Zoning Board of Appeals
May 22, 2013 Regular Meeting

STAFF REPORT

Subject: **ZBA13-010, 2300 Traverwood Drive**

Summary: First Martin Corporation is requesting two variances:

1) A variance from Chapter 60(Wetlands) Section 5:204 (1) A proposal to fill 6,787 square feet of wetland without obtaining the required Wetland Use Permit.

2) A variance from Chapter 59(Off-Street Parking) Section 5:167 (Required Parking) of 231 parking spaces in order to exceed the maximum number of parking spaces permitted. A maximum of 268 parking spaces is permitted.

Background:

The parcel is zoned ORL (office, research, limited industrial district) and is located on the southeast corner of Traverwood and Huron Parkway. The parcel is 13.2 acres and contains a large linear wetland through the center of the site. This large wetland is regulated by the City of Ann Arbor and will not be affected by the proposed construction of the parking lot or future building. There is one 66,878 square foot office building existing which was constructed in 1999. There is a valid site plan approved for a second 66,878 square foot building, as well as the corresponding required parking, to be constructed on the site. The petitioner has recently submitted an Administrative Amendment in order to extend the expiration date of the site plan and install only the parking (without the corresponding building) approved for Phase II at this time. Installation of that parking would exceed the maximum number of spaces permitted for the existing building. After construction of the parking, the site will have 525 parking spaces, there are currently 294 parking spaces on the site. The maximum permitted by code is 268; however the existing building was constructed before the maximum parking requirement was adopted.

In 1996-97 the site was mass graded in preparation for construction of the existing office building. This grading did create an area that has evolved into a wetland as categorized by the City of Ann Arbor. The previous site plan approved for the exiting building did not designate this area as a wetland. In preparation for the current Administrative Amendment, the petitioner enlisted a wetland consultant to verify existing wetland boundaries. During this process, the consultant flagged this additional area as a wetland. The new wetland area is approximately 6,787 square feet and would be considered a low quality wetland per the Land Development Regulations of Chapter 57, however due to its proximity to an inland, lake or stream as defined by the State of Michigan, it may be regulated by the MDEQ. City wetland regulations are independent of MDEQ wetland regulations; and approval by one entity does not constitute approval by the other. The petitioner must submit an application to the MDEQ for disturbance to the new wetland; if the MDEQ determines a wetland permit is required, this permit will need to be obtained and provided to the City before construction is allowed to proceed. If MDEQ

determines that a state wetland permit is not required, than the MDEQ's determination letter must be provided to the City.

The petitioner is proposing to remove this wetland in order to construct a new parking lot, the petitioner has indicated that protection of the wetland will result in approximately 70 less parking spaces. According to Chapter 60 (Wetlands), a wetland use permit is required to fill the wetland.

> **5:204. - Activities which require a use permit.**
>
> Except as otherwise provided by this chapter or by a use permit obtained from the city, a person shall not:
>
> *(1)* ***Deposit or permit the placing of fill material in a wetland***.(emphasis added by staff)
> (2) Dredge, remove, or permit the removal of soil or minerals from a wetland.
> (3) Construct, operate, or maintain any use or development in a wetland including draining or directing water from an upland activity into a wetland.
> (4) Drain surface water from a wetland.

The petitioner could construct all improvements shown on the existing site plan without the need for a wetland use permit (due to the fact the wetlands were not identified at the last plan review). However, the building and parking would have to be constructed, as approved previously, in order to avoid exceeding the maximum parking permitted.

Variance #1:

Chapter 60 (Wetlands) Variance - Standards for Approval

The ZBA has the power to grant a variance from the Wetland Use Permit requirement according to Chapter 60 Section 5:220:

> (1) A decision by an administrative official of the City regarding a use permit may be appealed to the Zoning Board of Appeals, in accordance with procedures established in Chapter 55. Except as provided for in section (2), the zoning board of appeals will have the same powers and limitations as provided in Chapter 55
> (2) A variance may be granted from the provisions of this chapter when evidence supports at least one of the following affirmative findings:

(a) That the public benefit intended to be served by this chapter will be retained, despite more disruption of the wetland than permitted.
(b) That the topographical features or special characteristics of the site create conditions such that strict application of the provisions of this chapter will result in less protection of the wetland.
(c) That the application of this chapter would deny all reasonable use of the property.
(d) That practical difficulties or unnecessary hardship exist or will occur as specified in Chapter 55, Section 5:99 of the City Code.

The petitioner is seeking a variance from the requirement for a wetland use permit based on the fact the wetland has evolved after the re-grading of the site from previous construction activity. A Wetland Use Permit is required by Chapter 60 and must be approved by City Council after a recommendation by the City Planning Commission. If the variance is approved, no action by Planning Commission or City Council will be required. However, the approval from the MDEQ may still be required. City staff will review the Administrative Amendment and grading plans to ensure no impact to the larger linear wetland will occur.

Variance #2:

Chapter 59 (Off-Street Parking) Variance - Standards for Approval

The Zoning Board of Appeals has all the power granted by State law and by Section 5:99, Application of the Variance Power, from the City of Ann Arbor Zoning Ordinance and Chapter 59, Section 5:566. The following criteria shall apply:

The Zoning Board of Appeals shall have authority to interpret this chapter and may in specific cases and after public notice and hearings in accordance with Chapter 55 of this Code grant variances and exceptions to these requirements, providing such variance or exception is in harmony with the general purpose and intent of the requirements. The procedural requirements for appeals under Chapter 55 shall be applicable to appeals under this chapter.

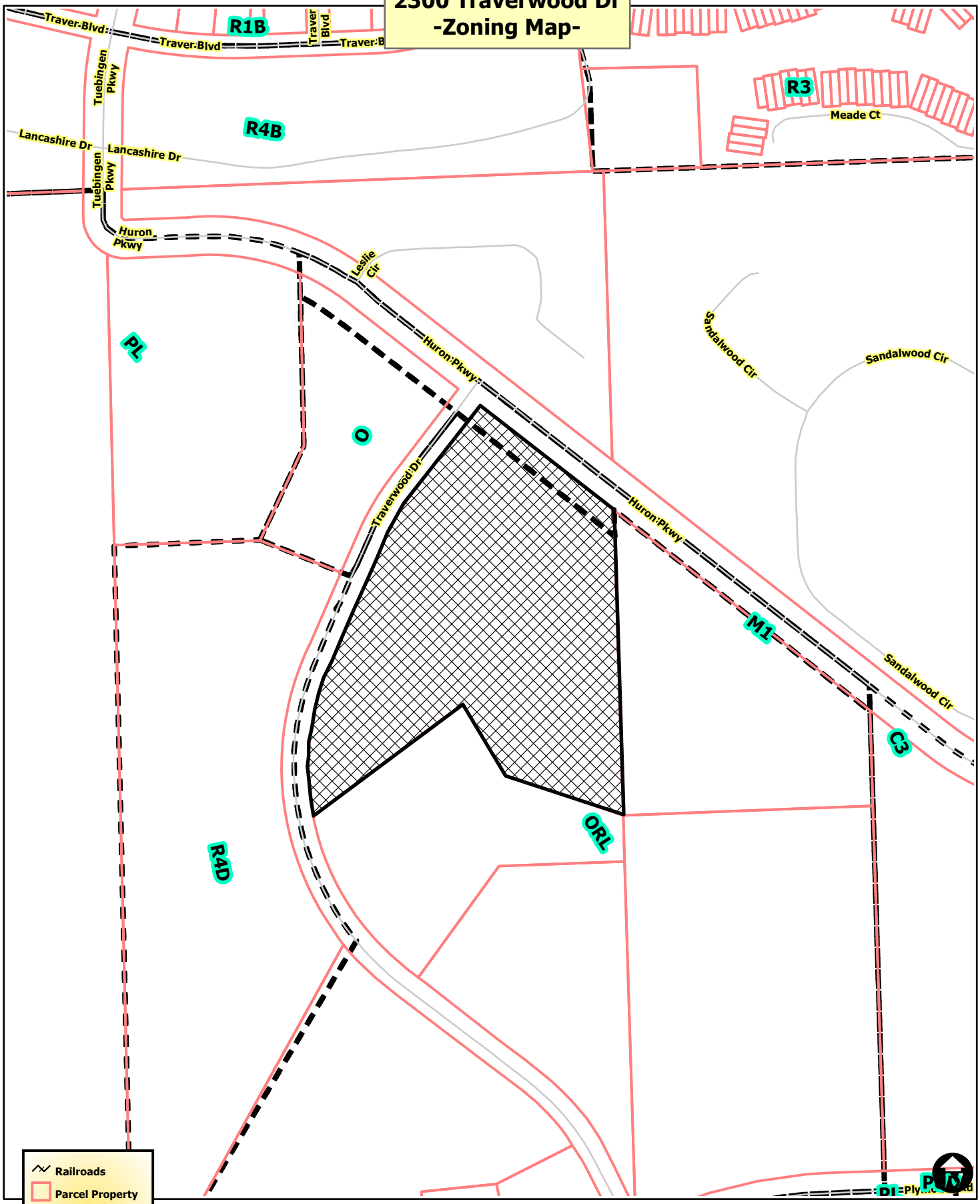
The petitioner is seeking to exceed the maximum number of parking spaces by 231 spaces. The parking maximum was established in 2000 and was intended to help limit unnecessary impervious surfaces and prevent new developments from providing parking far in excess of what is needed on a daily basis. The existing office building was constructed in 1999 before a maximum parking standard was adopted. While Chapter 59 limits the amount of parking that

can be provided, the general purpose and intent is to ensure all developments have sufficient parking for customers and employees. The new parking area will be designed using code requirements for depressed bio-retention islands in order to minimize storm water impacts. The proposed parking is not visible from a public street and not adjacent to any residential uses. The petitioner has provided additional bicycle parking on-site and will provide additional data at the ZBA meeting, such as parking counts and methods use to encourage alternative transportation.

Respectfully submitted,

Matthew J. Kowalski, AICP
City Planner

2300 Traverwood Dr
-Zoning Map-



City of Ann Arbor Map Disclaimer:

No part of this product shall be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without prior written permission from the City of Ann Arbor.

This map complies with National Map Accuracy Standards for mapping at 1 Inch = 100 Feet. The City of Ann Arbor and its mapping contractors assume no legal representation for the content and/or inappropriate use of information on this map.

Map Created: 4/30/2013

2300 Traverwood Dr
-Aerial Map-

Railroads

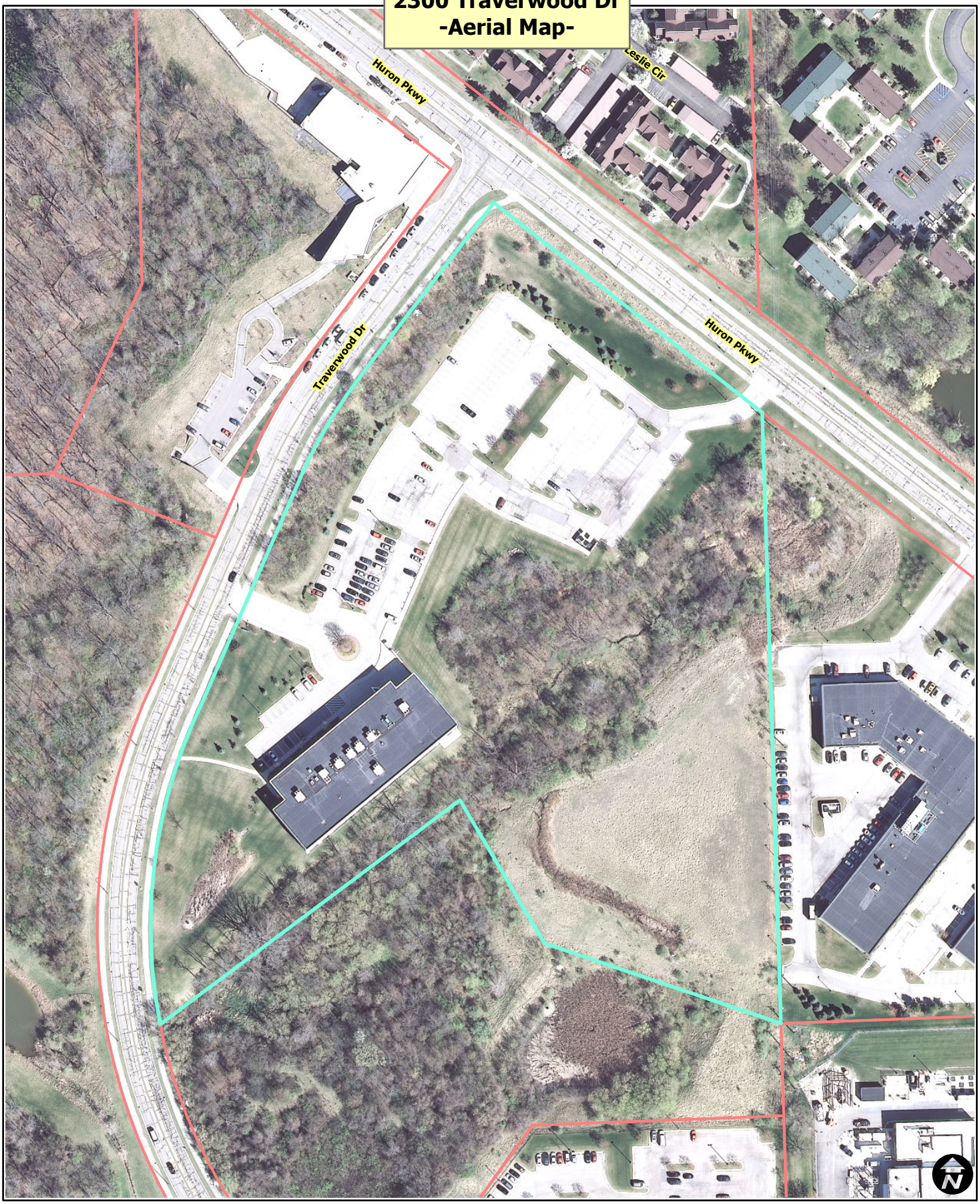
Parcel Property

City of Ann Arbor Map Disclaimer:

This map complies with National Map Accuracy Standards for mapping at 1 Inch = 100 Feet. The City of Ann Arbor and its mapping contractors assume no legal representation for the content and/or inappropriate use of information on this map.

Map Created: 4/30/2013

2300 Traverwood Dr
-Aerial Map-



Railroads

Parcel Property

City of Ann Arbor Map Disclaimer:

This map complies with National Map Accuracy Standards for mapping at 1 Inch = 100 Feet. The City of Ann Arbor and its mapping contractors assume no legal representation for the content and/or inappropriate use of information on this map.

Map Created: 4/30/2013

MIDWESTERN CONSULTING

"Quality Since 1967"

Civil, Environmental and Transportation Engineers, Planners, Surveyors, Landscape Architects

April 23, 2013

City of Ann Arbor
Planning Department
100 N. Fifth Street
Ann Arbor, MI 48107-8647
Attn: Matt Kowalski

Re: **2300 Traverwood Drive**
ZBA Variance Application

Dear Mr. Kowalski,

This letter and the enclosed materials constitute a request for variances from the Zoning Board of Appeals for 2300 Traverwood Drive (formerly known as Mechanical Dynamics, currently occupied by MSC Software).

A. A variance is requested to grant relief from the requirement for a wetland permit to remove a small wet spot in an area that was previously mass graded for offices and parking lots but the construction there was not completed. The wet area has no significant environmental function or value and creates a practical difficulty for the development of a much needed parking area.

There is an existing approved site plan for a parking lot in this location that includes the removal of the small wet area and that can be constructed right now without a variance or additional permit. The owner, however, would like to reconfigure the parking within the same limit of disturbance, reducing the total number of proposed spaces from 241 to 231, upgrading the design to meet current standards including interior bio-retention islands, and changing the site lighting to more efficient LED fixtures. An Administrative Amendment showing these revisions has been submitted.

The practical difficulty of getting an additional local wetland use permit is the time and money spent by both the applicant and the City to process an application. In addition, reconfiguring the parking lot layout to retain the wet area would eliminate about 70 spaces. These spaces are needed for the existing use on the site and the increasing number of employees. The practical difficulty is more than mere inconvenience, or inability to obtain a higher financial return. Granting a variance has no negative impact on neighboring properties and will support a thriving use with an immediate parking demand.

B. A variance is requested to permit more parking spaces than is permitted by the ordinance. More parking is needed as soon as possible to support the use of the existing building. The software developer that occupies the building has many more employees than are found in a typical ORL use and is still hiring. Providing such a variance is in harmony with the general purpose and intent of the requirements to provide adequate parking to support thriving businesses.

Phase 1 of the development included the south portion of the building and related parking area. Phase 2 was to include the north portion of the building and the balance of the parking. The proposed Administrative Amendment would revise the phasing of the development to construct the Phase 2 parking prior to constructing the future building addition. The future building addition would become Phase 3.

The ordinance permits 201 to 268 parking spaces for the existing Phase 1 building. Granting the variance would permit the construction of additional parking and increase the total number of

spaces to 524. The ordinance permits a total of 402 to 535 parking spaces for the Phase 1 and Phase 3 buildings together.

Enclosed are two complete packets of:

1. Cover letter
2. Application for Variance
3. Attachment
4. Fees of $500
5. Currently proposed Administrative Amendment
6. Disk of pdf's of the submittal

Please contact me if revisions or additional information is needed, and place this item on the agenda of the May 24 meeting of the Zoning Board of Appeals. Thank you for your assistance.

Respectfully submitted:
MIDWESTERN CONSULTING, LLC

Earl F. Ophoff, Project Manager

Enc.

APPLICATION FOR VARIANCE OR NON-CONFORMING STRUCTURE
ZONING BOARD OF APPEALS

Section 1: Applicant Information

Name of Applicant: First Martin Corporation

Address of Applicant: 115 Depot St., Ann Arbor, MI 48104

Daytime Phone: (734) 994-5050

Fax: (734) 761-5151

Email: wcmartin@firstmartin.com

Applicant's Relationship to Property: owner

Section 2: Property Information

Address of Property: 2300 Traverwood Drive

Zoning Classification: ORL

Tax ID# (if known): 09-09-15-301-005

*Name of Property Owner: Traverwood Properties MDI L.L.C./First Martin Corp.

**If different than applicant, a letter of authorization from the property owner must be provided.*

Section 3: Request Information

☒ Variance

Chapter(s) and Section(s) from which a variance is requested:	Required dimension:	PROPOSED dimension:
Chapter 60, Section 5:204 (1)		
Chapter 59, Section 5:167 (50)		
Example: Chapter 55, Section 5:26	*Example: 40' front setback*	*Example: 32'*

Give a detailed description of the work you are proposing and why it will require a variance (attach additional sheets if necessary)

See attached.

Section 4: VARIANCE REQUEST (If not applying for a variance, skip to section 5)

The City of Ann Arbor Zoning Board of Appeals has the powers granted by State law and City Code Chapter 55, Section 5:98. A variance may be granted by the Zoning Board of Appeals only in cases involving practical difficulties or unnecessary hardships when **ALL** of the following is found **TRUE**. Please provide a complete response to each item below. These responses, together with the required materials in Section 5 of this application, will form the basis for evaluation of the request by staff and the Zoning Board of Appeals. (continued...)

1. Are there hardships or practical difficulties to complying with the ordinance? Are these hardships or practical difficulties an exception or unique to the property compared to other properties in the City?

Yes. See attached.

2. Are the hardships or practical difficulties more than mere inconvenience, inability to obtain a higher financial return? (explain)

No. See attached.

3. What effect will granting the variance have on the neighboring properties?

None. See attached.

4. What physical characteristics of your property in terms of size, shape, location or topography prevent you from using it in a way that is consistent with the ordinance?

See attached.

5. Is the condition which prevents you from complying with the ordinance self-imposed? How did the condition come about?

See attached.

Section 5: ALTERATION TO A NON-CONFORMING STRUCTURE

Current use of the property _____

The proposed change is allowed in accordance with Structure Non-Conformance, Section 5:87 (1) (a) & (b), which reads as follows:

(1) A non-conforming structure may be maintained or restored, but no alteration shall be made to a non-conforming structure unless one of the following conditions is met:

a. The alteration is approved by the Zoning Board of Appeals upon finding that it complies as nearly as practicable with the requirements of this Chapter and that it will not have a detrimental effect on neighboring property.

b. The alteration conforms to all the requirements of this Chapter and is made to a building which will be a single-family dwelling on completion of the alteration and is located in an R1,R2, R3, or R4 district.

c. The structure is considered non-conforming due to the following reasons

(continued . . ..)

	Existing Condition	***Code Requirement***
Lot area		
Lot width		
Floor area ratio		
Open space ratio		
Setbacks		
Parking		
Landscaping		
Other		

Describe the proposed alterations and state why you are requesting this approval:

The alteration complies as nearly as is practicable with the requirements of the Chapter and will not have a detrimental effect on neighboring property for the following reasons:

Wherefore, Petitioner requests that permission be granted from the above named Chapter and Section of the Ann Arbor City Code in order to permit _____

Section 6: Required Materials

The following materials are required for all variance requests. Failure to provide these materials will result in an incomplete application and will delay staff review and Zoning Board of Appeals consideration of the request. The materials listed below must accompany the application and constitute an inseparable part of the application.

All materials must be provided on **8 ½" by 11" sheets.** (Continued.....)

- [x] Survey of the property including all existing and proposed structures, dimensions of property, and area of property.
- [ ] Building floor plans showing interior rooms, including dimensions.
- [ ] Photographs of the property and any existing buildings involved in the request.
- [x] Any other graphic or written materials that support the request.

Section 7: Acknowledgement

SIGNATURES MUST BE SIGNED IN PRESENCE OF NOTARY PUBLIC

I, the applicant, request a variance from the above named Chapter(s) and Section(s) of the Ann Arbor City Code for the stated reasons, in accordance with the materials attached hereto.

Phone Number _____ Signature _____

Email Address _____ Print Name _____

I, the applicant, hereby depose and say that all of the aforementioned statements, and the statements contained in the materials submitted herewith, are true and correct.

Signature _____

Further, I hereby give City of Ann Arbor Planning & Development Services unit staff and members of the Zoning Board of Appeals permission to access the subject property for the purpose of reviewing my variance request.

Signature _____

I have received a copy of the informational cover sheet with the deadlines and meeting dates and acknowledge that **staff does not remind the petitioner of the meeting date and times.**

Signature _____

On this _____ day of _____, 20___, before me personally appeared the above named applicant and made oath that he/she has read the foregoing application by him/her subscribed and knows the contents thereof, and that the same is true as to his/her own knowledge except as to those matters therein stated to be upon his information and belief as to those matters, he/she believes them to be true.

Notary Public Signature _____

Notary Commission Expiration Date _____ Print Name _____

Staff Use Only

Date Submitted: _____ Fee Paid: _____

File No.: _____ Date of Public Hearing _____

Pre-filing Staff Reviewer & Date _____ ZBA Action: _____

Pre-Filing Review: _____

Staff Reviewer & Date: _____

4/23/13

2300 Traverwood Drive
Application for Variance
Zoning Board of Appeals

Section 3: Request Information
A variance is requested Chapter 60, Section 5:204, Activities which require a use permit. Specifically,

Except as otherwise provided by this chapter or by a use permit obtained from the city, a person shall not:

(1) Deposit or permit the placing of fill material in a wetland.

Section 4: Variance Request

1. There are practical difficulties with complying with the ordinance. The parking lot configuration shown on the proposed 2013 Administrative Amendment shows 231 spaces (a reduction of 10 spaces) and would require filling in a low quality wetland. Processing a new local wetland use permit would include another MDEQ joint permit application. These things would take up the resources of the City in terms of staff time and money, and would be spent on permitting a totally artificial, non-functional wetland.

   The proposed 2013 Administrative Amendment has been submitted and is being reviewed pending the granting or denial of a variance. It includes the reconfiguration of the parking area for which there is an existing approved site plan. The new wetland is also located within the area of the approved 241 space parking lot and will be removed if that plan is constructed.

   The applicant can construct the parking area as previously approved by the 2011 Administrative Amendment without a new permit or a variance.

   a. A new wetland area was identified during preparation of the currently submitted 2013 Administrative Amendment. Environmental Consulting and Technology (ECT) was asked to re-flag the proposed pedestrian bridge crossing of the previously identified wetland and stream. During that field visit, ECT also identified a new wetland perched on the hillside on the east side of the stream. That wetland is located in the western portion of the proposed parking lot.

   b. The area in question was mass graded in 1996-97 as part of the adjacent office complex project known as Traverwood II. The western portion of that project was not completed. The office buildings and parking that were to be constructed in the location of the proposed parking area were never built.

   c. The mass grading of that area included the contouring of a temporary depression along the west edge of the disturbed area to control runoff and soil erosion. Because the proposed construction in this area has not occurred, the depression is now a low quality, non-contiguous wetland.
      - This is a linear wetland that is entirely artificial and that is not contiguous with the wetland to the west.

- This is a drainage area.
- The vegetation is almost entirely phragmites/invasive reeds with a few shrubby cottonwood trees.
- This wetland is regulated only because of its proximity to the stream and wetland at the bottom of the hill.
- There is no surface water connection from this wetland to the wetland at the bottom of the hill.
- There are no redwing blackbirds nesting in this wetland.
- This area meets the definition of a wetland but has little if any beneficial effect and no characteristics worth protecting.
- Re-design of the east parking area that includes removal of this wetland and the construction of new bio-retention islands will have a positive impact.

d. The mass graded but un-built portion of Traverwood II was later transferred to the 2300 Traverwood site. This area was included in the 2300 Traverwood site plan done in 1999 (known originally as Mechanical Dynamics) and again on two Administrative Amendments, the second of which was approved in May, 2011. No wetland was identified in the proposed parking area on any of these approved plans.

e. The applicant has applied for a 2013 Administrative Amendment to reconfigure the already approved parking lot, bringing the design up to current standards, including the providing bio-retention islands. These will be functional wetlands that replace the existing artificial wetland.

f. This request for a variance is for practical difficulty.
   - The history of the site and the accidental creation of a minor, low quality wetland are extenuating circumstances.
   - It is not a good use of city resources, time and expense to require additional permitting to allow the construction of the reconfigured parking area.
   - The need is to provide as much parking as possible within the limits of disturbance as approved on the previous site plan and amendments.

2. The hardships and practical difficulties are more than mere inconvenience and represent additional time and expense to both the City and the applicant for no public benefit. The applicant can construct the parking area as shown on the previously approved 2011 Administrative Amendment, but has chosen to propose a reconfigured parking area that meets current city standards. The new design includes bio-retention islands and more efficient LED lighting. Granting the variance does not allow the applicant to obtain a higher financial return.

3. Granting the variance will have no effect on the neighboring properties.

4. The physical characteristics of the property are that the mass graded area slopes from east to west towards the wetland. The temporary depression along the edge of the mass grading traps runoff. The soils are such that there is little infiltration.

Reducing the size of the proposed parking area such that there is no impact on this linear wetland is one hundred percent contrary to the point of the proposed Administrative Amendment. The need is for as much parking on the site as possible to support the software development company that occupies the existing building. That need is there now, and is increasing as the company continues to hire additional employees. Redesigned the proposed parking lot to preserve the wetland and stay out of 25-foot wide Natural Features open space would reduce the number of proposed spaces from 231 to approximately 160.

5. The condition that prevents compliance with the ordinance is an artifact of previous site planning and partial construction on the site. The intent was to provide a temporary drainage and soil erosion control area that would have been replaced in the completed construction with parking, curb and gutter, and storm sewer.

   The following is a more complete history of the site is described below and shown on the attached plans:

   Traverwood is the name of the 93-acre development that includes the area shown on the attached Storm Water Management Plan dated 5/1998.
   The area is bounded by the Huron Parkway on the north, Plymouth Road on the south, Nixon Road on the west and the Leslie Park Golf Course to the west.

   The 2300 Traverwood site includes two parcels. The western portion of the site was originally designated as Traverwood NE. The eastern portion of the site was part of Traverwood 2. The currently proposed east parking area is located on what was formerly the western portion of Traverwood 2. A natural water course and wetland separate the east and west portions of the site. A linear, non-contiguous wetland has also developed as the result of previous mass grading of the eastern portion on the site.

   The following sequence of plans traces the history of development on the site in the area of the currently proposed east parking lot. These plans show that the newly flagged, non-contiguous wetland on the hill north of the siltation basin was first identified in 2005. It apparently was the result of the mass grading of the Traverwood 2 site that was done in 1996. This are has now been reflagged, evaluated and surveyed as shown on the current plans.

   Traverwood 2: this project was designed in 1995-96. The overall Traverwood storm water management system of siltation basins, drainage courses and detention basins had already been constructed. This project was an office complex that was to be constructed in two phases. The first phase included the mass grading of the entire Traverwood 2 site and the construction of the two easternmost buildings (number 3 and number 4).

   Sheet 2 Site Analysis
   Shows siltation basin as existing storm detention.
   Does not show any wetland north of that basin.

   Sheet 3 Layout and Materials Plan
   Shows overall layout for offices.
   Entire site was mass graded.

Phase 1 was constructed.
Two western buildings and parking were not built.

Sheet 4 Grading Plan
Shows overall grading plan.
Phase 2 was mass graded only.

Sheet 140B-94-15 Southeast Siltation Basin
Shows siltation basin detail.
Shows outline of future Traverwood 2 Phase 2.
Shows no wetland north of the siltation basin.

Sheet 140B-94-16 Site Analysis for Traverwood Development
Shows wetlands but none north the siltation basin.

Traverwood Park 6/1996

Sheet 140B-94-11 Cover Sheet
This sheet shows the overall Traverwood Development and the schematic storm water management system.

Sheet 140B-94-12 Traverwood Detention Pond and Southeast Siltation Basin Plans
Shows the siltation basin and future Traverwood 2 Phase 2 (dashed line).

Traverwood Development 2/1998

Sheet 140B-102-1 Over-all Storm Water Management Plan
Shows the limits of the Traverwood Development and the schematic storm water management plan.
The Northeast Area is shown as vacant. (That was developed in 1999 as Mechanical Dynamics.)

Sheet 140B-102-2 Over-all Development Plan
Shows proposed offices on Traverwood 2.

Mechanical Dynamics: Lot Split 7/1999

Sheet 140B-106
Shows wetlands but none north of the siltation basin.
Traverwood 2 was under construction and being mass graded.

Traverwood 3: Topographic Survey 10/2000

Sheet 140B-109
Shows Mechanical Dynamics building as existing.
Reflects mass grading of the unbuilt portion of Traverwood 2.
Shows no hillside wetland north of the siltation basin.

Traverwood Park-Traverwood 3: Topographic Survey 9/2005

Sheet 140B-122
Shows linear hillside wetland north of siltation basin,
an artifact of the 1999 mass grading of Traverwood 2.

2300 TRAVERWOOD DRIVE ZBA 13-010

Site Information

Site Analysis

Currently the parcel is vacant, abandoned farm field with two small areas covers by brush and young trees

The parcel is rolling with a high point located near the center of the parcel which is approximately 30 feet above the lowest elevation of the Huron Parkway.

The parcel in recent years has been impacted by construction of Traver Village to the east, Environmental Protection Agency to the south and the Huron Parkway across the north. Storm water from Huron Meadows crosses under Huron Parkway and discharges into the wetland located near the northwest property corner.

The portion of Traver Village located adjacent to the parcel's east property line has been developed as a large bituminous parking lot and loading dock for the Kroger store

The Environmental Protection Agency has a bituminous parking lot along the south property line near Traver Village. The remainder of the EPA site consist of utilities, transformers and treatment areas

Excessive fill from several of these projects have been placed on the parcel, resulting in steep slopes along the Huron Parkway's Right of Way and the wetland near the northwest property corner.

In addition to the storm water discharge from Huron Meadows, Traver Village has a 30 inch storm sewer crossing the parcel from east to west just north of the south property line.

Overhead electrical lines cross the western portion of the parcel, connecting to the Environmental Protection Agency. These overhead lines will be relocated.

Utilities

The existing 15 inch sanitary sewer in Traver Village will be extended to serve the site.

There is a 12 inch water main running north/south in Traver Village, near the East property line which turns west of Huron Parkway and continues further west under the bituminous walkway approximately 180 feet. It then crosses the Huron Parkway pavement and continues to the north within the Right of Way. The parcel will loop a system to this main.

Storm water runoff will be collected by inlets and catch basins and will be discharged into the new retention pond area by Traverwood Drive. See sheet 10.

Community analysis

The development is expected to have no impact on the public schools.

The proposed use of the property is compatible with other property uses along Huron Parkway and the future uses of Traverwood.

Adjacent uses are expected to have little or no impact on the proposed development.

Impact of the development on air quality, water or other natural features of the site is expected to be minimal.

The proposed use is expected to have no impact on historic sites or structures.

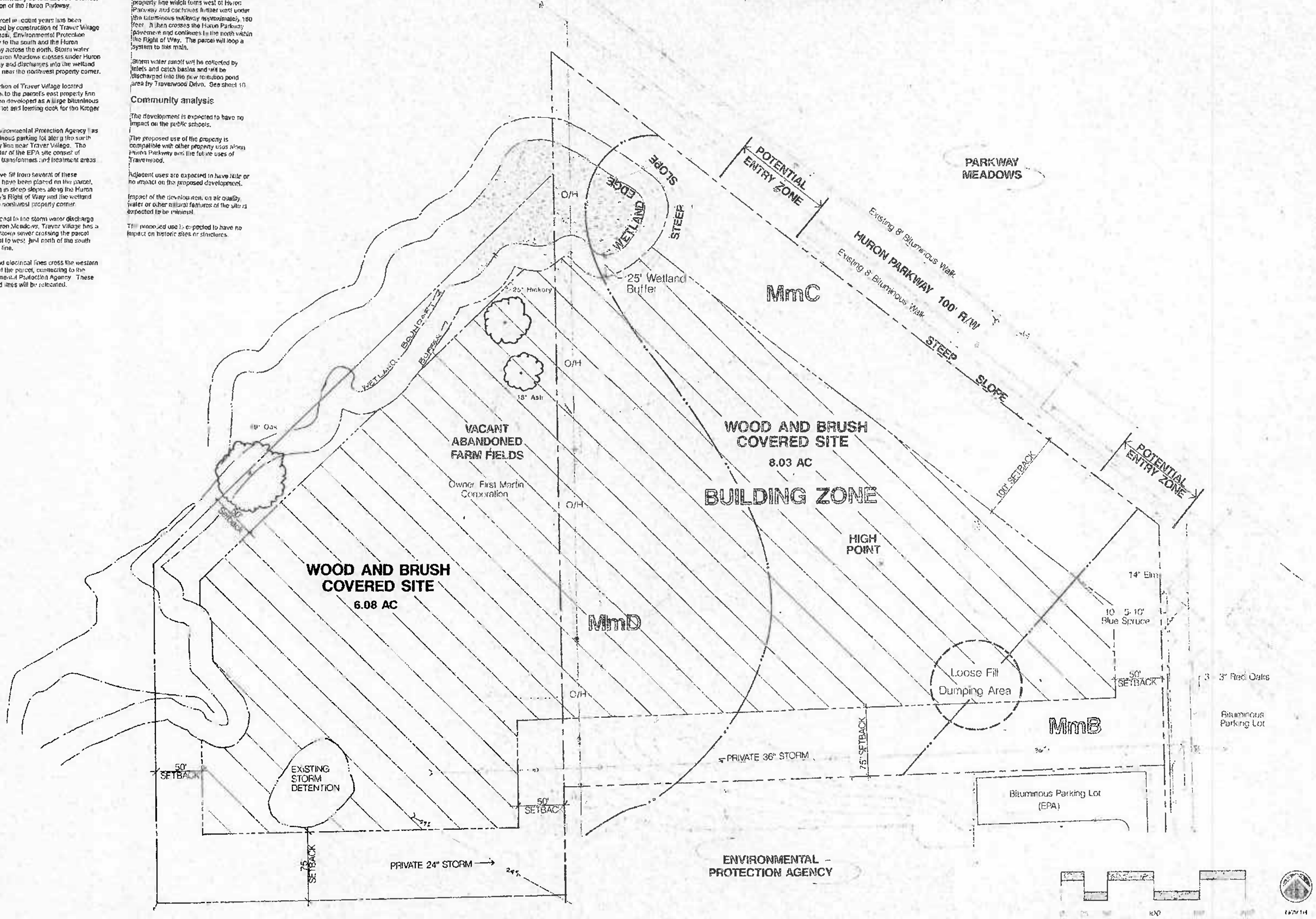
Soil Information

- - - Approximate Soil Type Boundary

MmB - MIAMI LOAM, 2-6% SLOPE

MmC - MIAMI LOAM, 6-12% SLOPE

MmD - MIAMI LOAM, 12-18% SLOPE



TRAVERWOOD TWO

SITE ANALYSIS

November 13, 1995

Site Plan Approval

Per City Comments	13 May '96
Per City Comments	4 Apr '96
Add Buildings 1 & 2	12 Feb '96

1" = 50'

2

Legend

- Standard Duty Bituminous Pavement
- Heavy Duty Bituminous Pavement
- Concrete Pavement
- Concrete Walk with Ramp
- Barrier Free Parking Space
- Wall Mounted Access
- Site Light
- Barrier Free Parking Space
- Silt Protection Fence
- Flood Limits

Notes

1. All dimensions are to back of curb or edge of impervious unless noted otherwise.
2. Eight foot wide bicycle path shall ramp down at entrance drive. All six foot wide concrete walks shall ramp down at all driveway crossings.
3. All parking spaces adjacent to the building walls shall have a precast concrete bumper block installed and anchored three feet from the wall.

Phase Development

The Traverwood Two development will be constructed in the following phases:

Phase One construction will include all the earthwork to balance the entire site including the four building pads, construction of the Detention Pond west of Traverwood Drive and the Southeast Sinkers Basin, the Water Main loop between the existing Water Main in Huron Parkway and the existing Water Main on the EPA Parcel, the east entrance drive from Huron Parkway and Building No. 4 with its parking, pavement and Bicycle parking. Construction of Phase One will commence during the summer of 1996.

Phase Two will consist of constructing the remaining three buildings and finish grading the Site Utilities.

Development Summary

		Required	Provided
A.	Total Site Area	43,000 sf	614,562 sf, 14.11 ac.
B.	Building Area		
	Building No. 1		12,800 sf
	Building No. 2		21,000 sf
	Building No. 3		38,480 sf
	Building No. 4		34,400 sf
	TOTAL Square Footage		107,280 sf
	Office 50%		53,640 sf
	Light Manufacturing 50%		53,640 sf
	Stories	4	1
	Height	50 ft	30 ft
	Floor Area Ratio (Maximum)	40%	17%
C.	Parking Spaces		
	Vehicular Parking Spaces		
	Office 10/50 sf	214.6	206
	Light Manufacturing 1/500 sf	89.4	112
	TOTAL	304.0	318
	Bike Parking Spaces		
	Office - 10,000 sf	17.9	
	30% Class A	5.4	9
	70% Class C	12.5	14
	Light Manufacturing		
	18,000 sf	8.9	
	100% Class B	8.9	6
			2 deferred
			1 exists "A" unit
	TOTAL	26.8	28
D.	Vehicular Parking Space Sizes	282	9'x18' * 242
		-	10'x18' ** 64
		12	12'x16' *** 12
		-	8'x5' **** -
	TOTALS	304	318
E.	Setbacks		
	Huron Parkway - Front	100'	100' Parking, 168' Building
	East Property Line - Side	50'	50'
	South Property Line - Rear	75'	75'
	West Property Line - Side	50'	105'

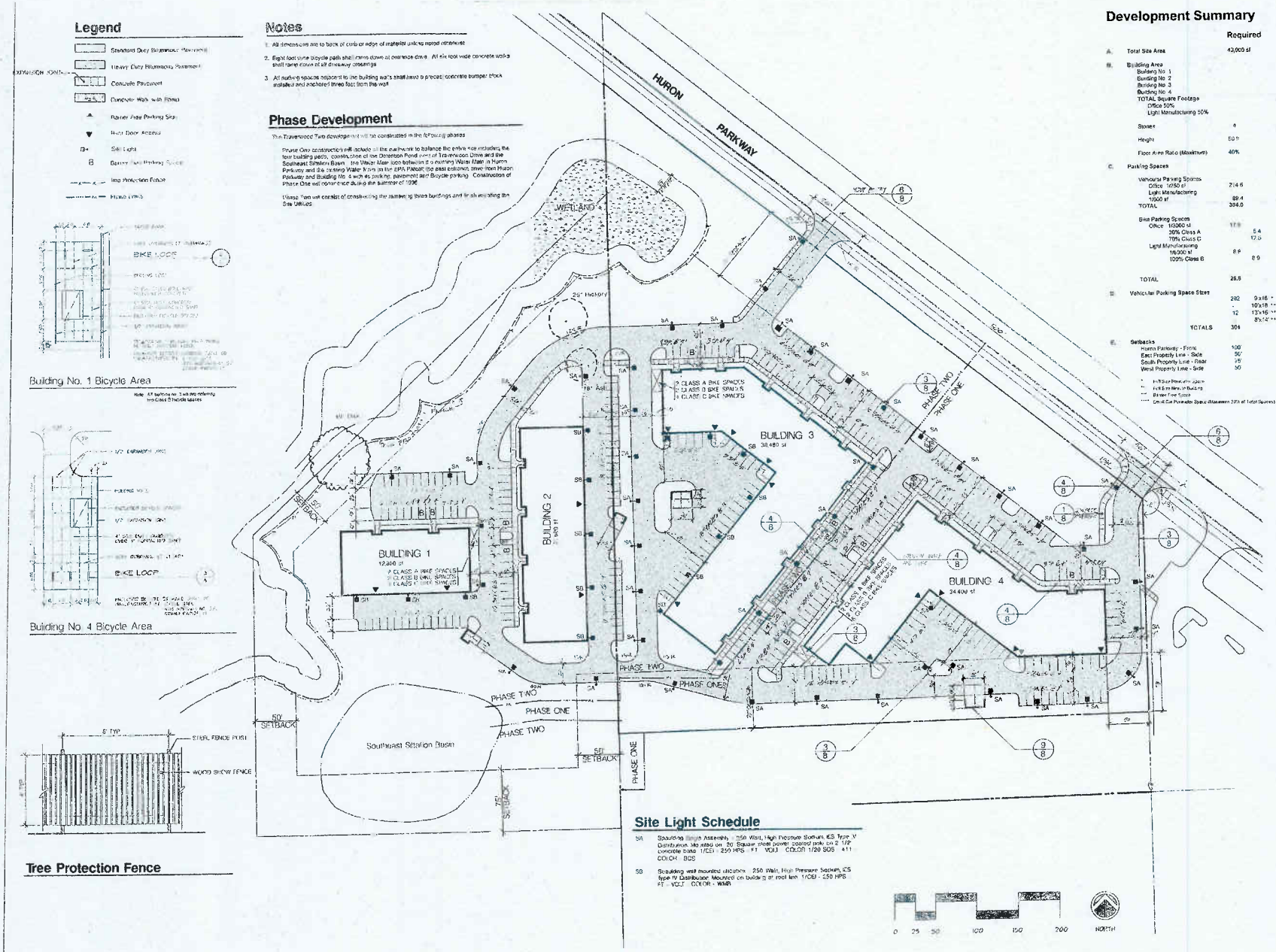
* 9'x18' Parallel Space
** 10'x18' Handicap Space
*** Barrier Free Space
**** Small Car Parking Space allowance 30% of Total Spaces

Building No. 1 Bicycle Area

Note: All buildings no. 3 will be delivering two Class B bicycle spaces

Building No. 4 Bicycle Area

Tree Protection Fence



Site Light Schedule

SA — Standing Base Assembly - 250 Watt, High Pressure Sodium, IES Type V Distribution, Mounted on 20' Square steel power coated pole on 2 1/2' concrete base. 1/CEI - 250 HPS - FT - VOLT - COLOR 1/20 SQS - 411 COLOR - BGS

SB — Standing wall mounted structure - 250 Watt, High Pressure Sodium, IES type IV Distribution. Mounted on building at roof line. 1/CEI - 250 HPS - FT - VOLT - COLOR - WMB

0 25 50 100 150 200 NORTH

BRI
Beckett and Raeder, Inc.
Landscape Architects, Planners & Engineers
535 West William, Suite 101
Ann Arbor, Michigan 48103
(313) 663-2622

TRAVERWOOD TWO

LAYOUT AND MATERIALS PLAN

November 13, 1995

Site Plan Approval

Per City Comments	20 June '96
Per City Comments	13 May '96
Per City Comments	4 April '96
Add Buildings 1 & 2	12 Feb '96

1" = 50'

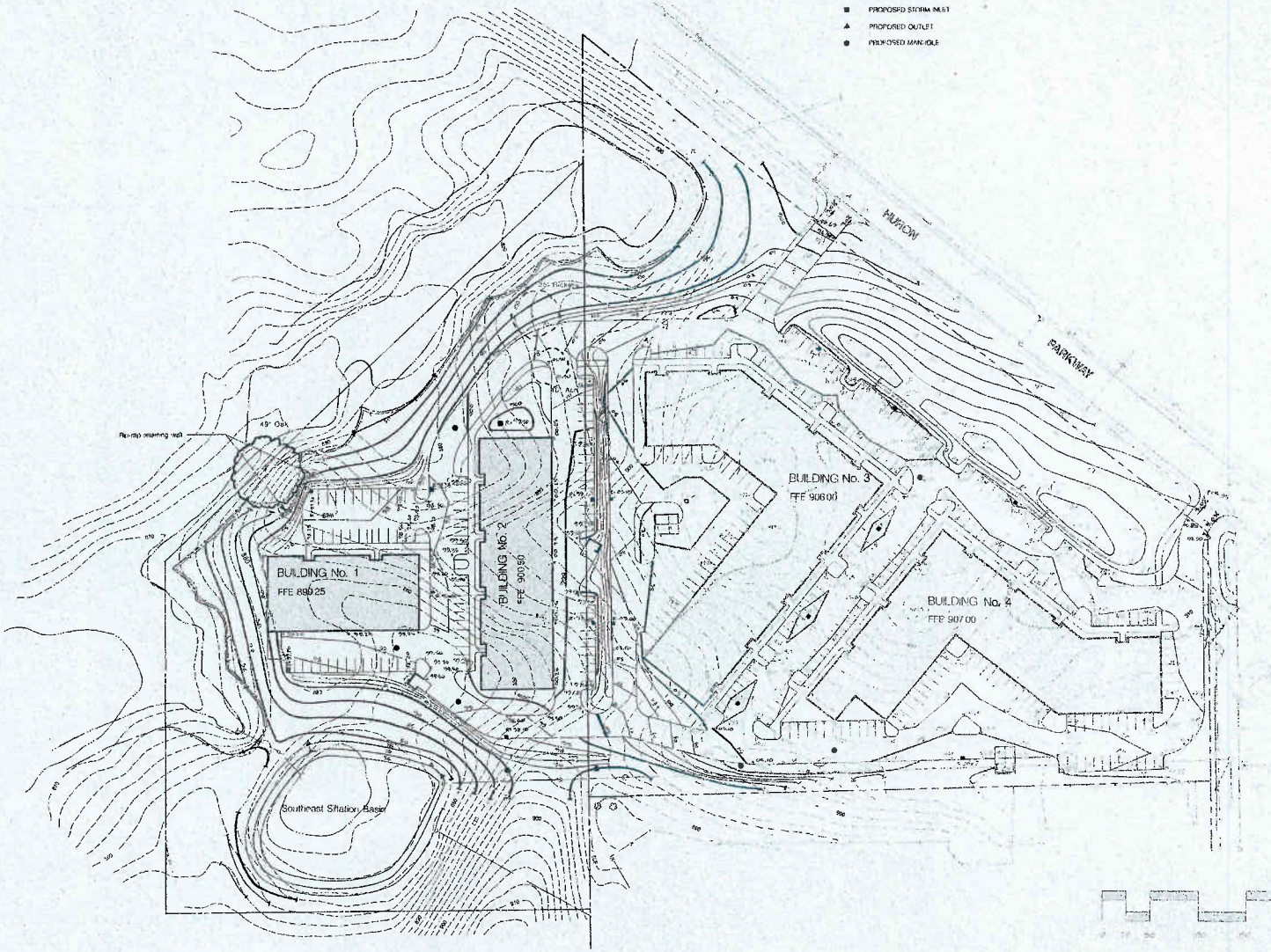
3

Legend

- 895 — EXISTING CONTOUR
- PROPOSED CONTOUR
- 924.6 EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- FFE FINISH FLOOR ELEVATION
- RIM ELEVATION
- INVERT ELEVATION
- PROPOSED STORM INLET
- PROPOSED OUTLET
- PROPOSED MANHOLE

General Notes

1. Existing contours are at a two foot interval. Proposed contours are at one foot interval unless the slope is steeper than one foot vertical to three feet horizontal, in such cases the five foot contour only is shown.
2. The existing grades are between elevations 875 and 924. Add 800 to all proposed spot elevations and contours in the range between 75 and 99.99. Add 900 to all proposed spot elevations and contours in the range between 00.00 and 10.
3. Top of curb is six(6) inches above top of pavement grade unless noted otherwise.



BRN

TRIWESTWOOD
TWD

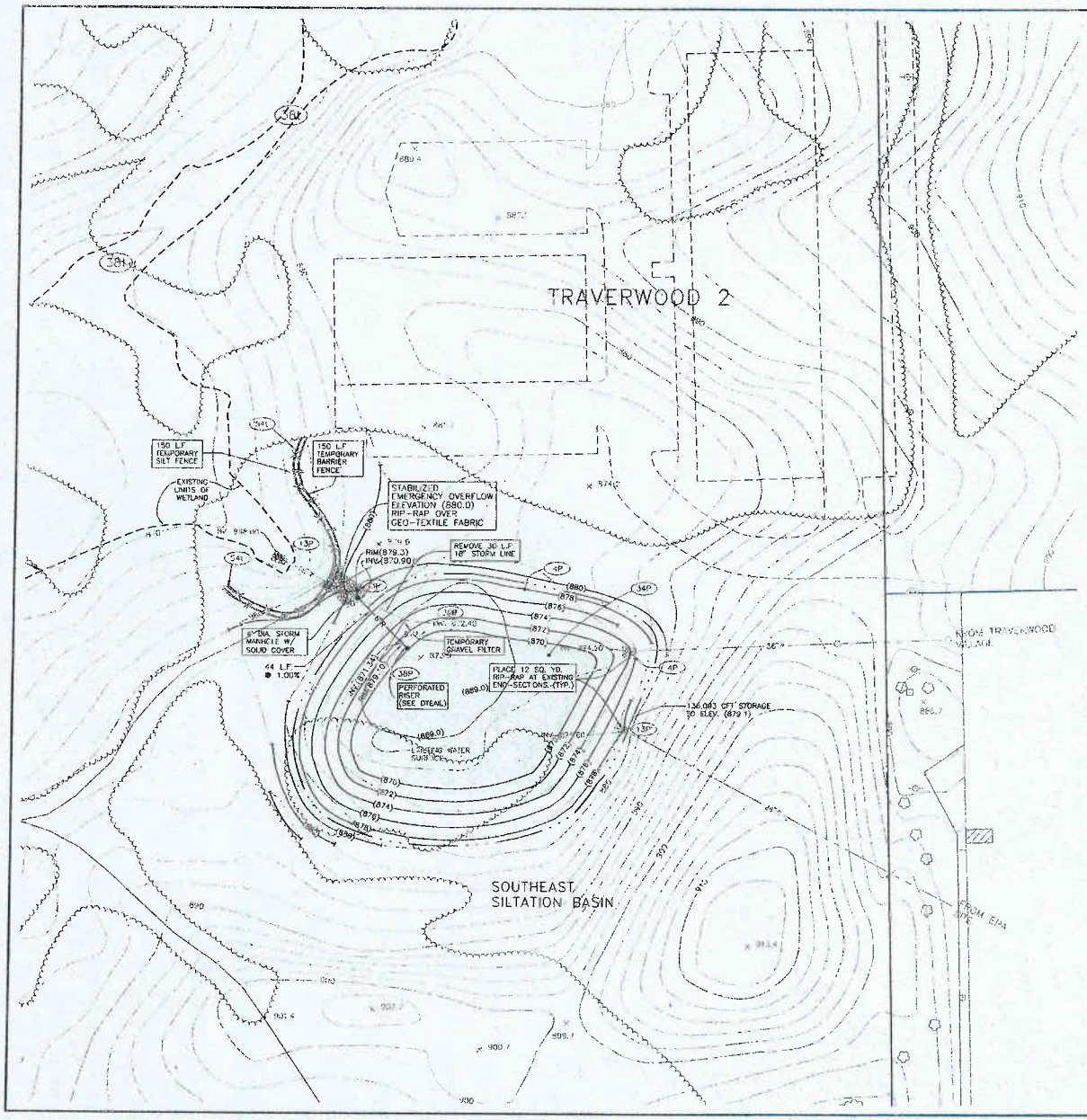
GRADING
PLAN

November 18, 1996

Site Plan Approval

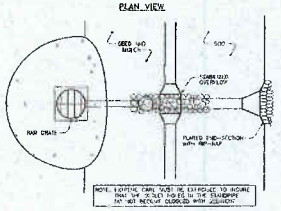
Per City Comments	20 June 97
Per City Comments	13 May '96
Per City Comments Add Buildings 1 & 2	4 Apr '96 12 Feb '96

4

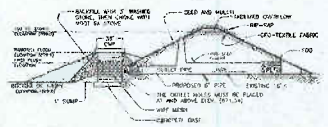


NOTE: FOR SOIL EROSION DETAILS SEE SHEET 140B-94-13.

PLAN VIEW



PROFILE VIEW



PERFORATED RISER

MICHIGAN UNIFIED KEYING SYSTEM
SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

4	VEGETATIVE STABILIZATION	
13		
34		
38		
39		
54		

NOTES:

The contractor will conform to Act 347 P.A. of 1972, Erosion and Sediment Control of runoff during construction and current local ordinances for erosion and sedimentation control.

The numbered erosion control items (ex. 3P) shown on the plan are keyed to the M.D.O.T. Standard Plan V-960. All work shall conform to this standard plan.

(P) = permanent
(T) = temporary

LEGEND

(835)	EXIST CONTOUR
	PROP CONTOUR
× 854.6	EXIST SPOT ELEVATION
× (854.6)	PROP SPOT ELEVATION
	EXIST STORM SEWER
	PROP STORM SEWER
	EXIST MANHOLE
	PROP MANHOLE
	EXIST CATCH BASIN/INLET
	PROP CATCH BASIN/INLET
	END SECTION/HEAD WALL
	CULVERT
	EXIST LIGHT POLE
	PROP LIGHT POLE
	EXIST UTILITY POLE
	EXIST CURB AND GUTTER
	CENTERLINE OF DITCH OR EDGE OF WATER
	EXIST SIGN
	PROP SIGN
	SECTION CORNER
	SILT FENCE
	BARRIER FENCE
	MARSH AREA
	WETLAND LIMITS

NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER, THE ENGINEER NOR THE CONSULTANTS SHALL BE RESPONSIBLE FOR MONITORING SITE CONDITIONS, FOR SAFETY OR FOR HEALTH, OR FOR ANY PERSONS EMPLOYED BY THE CONTRACTOR, SUBCONTRACTORS, OR OF ANY OTHER PERSONS

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171

ATWELL-HICKS, INC.
CIVIL ENGINEERING • SURVEYING • PLANNING
ENVIRONMENTAL SERVICES
313-994-4000 • FAX NO. 313-994-1599
ANN ARBOR, MICHIGAN

SECTION 15 TOWN 3 SOUTH RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

PROJECT: FIRST MARTIN
TRAVERWOOD DETENTION POND
SOUTHEAST SILTATION BASIN PLANS
SOUTHEAST SILTATION BASIN

CAD FILE 1381GP04

6-10-96 PER CITY REV.
5-31-96 PER CITY REV.
5-29-96 PER CITY REV.

REVISIONS

DATE 2-12-96

SCALE 0 15 30
1" = 30 FEET

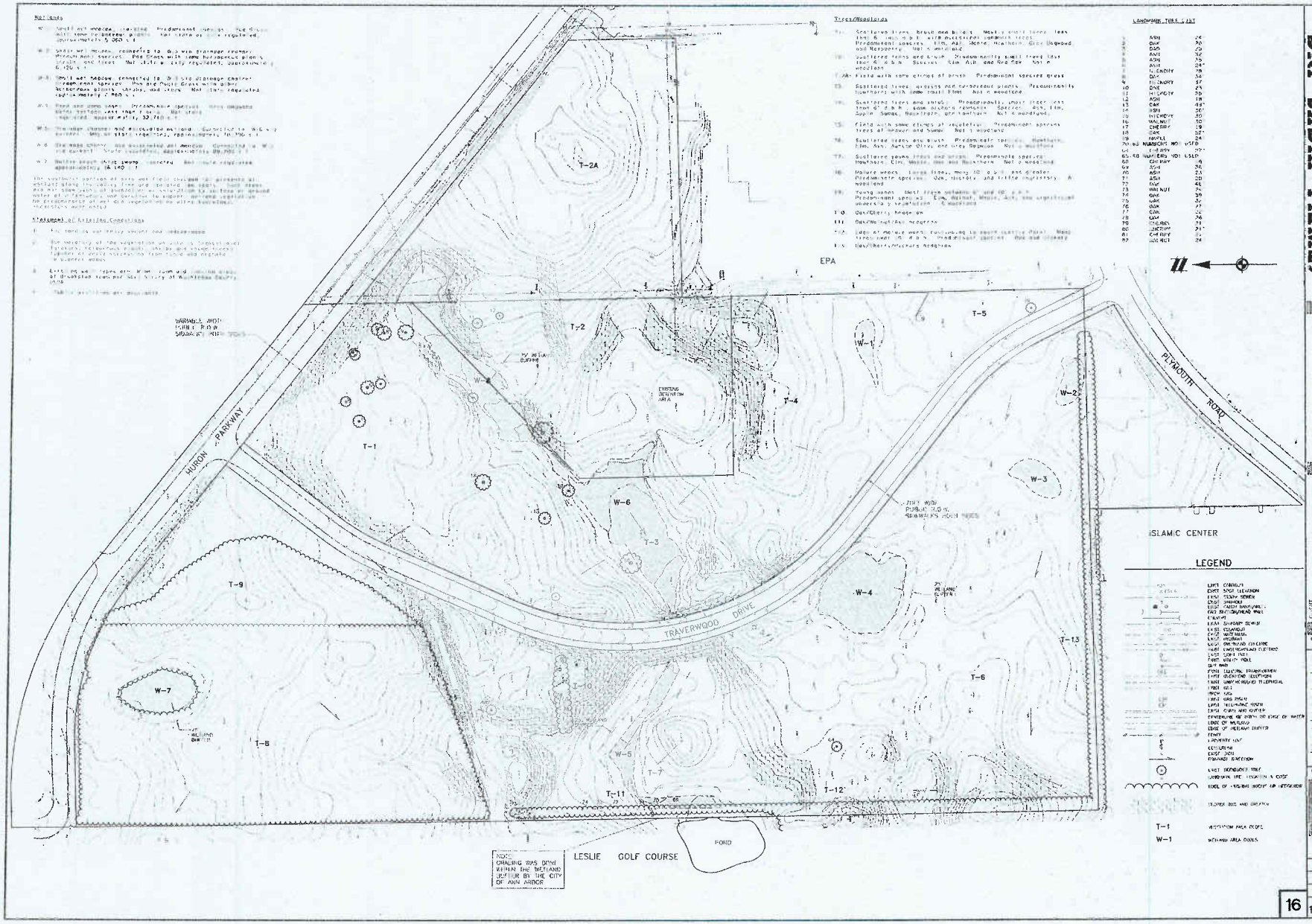
DR. WAB CK. BCW

BOOK

JOB 41381.02

FILE NO. 140B-94-15

15



NOTE:
GRADING WAS DONE WITHIN THE WETLAND BUFFER BY THE CITY OF ANN ARBOR

ATWELL-HICKS, INC.
CIVIL ENGINEERING • SURVEYING • PLANNING
ENVIRONMENTAL SERVICES
313-994-4000 • FAX NO. 313-994-1599
ANN ARBOR, MICHIGAN

SECTION 18 TOWN 2 SOUTH, RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

CLIENT: FIRST MARTIN CORPORATION

SITE ANALYSIS FOR
TRAVERWOOD DEVELOPMENT

CAD FILE
1381SP01

REVISIONS
DATE 1-12-96

SCALE 0 50 100
1" = 100 FEET

DR RML CHK MB
JOB 41381.04

16

FILE NO.
140B-94-16

TRAVERWOOD DETENTION POND AND SOUTHEAST SILTATION BASIN

CONSTRUCTION DRAWINGS

STORMWATER MANAGEMENT PLAN

NARRATIVE

DRAINAGE DISTRICT DESCRIPTIONS

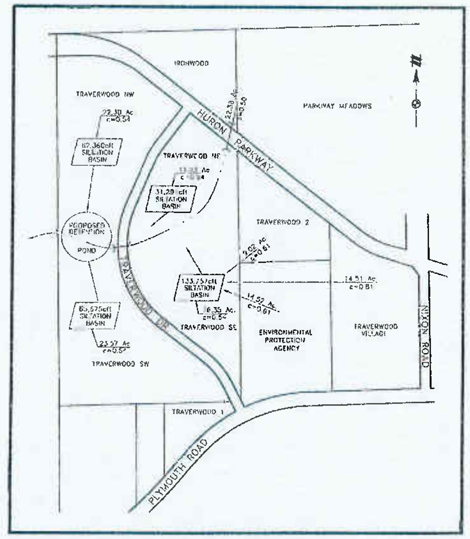
REQUIRED STORAGE VOLUME

DIVISION OF STORAGE

APPENDIX A

APPENDIX B

PROJECT SPECIFICATIONS AND CONSTRUCTION NOTES



VICINITY MAP AND SCHEMATIC MAP OF DRAINAGE AREA

LEGEND

(835)	EXIST. CONTOUR
	PROP. CONTOUR
× 854.6	EXIST. SPOT ELEVATION
× (854.6)	PROP. SPOT ELEVATION
	EXIST. STORM SEWER
	PROP. STORM SEWER
	EXIST. MANHOLE
	PROP. MANHOLE
	EXIST. CATCH BASIN/INLET
	PROP. CATCH BASIN/INLET
	END SECTION/HEAD WALL
	GUARDRAIL
	EXIST. LIGHT POLE
	PROP. LIGHT POLE
	EXIST. UTILITY POLE
	EXIST. CURB AND GUTTER
	CENTERLINE OF DITCH OR EDGE OF WATER
	EXIST. SIGN
	PROP. SIGN
	SECTION CORNER

DEVELOPER:

FIRST MARTIN CORPORATION
115 DEPOT STREET
ANN ARBOR, MI. 48104
(313) 994-5050

ENGINEER:

ATWELL HICKS, INC.
540 AVIS DRIVE
ANN ARBOR, MI. 48108
(313) 994-4000

PLANNER:

BECKETT AND RAEDER, INC.
535 WEST WILLIAM ST.
SUITE 101
ANN ARBOR, MI. 48103

NOTICE:

SHEET INDEX:

SHEET NO.	DESCRIPTION	DRAWING NO.
11	COVER SHEET	140B-94-11
12	OVERALL PLAN	140B-94-12
13	TEMPORARY SILTATION BASIN PLAN	140B-94-13
14	DETENTION POND PLAN	140B-94-14
15	SOUTHEAST SILTATION BASIN PLAN	140B-94-15
16	SITE ANALYSIS	140B-94-16

STATE OF MICHIGAN
BRUCE WALLACE
ENGINEER

ATWELL-HICKS, INC.
CIVIL ENGINEERING • SURVEYING • PLANNING
ENVIRONMENTAL SERVICES
313-994-4000 • FAX NO. • 313-994-1599
ANN ARBOR, MICHIGAN

SECTION 13
TOWN 3 SOUTH, RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

CLIENT: FIRST MARTIN

TRAVERWOOD DETENTION POND AND SOUTHEAST SILTATION BASIN PLANS
COVER SHEET

CAD FILE 1391CF05

REVISIONS

DATE 2-12-96

SCALE 1" = 100 FEET

DR. WAB CH. BCW

140B-94-11

NOTE: FOR SOIL EROSION CONTROL & PLANTING DETAILS SEE SHEET 140B-94-13

SOIL EROSION IMPACT STATEMENT

1. Alternate actions:
   a. The site plan has included redesign to avoid disturbing steep slopes and wetland/watercourse. Steep slopes and some disturbance of existing steep slopes is unavoidable.
   b. Staging and temporary seeding. The construction sequence has been developed to limit the duration of unstable conditions. All disturbed slopes are to be seeded with annual rye grass and mulched immediately after grading operations. No disturbed slopes are to remain in an unseeded/mulched state in excess of 5 days. Permanent stabilization via sodding and staking or seeding and mulching are to be completed as soon as feasible.
2. Probable adverse environmental effect:
   a. Existing vegetation consisting primarily of meadow grasses, herbaceous plants, shrubs and small trees (dbh 8" and less) will be disturbed. To the extent possible all large trees are to be saved.
   b. Approximately 18,290 s.f. of wetland will be disturbed. This wetland is to be mitigated per the wetland mitigation plan with construction of a higher quality wetland.
   c. There will be some erosion during construction. Properly installed erosion control measures will eliminate all sedimentation into the wetlands or off site. The stormwater retention areas will be enlarged to handle required retention for this development as well as adjacent EPA & Traverwood site. Improvement to this retention area is to include a sedimentation basin. The mitigated wetland will also include sedimentation pools. Properly constructed and maintained, this system of basins and pools will prevent sedimentation from reaching the outflow.
3. Identification of commitment of natural resources:
   a. A few trees will be removed. Any landmark trees will be replaced in accordance with the city regulations.
   b. Stabilized vegetation (ground cover) and topsoil will be disturbed.
   c. Steep slopes will be disturbed, re-established and re-stabilized.
   d. A 18,290 s.f. wetland will be disturbed and mitigated.
4. Analysis and consequences of use:
   a. This site has previously been impacted by adjacent uses and development. Deposits of fill on this site as well as adjacent cut to construct Traverwood Drive have increased the prevalence of existing steep slopes. The storm runoff from Traverwood Drive has increased siltation and erosion into wetland 5 and off-site. The existing soils and slopes have been identified as having potential for erosion. Regrading of the site will reduce the prevalence of steep slopes. All disturbed areas will be stabilized and maintained. Development will ensure redistribution of topsoil in all open areas of the site.
   b. The existing vegetation is typical of disturbed sites, primarily meadow grasses, herbaceous plants and early successional shrubs and trees. A landscape plan including trees, shrubs, and groundcover is proposed. The landscape plan will re-vegetate the site with distribution and spacing of plants to ensure longevity of the vegetation.
   c. Slopes and vegetation in the wetland and wetland buffer at [illegible]
5. Permanent maintenance of soil erosion control

Permanent soil erosion control for this project consists of detention and sedimentation basins, outlet structures, graded and stabilized rip rap areas.

After construction is complete and temporary erosion controls have been removed the permanent controls shall be monitored and maintained as follows:

Monitoring

- All controls are to be monitored yearly in the spring between May 1 and July 1.
- All controls are also to be monitored within 96 hours after a major storm event (over [illegible] rainfall within a 24 hour period.)

Maintenance is to be performed within 4 weeks of monitoring if any of the following is noted:

- Erosion
- Displacement of stone or rip-rap
- Displacement or deterioration of filter fabric
- Removal of siltation in basins when siltation accumulates to over one foot
- Removal of trash and debris
- Significant deterioration of vegetation
- Damage or blockage of structures

SCHEDULE OF WETLAND MITIGATION ACTIVITIES.

February 1996	Submit permit application to City of Ann Arbor
March 1996	Submit permit application to Michigan Department of Environmental Quality (MDEQ).
[illegible] 1996	Install erosion control & natural features protection devices. Start construction of southeast siltation basin subject to city approval.
August 1996	Start construction of temporary siltation basin subject to city & MDEQ approval.
August 1996	Start construction of detention pond subject to city & MDEQ approval.
September 1996	Regrade area of temporary basin to final proposed grade.
Mid-September 1996:	Plant pond area with wetland mitigation species.
Mid-September 1996	Seed pond wetland buffer with wildflower mix.
Mid-September 1996:	Seed or hydro-seed all upland areas.
[illegible] 1996	Remove all [illegible]

WETLAND MONITORING PLAN

A. Action Plan Guidelines

1. Stormwater retention/detention monitoring. The property owner shall have the mitigated wetland used for storm retention/detention inspected yearly for the first 3 years of operation and again after seven years of operation by a qualified wetlands expert. Findings, detailed records, and recommendations for changes in the management plan are to be recorded in writing, and reported to the City of Ann Arbor. The property owner will take prompt action to correct any problems which may develop or be discovered. The City of Ann Arbor must be notified if these actions include structural changes or design changes to the stormwater management system before the action is taken.
2. Baseline data: The developer shall have the wetlands east and west of Traverwood Drive (identified as Wetlands 5 and 6 on the Site Analysis prepared by Atwell-Hicks, Inc. on January 12, 1996) in their natural conditions evaluated for both quality and function by a qualified wetlands expert. At a minimum, the evaluation will include the data listed in 3, below.
3. Data to be evaluated:
   a. Ecological quality. Each wetland will be surveyed for plant and animal species growing and living there. A list including the predominant plant and animal species and some of the less dominant plant species found, along with their wetland indicator status, will be prepared for each wetland surveyed. Downward changes in the populations and sizes of populations represented should be taken as an indicator that ecological change/damage is under way.
   b. Water levels. Each wetland will be observed for its water level during and after storm events, to insure they are not filling above design levels and are draining at rates in accord with design specifications and natural seasonal fluctuations.
4. Continued monitoring. At least once each five years, following the initial monitoring outlined in 1, above, the property owner will have the mitigated wetland being used for storm detention monitored for the data listed in 3, above, by a qualified wetlands expert, and the data obtained compared to the baseline and any subsequent monitoring.
5. Results of monitoring. If, after the completion of 4, above, the wetlands expert reaches the conclusion that the mitigated wetland has deteriorated in either quality or function, he or she shall prepare a specific management plan to improve quality and function.
6. Reporting. The results of each monitoring activity (including baseline data collection) are to be written in report form and sent to the City of Ann Arbor Planning Department. Each report shall record the findings, any specific management plans, and any actions taken by the property owner to correct any problems found. The City must be notified of any structural changes or major design changes contemplated for the stormwater management system before action is taken. The City may wish to comment and must be given reasonable opportunity to do so.
7. Invasive species: during each monitoring inspection each wetland will [illegible]

WETLAND MITIGATION

As a condition of the wetland permit application to impact the drainage channel and 18,340 s.f. of associated wetland west of Traverwood Drive (identified as W-5 on the Site Analysis) 25,292 s.f. of shallow marsh and 24,[illegible]28 s.f. of pond will be created.

The mitigation area will be shallow marsh habitat will be along the northwest and west edge of the proposed pond and dogleg to the southwest.

GOAL
The goal is to mitigate the existing wetland while increasing the sedimentation and siltation function of the wetland. The edge and shallows of the new wetland are to be established with sparse plantings of shrubs and herbs/grasses. Over time it is expected that other wetland species will naturally become established such as sedges, shrubs and trees.

HYDROLOGY:
The hydrology is expected to be more persistent than the existing wetland. The area is to be regularly inundated with an average one foot of water.

PLANT MATERIAL:
The predominant vegetation in the wetland to be altered is buckthorn, hawthorn, rose, raspberry, poison ivy, and jewelweed. Since most of these plants are pioneer species it is anticipated they will reestablish once construction is complete. To encourage more valuable wetland species, plantings of shrubs and herbs/grasses with a wetland status of facultative or higher are proposed.

Any plant species noted on the City of Ann Arbor "List of Botanical Species which are Considered Invasive - Class 1, within the mitigated wetland or buffer areas are to be removed prior to landscape installation and as noted in the monitoring plan.

Plantings shall consist of:

Edge Plantings (Shown on sheet 140B-94-[illegible])

Shrubs (clusters of 7 plants, same species, container or bare root, minimum size 24 inches in height)

CODE	QUANT.		
IV	56	Ilex verticillata	Michigan Holly
SC	28	Sambucus canadensis	Elderberry
ST	42	Spirea tomentosa	Steeplebush
VD	[illegible]4	Viburnum dentatum	Arrowwood

Trees (2.5" caliper, balled & burlap)

CODE	QUANT		
AR	9	Acer rubrum	Red Maple
AS	7	Acer saccharinum	Silver Maple
FP	8	Fraxinus pennsylvanica	Green Ash

Shallow Water Plantings

Herbs/shrubs (clusters of 5 plants, same species, container or bare root, minimum size 8 inches)

Water depth [illegible] (Shown on sheet 140B-94-14)

CODE	QUANT		
SR	30	Sagittaria rigida	Deep water duck potato

Water depth 0-1 foot (Shown on sheet 140B-94-14)

CODE	QUANT		
PV	20	Peltandra virginica	Arrow arum
PP	20	Polygonum punctatum	Marsh smartweed
PC	20	Pontederia cordata	Pickerelweed

Disturbed areas above the permanent water level outside of the 25' buffer are to be seeded or sodded with MDOT Class A seed or sod. Within the 25' buffer a planting of native wildflower mix and native grasses is to be utilized.

Wildflower seed mix shall consist of 6 or more of the following species:

Perennials	
New England Aster	Aster novae-angliae
Beebalm	Monarda fistulosa
Black-eyed Susan	Rudbeckia hirta
False dragonhead	Physostegia virginiana
Joe-pye weed	Eupatorium Maculatum
Blue Lobelia	Lobelia siphilitica
Common Milkweed	Asclepias syriaca
Butterfly Milkweed	Asclepias tuberosa
Spiderwort	Tradescantia ohiensis
Grasses	
Big Bluestem	Andropogon gerardii
Little Bluestem	Andropogon scoparius
Wild Rye	Elymus virginicus

Distribution of seeds (percentage of each species) and application rate shall be per suppliers' recommendation. Seed source from Michigan is preferable. A list of suppliers that specialize in customized native mixes can be obtained from Atwell-Hicks, Inc., or the City of Ann Arbor.

Substitution of plant species must have prior City of Ann Arbor approval.

MAINTENANCE:
The mitigation area is to be inspected regularly for evidence of erosion, nuisance animals, sediment control structure maintenance, litter and debris removal, watering, replanting, etc. Corrections of any problems will be done by the developer until construction activities are finished; maintenance will then be done by the owner in accordance with the wetland monitoring Action Plan Guidelines.

WETLAND MITIGATION CONSTRUCTION NOTES:
1. Prior to any removal of vegetation or earthwork, soil erosion and barrier fencing is to be installed in accordance with approved plans.
2. All vegetation in the area of construction is to be removed.
3. The new wetland area is to be graded in accordance with the plan. Topsoil is to be spread to a minimum 4 inch depth in areas above the permanent water level.
4. If possible, plantings should be planted before water is re-directed to the pond. Plantings shall be installed in accordance with City of Ann Arbor standards and current industry practices.

NOTICE:

3 WORKING DAYS [illegible]

ATWELL-HICKS, INC.
CIVIL ENGINEERING • SURVEYING • PLANNING
ENVIRONMENTAL SERVICES
313-994-4000 • FAX NO. 313-994-1599
ANN ARBOR, MICHIGAN

SECTION 15 · TOWN 2 SOUTH, RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

CLIENT: FIRST MARTIN

TRAVERWOOD DETENTION POND AND SOUTHEAST SILTATION BASIN PLANS
OVERALL PLAN

CAD FILE 1381CP04

6-10-96 PER CITY REV.
5-13-96 PER CITY REV.
3-29-96 PER CITY REV.
REVISIONS

DATE 2/12/1996

SCALE 0 50 100
1" = 100 FEET
DR. WAB CH. BCW

140B-94-12

TRAVERWOOD
STORM WATER MANAGEMENT PLAN

STORMWATER MANAGEMENT PLAN

NARRATIVE

The subject of this plan is the area of existing and proposed development in the general vicinity of Huron Parkway, Traverwood Drive, and Plymouth Road. Existing developments located within the subject watershed include Traverwood Village shopping mall, the Environmental Protection Agency (EPA) testing facility, and the Ironwood and Parkway Meadows multiple residential developments. Proposed development will consist of the First Martin property located adjacent to Traverwood Drive (approximately 67 acres in area) and a parcel of land immediately north of the EPA site and south of Huron Parkway (about 9 acres).

Stormwater detention will be provided for all proposed development and for the existing Traverwood Village site. The majority of this detention will occur in conjunction with a proposed pond that will be located between Traverwood Drive and Leslie Park Golf Course. (This pond was designed and approved with the Traverwood II development, see AHI drawings 1409-94-11 to 1409-94-[illegible].) Smaller amounts will be provided in an existing detention area east of Traverwood Drive mid way between Huron Pkwy. and Plymouth Rd. and in several upland filtration basins. Detailed design of these filtration basins will be provided along with the site plans for specific parcels as they develop.

Stormwater from the Ironwood and Parkwood Meadows developments as well as from the EPA site will pass through the drainage system being proposed, but will not be detained. Ironwood and Parkwood Meadows, located north of Huron Parkway are currently providing for detention on their respective sites and are out-letting their detention areas through a culvert under Huron Parkway and across the First Martin property. The EPA site has never provided detention as it is a government agency and is immune to detention requirements. Stormwater from the EPA site will however be directed through a proposed filtration basin.

DRAINAGE DISTRICT DESCRIPTIONS

Traverwood Northwest District. This area consists of that area south of Huron Parkway, north of the existing wetland/drainage swale, west of Traverwood Drive, and east of Leslie Park Golf Course. This area is currently undeveloped but is proposed as a mixed use of Office Research Light Industrial (ORL) and Medium Density Residential.

Traverwood Southwest District. This area consists of that area south of the existing wetland/drainage swale, north of Willow Tree Apartments, the Islamic Center, and Plymouth Road, west of Traverwood Drive, and east of Leslie Park Golf Course. This area is also undeveloped but is proposed as a mixed use of ORL and Medium Density Residential. Planned developments include the Traverwood I and Traverwood III sites as well as future medium density residential.

Traverwood Southeast District. This area consists of that area south of the existing wetland/drainage swale, north of Plymouth Road, west of the EPA site and the northerly extension of its west line, and east of Traverwood Drive. This area is undeveloped but proposed as ORL.

Traverwood Northeast District. This area consists of that area south of Huron Parkway, north of the existing wetland/drainage swale, west of the northerly extension of the west line of the EPA site, and east of Traverwood Drive.

Traverwood No. 2 District. This area consists of that area south of Huron Parkway, north of the EPA site, west of Traverwood Village, and west of the northerly extension of the west line of the EPA site. This site, currently vacant, is proposed ORL.

Traverwood Village District. This area consists of the existing Traverwood Village shopping center.

EPA District. This area consists of the existing Environmental Protection Agency site.

Parkway Meadows District. This area consists of the existing Parkway Meadows and Ironwood developments.

REQUIRED STORAGE VOLUME

Determination of Overall Run-off Coefficient

District	Area (ac.)	"C"	(Area) ("C")
EPA	14.52	[illegible]	8.86
Traverwood Northwest	22.30	[illegible]	2.09
Traverwood Southwest	23.57	[illegible]	[illegible]
Traverwood Northeast	11.23	[illegible]	6.06
Traverwood Southeast	10.28	[illegible]	8.63
Traverwood #2	15.09	[illegible]	5.50
Traverwood Village	14.5	[illegible]	[illegible] 75
Total	1[illegible].58		65.66

Breakdown of Southwest Area

Development	Area (ac.)	"C"	(Area)("C")
Traverwood #1	4.45	[illegible]	2.05
Traverwood #3	8.80	0.68	5.98
South Residential	10.32	0.45	4.64
Total	23.57		12.67

Overall "C" = [illegible]

Overall "C" = 65.66/111.58 = 0.59

Required Storage Volume

Required storage volume based on the difference in run off volume between the 100 year developed condition and the 10 year undeveloped condition.

(4.3/12)(111.58 or 110.50)(43,560) [illegible]
(1.7/12)(111.58 or 110.20)(43,560) [illegible]

Storage Required [illegible]

DIVISION OF STORAGE

Upland Filtration Basin Storage
Filtration basins will be provided within each respective drainage district to handle the bank full storm event per W.C.D.C. standards.

Storage Required for Each Upland Filtration Basin

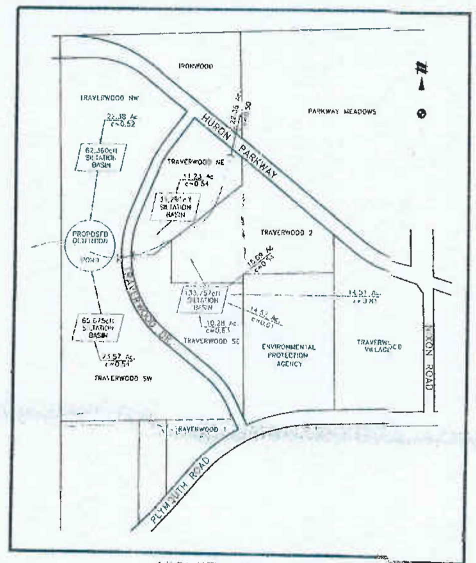
Basin Desc.	Factor	Area	"C"	Storage Req'd (cft)	Proposed Volume
Northwest	5160	22.38	0.52	62,360	6[illegible],300 (future)
Southwest	5160	23.57	0.54	65,675	**65,675
Northeast	5160	11.23	0.54	31,29[illegible]	31,29[illegible] (future)
Southeast*	5160	39.88	0.66	135,8[illegible]	136,093
				Total	295,419 cft

* This basin will also receive run off from the EPA District, the Traverwood No. 2 District, and the Traverwood Village District. This basin will be constructed as a part of the Traverwood 2 Development.

** 37,695 currently proposed, 27,700 future

Storage in Detention Pond [illegible]

SUMMARY:
Total Storage Provided [illegible]
Total Storage Required [illegible]



VICINITY MAP AND
SCHEMATIC MAP OF
DRAINAGE AREA

DEVELOPER:

FIRST MARTIN CORPORATION
115 DEPOT STREET
ANN ARBOR, MI. 48104
(734) 994-5050

ENGINEER:

ATWELL HICKS, INC
540 AVIS DRIVE
ANN ARBOR, MI. 48108
(734) 994-4000

PLANNER:

BECKETT AND RAEDER, INC.
535 WEST WILLIAM ST.
SUITE 101
ANN ARBOR, MI. 48103
(734) 663-2622

LEGEND

- EXIST. CONTOUR
- PROP. CONTOUR
- EXIST. SPOT ELEVATION
- PROP. SPOT ELEVATION
- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. MANHOLE
- PROP. MANHOLE
- EXIST. CATCH BASIN/INLET
- PROP. CATCH BASIN/INLET
- END SECTION/HEAD WALL
- CULVERT
- EXIST. LIGHT POLE
- PROP. LIGHT POLE
- EXIST. UTILITY POLE
- EXIST. CURB AND GUTTER
- CENTERLINE OF DITCH OR EDGE OF WATER
- EXIST. SIGN
- PROP. SIGN
- SECTION CORNER

APPENDIX A

DETERMINATION OF RUN-OFF COEFFICIENTS

Run off coefficients are determined according to the following formula

District	Unimproved Area (ac.)	Impervious Area (ac.)	Total (ac.)	"C"
EPA	6.02	8.50	14.52	0.61
Traverwood NW	11.[illegible]	10.87	22.30	0.54
Traverwood SW	12.12	11.45	23.[illegible]	0.54
Traverwood NE	5.78	5.45	11.23	0.54
Traverwood SE	5.28	4.95	10.23	0.54
Traverwood 2	6.25	8.8[illegible]	15.09	0.61
Traverwood Village	1.87	12.64	14.51	0.81

The impervious and unimproved areas given above were determined by using several sources of information that includes approved site plans, aerial photographs and the concept plan for the Traverwood Development.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG

NOTICE:

[illegible]

ATWELL-HICKS, INC.
CIVIL ENGINEERING • SURVEYING • PLANNING
ENVIRONMENTAL SERVICES
313-994-4000 • FAX NO. 313-994-1599
ANN ARBOR, MICHIGAN

SECTION 15
TOWN 2 SOUTH, RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

CLIENT: FIRST MARTIN

TRAVERWOOD DEVELOPMENT
OVER-ALL STORM WATER MANAGEMENT PLAN
(SHEET 1 OF 2)

CAD FILE 3181CP01

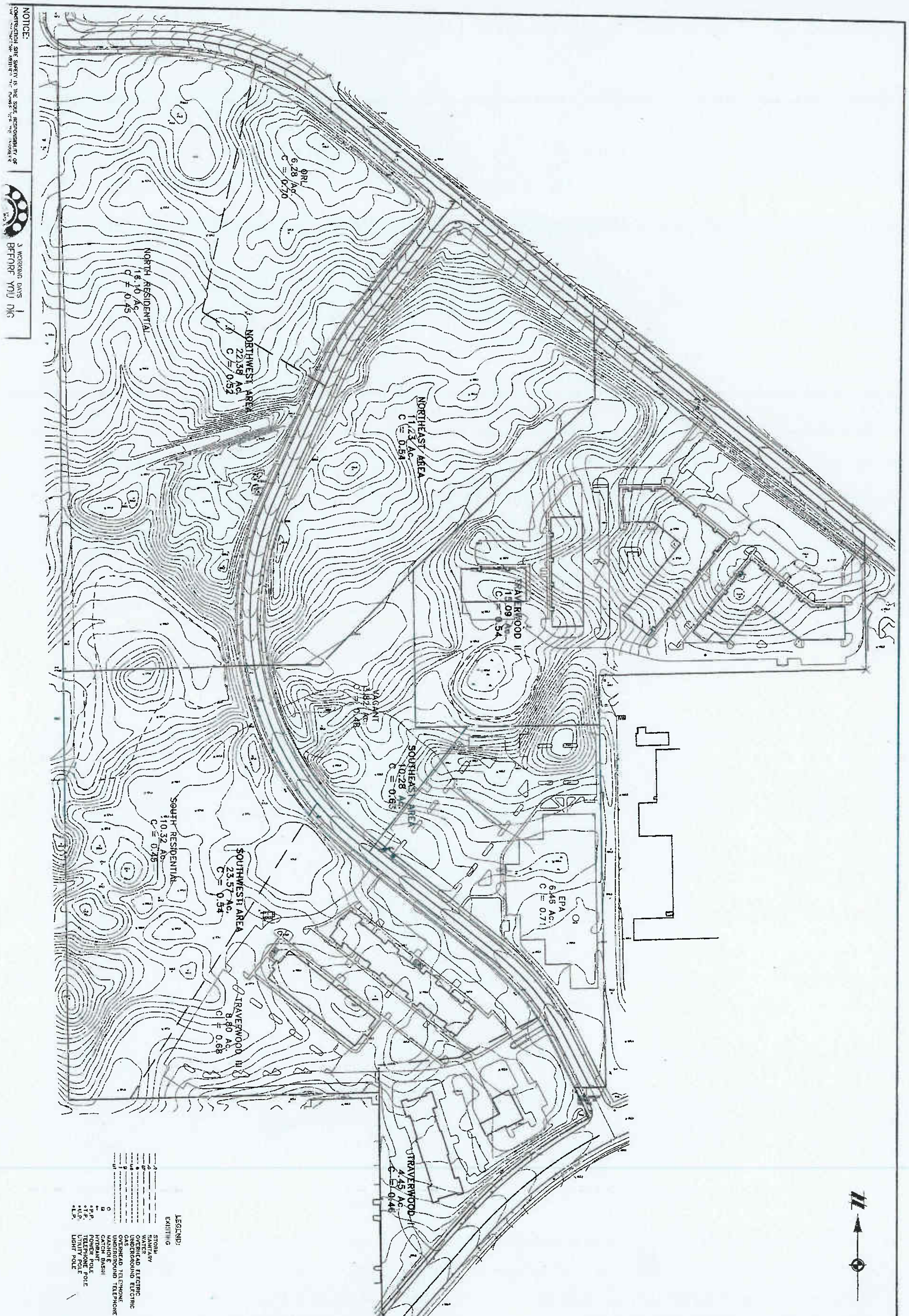
REVISIONS

DATE 2-9-98

SCALE 0 50 100
1" = 100 FEET

1409-102-1

Fri May 01 18:23:04 1998



SCALE 1" = 100 FEET DR. CJP CH. RCW	DATE 2-9-98 REVISIONS	CAD FILE 3181CP02	CLIENT FIRST MARTIN TRAVERWOOD DEVELOPMENT OVER-ALL DEVELOPMENT PLAN (SHEET 2 OF 2)
SECTION 15 TOWN 2 SOUTH, RANGE 6 EAST CITY OF ANN ARBOR WASHTENAW COUNTY, MICHIGAN			

ATWELL-HICKS, INC.
CIVIL ENGINEERING • SURVEYING • PLANNING
ENVIRONMENTAL SERVICES
313-994-4000 • FAX NO. • 313-994-1599
ANN ARBOR, MICHIGAN

1408-102-2

W-6: Drainage channel and associated wet meadow. Connected to W-8 via culvert. State regulated, approximately 88,200 s.f.

W-7: Buttonbush shrub swamp, isolated. Not state regulated, approximately 6,140 s.f.

W-1, W-2, W-3, W-5: Areas no longer in undeveloped state W-1 & W-2 filled as part of approved site plans. W-5 reconfigured for area wide detention area.

The southwest portion of site was field checked for presence of wetland along the valley line and isolated low spots. Such areas did not show signs of inundation or saturation by surface or ground water of a frequency and duration to support wetland vegetation. No predominance of wetland vegetation or other hydrologic indicators were noted.

Statement of Existing Conditions

1. The area of prop. parcel 3 and Mechanical Dynamics is currently vacant & undeveloped. The area of Traverwood II is currently cleared and mass graded, construction of buildings to begin spring-summer 1999. The EPA and Traverwood I site are developed & occupied. The area wide detention site is developed. The areas north of the old rail road bed and the area south of the area wide detention site (including the area of proposed Traverwood III) are vacant & undeveloped.

2. The majority of the vegetation on site is transitional (grasses, herbaceous plants, shrubs and young trees) typical of early succession from field and orchard to pioneer woods.

3. Existing soil types are: Miami loam and limited areas of Brookston loam per Soil Survey of Washtenaw County, USDA.

4. Public utilities are available.

than 6 inch d.b.h. with occasional landmark trees. Predominant species: Elm, Ash, Maple, Hawthorn, Grey Dogwood, and Raspberry. Not a woodland.

T3: Scattered trees, grasses and herbaceous plants. Predominantly Hawthorns with some small Elms. Not a woodland.

T6: Scattered trees and brush. Predominate species: Hawthorn, Elm, Ash, Autumn Olive and Grey Dogwood. Not a woodland.

T8: Mature woods: Large trees, many 30" d.b.h. and greater. Predominate species: Oak, Hickory, and little understory. A woodland.

T9: Young woods: Most trees between 6" and 10" d.b.h. Predominant species: Elm, Walnut, Maple, Ash, and a significant understory vegetation. A woodland.

T10: Oak/Cherry hedgerow

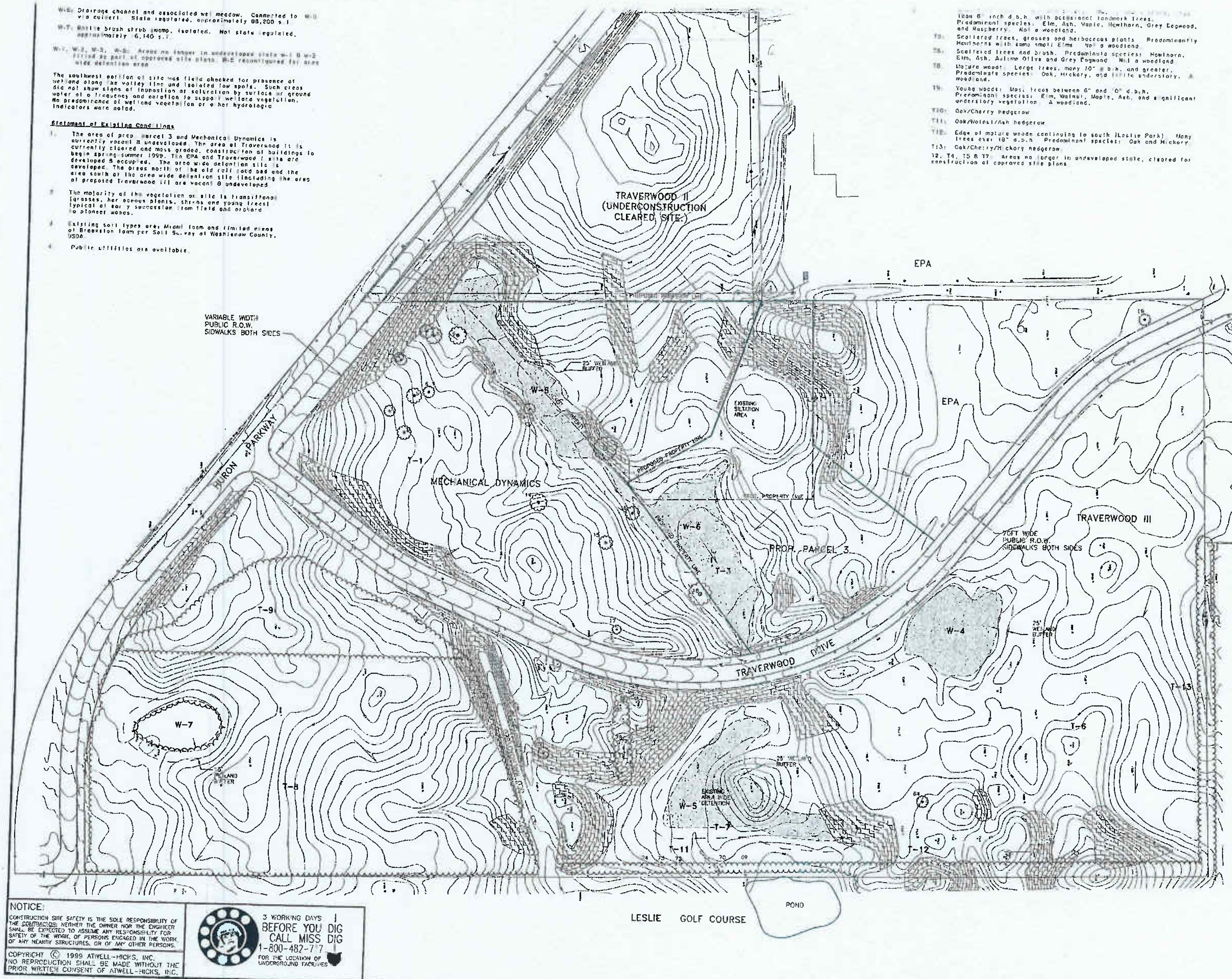
T11: Oak/Walnut/Ash hedgerow

T12: Edge of mature woods continuing to south (Leslie Park). Many trees over 18" d.b.h. Predominant species: Oak and Hickory.

T13: Oak/Cherry/Hickory hedgerow

T2, T4, T5 & T7: Areas no longer in undeveloped state, cleared for construction of approved site plans.

1	ASH	24"
2	OAK	20"
3	OAD	25"
4	ASH	32"
5	ASH	35"
6	ASH	24"
7	HICKORY	28"
8	OAK	34"
9	HICKORY	37"
10	OAK	23"
11	not on site	
12	not on site	
13	OAK	49"
14	ASH	36"
15	HICKORY	30"
16	WALNUT	30"
17	CHERRY	19"
18	OAK	52"
19	MAPLE	24"
20-63 NUMBERS NOT USED		
64	CHERRY	27"
65-68 NUMBERS NOT USED		
68	CHERRY	18"
69	ASH	36"
70	ASH	23"
71	ASH	20"
72	OAK	46"
73	WALNUT	24"
74	OAK	39"
75	OAK	32"
76	OAK	27"
77	OAK	22"
78	OAK	26"
79	CHERRY	21
80	CHERRY	21
81	CHERRY	21
82	WALNUT	24"



LEGEND

EXIST. CONTOUR
EXIST. SPOT ELEVATION
EXIST. STORM SEWER
EXIST. MANHOLE
EXIST. CATCH BASIN/INLET
END SECTION/HEAD WALL
CULVERT
EXIST. SANITARY SEWER
EXIST. CLEANOUT
EXIST. WATERMAIN
EXIST. HYDRANT
EXIST. OVERHEAD ELECTRIC
EXIST. UNDERGROUND ELECTRIC
EXIST. LIGHT POLE
EXIST. UTILITY POLE
GUY WIRE
EXIST. ELECTRIC TRANSFORMER
EXIST. OVERHEAD TELEPHONE
EXIST. UNDERGROUND TELEPHONE
EXIST. GAS
PROP. GAS
EXIST. GAS RISER
EXIST. TELEPHONE RISER
EXIST. CURB AND GUTTER
CENTERLINE OF DITCH OR EDGE OF WATER
EDGE OF WETLAND
EDGE OF WETLAND BUFFER
FENCE
PROPERTY LINE
CENTERLINE
EXIST. SIGN
DRAINAGE DIRECTION
EXIST. DECIDUOUS TREE
LANDMARK TREE LOCATION & CODE
EDGE OF EXISTING WOODS OR HEDGEROW
SLOPES 20% AND GREATER
T-1 VEGETATION AREA CODES
W-1 WETLAND AREA CODES

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
FOR THE LOCATION OF UNDERGROUND FACILITIES

Civil Engineering • Surveying
Planning • Environmental Services
ATWELL-HICKS, INC
Ann Arbor, MI 734 994 4000
Brighton, MI 810 225 6000
Washington Twp., MI 810 786 9800

SECTION 15
TOWN 2 SOUTH, RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

CLIENT: FIRST MARTIN CORPORATION
MECHANICAL DYNAMICS INC.
LOT SPLIT

SITE ANALYSIS FOR LOT SPLIT

CAD FILE 4773SP05
REVISIONS
DATE 6/14/99
SCALE 0 50 100
1" = 100 FEET
DR. AS CH. AS
P.M. T. PASCOE
BOOK
JOB 44773
FILE NO. 140B-106

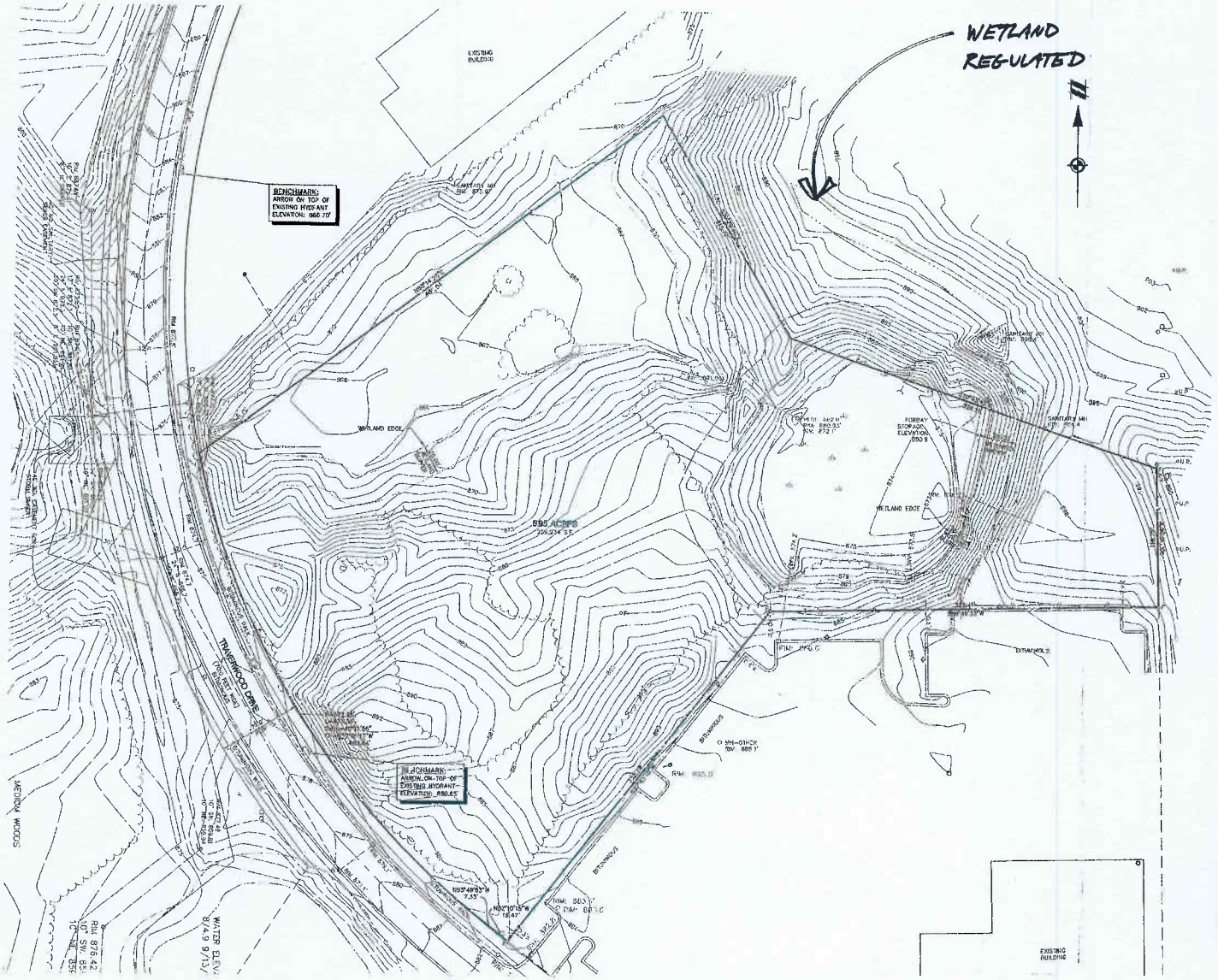
MAPPED IN 2005

WETLAND REGULATED

VICINITY MAP
(NOT TO SCALE)

LEGEND

EXIST. CONTOUR
EXIST. STORM SEWER
EXIST. HANDHOLE
EXIST. CATCH BASIN/INLET
EXIST. MANHOLE
EXIST. SANITARY SEWER
EXIST. WATER MAIN
EXIST. HYDRANT
EXIST. DRIVEWAY OR CURB CUT
EXIST. LIGHT POLE
EXIST. UTILITY POLE
EXIST. GAS RISER
EXIST. CURB AND GUTTER
EDGE OF PAVING
EXISTING TREE
EXIST. SIGN
EXIST. IRON PIPE
EARTH OUTDOORS TREE
EXIST. TREE OR BRUSH LINE



3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
FOR THE LOCATION OF UNDERGROUND FACILITIES

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:

ATWELL-HICKS
Engineering · Surveying · Planning · Environmental · Water/Wastewater
888.850.4100
www.atwell-hicks.com
MICHIGAN ILLINOIS OHIO FLORIDA

SECTION 15
TOWN 2 SOUTH, RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

CLIENT
FIRST MARTIN CORPORATION
TRAVERWOOD PARK I

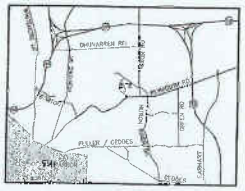
TOPOGRAPHIC SURVEY OF
TRAVERWOOD 3

CAD FILE
45898TS-C5

REVISIONS
DATE
09/02/05

SCALE 0 20 40
1" = 40 FEET

1452-122



VICINITY MAP
(NOT TO SCALE)

LEGEND

EXIST. CONTOUR
EXIST. STORM SEWER
EXIST. MANHOLE
EXIST. CATCH BASIN/INLET
END SECTION
CULVERT
EXIST. SANITARY SEWER
EXIST. WATER MAIN
EXIST. HYDRANT
EXIST. SHUTOFF OR VALVE BOX
EXIST. LIGHT POLE
EXIST. UTILITY POLE
EXIST. GAS MAIN
EXIST. CURB AND GUTTER
EDGE OF WETLAND
EXISTING FENCE
EXIST. SIGN
FOUND IRON PIPE
EXIST. HYDROGRAPH TREE
EXIST. TREE OR BRUSH LINE

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
FOR THE LOCATION OF
UNDERGROUND FACILITIES

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTICE:
CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR; NEITHER THE OWNER NOR THE ENGINEER

ATWELL-HICKS
Engineering · Surveying · Planning · Environmental · Water/Wastewater
888 850 4200
www.atwell-hicks.com
MICHIGAN ILLINOIS OHIO FLORIDA

CLIENT: FIRST MARTIN CORPORATION
TRAVERWOOD PARK

TOPOGRAPHIC SURVEY OF TRAVERWOOD 3

SECTION 15
TOWN 2 SOUTH, RANGE 6 EAST
CITY OF ANN ARBOR
WASHTENAW COUNTY, MICHIGAN

CAD FILE: 45899TS-05

REVISIONS
DATE
09/02/05

SCALE 0 20 40
1" = 40 FEET
DR. MT Ch. RB

1408 109

2300 TRAVERWOOD DRIVE

SECTION 15, T2S, R6E,
CITY OF ANN ARBOR,
WASHTENAW COUNTY, MICHIGAN

ADMINISTRATIVE AMENDMENT

ENGINEER/PLANNER/LANDSCAPE ARCHITECT
MIDWESTERN CONSULTING, LLC
3815 PLAZA DR.
ANN ARBOR, MI 48108
PH. (734) 995-0200
ATTN: EARL OPHOFF

DEVELOPER
FIRST MARTIN CORPORATION
115 DEPOT STREET
ANN ARBOR, MI 48104
PH. (734) 994-5050
ATTN: MIKE MARTIN

REVISED PROJECT DESCRIPTION
The overall project consists of a 133,756 square foot 3-story corporate center of one office building and related parking and drives on a 13.19 acre parcel. The building is to be two stories on the west side that faces the parking lot and three stories on the east side that faces the wetland. The project is to be developed in 3 phases. Anticipated cost of construction is $13,375,000

PHASE 1: THIS PHASE IS COMPLETE
Phase 1 is complete and includes the south 66,878 square foot portion of the building (22,293 square feet per floor). This phase included 294 parking spaces west of the wetland, 26 of which were required for Phase 3. These spaces were built in Phase 1 to provide a staging area for the Phase 3 building addition and to permanently stabilize the area between the parking lot and the wetland.

PHASE 2: PROPOSED PARKING ADMINISTRATIVE AMENDMENT
This submittal is for revising project phasing with an Administrative Amendment to permit the construction of additional parking prior to construction of the future Phase 3 building addition. The building is occupied by MSC Software as an office use. This use has a higher number of employees per square foot than a typical ORL use and requires additional parking. An Administrative Amendment is needed in order to revise the project phasing and revise the layout of the east parking area.
The Administrative Amendment includes:

- Revising phasing to divide "Phase 2 Building and Parking" into "Phase 2 Parking", and "Phase 3 Building Addition"
- Revising existing and proposed parking areas to meet current landscape requirements
- Providing new and replacement interior parking area landscaping and bio-retention islands
- Providing site lighting for the proposed east parking lot

Phase 2 includes 231 parking spaces east of the wetland, a pedestrian walk and a bridge to link the proposed east parking to the existing building. Improvements to the existing west parking area include replacement of a landmark tree mitigation planting, replacement of interior parking area trees, re-grading of the largest island to drain internally for bio-retention, and removal of one parking space on the west edge of the site so that there are a maximum of 20 spaces in a row. Construction of Phase 2 is anticipated to begin as soon as possible in the spring of 2013.

Changes to the drawings include:
Cover sheet: changed project title to 2300 Traverwood Drive, added Administrative Amendment description, revised Project Description, revised Comparison Chart with updated parking space numbers and sizes, added revised dates to sheet index, added photometric plan, revised engineer/planner/landscape architect
Sheet 2 Site Analysis: 2300 Traverwood Dr./MSC Software (formerly "Traverwood NE") is labeled. "Traverwood Two" Phase 1 and 2 are labeled, wetland limits have been verified at the proposed bridge crossing and a new, non-contiguous hillside wetland was added at the west edge of the former "Traverwood Two" Phase 2 area that was previously mass graded for future office buildings and parking. The buildings and parking in that area was not constructed. If they had been constructed, the temporary low spot would have been graded out and drained with new storm sewer. The same thing is true if the parking lot plan that was approved most recently in 2011 were to be constructed. The area of the new wetland is approximately 6,000 square feet. It is not connected to any other wetlands.
Sheet 3 Existing Conditions Plan: this is a new sheet showing the existing building and parking on the western portion of the site.
Sheet 4 Dimensional Site Plan: revised phasing, adjusted west parking area to show maximum 20 spaces in a bay, revised Phase 3 Class C bike racks to hoop type, revised Phase 2 east parking area layout and added steps on the east side of the bridge.
Sheet 5 Grading, Utility and Soil Erosion Control Plan: revised the grading of the largest west parking area island to provide bio-retention, adjusted east parking area grading per revised layout, revised Phase 2 Construction Sequence, added Phase 3 Construction Sequence.
Sheet 6 Storm Sewer Plan and Pedestrian Bridge Profile: revised storm sewer, revised bridge profile and steps.
Sheet 7 Landscape Plan: revised Phase 2 plantings to include replacement of missing or dead Phase 1 plantings and proposed plantings in the east parking area, added description and seed mixes for bio-retention areas and no-mow areas, revised plantings previously labeled "2 cal." to "3 cal."
Sheet 8 Drainage Area Plan: new sheet, calculations for Volume Check for Existing Siltation Basin have been added to show that the required volume is provided.
Sheet 9 Miscellaneous Details: Phase 1 trash area detail is revised to show as-built dimensions, added a construction fence detail (54I).
Sheet 10 Miscellaneous Details: revised Phase 3 class C bike racks to hoop type, revised plan detail for Phase 3 bike parking and added hoop type rack detail, added step detail.
Sheet 11 Miscellaneous Site Notes: added SESC note number 8 regarding wetland permits, updated the construction sequences to reflect revised phasing.
Sheet 12 Alternative Plans: no changes
Sheet 13 Street View Massing: no changes
Sheet 14 Site Lighting Photometric Plan: new sheet
Sheet 15 Traverwood Over-all Storm Water Management Plan (For reference only)

PHASE 3: FUTURE BUILDING ADDITION
Phase 3 is a 66,878 square foot addition to the building. Like the Phase 1 south portion of the building, the addition is 2 stories on the west and 3 stories on the east, with 22,293 square feet per floor. Total floor area will be 133,756 square feet. Parking will total 524 spaces. Phase 3 will begin when the market dictates.

COMMUNITY ANALYSIS

IMPACT ON SCHOOLS IS ANTICIPATED TO BE MINIMAL.

THE PROPOSED USE IS CONSISTENT WITH THE SURROUNDING USES AND CONSISTENT WITH AREA WIDE PLANNING.

THE ADJACENT USES HAVE A POSITIVE IMPACT ON THE PROPOSED USE. THE CLOSE PROXIMITY OF TRAVER VILLAGE SHOPPING CENTER AND LESLIE PARK IS BENEFICIAL.

PROPOSED DEVELOPMENT WILL MEET ALL LOCAL, STATE AND FEDERAL STANDARDS FOR AIR AND WATER QUALITY. BEST MANAGEMENT PRACTICES WILL BE EMPLOYED DURING CONSTRUCTION AND ON A PERMANENT BASIS FOR WATER QUALITY.

THE SITE IS PART OF AN OLD HOMESTEAD (NO LONGER STANDING ON ADJACENT SITE) AND FARM. THERE ARE NO STRUCTURES ON THE SITE. IMPACT ON HISTORIC SITES OR STRUCTURES IS NOT ANTICIPATED.

LEGAL DESCRIPTION

COMMENCING AT THE SOUTH 1/4 CORNER OF SECTION 15, T2S, R6E, CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN; THENCE N01°10'27"W 1000.01 FEET ALONG THE NORTH-SOUTH 1/4 LINE OF SAID SECTION 15 FOR A PLACE OF BEGINNING; THENCE N71°15'31"W 325.00 FEET; THENCE N30°29'46"W 215.77 FEET; THENCE S53°14'25"W 482.04 FEET; THENCE THE FOLLOWING FOUR COURSES ALONG THE EASTERLY RIGHT-OF-WAY LINE OF TRAVERWOOD DRIVE (70 FEET WIDE): 418.79 FEET ALONG THE ARC OF A 672.98 FOOT RADIUS NON-TANGENTIAL CIRCULAR CURVE TO THE RIGHT, WITH A CENTRAL ANGLE OF 35°39'18", HAVING A CHORD WHICH BEARS N05°57'27"E 412.06 FEET, N23°47'10"E 347.36 FEET, 129.14 FEET ALONG THE ARC OF A 538.00 FOOT RADIUS CIRCULAR CURVE TO THE RIGHT, WITH A CENTRAL ANGLE OF 13°45'10", HAVING A CHORD WHICH BEARS N30°39'46"E 128.83 FEET, AND N37°32'08"E 307.25 FEET; THENCE S51°49'25"E 446.69 FEET ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF HURON PARKWAY (VARIABLE WIDTH); THENCE S01°10'27"E 808.10 FEET TO THE PLACE OF BEGINNING, BEING A PART OF THE SOUTHWEST 1/4 OF SAID SECTION 15, CONTAINING 13.19 ACRES OF LAND, MORE OR LESS, BEING SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD, IF ANY.

HISTORY OF THE SITE:

THE SITE WAS PART OF A FARMSTEAD WITH HOUSE, BARNS AND SILO LOCATED NEAR PLYMOUTH ROAD. THE LAND NORTH AND EAST OF THE WETLAND WAS LIKELY USED FOR CROPS AND GRAZING. THE LAND SOUTH OF THE WETLAND WAS ORCHARD.

IN 1989-91 TRAVER VILLAGE TO THE EAST WAS BUILT. IN 1991-92 HURON PARKWAY EXTENSION AND TRAVERWOOD DRIVE WERE CONSTRUCTED.

IN THE MID 1990'S DETROIT EDISON CONSIDERED RELOCATING THE ANN ARBOR SERVICE CENTER EAST OF THE WETLAND. PLANS WERE NEVER FINALIZED.

IN 1997 SITE PLANS FOR TRAVERWOOD II EAST OF THE WETLAND WERE APPROVED. MASS GRADING AND UTILITY CONSTRUCTION BEGAN IN 1998. CONSTRUCTION OF BUILDINGS 3 & 4 HAS BEGUN. IN JUNE 1999 A REVISED SITE PLAN FOR TRAVERWOOD II AND A LOT SPLIT WAS SUBMITTED IN ASSOCIATION WITH THE MECHANICAL DYNAMICS SITE PLAN. THESE REVISIONS ELIMINATE BUILDINGS 1 AND 2 FROM TRAVERWOOD II (APPROXIMATELY THE WEST THIRD OF THE SITE) AND ADD THE LAND TO THE MECHANICAL DYNAMICS SITE FOR PHASE 2 PARKING LOT.

SANITARY FLOW CALCULATIONS (PHASE 3)

PROPOSED FLOW:
66,878 SQ FT OF NON-MEDICAL OFFICE USE
AVERAGE PER CAPITA SEWAGE VOLUME=0.06 GALLONS PER DAY PER SQ FT.
DRY WEATHER AVERAGE DAILY FLOW = 0.06 GALLONS PER DAY PER SQ FT X 66,878 SFT=4013 GALLONS PER DAY
PEAK FLOW= 4XAVERAGE DAILY FLOWX1.2= 4X4013X1.2 = 19,263 GPD

DISCONNECTS:
1 FOOTING DRAIN = 4 GPM
19,263 GPD = 13.38 GPM
13.38 GPM/4 GPM/FOOTING DRAIN= 4 FOOTING DRAINS

SOLID WASTE:

PICK-UP WILL BE PUBLIC.

2300 TRAVERWOOD DRIVE
COMPARISON CHART

		REQUIRED/ PERMITTED	PHASE 1 EXISTING	PHASE 2	PHASE 3
ZONING		ORL	ORL	ORL	ORL
AREA		60,000 SF MIN	574,483 SF	574,483 SF	574,483 SF
			13.19 AC	13.19 AC	13.19 AC
LOT WIDTH		150' MIN.	444'	444'	444'
SETBACKS					
BUILDING					
	HURON PKWY	25' - 50'	548'	548'	317'
	TRAVERWOOD DR	25' - 50'	124'	124'	124'
	SIDE	NONE	416'	20'	296'
	REAR	NONE	77'	20'	77'
PARKING					
	HURON PKWY	25' MIN.	75'	75'	75'
	TRAVERWOOD DR	25' MIN.	75'	75'	75'
	SIDE (SOUTH)	—	88'	88'	20'
	REAR (EAST)		196'	196'	20'
BUILDINGS					
	NUMBER		1	0	ADDITION
	HEIGHT	NONE	40'	0	40'
	STORIES	NONE	2 WEST	0	2 WEST
			3 EAST		3 EAST
FLOOR AREA					
	GROUND FLOOR		22,293 SF	0	22,292 SF
	TOTAL GROUND FLOOR				44,585 SF
	TOTAL FLOOR AREA	430,862 SF MAX	66,878 SF	0	133,756 SF
	RATIO	75% MAX	11.64%	0.00%	23.28%
PARKING					
	BARRIER FREE	9	11	0	0
	BARRIER FREE VAN	2	3	0	0
	REGULAR	366 MIN	280	231*	0
	COMPACT	30% MAX	0	0	0
	PHASE 1 TOTALS	261-268***	294****		
	PHASE 2			231	
	TOTAL VEHICULAR PKG.	402-535***			524**
	BICYCLE	45 (14A, 31C)	26 (8A, 18C)	0	22 (6A, 16 C)
	TOTAL BICYCLE SPACES				46 (14A, 32C)

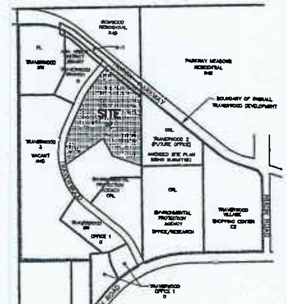
*A Parking Variance is requested to permit additional parking prior to construction of the future building addition. The building is occupied by a software developer. That use has a larger number of employees than a typical ORL use and requires additional parking.
** Total number of spaces reflects the removal of one space from the west parking area in Phase 2
*** Assuming 100 percent office use
****Includes 26 spaces for the future building addition

GENERAL NOTES:

PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, "ALL SIDEWALKS ARE TO BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME." PRIOR TO ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.

"THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS WHICH ARE INCLUDED BY REFERENCE."

"THE OMISSION OF ANY STANDARD DETAILS DOES NOT RELIEVE THE CONTRACTORS OF THEIR OBLIGATION TO CONSTRUCT ITEMS IN COMPLETE ACCORDANCE WITH PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS."



VICINITY MAP
NOT TO SCALE

SHEET INDEX

2300 TRAVERWOOD DR.

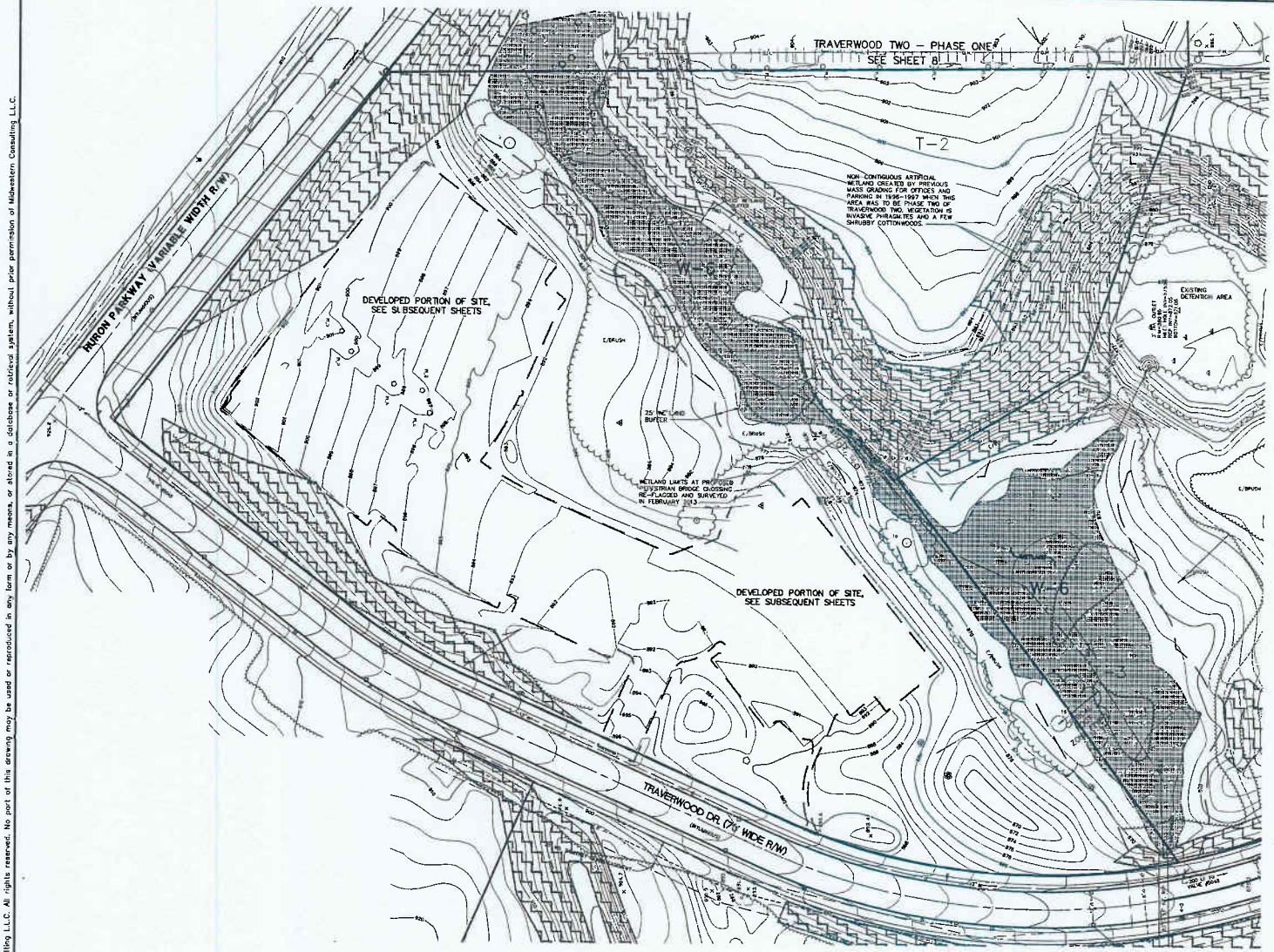
JOB No. 12174
REVISIONS: REV. DATE
DATE: 4-22-13
SHEET 1 OF 15
CADD: WAJ
ENG: JAF
PM: EFO
TECH:

1

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects
3815 Plaza Drive
Ann Arbor, Michigan 48108
Phone: 734.995.0200
Fax 734.995.0599

RELEASED FOR:	DATE
OWNER'S REVIEW	2/4/13
ADMINISTRATIVE AMENDMENT	4/22/13

JAMES A. FISHER
P.E. # 24260



SCALE: 1" = 50'

0 50 100 150

LEGEND

- EXIST. CONTOUR
- EXIST. SPOT ELEVATION
- EXIST. STORM SEWER
- EXIST. MANHOLE
- EXIST. CATCH BASIN/INLET
- END SECTION/HEAD WALL
- CULVERT
- EXIST. SANITARY SEWER
- EXIST. CLEANOUT
- EXIST. WATERMAIN
- EXIST. HYDRANT
- EXIST. OVERHEAD ELECTRIC
- EXIST. UNDERGROUND ELECTRIC
- EXIST. LIGHT POLE
- EXIST. UTILITY POLE
- GUY WIRE
- EXIST. ELECTRIC TRANSFORMER
- EXIST. OVERHEAD TELEPHONE
- EXIST. UNDERGROUND TELEPHONE
- EXIST. GAS
- PROP. GAS
- EXIST. GAS RISER
- EXIST. TELEPHONE RISER
- EXIST. CURB AND GUTTER
- CENTERLINE OF DITCH OR EDGE OF WATER
- EDGE OF WETLAND
- EDGE OF WETLAND BUFFER
- FENCE
- PROPERTY LINE
- CENTERLINE
- EXIST. SIGN
- DRAINAGE DIRECTION
- EXIST. DECIDUOUS TREE
- LANDMARK TREE LOCATION & CODE
- EDGE OF EXISTING WOODS OR HEDGEROW
- SLOPES 20% AND GREATER
- T-3 VEGETATION AREA CODES
- W-1 WETLAND AREA CODES
- EXISTING IMPROVEMENTS BOUNDARY (BUILT)

Steep Slopes

Steep slopes are are all manmade slopes resultant of adjacent development and construction of Traverwood Drive and Huron Parkway.

Endangered Species

There is no documentation of endangered species on the site or in the immediate area.

Floodplain

The site is not within the 100-year floodplain.

Site Drainage

The site drains to the drainage channel and wetland. Storm water from Huron Parkway, Ironwood Residential development and Parkway Meadows also drains to the drainage channel.

Wetland

W-6: Drainage channel and associated wet meadow. Connected to W-5 via culvert. State regulated, approximately 88,200 s.f. (Wetlands W-1 through W-5 and W-7 are on other portions of Traverwood Development). Wetland limits at the proposed pedestrian bridge crossing were re-flagged and surveyed in February 2013.

Statement of Existing Conditions

1. The land north and east of the wetland is currently vacant and undeveloped. The land south and west of the wetland has been developed as shown on subsequent sheets as phase 1.
2. The vegetation in the undeveloped portion is transitional (grasses, herbaceous plants, shrubs and young trees) typical of early succession from field and orchard to pioneer woods. The area south and west of the wetland is lawn and landscaping with occational landmark trees, brush and tree saplings (3"-5" dbh) along the edge of the wetland.
3. Existing soil types are: Miami loam and limited areas of Brookston loam per Soil Survey of Washtenaw County, USDA.
4. Public utilities are provided.

Trees/Woodlands

T2: Area cleared to buffer for previously approved Traverwood II. Buffer mixture of brush and tree saplings (3"-5" dbh.), and one landmark tree, average woodland density 2 to 3 square feet per 1/2 acre.

T3: Scattered trees, grasses and herbaceous plants. Predominantly Hawthorns with some small Elms. Not a woodland.

LANDMARK TREE LIST

			CONDITION
9	HICKORY	37"	GOOD
10	OAK	31"	GOOD
13	OAK	49"	GOOD
16	WALNUT	35"	GOOD
17	CHERRY	19"	GOOD
18	OAK	52"	GOOD

811 Know what's below. Call before you dig.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

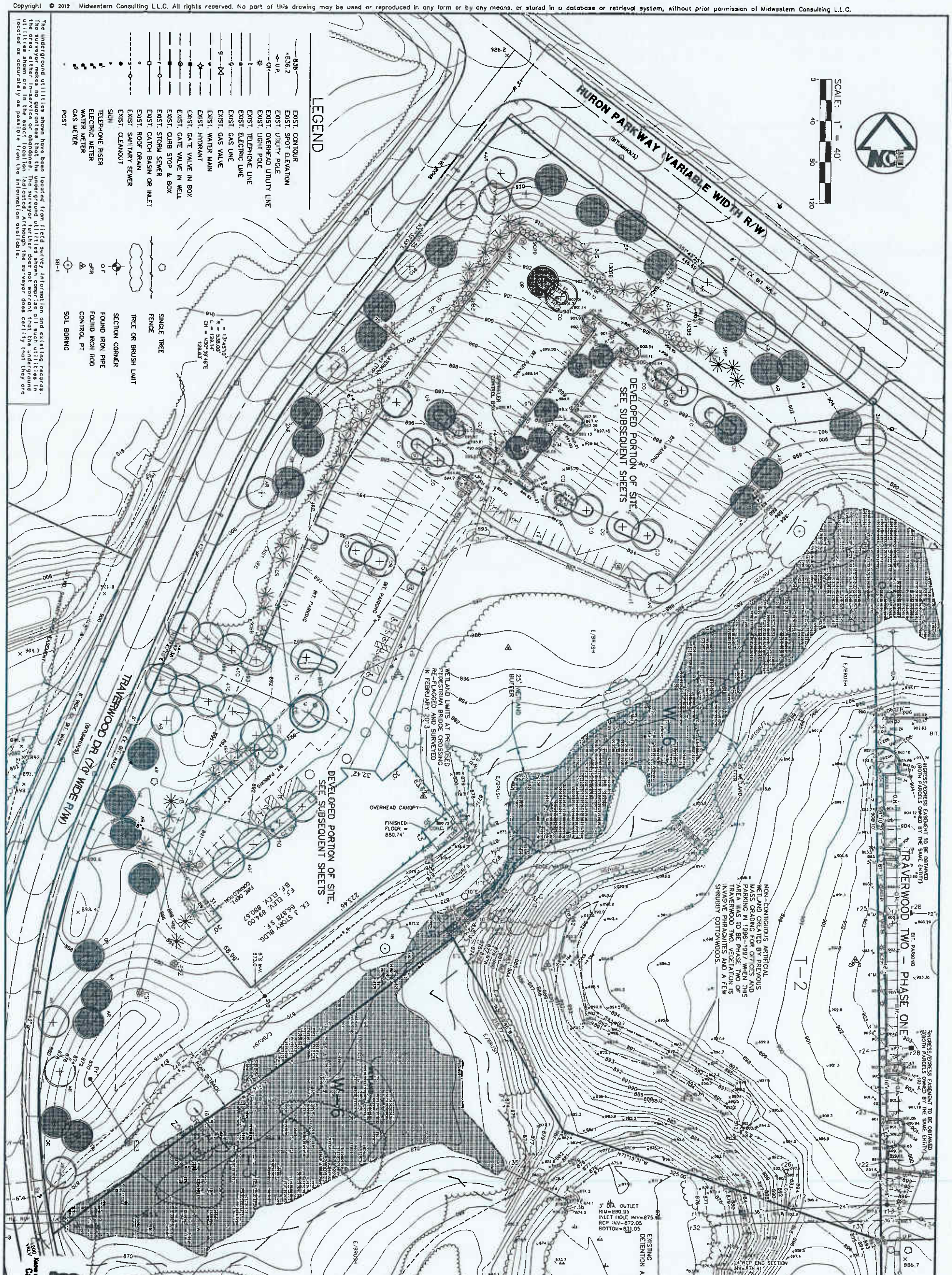
CLIENT
FIRST MARTIN CORPORATION
115 DEPOT STREET
ANN ARBOR, MI. 48104
ATTN:
(734) 994-5050

MIDWESTERN CONSULTING
Civil, Environmental and Transportation Engineers
Planners, Surveyors
Landscape Architects
3815 Plaza Drive
Ann Arbor, Michigan 48108
Phone: 734.995.0200
Fax 734.995.0599

2300 TRAVERWOOD DR.
THIRD ADMINISTRATIVE AMENDMENT
SITE ANALYSIS

2

JOB No. 12174
REVISIONS:
DATE: 4-25-13
SHEET 2 OF 15
CADD: RNJ
REV. DATE



JOB No. 12174	DATE: 4-22-13		2300 TRAVERWOOD DR.	CLIENT	MIDWESTERN CONSULTING
REVISIONS: REV. DATE	SHEET 3 OF 15	3	THIRD ADMINISTRATIVE AMENDMENT	FIRST MARTIN CORPORATION 115 DEPOT STREET ANN ARBOR, MI 48104 ATTN: (734) 994-5050	Civil, Environmental and Transportation Engineers Planners, Surveyors Landscape Architects 3815 Plaza Drive Ann Arbor, Michigan 48108 Phone: 734.995.0200 Fax 734.995.0599
	CADD: WAJ ENG: JAF PM: EFO		EXISTING CONDITIONS PLAN		