and supportive (home and medical assistance).

In Regnier's summary of the above survey, as well as other surveys of the elderly also conducted by Regnier, he offers the following design directives:

"Security from personal assault, street robbery, and burglary is a major concern and should be a major consideration in the design of the facility and the selection of the site." This is Design Directive One.

"Neighborhood service facilities such as a pharmacy and grocery should be conveniently located nearby." This is Design Directive Two. Regnier's additional comments on this directive are that it is of critical importance to both lower-income elderly and upper-income elderly.

6. M. Powell Lawton, Sally L. Hoover (eds) Community Housing Choices for Older Americans, Springer Publishing Company, New York, New York, 1981.

Chapter 13, by Victor Regnier, "Neighborhood Images and Use: A Case Study," offers the following findings:

While a variety of other research suggest that convenient access to such neighborhood type facilities as drug stores, small groceries, supermarkets, banks and variety stores is

125908899

highly important to the elderly. Regnier attempts to measure the differences between the objective physical environment, the perceived environment and the use of that environment. To do this, he examines an older, urban neighborhood and interviews its elderly residents to establish the frequency of their various trips and the distance they travel.

The total number of monthly trips to 32 various types of services was inventoried. Eight services appeared among the top 12 services, both in the percentage using the service and the intensity of the use. These were: supermarket, variety store, small grocery, bank, department store, pharmacy, restaurant, and park. While less than half of the physically closest 12 services were among the most used, five of the closest were among the most used: liquor store, small grocery, luncheonette, bar, and park. While not among the closest facilities to most residents, supermarkets, at an average distance of 5.4 city blocks, were used by 88% of the respondents who averaged 7.8 trips per month.

Regnier concludes that the best criteria for importance appears to be those that are used by a large percentage of people and also have a high overall use index. In his study, the eight services meeting these criteria are, in order of importance: supermarket, variety store, small grocery, bank, department store, pharmacy, restaurant and park.

- 7. Victor Regnier and Louis E. Gelwicks, "Preferred Supportive Services for Middle to Higher Income Retirement Housing," in *The Gerontologist*, Vol. 21, No. 1, February, 1981.

This research was based on interviews by the above cited authors with older, higher income persons, living in either single-family or multiple-family homes. The interviews concerned the respondents' preferences for services, features and facilities in or near newly constructed middle- to higher-income housing. For potential in-movers, the general response categories of security, convenience shopping, health, transportation services, common spaces and supportive services (maid, etc.) were the most highly preferred - and in the order of preference listed.

Specifically, 70.3% felt a pharmacy was a "must-have" item, 84.9% said grocery stores were necessary, 54% indicated high preference for dry cleaners and 50% said restaurants were "must-haves". Security, the top rated item at 73%, scored only 2.7 percentage points over the desire for a pharmacy.

- 8. Maurice B. Hamovitch, James E. Peterson, "Housing Needs and Satisfaction of the Elderly," in *The Gerontologist*, Vol 9, No.1 Spring, 1969.

UICR 125903300

This research focused on what older people want in housing, compared to what they have, and their general level of satisfaction or dissatisfaction with their present environment. Interviewees were queried concerning how important a specific characteristic was to them, whether or not their present housing provided it and their satisfaction with it.

Among the characteristics surveyed were accessibility to desired facilities and professional personnel. Key findings are as follows:

The facilities that those interviewed believed important to be close to were shopping and laundry facilities. Respondents also attached a great importance in being near professional personnel, specifically medical, with religious personnel next in importance.

The importance of these facilities and personnel were even greater than the expressed preference for a good climate and location - 60% designating that shopping, laundry and professional personnel were very important and 20% indicating that they were somewhat important. Climate and location were rated as very important by one half and somewhat important by one quarter of the respondents, all of whom lived, at the time of the interview in southern California.

- 9. Southeast Michigan Council of Governments, Housing the Elderly in Southeast Michigan, June, 1978.

Among site selection goals stated by SEMCOG with respect to assisted elderly housing are the following:

"To ensure provision of sites and development considerations recognizing the limited mobility of the region's elderly and handicapped households." Goal-related considerations were:

"Priority shall be given to those sites and developments which provide for safe convenient pedestrianways linking the site to site-internal facilities. Priority shall be given those sites and developments which are not separated from social/commercial services and facilities by expressways, industry, thoroughfares, railroad rights-of-way, or large expanses of undeveloped land."

- 10. M. Powell Lawton, A. Thomas, O. Byerts, M. Arch (eds), Community Planning for the Elderly, prepared for the Department of Housing and Urban Development, distributed by National Technical Information Service, U.S. Department of

LIBR 12590 901

Commerce, 1971. The report is a compendium and summary of previously written papers. Key findings are as follows:

A listing of community services considered essential aspects of the community fabric to support elderly housing are shopping facilities. Of preventative, supportive, rehabilitative and sheltered care services, those labeled as preventative were determined to be most relevant to the healthiest segment of the older population and essential to maintaining their independence. Shopping facilities were considered a preventative service.

The report also states that ability to use private or even public transportation is a key ingredient in evaluating elderly housing needs. Like other age groups, the elderly prefer the private car as the most satisfactory means of transport. However, often for economic as well as biological reasons, the elderly are less likely to either own, or if own, drive cars. The authors conclude that walking (and public transportation) are the most frequent forms of transportation for the older person.

Pleasure walking is popular among the elderly as it is for the population at large. However, for all age groups, but particularly the elderly, it can be burdensome when done by necessity. This research source indicates that the well-elderly report the typical length of an average daily walk to be around 15 to 20 minutes. Roughly two-thirds experience no difficulty in walking one-half mile. The conclusion drawn is that facilities located within six blocks will, therefore be accessible to the majority of older persons. However, those carrying heavy bundles or making the walk in bad weather may experience problems.

The concept of an "ideal" distance was explored by Paul Noll, community planner, and, as cited in this reference, listed, in descending order of importance, the following critical distances:

Grocery store	-	1 block
Bus stop	-	adjacent to site
House of worship	-	1/4 mile
Drug store	-	1 block
Clinic or hospital	-	1 mile
Bank	-	1/4 mile
Social center	-	on-site
Library	-	1/4 mile

Noll developed this set of criteria based on his interviews with public housing managers.

REF 125907502

The report summarizes site selection criteria recommended for consideration by developers of elderly housing. Among major site qualities to be considered are the site's accessibility to services.

- 11. John Zeisel, Gayle Epp, Stephen Demos, Low Rise Housing for Older People, Behavioral Criteria for Design, prepared for the U.S. Department of Housing and Urban Development, U. S. Government Printing Office, 1977.

This report suggests various performance criteria for facilitating getting on and off the site of elderly housing developments. Relevant comments are:

"...moving off their housing site to run errands, visit friends and relatives, exercise, or for a change of environment is an essential part of [the elderly's] lives. Most enjoy walking in their neighborhood; some are picked up and dropped off by family or friends; others rely on public transportation; and a few still own and operate their own cars. It is essential for resident's well-being that site design accommodate, if not encourage, movement between the housing site and the amenities in town. (Emphasis added).

- 12. U.S. Department of Housing and Urban Development, Housing for the Elderly and Handicapped, The Experience of the Section 202 Program from 1959 to 1977.

This report indicates that a few Section 202 elderly oriented projects experienced rent-up difficulties as a result of the lack of services and neighborhood facilities. Specifically cited is a project which was built in a relatively rural area with few commercial or other facilities in close proximity. The project depended upon the plans of a private bus company to provide service. During the construction period, the bus company canceled its service plans. Of the 150 persons who were on the project's reservations list, only five actually moved in. Even with the addition of tenant subsidies, the 109-unit project was only able to attract 39 people during the first six months of occupancy.

The conclusion drawn in the report is that unless public transportation is available, elderly oriented housing developments should be within walking distance from supportive commercial services and facilities.

- 13. Urban land Institute, Housing for a Maturing Population, 1983 Chapter 1, "Demographics and Housing" by Katharine P. Warner. This report cites locational criteria developed in the 1960's by the Philadelphia Housing Authority from a survey of its public housing managers.

LIBR 125900903

The survey was to determine "ideal" distances between site and support facility as follows:

Grocery Store	2 to 3 blocks
Bus Stop	1 to 2 blocks
Religious Institution	1/4 to 1/2 mile
Drugstore	3 blocks
Clinic or Hospital	1/4 to 1/2 mile
Bank	1/4 mile
Library	1 mile
News-Cigar Store	1/4 mile
Restaurant	1/4 to 1/2 mile
Movie House	1 mile

Warner recommends that housing designs, public programs and policies must be developed to work more effectively with the trend toward an aging population. Among her recommendations is the following:

"Increased housing densities in combination with mixed residential, commercial, community service, and recreational land uses."

In Chapter 6, "Neighborhoods as Housing Environments for Maturing People, Warner recommends strategies for neighborhood adaption to the needs of the elderly. Among the primary goals recommended, indeed, as part of goal 1, she states:

"Establish close-by Service Facilities Through:

- Mixed residential and commercial/office land uses.
- Neighborhood service and recreation centers."

The above goals presume efforts would be made to ensure the provision of needed services and facilities "within a convenient, preferably walkable, distance of residential concentrations of older households."

In sum, the above review of literature and interviews with experts in the field of elderly housing - plus the preferences of the older residents of the City of Novi itself, all indicate the need, if not actual necessity for commercial support services to be part of or adjacent to projects designed to appeal to the elderly. This is a finding that appears independent of whether the elderly are car owners and drivers, reside in independent housing, in congregate care facilities, or are of low or higher income.

USEL 125907904

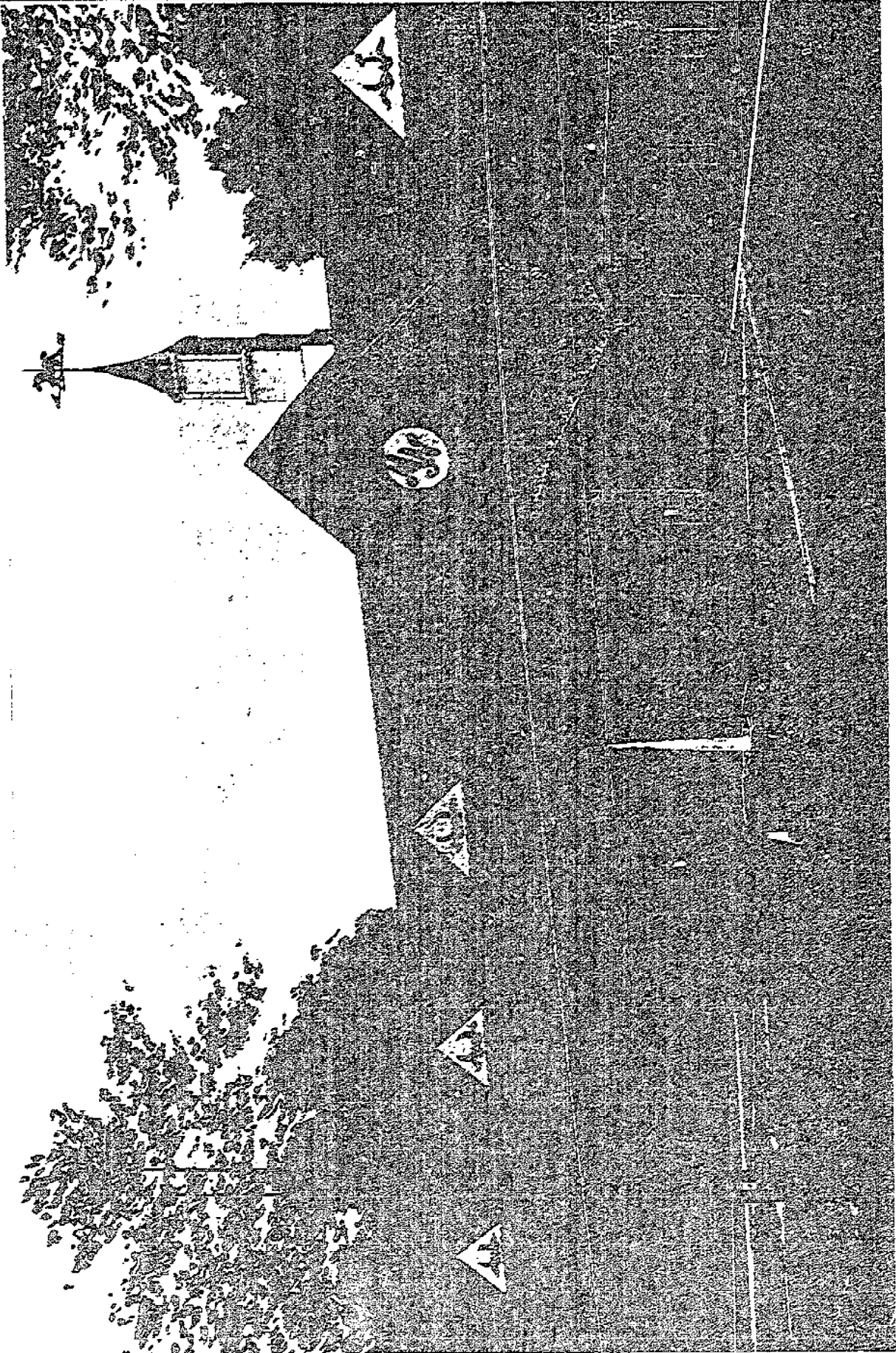
15. PROJECT IMAGE

The image for the proposed retail development on the subject property will correspond to that proposed for the adjacent residential community planned by Classic Construction Corporation. While the anticipated entry level prices for Classic's proposed residential units are modest, the attractively designed residential community, constructed around extensive recreational features, will be fairly upscale in character.

Base construction of the proposed retail center and the associated office will be of a higher quality than the average neighborhood strip center. It will incorporate such amenities as distinctive signs, attractive paving surfaces and extensive landscaping. Additionally, consideration will be given to provision of opportunities for outside, fair weather dining and consuming of snack foods in an attractive, litter-free environment. Inasmuch as substantial walk-in trade is anticipated from adjacent residential units, provision of exterior seating opportunities - both covered and uncovered, may be appropriate.

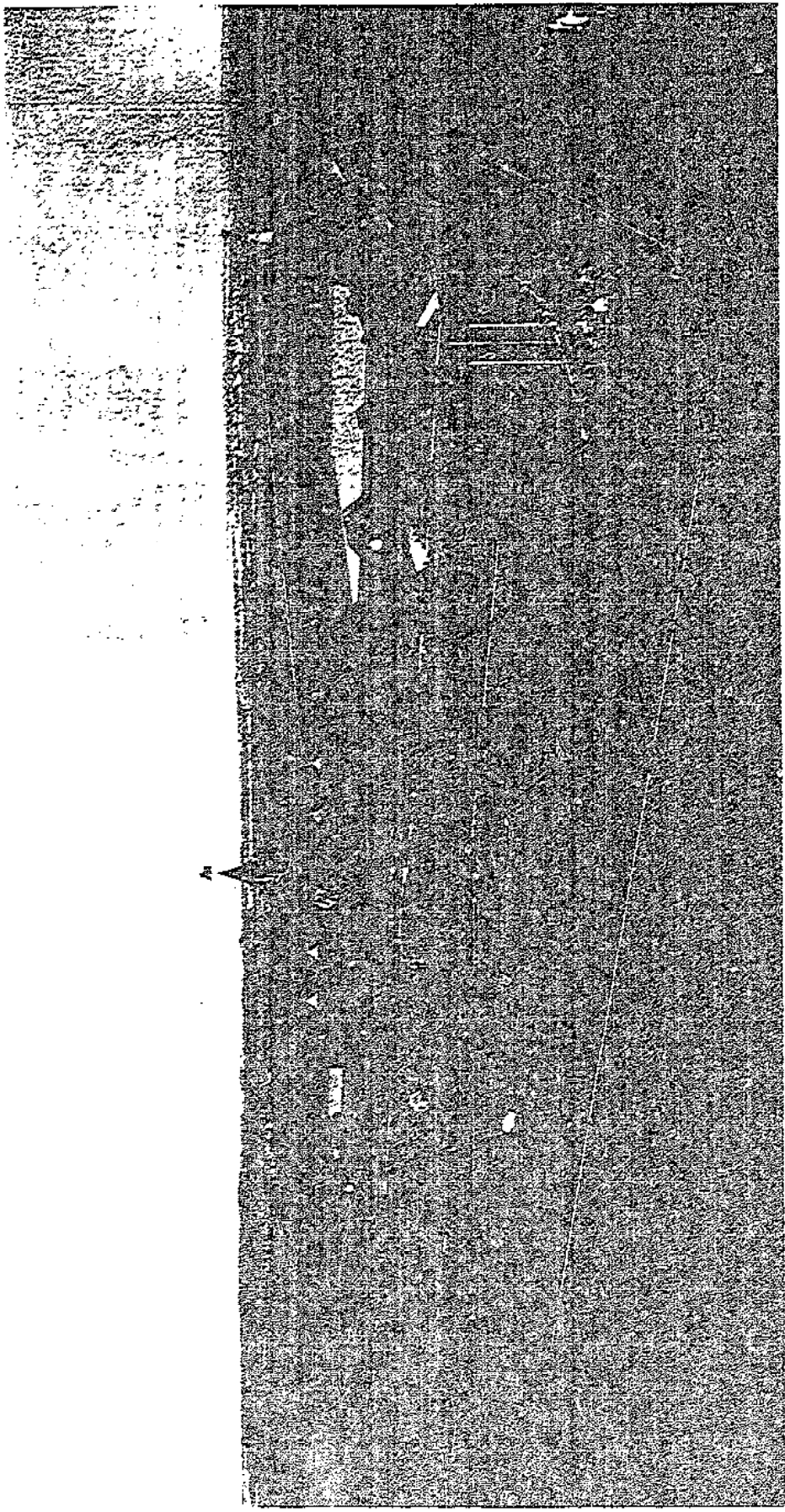
Quality construction and attractive landscaping are key elements distinguishing a high quality shopping facility from an unimpressive strip center. Use of quality materials, creative building facades and attractive landscaping will, like the previously mentioned promotional activities, act to separate the proposed center from its more typical neighboring competitors, and create a unique focus and draw. In turn, the center would complement its residential neighbors and augment the quality of life of adjacent residents.

125901905



Illustrative Convenience Commercial

REF 125908906



Illustrative Convenience Commercial
With City Entrance Enhancements

LIBR 125903907

16- DEVELOPMENT PHASING

The cornerstone of our phasing plan rests, upon two primary criteria. The most important item is the city's identified need for elderly housing. This dictated to us that the first phase of the Maples of Novi include the construction of the congregate type housing at the northeastern corner of the development. As well, the second most important consideration is construction of the golf course in the first phase.

Due to the fact that the golf course wanders throughout the property, the only efficient means of developing the golf course is to mass grade the site. This will mean that the site land balancing and the golf course construction will occur in phase one. Of course, prior to this mass grading activity, the appropriate environmental measures will take place. The first step will be selectively transplanting trees to a nursery, to be located in the northwest quadrant of the property, in the proposed convenience commercial location. Next, erection of silt fence and erosion control around all wetlands, and snow fencing for protection of woodlands. Once the golf course and land balance is complete, the entire site will be re-seeded. Our objective here is twofold; one is to further reinforce and minimize soil erosion and the secondary objective is cosmetic. Inasmuch as this project will likely take five to six years to complete, Classic Construction would not be content with the unsightly, barren appearance of a stripped site. Revegetation of this large site will change it from something of an eyesore to a very verdant and attractive expanse of green space with intermittent wetlands and woodlands.

The adult clubhouse will be developed in Phase 1. The family starter village clubhouse will be developed in Phase 2. The commercial convenience center will be built in Phases 3 and 4 at the rate of twenty-five thousand square feet in Phase 3 and thirty-five thousand square feet in Phase 4.

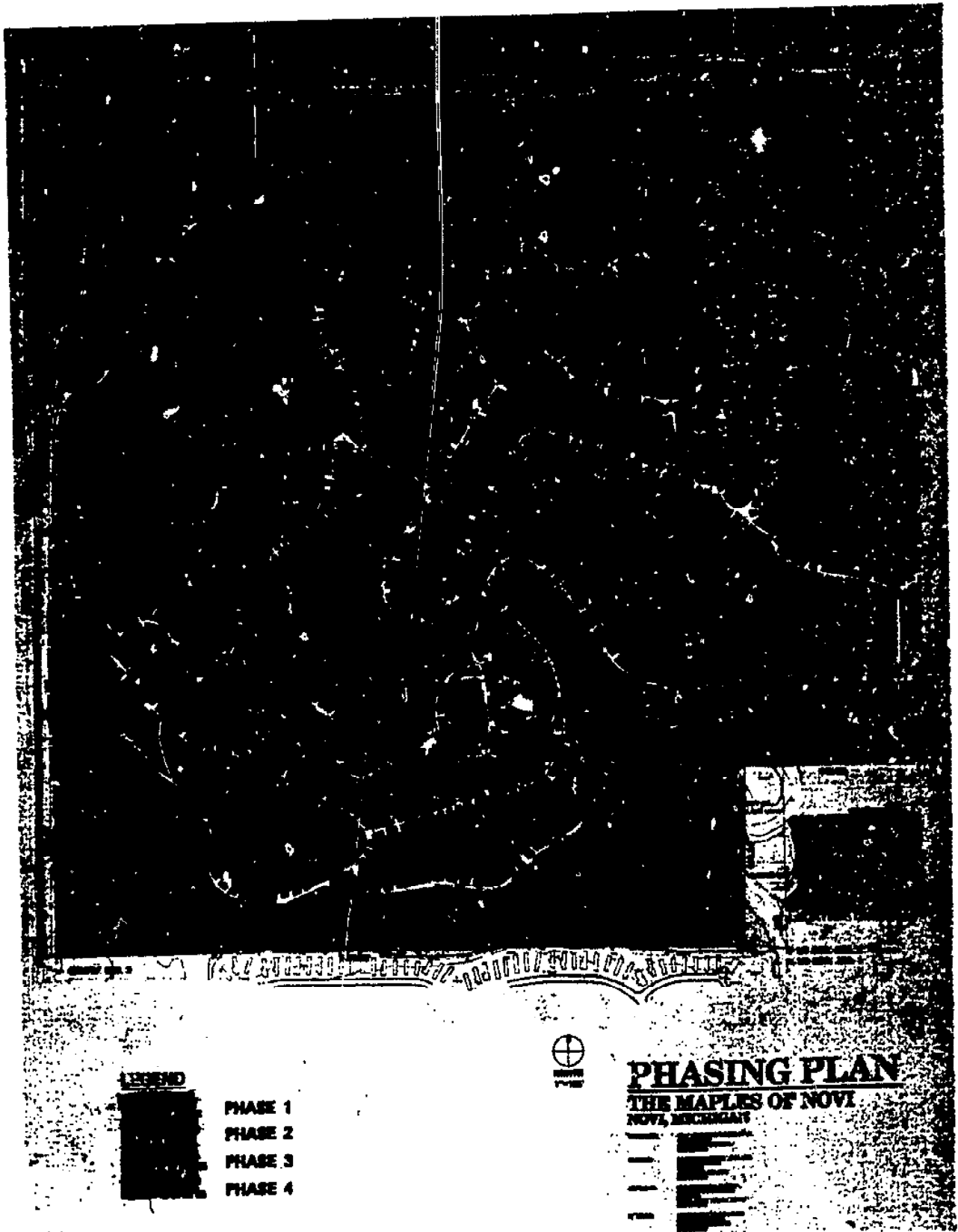
The development of the residential construction can be best summarized graphically in a table which has been included for your review, as well as delineation of the site plan by phase, also attached for your review.

LIBER 125908908

Phasing Schedule

Unit Type	I	II	III	IV	Totals
Adult	89	101	110		300
Golf	53	121	103	73	350
Family	39	54	57		150
Congregate	100				100
Totals	281	276	270	73	900

125903909



Phasing Diagram

LIBR 125903910

17. PHASED SITE CALCULATIONS

<u>Area</u>	<u>Unit Type</u>	<u>#Units</u>	<u>Total Area</u>	<u>Building Coverage</u>	<u>F.A.R.</u>
<u>Phase I</u>					
1	Adult	89	13.4 AC±	1.6 AC±	12%
2	Golf	53	10.8 AC±	2.2 AC±	20%
3	Family	39	6.7 AC±	1.2 AC±	18%
4	Congregate	100	3.5 AC±	.6 AC±	17%
5	Golf Club	—	<u>3.1 AC±</u>	<u>.06 AC±</u>	<u>2%</u>
Sub Total:		281	37.5 AC±	5.66 AC±	19%
<u>Phase II</u>					
6	Adult	101	17.2 AC±	1.9 AC±	11%
7	Golf	121	23.8 AC±	5 AC±	
8	Family	54	8.1 AC±	1.6 AC±	20%
9	Family Club	—	.9 AC±	.06 AC±	15%
10	Elderly Club	—	<u>1.3 AC±</u>	<u>.10 AC±</u>	<u>8%</u>
Sub Total		276	51.3 AC±	8.66 AC±	17%
<u>Phase III</u>					
11	Adult	110	13.8 AC±	2.0 AC±	14%
12	Golf	103	21.0 AC±	4.3 AC±	21%
13	Family	57	8.9 AC±	1.7 AC±	19%
14	Commercial	—	<u>5.9 AC±</u>	<u>.9 AC±</u>	<u>15%</u>
Sub Total:		270	49.6 AC±	8.9 AC±	18%
<u>Phase IV</u>					
15	Golf	73	10.4 AC±	3.0 AC±	30%
16	Commercial	—	<u>3.3 AC±</u>	<u>.5 AC±</u>	<u>15%</u>
Sub Total:		<u>73</u>	<u>13.7 AC±</u>	<u>3.5 AC±</u>	<u>26%</u>
Total Areas		900	152.10 AC±	26.72 AC±	18%
Total Site		900	222.28 AC±	26.72 AC±	<u>12%</u>
Total Net Site Area:			222.28		
Less Total Building Areas:			<u>152.10</u>		
(1-16)					
Unassigned Open Space			<u>70.18</u>		
(Golf Course, Wetlands					
Woodlands Area)					

LIBER 125900911

18. MASTER PLAN & ECONOMIC IMPACT

The Maples of Novi development concept enhances and reinforces the intent of the Novi Master Plan for zoning. This form of development would serve as a model and guide for the future of the community.

The Maples of Novi project impact when fully completed should have a value in excess of \$100 million. It is projected that this could generate \$3 million in excess general taxes revenue including over \$1.8 million in school taxes.

- a.) Population- We project that there will be approximately 2.0 persons per unit, for a total of 1,800 persons.
- b.) School- Due to the character of the development and the resultant buyer groups, we project there will be fewer school age children per residence than the average family. School age children per residence would be .34 for a total of 307. It is important to note that this project is in the Walled Lake School District. We project 50% of the school children in the development will be of elementary age, or approximately 153; 25% will be of junior high age, or approximately 77; and the remaining 25% will be high school age, approximately 77.
- c.) Phasing- It is expected that the Maples of Novi will be developed in a 4 phased program with total build out to be completed within 5 to 6 years. Phasing will be established by site plan submittals as introduced.

LIBER 12590 PG 912
F.U.D. REQUEST

TOTAL SITE AREA.....227.99 Ac

DENSITY CALCULATIONS

Adult Village.....	60.7 Ac.....	300 Units.....	4.9 DU/Ac
Golf and Family Village.....	152.2 Ac.....	500 Units.....	3.29 DU/Ac
OVERALL VILLAGE DENSITY.....			3.76 DU/Ac
Congregate Facility.....		100 Units	
OVERALL SITE DENSITY.....		900 Units.....	4.1 DU/Ac

OTHER STRUCTURES

Convenience Commercial....	10.5 Ac.....	60,000 Square Feet
Office.....		20,000 Square Feet

SITE OPEN SPACE

Paving & Building Coverage.....	43.5 Ac.....	19.0%
Woodlands & Wetlands to Remain.....	72.5 Ac.....	31.7%
Steep Slopes To Remain.....	6.9 Ac.....	3.0%
Golf Course.....	31.3 Ac.....	13.7%
Remaining Open Space.....	68.08 Ac.....	29.8%

TOTAL OPEN SPACE.....184.01 Ac.....80.6%

**APPLICANT NARRATIVE
AND REQUEST**

REQUEST FOR AMENDING THE PUD FOR EXISTING TENNIS COURT

Parcel # 22-02-200-043
31074 Novi Road, Novi, MI 48377

MY PROFILE

My name is Rami Farah, Member of AJSS property, LLC. I am a Construction Engineer. I did manage many big projects overseas and in the US. Currently I do invest in medical Plaza. I do own a plaza in Garden City occupied by medical offices one of them is a Beaumont in Urgent Care. My tenants been there for 15 years I do manage the plaza myself and keep everything clean and up to date.

OVERVIEW

This is project 2560 ft.² medical office. Why medical office! because they are stable tenant and do not change every two or five years. The lot it's very small .42 acre. When I purchased the lot from the previous owner (Chestnut Real Estate), I was under the impression it's being expected to be zone B1, the City record on the website up to now state "Property Class Commercial - Vacant". I was told they met with the city around January 6, 2021, and they like what they saw (Conceptual plan attached). Chestnut Real Estate ask me to complete the sale and to proceed with the engineering drawing to be submitted to the city.

VARIANCE REQUEST

We are trying to comply with all city codes and ordinances. Because it is a small lot, and to justify the investment to build, we are seeking the following variance;

- 1- to amend the PUD to B1 zoning. Development north side of the tennis court, the bank, commercial Plaza and the dental building, it does make sense to continue the commercial development with absent of any residential building. The tennis court has not been used for so many years. The lot in a bad shape. What we are proposing should make the area looks good for the city of Novi. Whether to label this PUD agreement change MAJOR or MINOR the board should change this agreement to reflect what we are proposing.
- 2- waiver requested to remove the 40 foot transition strip setback to the nearest residential structure. The lot very small.
- 3- waiver requested to remove the 4 foot foundation landscaping from the north and west side to be done on the south and east sides. This waiver very critical to this project. Any reduction in the size of the building the project financially not supported. Please note we are and will provide more trees and shrubs as needed.

- 4- waiver requested to remove the berm required on the east side property line between the golf course and proposed building. Replace the berm with 6 foot high TREX columns and panels.
- 5- waiver requested to remove the loading zone requirements. It is a small lot and a small medical office building, there is no need for loading area.
- 6- waiver requested to remove the street trees requirements due to congested underground utilities.

Please note; these variances are very critical to this project.

ECONOMIC IMPACT

- Considering the property taxes will be paid to the City/County and the state of Michigan.
- Personal property taxes to be paid by Tenants.
- City taxes from employees if any.
- Taxes on all utilities and fees.
- Staff members using the surrounding shops and facilities.

COST ESTIMATED FOR THE PROJECT

- White wall building cost estimate 2560 sf	2560sf X \$120/sf =	\$307,200.00
- Site improvements		\$150,000.00
- Tenant improvements (paid by Tenant)		
	▪ Total	\$457,000.00

NUMBER OF EMPLOYEES WILL OCCUPYING THE BUILDING

- During the construction about 4 to 10 workers
- Tenant occupying between 4 to 5

HOURS OF OPERATION

Most likely will be 8am to 9pm. It can be less hours. My Tenant Beaumont Urgent Care open from 9 to 9.

Please note that I have reached by email and phone to all nearby HOA. I stated in my email what is the project all about, I did attach the building rendering with the email. Also, I asked them if they have any concern or questions to call or email me. So far, I did hear from two HOA with very positive respond.

AJSS PROPERTY, LLC

RAMI FARAH/ Member

19480 Cardene Ct. Northville, MI 48167

248-854-9926

FTRP.RAMI@GMAIL.COM

APPLICANT RESPONSE LETTERS

& Area Plan has been submitted by the applicant. The Planning Commission shall determine if the amendment is minor or major and submit a recommendation to City Council if the request is determined to be major. Submitted by owner via 11-9-21 email

2. Site Conditions: The applicant has indicated that the fencing along the eastern portion of the site will remain as it is not fully located on the subject property. The applicant would prefer to remove the fencing, but has not received approval from the property owner. In lieu of removing the fence, the applicant is proposing to install a 6 foot tall Trex Panel (hybrid wood) fence along the east property line to provide a buffer for any nearby residents. **However, it is the City staff's preference that the current fence be removed in its entirety and only one fence exist along this property line. Please resolve this matter prior to Preliminary Site Plan Submittal. In progress**
3. Use Considerations: The applicant has asked that the site be considered a similar use to those nearby (Flagstar Bank, Maples Shopping Center). Therefore, this review conducted uses some elements of the compatible uses within the B-1 Zoning District. However, not enough detail regarding the use of the site has been provided in the narrative by the applicant. **Please revise the provided narrative and provide additional details as requested. This shall be a condition of the Planning Commission motion.**
Submitted by owner via 11-9-21 email
4. Yard Setbacks (Sec. 27-2, e, PUD Ordinance): Per Section 27-2(e) of the PUD Ordinance, "a transition strip at least 40 ft wide shall be required on any commercial or office site when adjacent to a residential area [...] shall be landscaped. The distance between any residential building and nonresidential building shall not be less than 150 ft unless waived by the City Council after recommendation by the Planning Commission." Currently, a transition strip has not been provided. **The applicant has indicated that they would like to seek a waiver from this requirement. This yard requirement may also be modified by the City Council upon recommendation from the Planning Commission as part of the Amendment to the PUD Agreement & Area Plan. Staff supports this request as the site is only 0.42 acres.**
Submitted by owner via 11-9-21 email
5. Amendment & Revisions (Sec. 27-9, a, PUD Ordinance): A request to amend the PUD Agreement & Area Plan has been provided by the applicant. **However, the applicant should provide more detail indicating that they will be requesting consideration of the request under business district standards and not residential standards in a revised narrative provided to the city. Submitted by owner via 11-9-21 email**
6. Planning Commission Role (Sec. 27-9, d-g, PUD Ordinance): This project will be determined a major or minor amendment by the Planning Commission. **Staff is of the opinion that the request would be considered a major amendment to the PUD given that it would change the character of the development.**
7. Loading Spaces (Sec. 5.4.2): This project requires a 540 square foot loading zone. Currently, the applicant is not providing a loading zone. **The applicant has indicated that they intend on seeking a variance before the Zoning Board of Appeals for the absence of a loading area. Staff supports this request as the site is only 0.42 acres and is proposed to be used by a medical tenant. Submitted by owner via 11-9-21 email**
8. Sidewalks (Sec. 11-256): A 5 foot sidewalk is required throughout the site. **Please widen the 4 foot sidewalk connecting to the building exit to a minimum of 5 feet.**
Site plan has been revised to address this comment.
9. Bicycle Parking Facilities (Sec. 5.16): A 6 foot clear path to the bicycle parking is required. Currently, only a 5 foot wide path is provided. **Please widen the sidewalk leading to the bicycle parking to a minimum of 6 feet.**
Site plan has been revised to address this comment.

10. Economic Impact: Please provide the total estimated cost of the proposed building and site improvements, number of anticipated jobs (temporary construction jobs and permanent jobs, if known). Submitted by owner via 11-9-21 email
11. Lighting Plan (Sec. 5.7.A.ii): Please update the photometric plan to match the site plan in the next submittal. Photometric plan has been revised to address this comment.
12. Shared Access Easement: A shared access easement has not been indicated on the site plan. Please indicate if there is a shared access easement. If there is a shared access easement, please indicate the easement on the site plan and provide the Liber and Page Number. Working progress with the Attorney.
13. Project & Street Naming Committee: This project is required to go before the Project & Street Naming Committee for a Project Name. Please submit the following application and reach out to Madeleine Daniels at mdaniels@cityofnovi.org or 248-347-0579 if you have any questions regarding this item. Application has been submitted for Maple Medical Building
14. Planning Chart: Please refer to the attached Planning Chart for additional comments to address in this submittal.

OTHER REVIEWS

- a. Engineering Review: Engineering is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.
- b. Landscape Review: Landscape is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.
- c. Traffic Review: Traffic is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.
- d. Façade Review: Façade is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan. The proposed façade is in full compliance with the ordinance requirements.
- e. Fire Review: Fire is recommending **approval** of the Request to Amend the Maples of Novi PUD Agreement and Area Plan with comments to be addressed on the next submittal.

LAND USE AND ZONING: FOR SUBJECT PROPERTY AND ADJACENT PROPERTIES

The following table summarizes the zoning and land use status for the subject property and surrounding properties.

EXISTING ZONING



FUTURE LAND USE



	Existing Zoning	Existing Land Use	Master Plan Land Use Designation
Subject Property	RA: Residential Acreage (with PUD)	Tennis Courts	Local Commercial

Northern Parcels	RA: Residential Acreage (with PUD)	Commercial	Local Commercial
Eastern Parcels	RA: Residential Acreage (with PUD)	Recreational/Single-Family Residential	Single Family Residential with Planned Unit Development (PUD)
Western Parcels	RM-1 with PRO: Low-Density Multiple-Family with Planned Rezoning Overlay; R-4: Single-Family Residential	Multiple-Family Residential, Educational	Multiple Family & Educational Facility
Southern Parcels	RA: Residential Acreage (with PUD)	Recreational/Single-Family Residential	Single Family Residential with Planned Unit Development (PUD)

Compatibility with Surrounding Land Use

The subject property is located along the east of Novi Road and south of Fourteen Mile Road. This property is surrounded by commercial, recreational, and single-family residential uses. Currently, the site is not in use, though a tennis court is still located on the site. The current use of the site was approved with the original PUD Agreement and Area Plan. The majority of the surrounding properties have been developed. The applicant has proposed redeveloping this site as a medical office. Staff is of the opinion that the proposed use would be consistent with the surrounding existing uses.

2016 MASTER PLAN FOR LAND USE: GOALS AND OBJECTIVES

The proposed use is recommended by the 2016 Master Plan for Land Use. The following objectives as listed in the Master Plan are applicable for the proposed development.

1. General Goal: Economic Development/Community Identity

- a. Retain and support the growth of existing businesses and attract new businesses to the City of Novi.** The applicant will provide Economic Impact Information prior to the Planning Commission Meeting. Submitted by owner via 11-9-21 email
- b. Compatible Development.** Ensure compatible development between residential and non-residential developments. The applicant is proposing a use that is compatible with the surrounding area and it will be well-screened from the residential area.

NEXT STEP: PLANNING COMMISSION MEETING

This Request for Amendment to a PUD will be tentatively scheduled to go before the **Planning Commission on November 17, 2021**, as a Public Hearing. Please indicate by **October 19, 2021**, if you would like to proceed with the Public Hearing. Please provide the following via email by **November 10, 2021**:

- 1. Site Plan submittal in PDF format (maximum of 10MB). **NO CHANGES MADE.**
- 2. A response letter addressing ALL the comments from ALL the review letters.
- 3. A color rendering of the Site Plan (to be used for Planning Commission presentation).
- 4. A revised narrative describing the request for amendment in more detail.
- 5. A list of names, emails, phone numbers, and titles for those planning on attending the Planning Commission Meeting on behalf of the project.

CITY COUNCIL MEETING

If the Request for Amendment to the PUD is recommended for approval by the Planning Commission and considered a major amendment, the following materials shall be submitted to the City Council for review and approval:

PUD Regulations (formerly Article 27) (Attached) – Only applicable sections noted				
District Regulations (Sec. 27-2, a)	All uses, structures, and properties shall comply with all regulations in Article 24 (former), Schedule of Regulations, and requirements of Ordinance No. 84-18, as amended, except as provided in this Section.	Complies	Yes	
Minimum PUD Area (Sec. 27-2, b)	The minimum PUD area to be developed under the regulations of this Section shall be 20 acres, unless waived by the City Council	Complies	Yes	
Mixing of Uses (Sec. 27-2, c)	See ordinance	Complies	Yes	
Density Regulations (Sec. 27-2, d)	See ordinance	Complies	Yes	
Yard Setbacks (Sec. 27-2, e)	- 50 ft setback along perimeter of the PUD district fronting on a public street	Complies	Yes	
	- 40 ft wide yard shall be provided along the perimeter of the PUD district not fronting on a public street. Such yard shall be designed and landscaped as a buffer strip; parking lots and driveways shall not be permitted in such yard, except that drives may cross such yard	No change	Yes	
	- 35 ft wide yard shall be provided along ROW of a collector street within the PUD & 50 ft wide yard shall be provided along ROW of major throughfare within the PUD	NA	Yes	
	- A landscaped yard at least 10 ft wide shall be provided between a parking lot of 5 or more spaces and a property line within the PUD & 20 ft from the perimeter property line of the PUD, except when adjacent to a public street ROW line, existing or proposed, in which case the preceding setbacks shall apply.	Complies, see Landscape Review	Yes	
	- A transition strip at least 40 ft wide shall be required on any commercial or office site	Submitted by owner via 11-9-21 email No transition strip, distance is 175 feet	No	Applicant will seek variance/waiver.

	2,249 sf/167 = 13 spaces			
Parking Space & Maneuvering Lane Dimensions (Sec. 5.3)	90° spaces: 9 ft. x 19 ft. parking spaces with 24 ft. drives 9 ft. x 17 ft. parking spaces along 7 ft. interior sidewalks, provided a 4 in. curb at these locations & along landscaping	9 ft x 17 ft with 2' overhang (4" curb) and 9 ft x 19 ft spaces (6" curb) with 24' access aisles.	Yes	
Barrier Free Spaces (ADA standard)	1 van accessible space	Complies	Yes	
End Islands (Sec. 5.3.12)	- 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	Complies	Yes	
Barrier Free Space Dimensions (Barrier Free Code)	8 ft. wide with 5 ft. wide access aisle for standard accessible; 8 ft. wide with 8 ft. wide access aisle for van accessible	8 ft wide with 8 ft wide access aisle	Yes	
Barrier Free Signs (Barrier Free Design Graphics Manual)	1 barrier free sign per space	Provided	Yes	
Loading Spaces (Sec. 5.4.2)	10 square feet per 1 foot of building frontage. 54 ft x 10 sf = 540 square feet required	Not provided Submitted by owner via 11-9-21 email	No	Applicant will seek a variance from the Zoning Board of Appeals.
Sidewalks (City Code Sec. 11-256 & 11-276 & Non-Motorized Plan)	5 ft sidewalk required along Novi Rd Building exits must be connected to sidewalk system or parking lot	Existing sidewalk along Novi Road, building exits connected	No	5 foot sidewalk required to connect to building exits. Plans have been revised
Dumpster Requirements (City Code Sec. 21-145)	Screening of not less than 5 ft. on 3 sides of dumpster required, interior bumpers or posts must also be shown	Roll-out dumpster enclosure proposed, detail provided	Yes	

<p>Naming Committee</p>	<p>approval from the Street & Project Naming Committee</p> <p style="text-align: center; color: red;">Application has been submitted</p>			<p>Daniels at 248.347.0579 or mdaniels@cityofnovi.org for more information</p>
<p>Non-Residential Fences (Sec. 5.11)</p>				
<p>Fence Location (Sec. 5.11.2.A)</p>	<p>No fence shall extend into the front of exterior side yard.</p>	<p>Fence located in the rear yard.</p>	<p>Yes</p>	
<p>Fence Height (Sec. 5.11.2.B)</p>	<p>No fence shall exceed 8 feet in height, except barbed wire placed along the top of a fence may project beyond the maximum height limitation of the fence, but no fence, including barbed wire, shall exceed an overall height of 11 feet.</p>	<p>Fence is 6 feet tall</p>	<p>Yes</p>	
<p>Security Fencing (Sec. 5.11.2.C)</p>	<p>No fence shall carry electrical current or charge of electricity.</p>	<p>Fence does not have electrical current.</p>	<p>Yes</p>	
<p>Landscape Standards (Sec. 5.11.2.D)</p>	<p>Nothing in this section shall be interpreted to supersede the applicable requirements of Section 5.5.</p>	<p>Complies</p>	<p>Yes</p>	
<p>Prohibited Materials (Sec. 5.11.3.A)</p>	<p>No fence shall be composed of scrap material, tires, canvas, cardboard, asphalt style shingles, chicken wire or similar fine wire mesh, corrugated metal or sheet metal. Fine wire fencing may be attached to the interior of, or made a part of any wooden, stone, brick, wrought-iron, or other such non-wire type fencing, where the other type fencing would not provide an adequate barrier to contain pets or animals. When so applied, the wire shall be vinyl coated or painted in a standard dark brown, dark green or black color. When used under these conditions, it shall not be considered a wire fence.</p>	<p>Complies – Trex Panels (composite wood)</p>	<p>Yes</p>	
<p>Maintenance (Sec. 5.11.3.B)</p>	<p>All fences shall be maintained in good condition, free of significant corrosion, peeling paint or finish and other damage. All fences shall be maintained in a condition of reasonable repair and not be</p>	<p style="text-align: center; color: red;">Work in progress</p> <p>Shall be maintained</p>	<p>Yes</p>	<p>It is the City's preference that the current fence be removed in its entirety and only one fence exist along this property line. Please</p>

	allowed to become or remain in a condition of disrepair including noticeable leaning or missing sections or portions of sections, broken supports, nonuniform height, and growing of noxious vegetation. All fences shall comply with applicable provisions of the current City of Novi Property Maintenance Code.			resolve this matter prior to Preliminary Site Plan Review.
Uniformity (Sec. 5.11.3.C)	All fences shall be of uniform material(s), finish, and color along a property line of any parcel totaling less than one-hundred fifty (150) feet in length. Where a fence has a finished and an unfinished side, the finished or more decorative side shall face outward toward the adjoining property or street. Except for those materials identified as permitted, materials attached to the inward facing side of a fence shall not be visible from any adjoining property or street.	Uniform materials provided	Yes	
Lighting and Photometric Plan (Sec. 5.7)				
Intent (Sec. 5.7.1)	Establish appropriate minimum levels, prevent unnecessary glare, reduce spillover onto adjacent properties & reduce unnecessary transmission of light into the night sky	A lighting and photometric plan is provided	Yes	
Lighting Plan (Sec. 5.7.A.i)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures	Plans have been updated Provided	Yes	Update photometric plan to match the site plan in the Final Site Plan submittal.
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.	Provided	Yes	
Lighting Plan (Sec.5.7.A.2.ii)	Specifications for all proposed & existing lighting fixtures	Provided	Yes	
	Photometric data	Provided	Yes	
	Fixture height	Provided	Yes	



PLAN REVIEW CENTER REPORT

October 6, 2021

Engineering Review

Novi Medical Building
JSP21-0033

Applicant

AJSS Property LLC

Review Type

Preliminary Site Plan

Property Characteristics

- Site Location: East side of Novi Road, between Thirteen and Fourteen Mile Roads
- Site Size: 0.42 acre
- Plan Date: 08/31/2021
- Design Engineer: GK Consultants Inc.

Project Summary

- Construction of an approximately 2,652 square-foot medical office building and associated parking. Site access would be provided via Novi Road.
- Water service would be provided by extension of an existing 1-inch domestic lead stub from the bank parking lot to the north of the site. At this time, no additional hydrants or fire suppression would be required.
- Sanitary sewer service would be provided by extension of an existing 6-inch lead stub from the 10-inch sanitary sewer main on the adjacent golf course property to the east of the site.
- Storm water would be collected by a single storm sewer collection system and discharged to an underground detention system, with final discharge to the Novi Road right-of-way storm system.

Recommendation

Approval of the Preliminary Site Plan is recommended, with items to be addressed at Final Site Plan submittal.

Comments: All engineering comments will be addressed during permitting submittal.

The Preliminary Site Plan meets the general requirements of Chapter 11 of the Code of Ordinances, the Storm Water Management Ordinance and the Engineering Design



PLAN REVIEW CENTER REPORT
October 14, 2021
Novi Medical Building
PUD Amendment Review - Landscaping

Review Type

PUD Amendment - Landscape Review

Job #

JSP21-0033

Property Characteristics

- Site Location: 31074 Novi Road
- Site Acreage: 0.42 ac.
- Site Zoning: RA with PUD
- Adjacent Zoning: North, East, South: RA; West: RM-1
- Plan Date: 8/31/2021

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 Site Plan submittal. Underlined items must be addressed on Final Site Plans. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review is a summary and is not intended to substitute for any Ordinance.

Recommendation

This project is **recommended for approval for Preliminary Site Plan if the waivers are granted by the Planning Commission.** The other revisions noted below can be addressed on the electronic stamping set.

LANDSCAPE WAIVERS REQUIRED FOR PROPOSED LAYOUT:

- Berm is not large enough to comply with RA requirements. *Supported by staff.*
- No street trees are provided. *Supported by staff as the right-of-way's utilities don't provide room for the trees.*
- Lack of berm or wall between commercial use and residentially zoned property. *Supported by staff as a 6 foot high fence is proposed along the property line.*
- Lack of foundation landscaping on two sides of the building visible from Novi Road. *Not supported by staff.*

PUD WAIVER/AMENDMENT

- Lack of the required 40 foot buffer between the site and the adjacent residential area. *Supported by staff.*

Please work to reduce or eliminate the need for the unsupported waiver requests.

Ordinance Considerations

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

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

1. The project is adjacent to residentially-zoned property but no new screening vegetation or berms are proposed.
2. A 6 foot fence is proposed along the property line in lieu of the berm on the site plan but not the landscape plan. **Please show the fence on the landscape plan too.**
3. **A landscape waiver is required to not provide the required screening.** *It is supported by staff as long as the fence is opaque.*
4. **In addition, the PUD requires a forty (40) foot buffer between the residential area and the site.** *This is not provided. Please request the waiver. Unlike the landscape waiver, it will need to be approved by City Council. Planning staff has indicated it will support this waiver due to the small size of the site.*

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

1. The required greenbelt width is provided.
2. The required greenbelt landscaping is not proposed at this time but the plans can easily be revised to provide the required canopy and subcanopy trees.
3. The required berm for RA is not provided, but the berm provided is sufficient for the office use. **A landscape waiver is required for the proposed configuration** *but it is supported by staff.*
4. The required street trees are not provided. **A landscape waiver is required for this,** *but it is supported by staff because utility conflicts in the right-of-way do not allow the trees to be planted there.*

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

1. The required interior area and trees, and perimeter trees are proposed.
2. **Please see the chart for ways to reconfigure the proposed trees to better satisfy the ordinance requirements.**

Building foundation Landscaping (Zoning Sec 5.5.3.D)

1. The required area is provided on the east and south sides of the building.
2. No landscaping is provided on two of the three sides of the building visible from Novi Road. **A landscape waiver is required for this deficiency.** *It is not supported by staff.*

Plant List (LDM 4, 10)

1. The tree diversity needs to be improved and the number of native species needs to be increased.
2. **Please see the Landscape Chart for details.**

Planting Notations and Details (LDM 10)

1. Provided
2. Please use \$375 for the standard cost of subcanopy trees on the cost table.

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

No detention basin exists or is proposed.

Irrigation (LDM 10)

1. If an irrigation system is to be used, please provide the plans in the Final Site Plans. See the Landscape Chart for details on what should be in the irrigation system.
2. If an alternative means of providing water to the plants for their establishment and long-term survival, please provide that information on the Final Site Plans.

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

Changes to the Landscape Plans for Maple Medical on Novi Road.

Listed below are the changes to the Landscape Plans that were made to conform to the review letter dated October 14, 2021 by the City of Novi for Novi Road Medical.

- The zoning classification of the subject parcel is indicated on the plan.
- The landscape calculations for the Novi Road greenbelt have been adjusted and additional plantings have been provided to conform to the requirements.
- A tree has been added to the north parking lot island. The two (2) proposed Maidenhair trees remain with the hope that two (2) narrower trees can provide a similar canopy area as one (1) larger canopy tree.
- The cost estimate has been adjusted to use \$375 as the standard cost of a subcanopy tree.
- General Note #4 states that all landscape areas will be irrigated with an underground irrigation system.



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

Project name:
 JSP21-33 – Novi Medical Building Preliminary
 Site Plan Traffic Review

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

From:
 AECOM

Date:
 October 5, 2021

CC:
 Lindsay Bell, Madeleine Daniels, Kate Purpura,
 Victor Boron, Christian Carroll, Humna Anjum

Memo

Subject: JSP21-33 – Novi Medical Building Preliminary Site Plan Traffic Review

The preliminary site plan was reviewed to the level of detail provided and AECOM recommends **approval with conditions, as indicated**, for the applicant to move forward with the condition that the comments provided below are adequately addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, AJSS Property LLC, is proposing a 2,652 SF (2249 SF GLA) medical office building.
2. The development is located on the east side of Novi Road, south of 14 Mile Road. Novi Road is under the jurisdiction of the City of Novi.
3. The site is zoned RA (Residential Acreage). Applicant is proposing rezoning the site to B-1 (General Business).
4. The following traffic-related deviations may be required:
 - a. The applicant has indicated they are seeking a variance for lack of a loading zone.

TRAFFIC IMPACTS

1. AECOM performed an initial trip generation based on the ITE Trip Generation Manual, 10th Edition, as follows.

ITE Code: 720 (Medical-Dental Office Building)
 Development-specific Quantity: 2249 SF GLA
 Zoning Change: RA to B-1

Trip Generation Summary				
	Estimated Trips	Estimated Peak-Direction Trips	City of Novi Threshold	Above Threshold?
AM Peak-Hour Trips	8	6	100	No
PM Peak-Hour Trips	10	7	100	No
Daily (One-Directional) Trips	78	N/A	750	No

2. The City of Novi generally requires a traffic impact study/statement if the number of trips generated by the proposed development exceeds the City's threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour, or if the project meets other specified criteria.

Trip Impact Study Recommendation	
Type of Study:	Justification
None	City of Novi suggested this project is not a rezoning, but a consideration of a use B-1 in the PUD Agreement.

TRAFFIC REVIEW All comments will be addressed during permitting submittal.

The following table identifies the aspects of the plan that were reviewed. Items marked O are listed in the City’s Code of Ordinances. Items marked with ZO are listed in the City’s Zoning Ordinance. Items marked with ADA are listed in the Americans with Disabilities Act. Items marked with MMUTCD are listed in the Michigan Manual on Uniform Traffic Control Devices.

The values in the ‘Compliance’ column read as ‘met’ for plan provision meeting the standard it refers to, ‘not met’ stands for provision not meeting the standard and ‘inconclusive’ indicates applicant to provide data or information for review and ‘NA’ stands for not applicable for subject Project. The ‘remarks’ column covers any comments reviewer has and/or ‘requested/required variance’ and ‘potential variance’. A potential variance indicates a variance that will be required if modifications are not made or further information provided to show compliance with the standards and ordinances. The applicant should put effort into complying with the standards; the variances should be the last resort after all avenues for complying have been exhausted. Indication of a potential variance does not imply support unless explicitly stated.

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
1	Driveway Radii O Figure IX.3	N/A	N/A	
2	Driveway Width O Figure IX.3	N/A	N/A	
3	Driveway Taper O Figure IX.11			
3a	Taper length	N/A	N/A	
3b	Tangent	N/A	N/A	
4	Emergency Access O 11-194.a.19	N/A	N/A	
5	Driveway sight distance O Figure VIII-E	N/A	N/A	
6	Driveway spacing			
6a	Same-side O 11.216.d.1.d	N/A	N/A	
6b	Opposite side O 11.216.d.1.e	N/A	N/A	
7	External coordination (Road agency)	N/A	N/A	
8	External Sidewalk Master Plan & EDM	N/A	N/A	
9	Sidewalk Ramps EDM 7.4 & R-28-J	N/A	N/A	
10	Any Other Comments:			

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
11	Loading zone ZO 5.4	None	Not Met	Required for B-1 zoning, applicant has indicated intent to pursue a variance.
12	Trash receptacle ZO 5.4.4	In rear	Met	



September 24th, 2021

TO: Barbara McBeth - City Planner
Lindsay Bell - Plan Review Center
Christian Carroll - Plan Review Center
Madeleine Daniels – Plan Review Center
Ben Peacock – Planning Assistant

CITY COUNCIL

Mayor
Bob Gatt

Mayor Pro Tem
Dave Staudt

Andrew Mutch

Laura Marie Casey

Hugh Crawford

Justin Fischer

Julie Maday

City Manager
Peter E. Auger

**Director of Public Safety
Chief of Police**
David E. Molloy

Fire Chief
Jeffery R. Johnson

Assistant Chief of Police
Erick W. Zinser

Assistant Chief of Police
Scott R. Baetens

Assistant Fire Chief
John B. Martin

RE: Proposed Medical Building

JSP21-33
PSP# 21-0071

Project Description:

Build a one story 2652 S.Q. F.T. structure Novi Rd south of Fourteen Mile.

Comments: All comments will be addressed during permitting submittal.

- All fire hydrants **MUST** be installed and operational prior to any combustible material is brought on site. **IFC 2015 3312.1**
- For new buildings and existing buildings, you **MUST** comply with the International Fire Code Section 510 for Emergency Radio Coverage. This shall be completed by the time the final inspection of the fire alarm and fire suppression permits.
- Fire apparatus access drives to and from buildings through parking lots shall have a **minimum fifty (50) feet outside turning radius** and designed to support a minimum of thirty five (35) tons. **(D.C.S. Sec 11-239(b)(5))** Plans showed 50 ft. turning radius on the actual plan however, calculation below Fire Truck on page SP02 showed 45 ft.
- A hazardous chemical survey is required to be submitted to the Planning & Community Development Department for distribution to the Fire Department at the time any Preliminary Site Plan is submitted for review and approval. Definitions of chemical types can be obtained from the Fire Department at (248) 735-5674.

Recommendation: APPROVED With Conditions

Sincerely,

Tim Krajnovich-Acting 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



313-377-9449
Gkci@outlook.com

5644 Middlebelt Road
Garden City, MI 48135

RESPONSE TO PRE-APPLICATION

Date: 09/15/2021

Project Name: JSP 21-33 Novi Medical Building
31074 Novi Road; 22-02-200-043

To:
Christian Carroll, Planner
Barbara McBeth - City Planner
Lindsay Bell - Plan Review Center
Christian Carroll - Plan Review Center
Rick Meader, Landscape Architect
45175 W 10 Mile Rd.
Novi, MI 48375

This letter is in response to the plan review dated 8/18/21

Min. Building Setbacks (Sec. 3.1.11, Sec. 3.6.2, PUD Ordinance) – B-2 Zoning District Standards
Response: Owner will seek variance for interior side setback (south) and rear (east).

Amendment and Revisions (Sec. 27-9, a)

Response: The Owner will state on Preliminary Site Plan that he will be requesting consideration under business district standards and not residential standards.

Provide 40 feet strip and Distance

Distance to closest residential building is 175 feet.

Parking Space & Maneuvering Lane Dimensions (Sec. 5.3)

Response: The curb height and 2' overhang for 17' long spaces is noted on Sheet CS-01

Barrier Free Spaces (ADA standard)

Response: The location of the space has been revised and is shown on Sheet CS-01

End Islands (Sec. 5.3.12)

Response: We have provided an end island along front of the building and is shown on Sheet CS-01

Barrier Free Signs (Barrier Free Design Graphics Manual)

Response: Sign location is shown on Sheet CS-01

Loading Spaces (Sec. 5.4.2)

Response: Owner will seek variance for loading area

Sidewalks (City Code Sec. 11-256 & 11-276 & Non-Motorized Plan)

Response: A connection to the existing sidewalk connecting building exits is shown on Sheet CS-01

Dumpster Requirements (City Code Sec. 21-145)

Response: Details for dumpster have been provided on Sheet CS-02



313-377-9449
Gkcl@outlook.com

5644 Middlebelt Road
Garden City, MI 48135

Bicycle Parking Facilities (Sec. 5.16)

Response: The proposed bicycle parking facility has been adjusted to be accessible via a paved 6-foot wide route that is separated from auto facilities and shown on Sheet CS-01.

Lighting Plan (Sec. 5.7.A.2.ii)

Response: Hours of operation have been provided on Sheet CS-01. Spillover information of light pole will be provided and shown on Sheet PH-1

Required Conditions (Sec. 5.7.3.B)

Response: Standard notes are provided on Sheet PH-1

Security Lighting (Sec. 5.7.3.H)

Response: A mounting detail for lighting fixture is shown on Sheet PH-1

Required Conditions (Sec. 5.7.3.E)

Response: The average light level is shown on Sheet PH-1

Engineering comments:

- Site will be design as per city of Novi Chapter 11.
- Two benchmarks have been provided on plans.
- Soil boring test results will be provided at a later time.
- Backflow preventer design and details will be provided as part of plumbing plans inside building.
- Existing sanitary lead is shown on the plans.
- Existing water service is shown on plans
- Cross-section of pavement have been removed and referred to city standards details.
- Height of curb is indicated on plans.
- Detailed calculations and design will be provided during the final engineering plans for storm management design.

Zoning (LDM 2.f.)

Response: The zoning of adjacent parcels is shown on LP-1 AND CS-01

Parking lot Islands (a, b. i)

Response: The island has been widened to 10 feet at back of curb and is shown on Sheet CS-01

Contiguous space limit (i)

Response: A 200 square foot island has been provided on the west side of the building as is shown on Sheet CS-01

Emergency Vehicle Access

Response: Turning movement has been provided and shown on Sheet SP-02

Parking space front curb height | ZO 5.3.2

Response: Parking space front curb note is shown on Sheet CS-01

Number of Van-accessible space | ADA

Response: Van accessibility with signage is shown on Sheet CS-01



313-377-9449
Gkcl@outlook.com

5644 Middlebelt Road
Garden City, MI 48135

Requirement | ZO 5.16.1

Response: Bicycle rack has been adjusted to 2 spaces and is shown on Sheet CS-01 and CS-02

Location | ZO 5.16.1

Response: the location of bicycle rack has been adjusted and is shown on Sheet CS-01

Clear path from Street | ZO 5.16.1

Response: A 6" clear path has been provided and is shown on Sheet CS-01

Other (Covered / Layout) | ZO 5.16.1

Response: The number of spaces has been adjusted and is shown on Sheet CS-01 and Sheet CS-02

FHWA Standard Alphabet series used for all sign language | MMUTCD

Response: A note to provide FHWA standard alphabet series is shown on Sheet CS-01

High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity | MMUTCD

Response: A note to provide High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity is shown on Sheet CS-01

Parking space striping notes

Response: Parking space striping notes is provided on Sheet CS-01

The international symbol for accessibility pavement markings | ADA

Response: Details for the international symbol for accessibility pavement markings are Shown on Sheet CS-02

Crosswalk pavement marking detail

Response: A detail for Crosswalk pavement marking detail is shown on Sheet CS-02

Ghassan Khalaf

Ghassan Khalaf, P.E.

Tel: 313-377-9449

E-mail: gkci@outlook.com

PUBLIC CORRESPONDENCE

Carroll, Christian

From: Rami Farah <ftrp.rami@gmail.com>
Sent: Tuesday, September 7, 2021 12:56 PM
To: Carroll, Christian
Subject: Fwd: Novant medical office - Maple Pointe Association

Attached one of HOA response for our project

----- Forwarded message -----

From: **William Barnes** <wbarnes345@gmail.com>
Date: Tue, Sep 7, 2021 at 8:12 AM
Subject: Novant medical office - Maple Pointe Association
To: <ftrp.rami@gmail.com>

Hello Rami,

Thank you for reaching out to the Maple Pointe Association. Our Board has no issues with your construction plans. It would be a nice use of the property and the building rendering looks very nice. We wish you the best on your plans.

Best Regards,

Bill Barnes

BoD President

Maple of Novi, Maple Pointe Association

734-502-0041

wbarnes345@gmail.com

You wrote to Brian Carney.:

Good morning Brian

My name is Rami Farah, I am planning to put medical office on the old tennis court on Novi Road south of 14 mile.

I am reaching out to all the communities to see if there are any concern about my project. It is a medical office building one story about 2700 ft.²

Please let me know about your concern if any. I do appreciate your respond.

--

Rami Farah
FTR Properties, LLC
248-854-9926