



## CITY of NOVI CITY COUNCIL

Agenda Item 1  
July 7, 2014

**SUBJECT:** Consideration of a request from Mirage Development, LLC for a variance from the following ordinance sections: 1) Subdivision Ordinance Section 4.05(A) requiring that pedestrian safety paths be constructed along both sides of local streets (a sidewalk on only the north side is proposed), 2) Section 11-94(c) to provide less than three feet of cover for storm sewer pipe, 3) Section 11-194(a)(7) for exceeding the 800 foot maximum length of a cul-de-sac (975 feet is proposed), 4) Section 11-194(a)(19) for the lack of a secondary or emergency access; as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006).

**SUBMITTING DEPARTMENT:** Department of Public Services, Engineering Division <sup>RH</sup> <sub>RLC</sub>

**CITY MANAGER APPROVAL:**

### BACKGROUND INFORMATION:

Mirage Development, LLC, is the developer of Orchard Hills North, a single-family residential development located south of Ten Mile Road and west of Meadowbrook Road. The site plan was approved by the Planning Commission on April 23, 2014, subject to several variances, four of which require approval from the City Council. A similar version of the site plan was previously approved by the Planning Commission in 2005 that required three variances from City Council. Two of the variances (Section 4.05A and 11-194(a)(7)) were approved by City Council in November 2005 (see attached minutes). A third variance from Section 11-278(b)(5) for the location of the pathway relative to the future right-of-way was denied; however, this ordinance section was changed in 2006 to allow administrative approval of variances in specific cases.

This item was previously considered on the June 2, 2014 agenda and City Council voted to postpone consideration of this item until a future date to give the applicant an opportunity to work with staff to evaluate the secondary access options. The packet and minutes from the June 2, 2014 meeting are attached for reference.

The four variances for City Council consideration are as follows:

- Subdivision Ordinance Section 4.05(A) requires that pedestrian safety paths be constructed along both sides of local streets. The developer is proposing to install a pedestrian safety path on only the north side of the street.
- Section 11-194(c) requires that all storm sewer have three feet of cover (e.g., burial depth) or more.
- Section 11-194(a)(7) allows a maximum cul-de-sac length of 800 feet for this site, however, the applicant has proposed a cul-de-sac length of 975 feet.
- Section 11-194(a)(19) requires a secondary (emergency) access where only one access point is provided and in the case of residential development, each unit must be within 800 feet of street distance from the nearest point of external access.

The recommendations from staff regarding the first three variance requests remain unchanged since June 2 and are reiterated below:

*Depth of storm sewer.* There were no concerns with the variance relating to the depth of storm sewer and staff recommends approval of the variance from Section 11-94(c) because of the fixed elevation of the outlet to the existing wetland and the practical difficulty of placing additional fill on the remainder of the parcel.

*Sidewalk:* There were also no concerns with the variance related to the construction of the sidewalk on one side of the street and staff recommends approval of the variance from Section 4.05(a) of the Subdivision Ordinance.

*Cul-de-sac:* Regarding the variance requests related to the length of the proposed cul-de-sac, there were no concerns expressed in the reviews by Community Development, the Landscape Architect, DPS Engineering, or DPS Field Operations staff. The Fire Department expressed concern about the length of the cul-de-sac primarily due to the lack of a secondary access (see attached Fire review).

Staff from Fire and Engineering met with the developer on June 4, 2014 following the action by City Council to postpone consideration of the variance requests, specifically the variance regarding the lack of secondary emergency access. Several ideas for providing the secondary access were discussed, but the developer continued to assert that each alternative was infeasible. Staff suggested that the applicant document the alternatives and provide the rationale behind the assertions that they are not feasible.

The applicant submitted the attached letter and plans dated June 16, 2014 in response to the meeting. Staff also received the attached cost estimate for the secondary access drive without a letter attached. Staff reviewed the variance application again using the additional information provided by the applicant since the June 2 City Council meeting using the criteria in Section 11-10 of the ordinance (attached).

The additional submittals provided by the applicant primarily provide information regarding the additional cost to provide the secondary emergency access in terms of retaining wall construction to overcome the grades and the potential costs associated with the modification of architectural plans resulting from a smaller building footprint on lot 11 (see additional discussion in Beth Saarela's June 30, 2014 letter). The City Attorney notes that the applicant has focused on how the alternative proposal would cause a practical difficulty in constructing the subdivision, but the applicant has provided little additional information relating to the remaining two variance standards pertaining to the performance and safety in granting the variance. The attached memo from Director Johnson notes that Fire still has concerns about safety as it relates to the absence of a secondary emergency access for the development because the natural and man-made features surrounding the site would make it difficult to access the site should the main entrance (i.e., the only entrance) become blocked. Engineering shares the concerns from Fire regarding the public health, safety and welfare should an emergency situation occur and believes that the applicant has not provided enough information to demonstrate that the variance should be granted using the criteria in Section 11-10.

Secondary access: Fire and DPS Engineering are continuing to **recommend denial** of the variances from Section 11-194(a)(19) for the following reasons:

- The proposed design deviates substantially from the performance that would be obtained by strict enforcement of the ordinance because no alternative access was proposed and the existing manmade and natural features limit secondary means of access to the proposed homes.
- The granting of the variance could be detrimental to public health, safety and welfare because access to the proposed homes by emergency personnel is limited by the proposed development, as wells as natural and manmade features.

The application package, asserted justifications and supplementary submittal from the applicant along with the relevant ordinance sections are attached.

**RECOMMENDED ACTIONS:**

**Approval** of a request from Mirage Development, LLC for a variance from the following ordinance sections: 1) Subdivision Ordinance Section 4.05(A) requiring that pedestrian safety paths be constructed along both sides of local streets (a sidewalk on only the north side is proposed), 2) Section 11-94(c) to provide less than three feet of cover for storm sewer pipe as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006).

**Approval** of a request from Mirage Development, LLC for a variance from Section 11-194(a)(7) for exceeding the 800 foot maximum length of a cul-de-sac (975 feet is proposed provided that an emergency access is proposed that meets the ordinance requirements as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006).

**Denial** of a request from Mirage Development, LLC for a variance from Section 11-194(a)(19) as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006) for the lack of a secondary or emergency access for the following reasons:

- The proposed design deviates substantially from the performance that would be obtained by strict enforcement of the ordinance because no alternative access was proposed and the existing manmade and natural features limit secondary means of access by public safety vehicles and personnel to the proposed homes.
- The granting of the variance could be detrimental to public health, safety and welfare because access to the proposed homes by emergency personnel is limited by the proposed development, as wells as natural and manmade features.

|                        | 1 | 2 | Y | N |
|------------------------|---|---|---|---|
| Mayor Gatt             |   |   |   |   |
| Mayor Pro Tem Staudt   |   |   |   |   |
| Council Member Casey   |   |   |   |   |
| Council Member Fischer |   |   |   |   |

|                        | 1 | 2 | Y | N |
|------------------------|---|---|---|---|
| Council Member Markham |   |   |   |   |
| Council Member Mutch   |   |   |   |   |
| Council Member Wrobel  |   |   |   |   |



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June 30, 2014

Adam Wayne, Construction Engineer  
City of Novi  
45175 Ten Mile Road  
Novi, Michigan 48375

**RE: Orchard Hills North  
Variances from Design and Construction Standards**

Dear Mr. Wayne:

Our office has reviewed the additional attached information provided by the applicant with respect to the variance requested from **Section 11-194(a)(19)**. Section 11-194(a)(19) prohibits the construction of residential units more than 800-feet from an external access.

The additional information discusses alternatives to the proposed plan that would allow the developer to create a secondary emergency access connection for the subdivision. The applicant indicates that the construction of the secondary emergency access would require construction of a retaining wall and/or modification of the construction of the detention basin and other site features. The applicant indicates that the construction of the retaining wall would result in the need to reduce the size of lot 11, resulting in a modification to the architectural plans for the home. All of the lots could also be proportionately reduced to accommodate the retaining wall. However, the applicant argues that all of the architectural plans would then need to be revised. Furthermore, the applicant indicates that in order to eliminate the sedimentation basin, bio swales would be required and that this alternative would not be desirable to lot owners and potentially would not be maintained properly. The applicant indicates, additionally, that the adjacent property owners to the west and south will not grant an easement.

The focus of the additional information provided is on the additional cost to the project for either the easement (which the applicant has declined to offer any payment for) or the construction of a retaining wall, and the potential increase in cost due to the modification of architectural plans for lot 11 as a result of the smaller lot size.

The cost of compliance with an ordinance requirement is only relevant to the extent that it renders the property effectively unusable for the purposes for which it is zoned. *Puritan-Greenfield Imp. Ass'n v. Leo*, 7 Mich.App. 659, 153 N.W.2d 162 (1967). It is not clear that the need to re-design the architectural plan for lot 11 would render the overall site unusable for the proposed subdivision. An alternative architectural style could be considered. Furthermore, the applicant has not stated that the cost of the retaining wall would render the property unusable and deprive it of all economic value.

Although the applicant has focused on how the alternative proposal would cause a "practical difficulty" in constructing the subdivision, the applicant has provided little new or additional information relating to the remaining two variance standards pertaining to the performance and safety of the alternative plan:

- (2) The alternative proposed by the applicant shall be adequate for the intended use and shall not substantially deviate from the performance that would be obtained by strict enforcement of the standards; and
- (3) The granting of the variance will not be detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property.

In order to satisfy the above standards, City Council must find that the proposal to construct the subdivision without a secondary access in conjunction with the construction of a longer cul-de-sac length would perform nearly as well as having a secondary access, and that the proposal would be neither detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property. Although applicant has provided some comment on these additional standards, input from the City's Public Safety Department would be particularly relevant with respect to emergency accessibility of the site.

If you have any questions regarding the above, please call me.

Very truly yours,

JOHNSON, ROSATI, SCHULTZ & JOPPICH, P.C.



Elizabeth Kudla Saarela

EKS

Enclosures

C: Maryanne Cornelius, Clerk (w/Enclosures)  
Charles Boulard, Community Development Director (w/Enclosures)  
Matt Wiktorowski, Field Operations (w/Enclosures)  
Brian Coburn, Engineering Manager (w/Enclosures)  
David Beschke, Landscape Architect (w/Enclosures)  
Jeff Johnson, Fire Department (w/Enclosures)  
Thomas R. Schultz, Esquire (w/Enclosures)

# MEMORANDUM



**TO:** ADAM M. WAYNE, E.I.T. CONSTRUCTION ENGINEER  
**FROM:** JEFFERY R. JOHNSON, DIRECTOR OF FIRE/EMS OPERATIONS *JRJ*  
**SUBJECT:** ORCHARD HILLS NORTH VARIANCE REQUEST  
**DATE:** JUNE 26, 2014

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I have reviewed the Orchard Hills North Variance Request- Supplemental Information and letter submitted by Mr. G. R. Hirth, P.E. from Warner, Cantrell & Padmos, Inc. on behalf of Mr. Claudio Rossi from Mirage Development, LLC. Mr. Hirth details six bullet points that were options discussed at our June 4<sup>th</sup> meeting held at the Novi Public Service building. Mr. Hirth and Rossi meet with Brian Corburn, Adam Wayne and I. Several options were discussed to help conform to the ordinance.

In Mr. Hirth's letter and drawings on June 16<sup>th</sup> provided an explanation to demonstrate that each option from the June 4<sup>th</sup> meeting had been explored and exhausted. The financial and practical impact was stated as well. Mr. Hirth pointed out three more bullet items to explain the exceptional and practical difficulty in providing the secondary access. That the project has a reduced number of 12 units proposed, roughly 50% less than what is allow by zoning and a final statement regarding the variance would not be detrimental to the public health, safety, or welfare. I spoke to Mr. Rossi on June 25<sup>th</sup> as he wanted to make sure we had all the information to review. He also expressed safety concerns about the 7 foot grade of the retention wall should the secondary egress be built.

In as much as Mirage Development appears to have exhausted all options and has demonstrated a practical and financial impact, they are still requesting a variance to the length of the cul-de-sac and the secondary access. Should the variance be granted without the required secondary access, it would make the site difficult to access should the main entrance become blocked. This is due to the surrounding natural and man-made features causing concern for the public health, safety and welfare should an emergency situation occur.

Unfortunately, I cannot recommend or support the request as it does not meet the ordinance.

c: Rob Hayes, Director of Public Services/City Engineer  
Brian Coburn, Engineering Manager  
Beth Saarela, City Attorney

2. Consideration of a request from Mirage Development, LLC for a variance from the following ordinance sections: 1) Subdivision Ordinance Section 4.05(A) requiring that pedestrian safety paths be constructed along both sides of local streets (a sidewalk on only the north side is proposed), 2) Section 11-94(c) to provide less than three feet of cover for storm sewer pipe, 3) Section 11-194(a)(7) for exceeding the 800 foot maximum length of a cul-de-sac (975 feet is proposed), 4) Section 11-194(a)(19) for the lack of a secondary or emergency access; as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006).

Mr. Cardenas said this request is for a new development located on Ten Mile just north of Orchard Hills Elementary School. The City Administration supports three of the four requests.

Mayor Pro Tem Staudt asked the developer, Claudio Rossi, what their alternatives would be if they denied the cul-de-sac length. Mr. Rossi said there wasn't an alternative due to the constraints to the site. He didn't think they could have any access through the school. Any access would go through a playground and the schools probably wouldn't allow that. They have tried in the past for another easement and were denied. Rick Hirth, Warner, Cantrell, & Padmos noted two issues, length of cul-de-sac and the lack of a secondary access is, on the face, difficult to understand if taking a 800 foot long cul-de-sac with houses on both side of the road, but our project only involves twelve lots. Under the RA zoning designation the ordinance allows 1,500 foot length cul-de-sac without secondary access and those lots would yield the same amount of lots on cul-de-sac. The length of cul-de-sac and the access to the homes is generally limited to 20-24 lots and they have 12 lots. The difficulty they have is that Ten Mile Road is 13-14 feet below the level where our cul-de-sac begins. The grades are very steep along there. It is deceiving because of a gravel access road used by the school now isn't bad but we have to build a storm water sediment basin in the middle of that road. It will be 8-10 feet below Ten Mile Road. So getting from the west property line down to the bottom of the basin is too much slope. It is their opinion that when they were granted the variance on another project and felt there was a common sense approach, that the secondary access would be required. If they did build an emergency road immediately adjacent to the west property line, it would require retaining walls that would have public safety problems. They didn't think the number of units compared to a regular cul-de-sac is about half the amount and would be sufficient justification to not have a secondary access. Mayor Pro Tem Staudt said it was clear they would lose their 11<sup>th</sup> lot on the drawing if it is needed for a cul-de-sac. Mr. Hirth said even if that is the case, they still have the physical problems of the grade and crossroads.

Member Mutch asked City Attorney Schultz when granting a variance on these items how much flexibility Council has and if they are held to what is approved. Mr. Schultz said they have flexibility. Council has the ability to specify a deviation but not with the plan that they want. With a minor deviation, they could grant approval with a change to an ordinance requirement, but not a zoning requirement. If it is significant change, the builder would have the opportunity to come back. Member Mutch asked what steps the builder would have to take before Council. Mr. Schultz said it depends on what it is that you want in order to allow it and if it involves amending a zoning requirement, they have to go through the process again. Council can be flexible if it is an engineering consideration. Member Mutch said the secondary access wasn't addressed in 2005, so there must have been a change since then. He asked Director of Public Services Hayes if he could show Council the site plan indicating where the water main easement is proposed to go. Member Mutch said it is a 20 foot wide secondary access road that would run along the west property line from Ten Mile Road south and asked if there is a way to accomplish an alternative. Mr. Hayes said in concept there is one possible alignment. They have requested from the applicant to provide details to demonstrate there is a practical difficulty, but haven't received any details. Mr. Hayes said he just learned at this Council meeting what the obstacles may be to placing the emergency access at that location. He said the sedimentation basin location is flexible



also. It doesn't have to be at that location. Member Mutch asked how do the grade, slope and the necessity for retaining walls factor into recommending approving or denying the variance. Mr. Hayes said he would have to see how extreme the grades are to see what the applicant would be faced with at a cost. Member Mutch questioned where the basin could possibly go on the plan. Mr. Hayes didn't know because he didn't have the details. Member Mutch noted it is a constrained site with natural resources and features. He wouldn't want the basin moved if it resulted in cutting more trees or impacting wetlands. He asked what the concerns were. Mr. Hayes said both DPS and Public Safety have concerns. Engineering has determined the ordinance falls under their purview and has given their opinion following Chapter 11 of the ordinance. Member Mutch asked Public Safety about their concerns. Mr. Jeff Johnson, Director of EMS & Fire Operations, said their main concern was if there was a blocked off entrance there would be no way to enter the site. They have a limited amount of hose for fire emergencies because of the length and of the way it is land locked. The number of homes doesn't make a difference. The access from 10 Mile would have to support the emergency vehicles. It would have to be a gated access with the proper amount of foundation and grading to support the service vehicles. The access would have to be built to what the ordinances require. Member Mutch asked about the width of the paved access. Mr. Hayes said the easement would have to be 20 feet and a paved width of 12 feet. Member Mutch said it had been mentioned about the difficulty of sites like this in the City. He didn't have an answer to address all the needs for developing this property. The developer is doing the best they can on this constrained site. He thought maybe a reduction of lot sizes as a solution. He was open to solutions and wanted to hear from the other Councilmembers.

Member Markham was concerned with the Fire aspects of this issue. She thought those who move to our Community have an expectation they will be safe. She has a concern with the cul-de-sac being almost 25% longer than our ordinance would allow on this constrained space. She is looking for an alternative access. She mentioned discussion whether the pathway would become a longer path and should be fenced off. She thought there are solutions as happened with Thornton Creek Elementary to promote walkability through our community as a suggestion.

Member Wrobel saw this while on the Planning Commission years ago and would like to see a win for both sides. He is very cognizant that we need to provide public safety and didn't know where it could be placed. He wants to wait until due diligence is done.

Member Casey echoed Member Wrobel's comments and would be open for further conservation to investigate a possible solution for a secondary access.

Member Gatt would like to see the property developed but not at the expense of public safety. In 2014 the reviews are different than in 2005. He thought make the lots smaller and the developer needs to decide.

**CM 14-06-094**

**Moved by Mutch, seconded by Wrobel; CARRIED UNANIMOUSLY:**

To postpone consideration of a request from Mirage Development, LLC for a variance from the following ordinance sections: 1) Subdivision Ordinance Section 4.05(A) requiring that pedestrian safety paths be constructed along both sides of local streets (a sidewalk on only the north side is proposed), 2) Section 11-94(c) to provide less than three feet of cover for storm sewer pipe, 3) Section 11-194(a)(7) for exceeding the 800 foot maximum length of a cul-de-sac (975 feet is proposed), 4) Section 11-194(a)(19) for the lack of a secondary or emergency access; as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006) until future date to give the applicant an opportunity to work with Planning and Engineering staff to evaluate the secondary access options.

Roll call vote on CM 14-06-094

Yeas: Markham, Mutch, Wrobel, Gatt, Staudt,  
Casey, Fischer

Nays: None

Phone: (248) 848-1666  
Fax: (248) 848-9896

**WARNER, CANTRELL & PADMOS, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS

27300 Haggerty Road, Suite F2  
Farmington Hills, MI 48331

June 16, 2014

City of Novi  
Public Services  
26300 Lee Begole Drive  
Novi, MI 48375

Attn: Mr. Adam Wayne

Re: Orchard Hills North  
N.E. 1/4, Section 26, T.1N.-R.8E.  
City of Novi, MI  
Request for Variance from Section 11-194(a)(7)

Dear Mr. Wayne:

Pursuant to the comments by the City Council and our meeting with you, we have studied several options regarding the secondary access to the site as follows:

- Reducing the length of the cul-de-sac to 800 feet  
The effect of limiting the cul-de-sac length to 800 feet is that a variance would not be required. However, this causes a great hardship to the owner by the loss of two units; please see the attached site study (10 units). Also note that the shortening of the cul-de-sac to 800 feet does not shorten the distance emergency personnel will have to travel to reach homes on new units 8 and 9.
- Providing an emergency access at the west end of site  
We have prepared a site study of an emergency access to the site; see attached plan. The proposed drive meets Novi's requirement of 18 foot wide paved surface within a 25 foot access easement. Due to the existing cross slope from the west property line to the existing pond (see attached drawing), a retaining wall is required. The retaining wall will vary in height from 0.5 to 7.0 feet.  
The effect on unit 11 is that the home width would be reduced by 10 feet, to 40 feet in width. The builder/developer does not have a house plan for that size house, therefore unit 11 is effectively eliminated.  
One of the council members suggested downsizing the lots in order to pick up the necessary width for an access easement alongside unit 11. This not only would require a variance from City Council, but a revised site plan and the related engineering would have to go in front of the Planning Commission for their approval. This would also

cause the builder/developer to redesign his proposed home plans to meet the reduced unit size. The planned homes have the same footprints he used for Orchard Hills West. The cost of redesigning the house plans and the cost of retraining his work force, including working out the “bugs”, is a practical difficulty for only 11 homes. Therefore, the costs to build the access drive, construct the retaining wall, and the loss of unit 11, make the secondary access an exceptional hardship.

- Elimination of the sediment forebay/water quality basin

At our meeting we discussed the use of bio swale along the rear yards of units on the north side of Woodglen Drive, in lieu of the sediment forebay/water quality basin, to eliminate the need for a retaining wall along the emergency access drive. The practical difficulty of the use of bio swales on single family lot/units is that maintenance and care of the specialized vegetation required to make them effective, is not under unified control. Single family home owners typically install and maintain landscaping features on their units, which makes consistent plantings and maintenance difficult. Bioswales are very similar to miniature wetlands. They are mostly wet swampy features, which many people would not find aesthetically pleasing; please see the attached.

Our experience with bioswales has been good where they are under the control of a single entity that is responsible for their planting and maintenance.

- Relocating the sediment/water quality basin eastward, into the 25' wetland buffer

We have reviewed that option and discovered that, due to the slope of the existing ground, the basin would not move very much because of the berming required to make the basin function hydraulically. The move into the buffer would only reduce the wall height by approximately 1 foot. We do not believe that a complete disturbance of the buffer is worth the 1 foot reduction in wall height.

- Access through the apartment complex to the west

The developer has spoken with the apartment managers and they are not interested in providing easement for access and will provide written correspondence to that effect.

- Access through the school property to the south

The developer has correspondence from the school stating that they do not want the secondary access through their site.

We appreciate meeting with your team to discuss the options regarding the secondary access. Based on our study of the options, and with the new documentation provided, we have shown:

- A literal interpretation of the ordinance results in an exceptional and practical difficulty in creating a secondary access.
- The performance of the proposed variance does not substantially deviate from strict interpretation of the ordinance. The ordinance allows cul-de-sac streets up to 1500 feet long in RA zoning districts, which limits the number of units to 20 to 25; an 800 foot cul-de-sac on a normal site in the R-4 zoning district would allow 20 to 25 units. This site has only 12 units.

- The granting of this variance will not be detrimental to public health, safety, or welfare, due to the fact that homes on the proposed 950 foot cul-de-sac would not be substantially further from an outlet, than homes on an 800 foot cul-de-sac.

We hope that you can now support our request for variance from Section 11-194(a)(7).

Please contact our office should you have any questions.

Very truly yours,

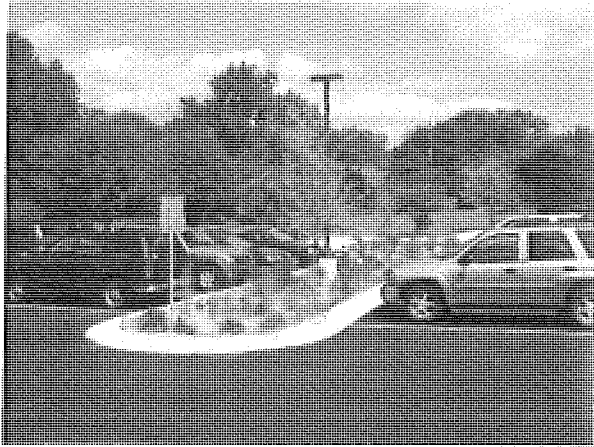


G. R. Hirth, P.E.

grh:slh

cc: Claudio Rossi, Mirage Development, LLC

## 8.2.2 Bioretention Areas



**Use of Bioretention within a Parking Lot: Wayne City Hall** (Photo courtesy of Alicia Askwith, Ayres Lewis Norris and May)

Bioretention areas are designed to use soil and plant material to mimic natural processes and store, filter and infiltrate storm water into the ground. Bioretention areas may be used anywhere to achieve a degree of stormwater treatment; the location depends in part on the type of facility employed. Common applications include:

- Pretreatment system for detention systems and retention basins.
- Within parking lots: bioretention areas are recessed and the pavement is graded to these areas, where storm water is captured and treated (see figure above). Traditional parking lots typically have curbed, elevated islands of vegetation.
- On new residential subdivision lots or commercial lots, near the source of the runoff generated from impervious surfaces.



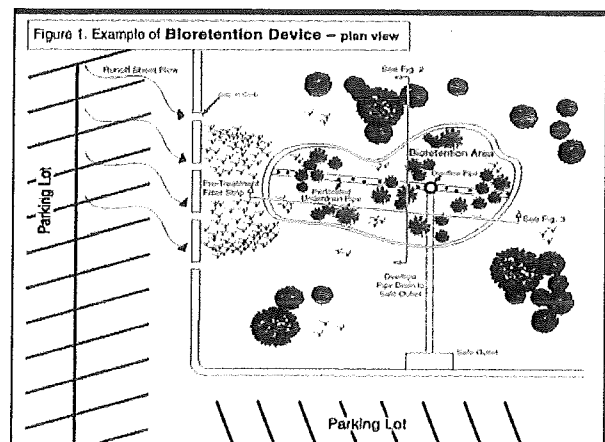
**Use of Bioretention within a Residential Development**

- Areas upland from inlets or outfalls that receive sheet flow from graded areas.
- Areas of the site that are planned to be excavated or cut.
- In stormwater management retrofit and redevelopment situations, the addition of bioretention facilities will provide some improvement in the amount of runoff and in water quality.

### Benefits of Use

Potential benefits for the incorporation of bioretention facilities as part of storm water management systems include:

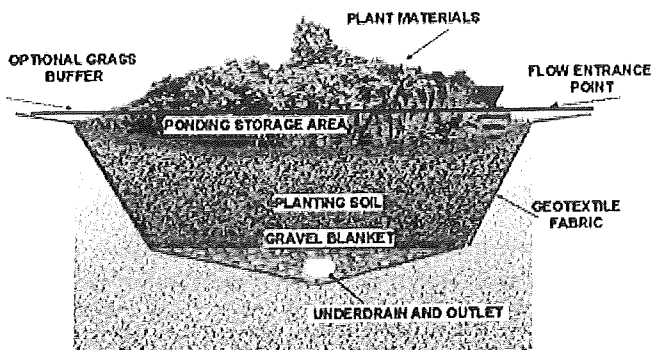
- Assist with compliance with Wayne County Storm Water Standards
- Reduces impervious surfaces and increases the amount of disconnected impervious areas, which reduces the amount of storm water runoff that must be managed.
- Potential reductions in the need for and size of traditional storm sewers and storm water management systems.
- The above ground pooled water and some of the below ground storage volume can be counted toward meeting the water resources protection requirements described in Chapters 5 and 6.
- Greater lot yields.



**Schematic showing example Bioretention Area** (Photo (left) and Figure (above) from Wisconsin Department of Natural Resources, Post Construction Stormwater Management presentations)

- May count as both part of the required stormwater management system and toward local landscape and/or green space requirements.
- Increases natural habitats within a development.
- Construction and maintenance of bioretention facilities can be less costly than detention ponds.

Components of a Typical Bioretention Area (Figure from *Bioretention*)



*Manual*, Prince George's County, Maryland)

### Features of Bioretention Areas

Bioretention areas typically have the following features:

- Grass buffer strips reduce runoff velocity and filter particulate matter.
- Sand bed provides aeration and drainage of the planting soil and assists in the flushing of pollutants from soil materials.
- Ponding area provides storage of excess runoff and facilitates the settling of particulates and evaporation of excess water.
- Organic layer performs the function of decomposition of organic material by providing a medium for biological growth (such as microorganisms) to degrade petroleum-based pollutants. It also filters pollutants and prevents soil erosion.
- Planting soil provides the area for storm water storage and nutrient uptake by plants. The planting soils contain clays, which adsorb pollutants such as hydrocarbons, heavy metals and nutrients.
- Vegetation functions in the removal of water through evapotranspiration and pollutant removal through nutrient cycling.

### Design Standards

Bioretention areas must be designed as follows:

- The depth of the ponding area in a bioretention area cannot exceed 6 inches. A maximum of 3 inches to 4 inches is preferred for areas that receive high hydraulic loading or have soils with low infiltration rates. This should be done in combination with a smaller drainage area.
- Bioretention areas must include an underdrain, unless the applicant demonstrates that the infiltration rate of soil within the bioretention area is sufficient to prevent excess ponding. Underdrains must satisfy the following requirements:
  - Underdrains must have a hydraulic capacity greater than the infiltration rate of the soil in the bioretention area.
  - The underdrain must be perforated along its entire length. The location of the perforations (invert of pipe or elsewhere) depends upon the design of the facility. Typically, the perforations are placed closest to the invert of the pipe to achieve maximum potential for draining the facility. The perforations can be placed near the top of the pipe if an anaerobic zone is intended. Water below the perforated portion of the underdrain will have a tendency to accumulate during periods of saturation. Otherwise, water will have a tendency to infiltrate into the surrounding in-situ soils.
  - Underdrains cannot be perforated within 5 feet of where the underdrain system connects to a storm sewer structure.
  - Underdrains must include an adequate outlet into a detention system, retention basin, storm sewer or watercourse to achieve positive flow.
  - A 6-inch gravel bed is required to protect underdrain pipes and to reduce clogging. A gravel blanket around the underdrain helps keep it free of possible soil transport.
  - The underdrain system must include a cleanout well to provide access for cleaning the system.
- Bioretention areas may not be located within pre-existing surface waters.

### Grading and Landscape Plans

Applicants that propose to include one or more bioretention areas as components of a storm water management system must submit a grading plan for the development project. The grading plan must clearly identify

downward and to reduce lateral flows. For example, to prevent lateral flow under roads and parking lot pavement, filter fabric can be placed along the sidewalls of a bioretention area that is installed in the median strip or parking lot landscape island. The fabric should extend from the subgrade over the stone.

#### Planting Soil

- The planting soil should have sufficient depth to provide adequate moisture capacity and to create space for root systems. There is a preferred mixture for planting soil used in bioretention facilities (see “Material Specifications” below).
- Planting soil should be 4 inches deeper than the bottom of the largest root ball.

#### Plants

- Select plant materials that can tolerate extreme hydrologic changes, pollutant loading, and highly variable soil mixture conditions. Use of native plants is highly recommended. The material specification section below presents plant species recommended for bioretention areas.
- The minimum recommended caliper size for trees planted within a bioretention facility is 1 inch.
- Plant material and planting applications should meet guidelines set by the American Standard of Nursery Stock). Plant stock should be grown by suppliers or nurseries certified by the Michigan Native Plant Producers Association (see “References” for this section).

#### **Material Specifications**

- Planting Soil: Planting soil should have a sandy loam, loamy sand, or loam texture per USDA textural triangle. Maximum clay content is <5%. The soil mixture should have pH between 5.5 and 6.5 with an organic content of 1.5 – 3.0 %. The soil mixture should have an infiltration rate greater than 0.5 in/hour. The soil should be a uniform mix, free of stones, stumps, roots, or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations.

The planting soil should be free of Bermuda Grass, Quackgrass, Johnson Grass, Mugwort, Nutsedge, Poison Ivy, Canadian Thistle, Tearthumb, or other noxious weeds.

- Sand: Sand should be clean and free of deleterious materials. For planting soil, MDOT Class II clean sand is recommended.
- Mulch: Mulch should consist of raw hardwood, MDOT Quality Product List (QPL). Grass clippings are unsuitable for mulch, primarily due to the excessive quantities of nitrogen built up in the materials.
- Geotextile fabric: Geotextile fabric should maintain a flow rate of 125 GPM per square foot. MDOT specifications are recommended (Table 910-1).
- Underdrain gravel blanket: The gravel blanket should be double washed, 1-1/2 inches in size. MDOT Class I porous material is recommended.
- Pea Gravel: Pea gravel should be washed, river-run, round diameter, ¼ - ½ inches in size.
- Underdrain piping: A variety of materials can be used for underdrain piping, including heavy-duty PVC pipe and corrugated metal pipe. Other pipe materials may be used.
- Vegetation: The following is a partial listing of plants native to southeast Michigan that may be suitable for bioretention areas. The plants listed here are excellent for moist organic gardens that are “dry” within 48 hours of a rain. Check sun/shade conditions before planning and planting.

#### Wildflowers, sedges, and grasses

Beardtongue (*Penstemon digitalis*)  
Bergamot (Bee-Balm) (*Monarda fistulosa*)  
Black-Eyed Susan (*Rudbeckia hirta*)  
Blue Flag Iris (*Iris Virginica*)  
Blue Vervain (*Verbena hostata*)  
Boneset (*Eupatorium perfoliatum*)  
Canada Anemone (*Anemone canadensis*)  
Columbine (*Aquilegia canadensis*)  
Culver’s Root (*Veronicastrum virginicum*)  
Indian Grass (*Sorghastrum nutans*)  
Joe-Pye Weed (*Eupatorium Maculatum*)  
Marsh Blazing Star (*Liatris spicata*)  
Missouri Ironweed (*Vernonia missurica*)  
New England Aster (*Aster novae-angliae*)  
Old-Field Cinquefoil (*Potentilla simplex*)



- Mulch should be re-applied once every six months, to maximize nitrogen uptake by the facility and to help control growth of unwanted plants. The mulch layer should be removed and replaced every 2 years.
- Mulch should be uniformly applied approximately 2 to 3 inches in depth. Piling mulch around the base of the tree is not recommended as the tree may become infested with pests and diseases. Mulch applied any deeper than three inches reduces proper oxygen and carbon dioxide cycling between the soil and the atmosphere, and keeps roots from making good contact with the soil.
- Soils begin filtering pollutants immediately but can lose their ability to function in this capacity over time. Evaluation of soil fertility is important in maintaining an effective bioretention system. It is recommended that soils be tested annually and replaced when soil fertility is lost. Depending on environmental factors, this usually occurs within 5-10 years of construction.
- As with any garden, bioretention requires weeding to control growth of unwanted plants that can be invasive, consuming the intended planting, and destroying the aesthetic appeal. Weeding should be accomplished routinely and at least monthly.
- Water in the facility should infiltrate the system within 4-6 hours or less. Clogging or blockage of either the surface layer or fines obstructing the filter fabric used between the gravel bed/underdrain and the surrounding planting soil usually causes pooling water. Including a clean out pipe in the underdrain system will provide access for cleaning the system. Removing the mulch layer and raking the surface may correct the surface blockage problem. For blocked filter fabric, use lengths of small reinforcing bar (e.g., 2-3 ft of #4 rebar) to puncture the fabric with holes every 1-foot on center. If the soils themselves are causing the problem, punch holes in the soil or optionally, install a "sand window" at least 1 foot wide running vertically to the underdrain system elevation.
- If plants wilt during the heat of the day, but recover in the evening, watering is not necessary. The plants are simply conserving moisture. If they do not recover, watering is indicated. Another good rule of thumb is to stick a pencil or screwdriver about four inches into the soil. If the soil is moist at that depth, watering is not needed. If the soil is dry, and the shrubs or trees were

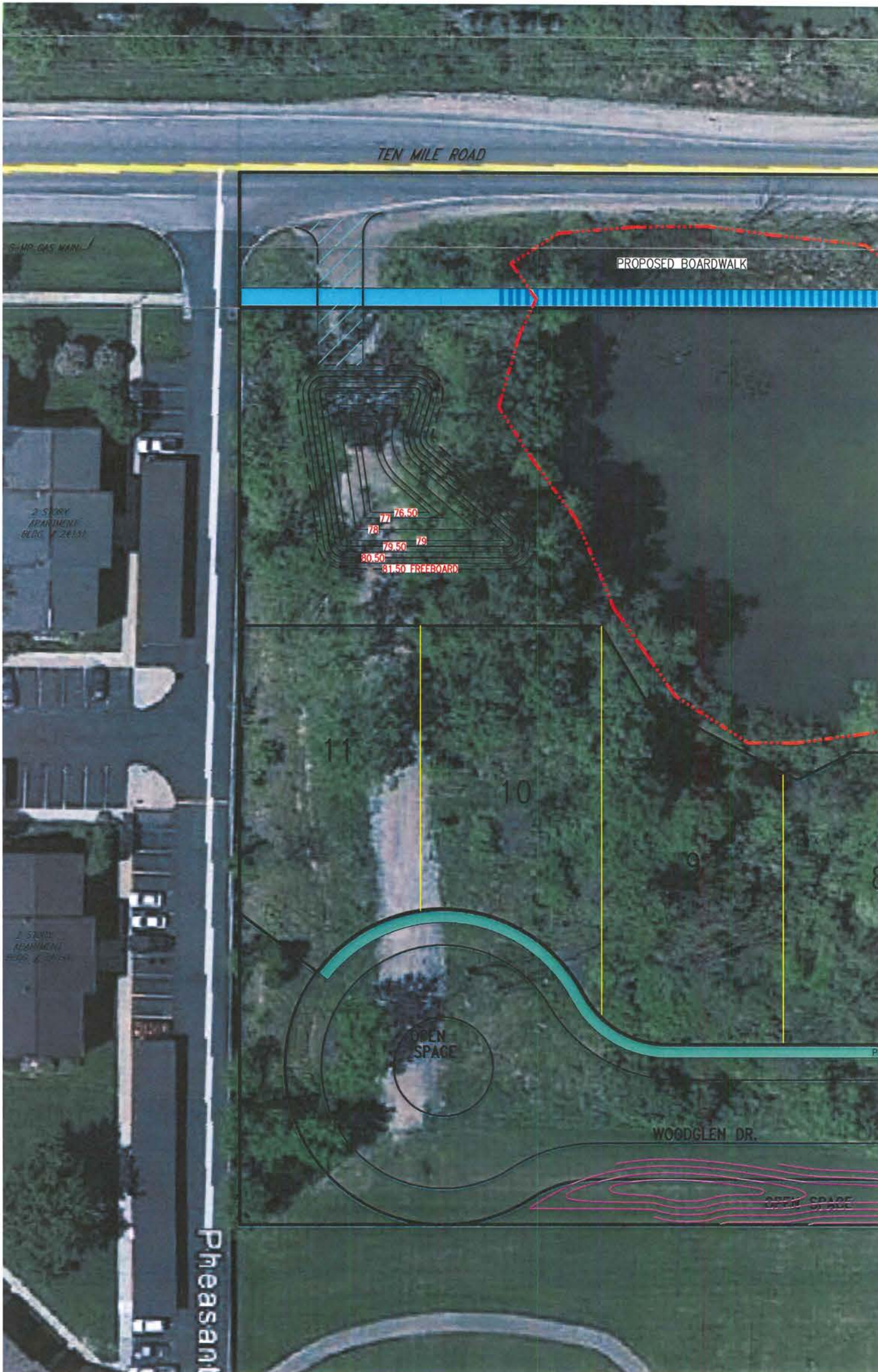
planted within the last three years, watering is necessary.

- If any of the plants do not perform well, become diseased or die, they should be replaced.
- For trimming and harvesting, the current practice is to leave ornamental grasses and perennial seed heads standing to provide winter interest, wildlife forage, and homes for beneficial insects. Plants should not be cut back until spring when new growth commences, and even then it is only done for neatness; it does not impact growth. Plants may be pinched, pruned, sheared or deadheaded during the growing season to encourage more flowering, a bushier plant, or a fresh set of leaves. Diseased or damaged plant parts should be pruned as they occur. If a plant is pest-infested, perform cleanup in fall to deny the pest a winter home. Trees and shrubs may be pruned for shape or to maximize fruit production.
- The properly designed bioretention area should thrive and allow planting materials to expand and propagate, eventually becoming overcrowded. If this occurs, perennial plants should be divided in spring or fall.
- By design, bioretention facilities are located in areas where nutrients (especially nitrogen) are significantly elevated above natural levels. Fertilization in such areas usually is unnecessary, because it is unlikely that soil fertility will be the limiting factor in plant growth. If soil fertility is in doubt, a simple soil test can resolve the question. If fertilization should become necessary, an organic fertilizer will provide nutrients as needed without disrupting soil life.
- Runoff flowing into bioretention facilities may carry trash and debris with it, particularly in commercial settings. Trash and debris should be removed regularly both to ensure that inlets do not become blocked and to keep the area from becoming unsightly.

#### References

- American Standard of Nursery Stock, American Nursery & Landscape Association, <http://www.anla.org/applications/Documents/Docs/ANLStandard2004.pdf>  
(Also document ANSI Z60.1-2004 of the American National Standards Institute (ANSI). [www.ansi.org](http://www.ansi.org))

SCALE: ONE INCH = 50 FEET



ORCHARD HILLS NORTH CONDOMINIUM  
PART OF THE N.E. 1/4 OF SECTION 26,  
T.1 N., R.8 E., CITY OF NOVI,  
OAKLAND COUNTY, MICHIGAN

SCALE: 1"=50'

DATE: June 16, 2014

FOR: MIRAGE DEVELOPMENT, L.L.C.

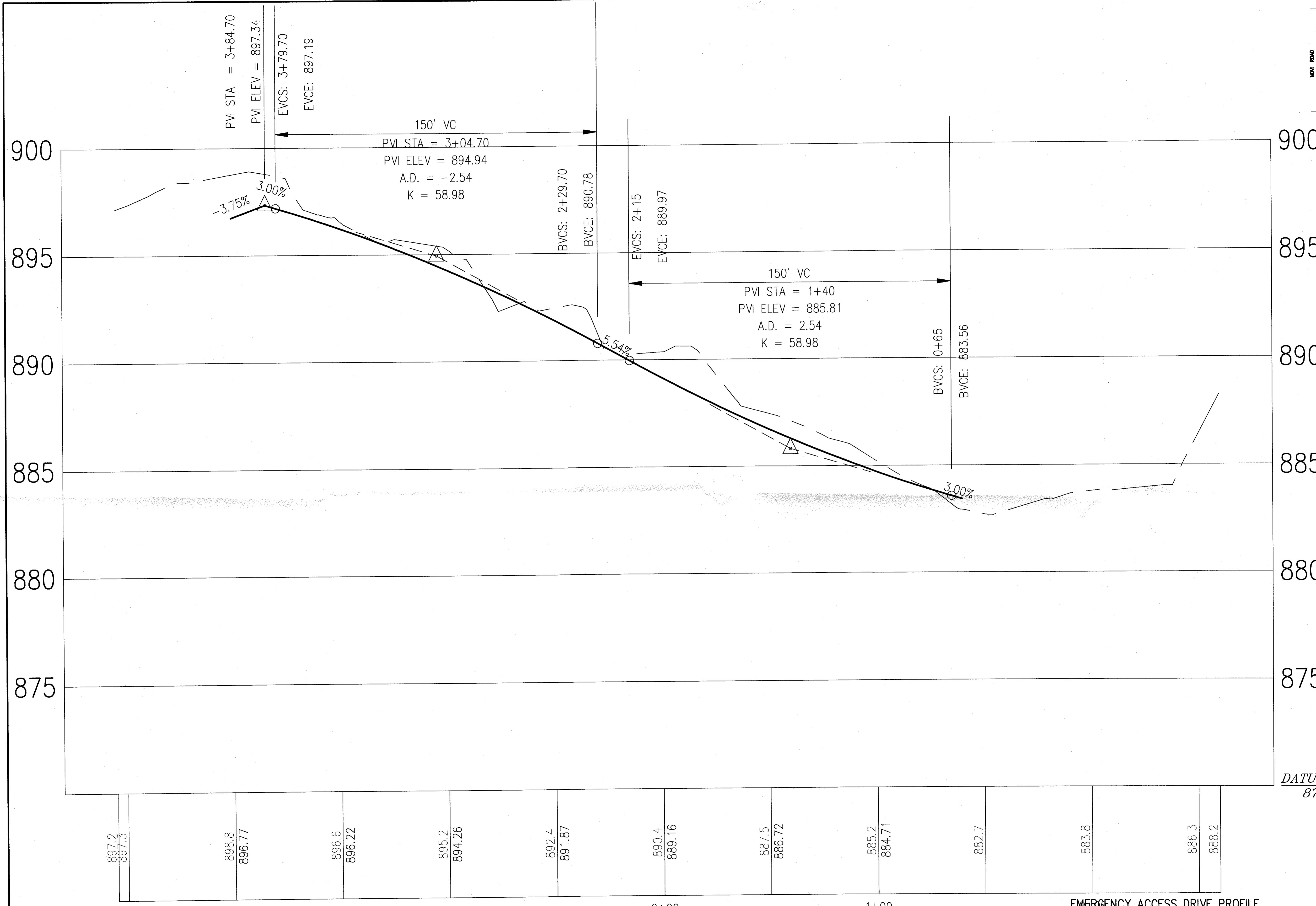
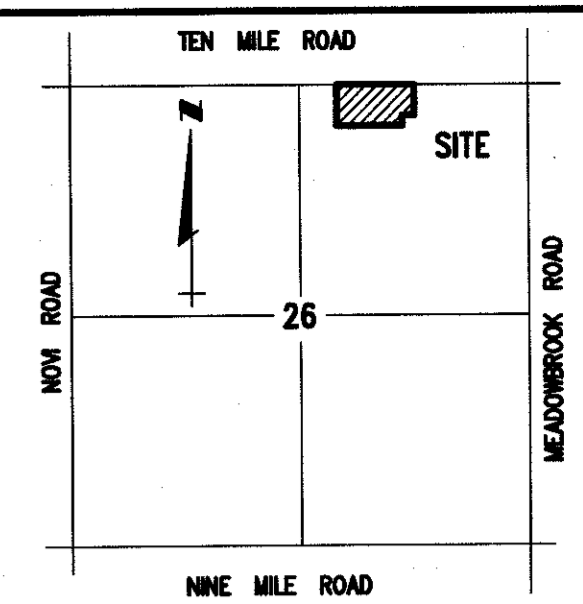
45380 W. 10 MILE ROAD  
SUITE 135  
NOVI, MI 48375  
PHONE (248) 349-0582 AUTHORIZED REPRESENTATIVE:  
(248) 349-0598 CLAUDIO ROSSI

JOB # 20030612



WARNER, CANTRELL & PADMOS, INC.  
CIVIL ENGINEERS & LAND SURVEYORS  
27300 Haggerty Road, Suite F2  
Farmington Hills, MI 48331  
(248) 848-1666

\\SERVERS\11-drive\Land Projects\2004\20030612\Drawings\DWG\ENR\20030612\DWG\01.dwg, 01 Google Earth P (2), 6, 16, 2014 1:44:27 PM, mirage, 2000 1/PP 1/PP 3



**LOCATION MAP**  
NO SCALE

**BENCH MARKS**

BENCH MARK NO. 1  
ARROW ON HYDRANT  
ELEV. 885.97

BENCH MARK NO. 2  
SPIKE W. SIDE OF D.E.  
& MBT POLE  
ELEV. 877.87

**BENCH MARKS** CITY OF NOVI

BENCH MARK # 2341  
X ON NORTH-NORTHEAST  
FLANGE BOLT OF FIRE HYDRANT  
LOCATED 30 FEET NORTH OF  
CENTERLINE OF 10 MILE ROAD  
AND ACROSS FROM INTERSECTION  
OF PHEASANT RUN AND 10 MILE ROAD  
ELEV. 885.1594  
N.A.V.D. DATUM 1988

**NOTE:**  
TO CONVERT FROM N.A.V.D. 88  
TO U.S.C. & G.S. DATUM ADD 0.49'

|       |       |       |        |       |        |       |        |       |        |       |        |       |        |       |        |       |       |       |       |
|-------|-------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|-------|-------|-------|
| 897.2 | 897.3 | 898.8 | 896.77 | 896.6 | 896.22 | 895.2 | 894.26 | 892.4 | 891.87 | 890.4 | 889.16 | 887.5 | 886.72 | 885.2 | 884.71 | 882.7 | 883.8 | 886.3 | 888.2 |
|-------|-------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|-------|-------|-------|

**DATUM**  
870.1

4+00 3+00 2+00 1+00

PROPRIETOR/OWNER:  
MIRAGE DEVELOPMENT, L.L.C.  
45380 W. 10 MILE ROAD  
SUITE 135  
NOVI, MI 48375  
PHONE: (248) 349-0582  
FAX: (248) 349-0598

AUTHORIZED REPRESENTATIVE:  
CLAUDIO ROSSI

|            |               |
|------------|---------------|
| DATE:      | June 13, 2014 |
| REVISIONS: |               |
| AS BUILT   |               |

**EMERGENCY ACCESS DRIVE PROFILE**

ORCHARD HILLS NORTH CONDOMINIUM  
PART OF THE N.E. 1/4 OF SECTION 26,  
T.1 N., R.8 E., CITY OF NOVI,  
OAKLAND COUNTY, MICHIGAN

SCALE: HORIZ: 1" = 20', VERT: 1" = 2'  
DATUM: U.S.C. & G.S.

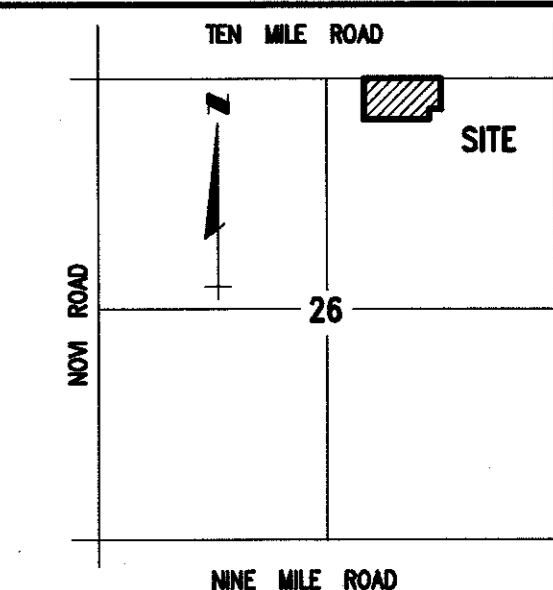
**WARNER, CANTRELL & PADMOS, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS  
27300 Haggerty Road, Suite P2  
Farmington Hills, MI 48331  
(248) 849-1999

PLOT FILE: 20030612SP F-01 10 ft drive.pdf  
JOB NO.: 20030612  
PLAN FILE: T3-S8-F113

SHEET 1 OF 1



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LOCATION MAP  
NO SCALE

**BENCH MARKS**

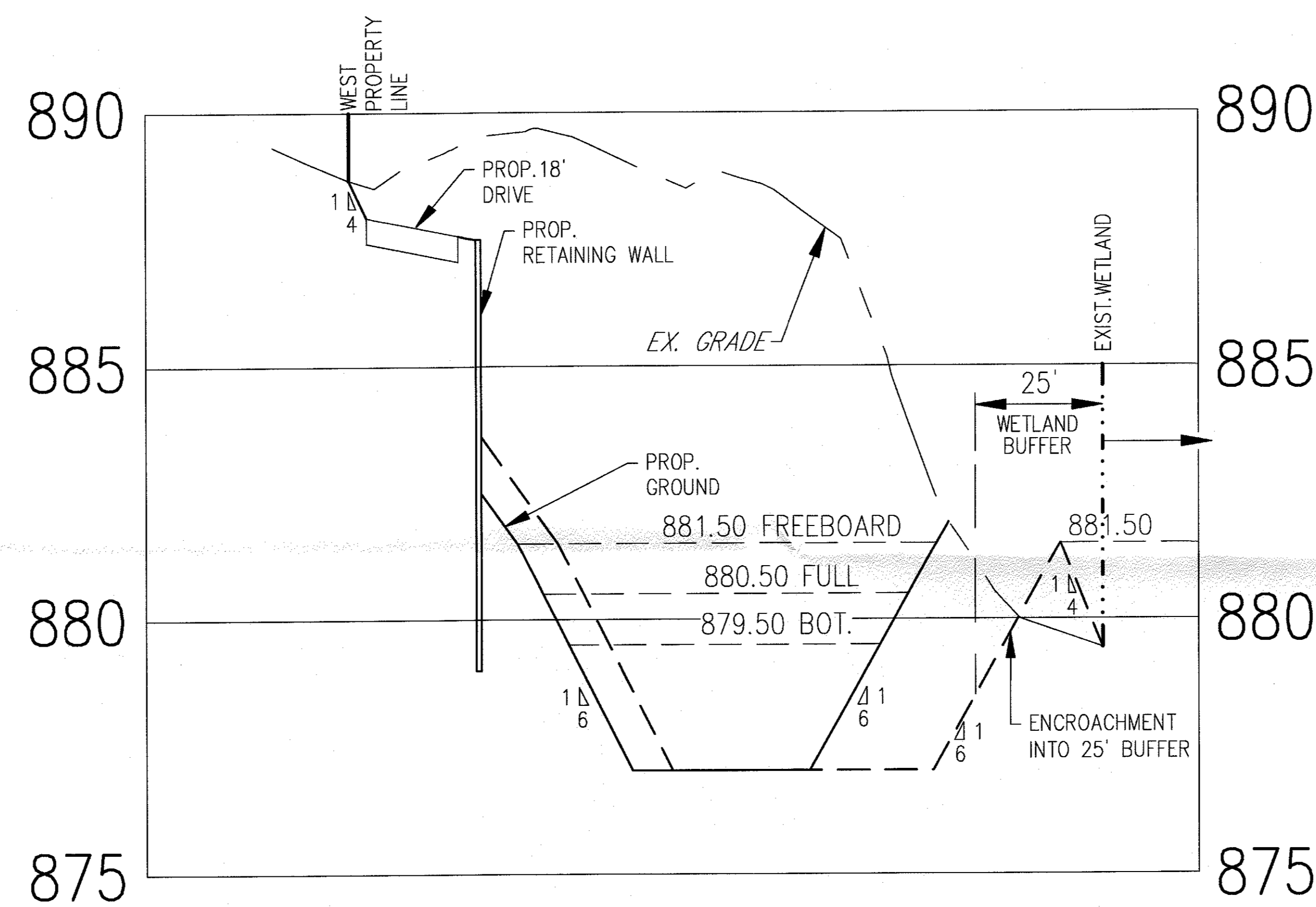
BENCH MARK NO. 1  
ARROW ON HYDRANT  
ELEV. 885.97

BENCH MARK NO. 2  
SPRINKLE W. SIDE OF D.E.  
& MET. POLE  
ELEV. 877.87

**BENCH MARKS** CITY OF NOVI

BENCH MARK # 2341  
X ON NORTH NORTHEAST  
FLANGE BOLT OF FIRE HYDRANT  
LOCATED 30 FEET NORTH OF  
CENTERLINE OF 10 MILE ROAD  
AND ACROSS FROM INTERSECTION  
OF PHEASANT RUN AND 10 MILE ROAD  
ELEV. 885.1594  
N.A.V.D. DATUM 1988

**NOTE:**  
TO CONVERT FROM N.A.V.D. 88  
TO U.S.C. & G.S. DATUM ADD 0.49'



CROSS-SECTION A-A

PROPRIETOR/OWNER:  
MIRAGE DEVELOPMENT, L.L.C.  
45380 W. 10 MILE ROAD  
SUITE 135  
NOVI, MI 48375  
PHONE (248) 349-0582  
FAX (248) 349-0588  
AUTHORIZED REPRESENTATIVE:  
CLAUDIO ROSS

|             |               |
|-------------|---------------|
| DATE :      | June 13, 2014 |
| REVISIONS : |               |
| AS BUILT    |               |

ORCHARD HILLS NORTH CONDOMINIUM  
PART OF THE N.E. 1/4 OF SECTION 26,  
T.1 N., R.8 E., CITY OF NOVI,  
OAKLAND COUNTY, MICHIGAN

SCALE: HORIZ: 1" = 20' , VERT: 1" = 2'  
DATUM : U.S.C. & G.S.

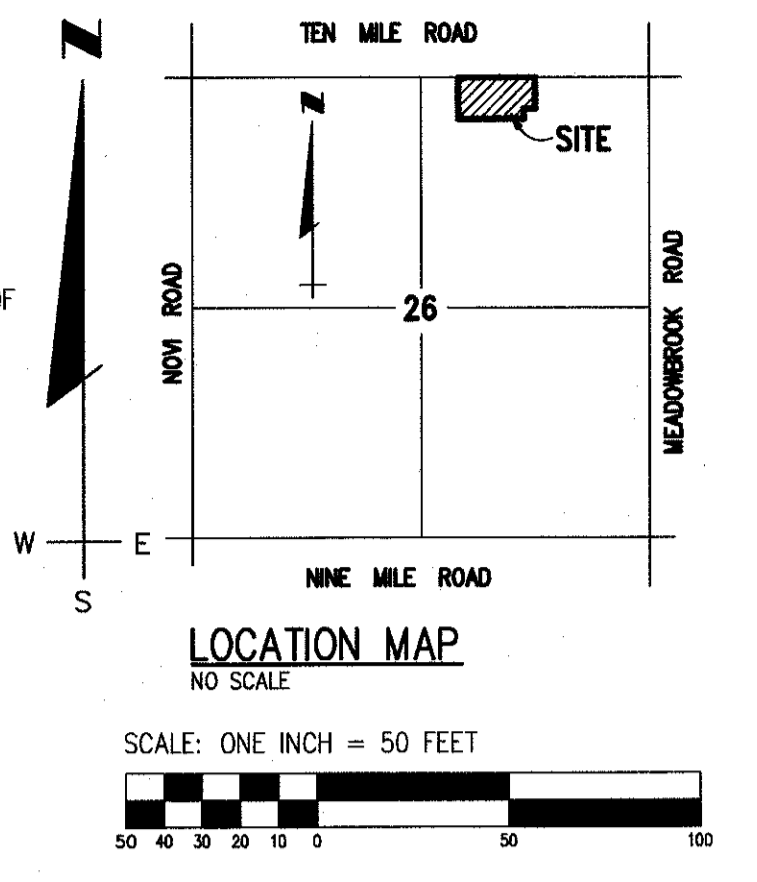
**WARNER, CANTRELL & PADMOS, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS  
27300 Haggerty Road, Suite F2  
Farmington Hills, MI 48331  
(248) 648-1666

PLOT FILE : 20030612SP F-01 Cs Basin.pdf  
JOB NO. : 20030612  
PLAN FILE : T3-SB-F113

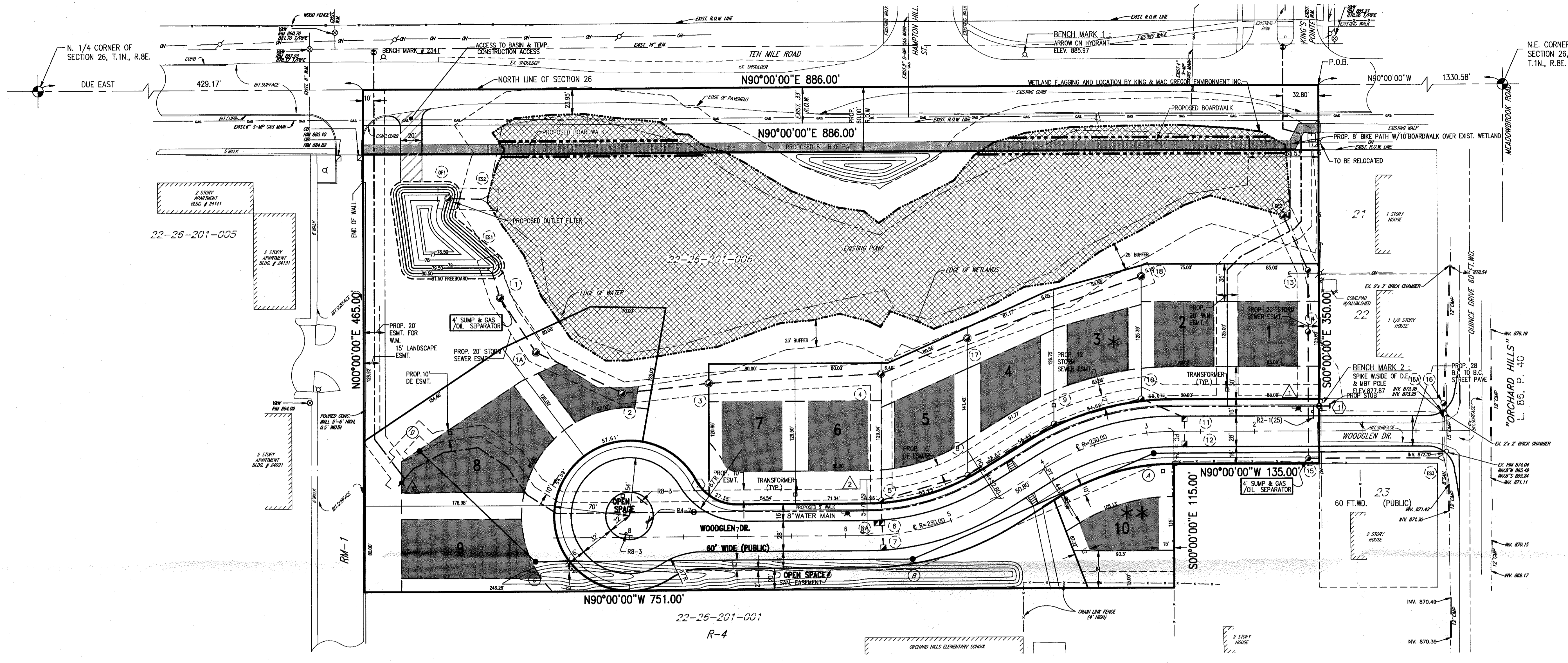
SHEET 1 OF 1



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| PROPOSED | DESCRIPTION                        | EXISTING |
|----------|------------------------------------|----------|
|          | DRAINAGE STRUCTURE (SOLID COVER)   |          |
|          | DRAINAGE STRUCTURE (GRASS COVER)   |          |
|          | DRAINAGE STRUCTURE (SLOTTED COVER) |          |
|          | DRAINAGE STRUCTURE (CATCH BASIN)   |          |
|          | SANITARY SEWER MANHOLE             |          |
|          | GATE WELL                          |          |
|          | HYDRANT                            |          |
|          | POWER POLE                         |          |
|          | SIGN                               |          |
|          | SANITARY SEWER                     |          |
|          | STORM SEWER                        |          |
|          | WATER MAIN                         |          |
|          | BUFFER                             |          |
|          | WETLAND                            |          |
|          | PROPOSED SETBACK                   |          |
|          | EDGE OF WATER                      |          |
|          | CONTOURS                           |          |
|          | SPOT ELEVATIONS                    |          |
|          | WOODS                              |          |
|          | WETLAND                            |          |
|          | PROPOSED BOARDWALK                 |          |



- ALL WATERMANS AND FIRE HYDRANTS SHALL BE INSTALLED AND BE IN SERVICE PRIOR TO CONSTRUCTION ABOVE THE FOUNDATION OF ANY STRUCTURE.
- ALL STREETS SHALL BE PAVED PRIOR TO THE CONSTRUCTION ABOVE THE FOUNDATION OF ANY STRUCTURE.
- STREET NAMES ON SUITABLE POLES SHALL BE POSTED AT EACH INTERSECTION PRIOR TO CONSTRUCTION ABOVE THE FOUNDATION OF ANY STRUCTURE.
- BUILDING ADDRESSES FOR EACH STRUCTURE SHALL BE POSTED AT EACH BUILDING SITE DURING CONSTRUCTION. THE ADDRESS SHALL BE AT LEAST 3 INCHES HIGH ON A CONTRASTING BACKGROUND AND BE READABLE FROM THE STREET.
- ALL SIGNS TO CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE END OF ROADWAY MARKERS SHOULD BE LOCATED FIVE FEET FROM THE EDGE OF PAVEMENT, PLACED AT THE CENTERLINE, WITH A SIGN HIGH OF FIVE FEET FROM ROAD GRADE TO BOTTOM OF SIGN FACE.
- A 5' WIDE CONCRETE SIDEWALK IS PROPOSED ALONG ALL INTERIOR STREETS. THE WALK IS 0.60' ABOVE THE TOP OF CURB AT 1' INSIDE THE PROPOSED R/W. WALK BY HOUSE BUILDER.
- SANITARY SEWER PIPE & FITTINGS SHALL BE ASTM D 2680-80 "STANDARD SPECIFICATION FOR ACRYLONITRILE - BUTADIENE - STYRENE (ABS) COMPOSITE SEWER PIPELINE", APPENDIX XI SHALL BE MODIFIED BY THE CITY OF NOVI BEDDING REQUIREMENTS OR CITY APPROVED EQUAL.
- 6" SANITARY SEWER HOUSE LEADS SHALL BE SDR 23.5 SOLID WALL ABS PIPE.

NOTE:  
ALL WORK SHALL CONFORM TO THE CITY OF NOVI STANDARDS AND SPECIFICATIONS

**CITY COUNCIL VARIANCES AND PLANNING COMMISSION WAIVERS REQUESTED :**

- REQUEST FOR VARIANCE  
DESIGN AND CONSTRUCTION STANDARDS
- A City Council waiver for having a sidewalk on only one side of Woodglen Street:
    - This waiver was granted by City Council on 11-14-05.
    - The reason for this request is that the sidewalk would serve no purpose, as there are no homes for the sidewalk to serve.
  - An administrative variance from Appendix C, Section 4.04(A)(1) for not providing stub street to adjacent school property:
    - The school site was developed with their access provided on the south side of their building.
  - A City Council variance is requested from Section 11-94(C) for providing less than three feet of cover for storm sewer pipe:
    - The reason for this request is that there are several runs of storm sewer which, in order to outlet to the sediment basin, cannot be placed to provide the three feet of minimum cover. Additional fill cannot be placed due to their location and topography.
  - A variance is requested from City Council from Section 11-194(a)(7) for exceeding the 800 foot maximum length for a cul de sac:
    - Previously granted 11/14/05.
    - The reason for the request is due to the practical difficulty caused by the topographical and natural features of the site. Further, this proposed street is single loaded with homes on only one side of the street. The concept of limiting the length of the cul de sac street is the limit the number of units to between 20 and 30, this site is proposing only 12 units.
  - A variance is requested from City Council from Section 11-194(a)(19) for units in excess of 800 feet external access:
    - Previously granted 11/14/05.
    - The reason for the request is that there are no places to provide external access due to the topographic and natural features of the site. In addition, the property to the west is an apartment complex with private drives and the property to the south is the school. As with the request for exceeding the 800 foot maximum cul de sac length, there will be only 12 proposed units.
  - A variance is requested from City Council from Section 11-258(a) for a bicycle path more than (1) foot away from future right-of-way lines:
    - Previously granted 11/14/05.
    - The reason for the request is that, in order to tie into an existing walk at the N.E. corner of the site, the path needs to be more than the (1) foot as required.

VARIANCE NOT REQUIRED

- NOTES:
- \* THE RESIDENCE LOCATED ON LOT 3 WILL HAVE TO USE THE SMALLEST FOOTPRINT AVAILABLE FOR A HOME IN THE RANGE 1,800 TO 3,000 SQ.FT.
  - \*\* FINAL LOCATION OF PROPOSED SWALE AND THE EXTENT OF TREE REMOVAL IS TO BE DETERMINED AT THE TIME OF PLOT PLAN SUBMITTAL FOR PROPOSED HOUSE AND GRADING (TREE TAGS: 88,89,90,91,92,93)

- BENCH MARKS
- BENCH MARK NO. 1  
ARROW ON HYDRANT  
ELEV. 885.97
- BENCH MARK NO. 2  
SPIKE W. SIDE OF D.E. & MBT POLE  
ELEV. 877.87
- BENCH MARK # 2341  
X ON NORTH NORTHEAST FLANGE BOLT OF FIRE HYDRANT LOCATED 30 FEET NORTH OF CENTERLINE OF 10 MILE ROAD AND ACROSS FROM INTERSECTION OF PLEASANT RUN AND 10 MILE ROAD  
ELEV. 885.1594  
N.A.V.D. DATUM 1988
- NOTE:  
TO CONVERT FROM N.A.V.D. 88 TO U.S.C. & G.S. DATUM ADD 0.49'

PARCEL NO: 22-26-201-006  
LEGAL DESCRIPTION  
PART OF THE NORTHEAST 1/4 OF SECTION 26, T.1N., R.8E., CITY OF NOVI, OAKLAND COUNTY, MICHIGAN DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF SECTION 26, T.1N., R.8E. AND PROCEEDING THENCE ALONG THE NORTH LINE OF SAID SECTION 26 DUE NORTH 00°00'00" W 1330.58' TO THE POINT OF BEGINNING OF THE PARCEL; THENCE S00°00'00" E 350.00'; THENCE N00°00'00" W 135.00'; THENCE S00°00'00" E 115.00'; THENCE N90°00'00" W 751.00'; THENCE N00°00'00" W 465.00'; THENCE ALONG SAID NORTH LINE OF SECTION 26, DUE NORTH 00°00'00" E 886.00' TO THE POINT OF BEGINNING, CONTAINING 9.10 ACRES.

M.D.E.Q. WATER PERMIT NO. :  
M.D.E.Q. SANITARY SEWER PERMIT NO. :  
R.C.O.C. NO. :  
D.W.S.D. NO. :

**SITE STUDY (10 UNITS)**

ORCHARD HILLS NORTH CONDOMINIUM  
PART OF THE N.E. 1/4 OF SECTION 26,  
T.1 N., R.8 E., CITY OF NOVI,  
OAKLAND COUNTY, MICHIGAN

PROPRIETOR/OWNER:  
MIRAGE DEVELOPMENT, L.L.C.  
45380 W. 10 MILE ROAD  
SUITE 135  
NOVI, MI 48375  
PHONE (248) 349-0582  
FAX (248) 349-0588

AUTHORIZED REPRESENTATIVE:  
CLAUDIO ROSSI

|            |               |
|------------|---------------|
| DATE:      | June 13, 2014 |
| REVISIONS: |               |
| AS BUILT   |               |

SCALE: 1" = 50'  
DATUM: U.S.C. & G.S.

**WARNER, CANTRELL & PADMOS, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS  
27300 Haggerty Road, Suite F2  
Farmington Hills, MI 48331  
(248) 949-1095

PLOT FILE : 20030612UP E-01 DVP.PLT  
JOB NO. : 20030612  
PLAN FILE : T3-S8-F113

SHEET 1 OF 1



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Phone: (248) 848-1666  
Fax: (248) 848-9896

**WARNER, CANTRELL & PADMOS, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS

27300 Haggerty Road, Suite F2  
Farmington Hills, MI 48331

June 26, 2014

Orchard Hills North  
Section 16, T.1N., R.8E.,  
City of Novi  
Oakland County, Michigan

**COST ESTIMATE FOR SECONDARY ACCESS DRIVE**

|  |                   |
|--|-------------------|
| Subgrade Preparation (Lump Sum)                            | \$5,000.00        |
| 7200 Sq. Ft. 21AA Limestone Base (8" Thick)                | \$7,200.00        |
| 7200 Sq. Ft. 4" Asphalt                                    | \$10,800.00       |
| Retaining Wall (Per Attached Quote)                        | \$45,060.00       |
| Guard Rail (Per Attached Quote)                            | \$4,500.00        |
| 2 Sets of Emergency Gates and Signage                      | \$4,800.00        |
| Additional Sand Backfill for Water Main Under Access Drive | \$7,700.00        |
| Curb Cut and Approach to 10 Mile Road                      | \$10,000.00       |
| Grading and Seeding Along Emergency Access Road            | \$8,000.00        |
| Engineering and Construction Staking                       | \$9,500.00        |
| Contingencies  | <u>\$9,500.00</u> |
| Total  | \$122,060.00*     |

\* City Review and Inspection Fees TBD (Not Included)



# Novi Community School District

[www.novi.k12.mi.us](http://www.novi.k12.mi.us)

25345 Taft Road, Novi, Michigan 48374

(248) 449-1200 • Fax (248) 449-1219

June 4, 2014

City of Novi  
Attn: Victor Cardenas, Interim City Manager  
45175 West 10 Mile Road  
Novi, MI 48375

---

Re: Orchard Hills North emergency access

Dear Victor:

The Novi Community School District is against having an emergency access road to access Orchard Hills North installed on the property of Orchard Hills Elementary.

It is felt that this access road would be a potential safety issue since it would have to cross our kindergarten playground.

Please do not hesitate to contact me if you need further input on this matter.

Sincerely,

Steve Barr

Assistant Superintendent of Business and Operations

SBB/cd





## CITY of NOVI CITY COUNCIL

Agenda Item 2  
June 2, 2014

**SUBJECT:** Consideration of a request from Mirage Development, LLC for a variance from the following ordinance sections: 1) Subdivision Ordinance Section 4.05(A) requiring that pedestrian safety paths be constructed along both sides of local streets (a sidewalk on only the north side is proposed), 2) Section 11-94(c) to provide less than three feet of cover for storm sewer pipe, 3) Section 11-194(a)(7) for exceeding the 800 foot maximum length of a cul-de-sac (975 feet is proposed), 4) Section 11-194(a)(19) for the lack of a secondary or emergency access; as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006).

**SUBMITTING DEPARTMENT:** Department of Public Services, Engineering Division <sup>R4</sup> BTC

**CITY MANAGER APPROVAL:** *W*

### BACKGROUND INFORMATION:

Mirage Development, LLC, is the developer of Orchard Hills North, a single-family residential development located south of Ten Mile Road and west of Meadowbrook Road. The site plan was approved by the Planning Commission on April 23, 2014, subject to several variances, four of which require approval from the City Council. A similar version of the site plan was previously approved by the Planning Commission in 2005 that required three variances from City Council. Two of the variances (Section 4.05A and 11-194(a)(7)) were approved by City Council in November 2005 (see attached minutes). A third variance from Section 11-278(b)(5) for the location of the pathway relative to the future right-of-way was denied; however, this ordinance section was changed in 2006 to allow administrative approval of variances in specific cases.

The staff review of the most recent version of the site plan identified four variances requiring City Council approval and two administrative variances. The four variances for City Council consideration are as follows, along with the justification provided by the developer (see attached application for additional detail):

- Subdivision Ordinance Section 4.05(A) requires that pedestrian safety paths be constructed along both sides of local streets. The developer is proposing to install a pedestrian safety path on only the north side of the street. The developer claims that the sidewalk would serve no purpose because there are no homes for the sidewalk to serve.
- Section 11-194(c) requires that all storm sewer have three feet of cover (e.g., burial depth) or more. The developer states that this variance is required in order to outlet the storm sewer and that additional fill cannot be placed due to existing topography.
- Section 11-194(a)(7) allows a maximum cul-de-sac length of 800 feet for this site, however, the applicant has proposed a cul-de-sac length of 975 feet. The applicant states that the topography and natural features of this site pose a practical difficulty and notes that the proposed street only has houses on one side.

- Section 11-194(a)(19) requires a secondary (emergency) access where only one access point is provided and in the case of residential development, each unit must be within 800 feet of street distance from the nearest point of external access. The developer states that the existing development adjacent to the site, along with the topographical and natural features of the site limit the ability to provide the secondary access.

The application package and asserted justifications from the applicant along with the relevant ordinance sections are attached.

The variance request was reviewed by various Community Development, the Landscape Architect, DPS Field Operations, DPS Engineering and Fire using the criteria in Section 11-10 of the ordinance (attached).

*Depth of storm sewer.* There were no concerns with the variance relating to the depth of storm sewer and staff recommends approval of the variance from Section 11-94(c) because of the fixed elevation of the outlet to the existing wetland and the practical difficulty of placing additional fill on the remainder of the parcel.

*Sidewalk:* There were also no concerns with the variance related to the construction of the sidewalk on one side of the street and staff recommends approval of the variance from Section 4.05(a) of the Subdivision Ordinance.

*Cul-de-sac:* Regarding the variance requests related to the length of the proposed cul-de-sac, there were no concerns expressed in the reviews by Community Development, the Landscape Architect, DPS Engineering, or DPS Field Operations staff. The Fire Department expressed concern about the length of the cul-de-sac primarily due to the lack of a secondary access (see attached Fire review).

*Secondary access:* There were no concerns expressed in the reviews by Community Development, the Landscape Architect, or DPS Field Operations staff for the final variance request related to the lack of a secondary (emergency) access. **However**, Fire and DPS Engineering are **recommending denial** of the variances from Section 11-194(a)(19) for the following reasons:

- The developer has not provided documentation to demonstrate that a literal interpretation of the ordinance would result in an exception or practical difficulty given that there are available locations on-site for a secondary emergency access, including but not limited to the northwest portion of the site in the area of the 20' wide water main easement between the proposed street and 10 Mile Road.
- The proposed design deviates substantially from the performance that would be obtained by strict enforcement of the ordinance because no alternative access was proposed and the existing manmade and natural features limit secondary means of access to the proposed homes.
- The granting of the variance could be detrimental to public health, safety and welfare because access to the proposed homes by emergency personnel is limited by the proposed development, as well as natural and manmade features.

**RECOMMENDED ACTIONS:**

**Approval** of a request from Mirage Development, LLC for a variance from the following ordinance sections: 1) Subdivision Ordinance Section 4.05(A) requiring that pedestrian safety paths be constructed along both sides of local streets (a sidewalk on only the north side is proposed), 2) Section 11-94(c) to provide less than three feet of cover for storm sewer pipe as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006).

**Approval** of a request from Mirage Development, LLC for a variance from Section 11-194(a)(7) for exceeding the 800 foot maximum length of a cul-de-sac (975 feet is proposed provided that an emergency access is proposed that meets the ordinance requirements as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006).

**Denial** of a request from Mirage Development, LLC for a variance from Section 11-194(a)(19) as part of the site plan for Orchard Hills North single family residential development (parcel 22-26-201-006) for the lack of a secondary or emergency access for the following reasons:

- The developer has not provided documentation to demonstrate that a literal interpretation of the ordinance would result in an exception or practical difficulty given that there are available locations on-site for a secondary emergency access, including but not limited to the northwest portion of the site in the area of the 20' wide water main easement between the proposed street and 10 Mile Road.
- The proposed design deviates substantially from the performance that would be obtained by strict enforcement of the ordinance because no alternative access was proposed and the existing manmade and natural features limit secondary means of access to the proposed homes.
- The granting of the variance could be detrimental to public health, safety and welfare because access to the proposed homes by emergency personnel is limited by the proposed development, as wells as natural and manmade features.

|                        | 1 | 2 | Y | N |
|------------------------|---|---|---|---|
| Mayor Gatt             |   |   |   |   |
| Mayor Pro Tem Staudt   |   |   |   |   |
| Council Member Casey   |   |   |   |   |
| Council Member Fischer |   |   |   |   |

|                        | 1 | 2 | Y | N |
|------------------------|---|---|---|---|
| Council Member Markham |   |   |   |   |
| Council Member Mutch   |   |   |   |   |
| Council Member Wrobel  |   |   |   |   |

# Orchard Hills North Location Map



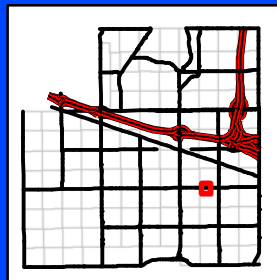
50-22-26-201-006

Map Author: A. Wayne  
Date: May 23, 2014  
Project:  
Version #:

Amended By:  
Date:  
Department:

**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.



## City of Novi

Engineering Division  
Department of Public Services  
26300 Lee BeGole Drive  
Novi, MI 48375  
cityofnovi.org

Feet  
0 30 60 120 180 240

1 inch = 158 feet



cityofnovi.org

RECEIVED

MAY 09 2014

### Request for Variance Design and Construction Standards

CITY OF NOVI  
COMMUNITY DEVELOPMENT

**Applicant Information**

Name: MIRAGE DEVELOPMENT, L.L.C

Address: 45380 W. TEN MILE  
SUITE 135  
NOVI, MI 48375

Phone No: 248 349 0582

**Engineer Information**

Name: WALTER, CANTRELL & PAORAS, INC

Address: 27300 HAGGERTY SUITE F2  
FARMINGTON HILLS, MI 48331

Phone No: 248 848 1666

**Applicant Status (please check one):**

- Property Owner
- Developer
- Developer / Owner Representative
- Other \_\_\_\_\_

Project Name ORCHARD HILLS NORTH JCP 14-01

Project Address/Location SOUTH SIDE OF 10 MI BETWEEN  
MEADOWBROOK & NOVI

Variance Request SEE ATTACHED

Justification (attach additional pages if necessary)

**INTERNAL USE**

Date Submitted: \_\_\_\_\_

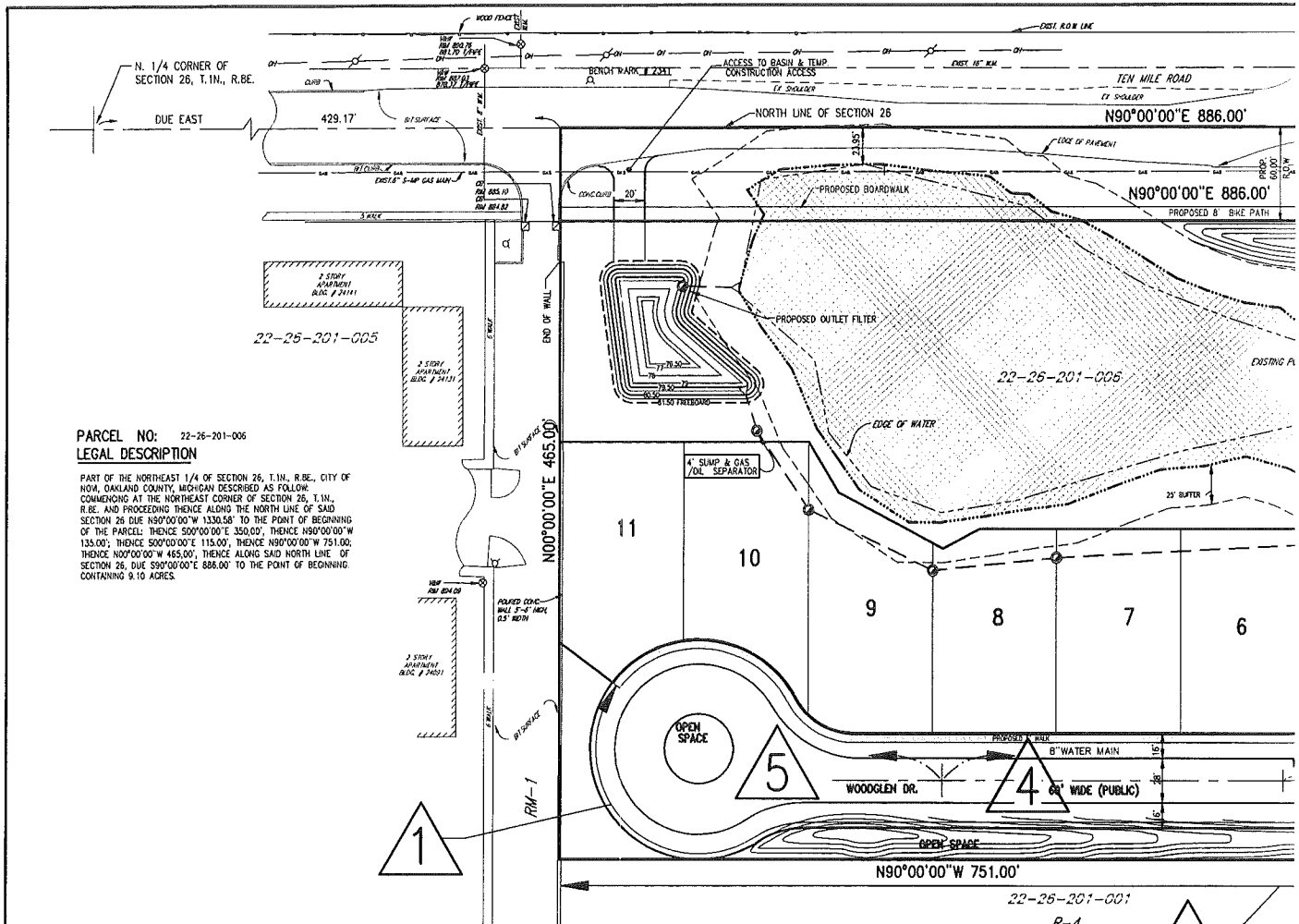
Code Section from which variance is sought: \_\_\_\_\_

- Submittal Checklist:
- One (1) copy of plan on 8.5 x 11 size paper
  - \$100 Filing Fee (No fee for driveway width variance requests)

Request Status:  APPROVED  DENIED

Authorized By: \_\_\_\_\_

Authorization Date: \_\_\_\_\_



**REQUEST FOR VARIANCE  
 DESIGN AND CONSTRUCTION STANDARDS**

- 1** A City Council waiver for having a sidewalk on only one side of Woodglen Street:

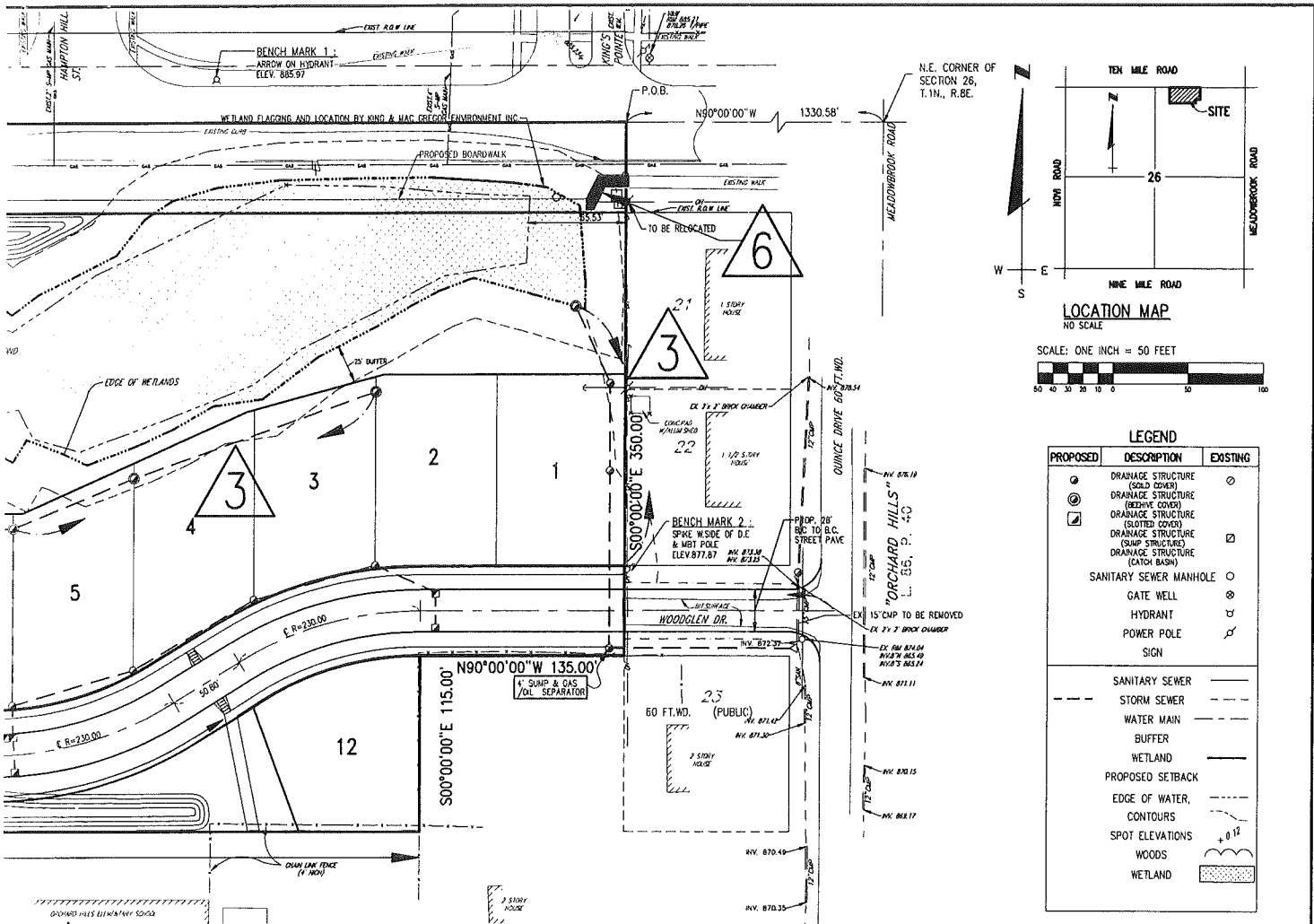
  - This waiver was granted by City Council on 11-14-05.
  - The reason for this request is that the sidewalk would serve no purpose, as there are no homes for the sidewalk to serve.
  
- 2** An administrative variance from Appendix C, Section 4.04(A)(1) for not providing stub street to adjacent school property.

  - The school site was developed with their access provided on the south side of their building.
  
- 3** A City Council variance is requested from Section 11-94(C) for providing less than three feet of cover for storm sewer pipe.

  - The reason for this request is that there are several runs of storm sewer which, in order to outlet to the sediment basin, cannot be placed to provide the three feet of minimum cover. Additional fill cannot be placed due to their location and topography.
  
- 4** A variance is requested from City Council from Section 11-194(a)(7) for exceeding the 800 foot maximum length for a cul de sac.

  - Previously granted 11/14/05.
  - The reason for the request is due to the practical difficulty caused by the topographical and natural features of the site. Further, this proposed street is single loaded with homes on only one side of the street. The concept of limiting the length of the cul de sac street is the limit the number of units to between 20 and 30; this site is proposing only 12 units.

Michigan State University Extension, 4800 State Street, East Lansing, MI 48824-1324, 517/353-3300, www.maes.msu.edu



A variance is requested from City Council from Section 11-194(a)(19) for units in excess of 800 feet external access.

- Previously granted 11/14/05.
- The reason for this request is that there are no places to provide external access due to the topographic and natural features of the site. In addition, the property to the west is an apartment complex with private drives and the property to the south is the school. As with the request for exceeding the 800 foot maximum cul de sac length, there will be only 12 proposed units.



A variance is requested from City Council from Section 11-258(a) for a bicycle path more than (1) foot away from future right-of-way lines.

- Previously granted 11/14/05.
- The reason for the request is that, in order to tie into an existing walk at the N.E. corner of the site, the path needs to be more than the (1) foot as required.

PROPRIETOR/OWNER:  
 MIRAGE DEVELOPMENT, L.L.C.  
 45380 W. 10 MILE ROAD  
 SUITE 135  
 NOV, MI 48375  
 PHONE (248) 348-0582  
 FAX (248) 348-0588  
 AUTHORIZED REPRESENTATIVE:  
 CLAUDIO ROSSI

DATE: May 08, 2014  
 REVISIONS:  
 AS BUILT

VARIANCE REQUESTS PLAN  
 ORCHARD HILLS NORTH CONDOMINIUM  
 PART OF THE N.E. 1/4 OF SECTION 26,  
 T.1 N., R.8 E., CITY OF NOV, MI  
 OAKLAND COUNTY, MICHIGAN

SCALE: 1" = 50'

DATUM: U.S.C. & G.S.

**WARNER, CANTRELL & PADMOS, INC.**  
 CIVIL ENGINEERS & LAND SURVEYORS  
 27300 Haggerty Road, Suite F2  
 Farmington Hills, MI 48331  
 (248) 848-1888  
 3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 (TOLL FREE) for the location of underground facilities  
 PLOT FILE: 20030612UP D-01 Variance Plan.pdf  
 JOB NO.: 20030612  
 PLAN FILE: T3-SB-F113  
 SHEET 1 of 1

Phone: (248) 848-1666  
Fax: (248) 848-9896

**WARNER, CANTRELL & PADMOS, INC.**  
CIVIL ENGINEERS & LAND SURVEYORS

27300 Haggerty Road, Suite F2  
Farmington Hills, MI 48331

ORCHARD HILLS NORTH  
N.E. ¼ SECTION 26, T.1N.-R.8E.  
CITY OF NOVI, OAKLAND CO.

**REQUEST FOR VARIANCE**  
**DESIGN AND CONSTRUCTION STANDARDS**

1. A City Council waiver for having a sidewalk on only one side of Woodglen Street:
  - This waiver was granted by City Council on 11-14-05.
  - The reason for this request is that the sidewalk would serve no purpose, as there are no homes for the sidewalk to serve.
2. An administrative variance from Appendix C, Section 4.04(A)(1) for not providing stub street to adjacent school property.
  - The school site was developed with their access provided on the south side of their building.
3. A City Council variance is requested from Section 11-94(C) for providing less than three feet of cover for storm sewer pipe.
  - The reason for this request is that there are several runs of storm sewer which, in order to outlet to the sediment basin, cannot be placed to provide the three feet of minimum cover. Additional fill cannot be placed due to their location and topography.
4. A variance is requested from City Council from Section 11-194(a)(7) for exceeding the 800 foot maximum length for a cul de sac.
  - Previously granted 11/14/05.
  - The reason for the request is due to the practical difficulty caused by the topographical and natural features of the site. Further, this proposed street is single loaded with homes on only one side of the street. The concept of limiting the length of the cul de sac street is the limit the number of units to between 20 and 30; this site is proposing only 12 units.
5. A variance is requested from City Council from Section 11-194(a)(19) for units in excess of 800 feet external access.
  - Previously granted 11/14/05.
  - The reason for this request is that there are no places to provide external access due to the topographic and natural features of the site. In addition, the property to the west is an apartment complex with private drives and the property to the south is the school. As with the request for exceeding the 800 foot maximum cul de sac length, there will be only 12 proposed units.



6. A variance is requested from City Council from Section 11-258(a) for a bicycle path more than (1) foot away from future right-of-way lines.
  - Previously granted 11/14/05.
  - The reason for the request is that, in order to tie into an existing walk at the N.E. corner of the site, the path needs to be more than the (1) foot as required.

We feel the City Council may grant the variances based on the criteria outlined in Article 1 in General, and Section 11-10 Variances (b)(1)(2)(3), as this request meets all of the conditions required.

## Section 4.05 Pedestrian Safety Paths, Bicycle Paths and Public Walkways.

- A. Pedestrian safety path (sidewalks) shall be constructed of concrete along both sides of all local streets shown on the plat. Provided, however, that pedestrian safety paths will not be required along industrial service streets, service drives, and will only be required along one side of marginal access streets. Pedestrian safety paths, where required, shall be five (5) feet wide and shall be placed one (1) foot off property lines.
- B. Bicycle paths which conform to the City of Novi Design and Construction Standards shall be constructed along all major arterials, arterials and minor arterials shown on or abutting the plat.
- C. Pedestrian safety paths (sidewalks) shall be required where necessary along retention ponds, outlots, and open space areas to provide continuity with sidewalks installed in other adjoining developments.
- D. The design and construction of pedestrian safety paths and bicycle paths shall be in conformity with Chapter 11 of the Novi Code of Ordinances (Design and Construction Standards).
- E. When a plat is adjacent to property owned by a school district, the plat shall include at least one pedestrian safety path to provide access to such adjacent property. In addition, such pedestrian safety paths may be required where adjacent property is utilized or planned to be utilized for a church, park or other community facility, or within the plat where the length of a block exceeds one thousand (1,000) feet.
- F. An easement at least twelve (12) feet wide shall be maintained for a public walkway.
- G. The surface of a public walkway shall be eight (8) feet wide and constructed to meet Chapter 11 of the Novi Code of Ordinances (Design and Construction Standards).
- H. Pedestrian safety paths and bicycle paths, or portions thereof, otherwise required may be eliminated where the City Council determines upon Planning Commission recommendation that installation would have an adverse impact on a woodland area. In such instances, the City Council may require alternative methods of providing public walkways.

*(Ord. No. 87-45.05, Pts. I, II, 7-20-87; Ord. No. 87-45.07, Pt. I, 11-9-87; Ord. No. 92-45.14, Pt. I, 6-1-92; Ord. No. 95-45.22, Pt. II, 6-19-95; Ord. No. 97-45.25, Pt. I, 10-20-97)*

*Cross reference— Design and construction standards for bicycle paths, § 11-256 et seq.; design and construction standards for pedestrian safety paths, § 11-276 et seq.*

## Sec. 11-94. Design considerations.

### (a) *Location of sewers.*

- (1) *In right-of-ways.* Storm sewers shall generally be located on the same sides of streets as water mains within the public road, in an easement along lot frontages, on the northerly and easterly side of the street. All sewers shall be dimensioned to the right-of-way, property lines, or other suitable means of locating the sewer.
  - a. Sewers shall whenever feasible be constructed outside of the influence of paved street, parking areas, driveways, bicycle paths and pedestrian safety paths, and not closer than ten (10) feet to any building.
- (2) *In easements.* Easements for sewers shall have a minimum width of twenty (20) feet. The utility shall be centered in the easement unless otherwise permitted by the engineer. Such easements shall be deeded or dedicated to the city with restrictions against use or occupation of easements by the property owners and/or by other utilities in any manner which would restrict sewer maintenance or repair operations.
  - a. Easements for possible extensions shall be provided to the property lines at locations designated by the engineer.
  - b. Easements shall be provided for all drainage ditches and storm sewers located within a platted subdivision or site condominium. In the case of roadway drainage systems, such conveyance may be with the dedication and acceptance of the road right-of-way.
  - c. Drainage and storm sewer easements shall be provided where off-site drainage enters onto the lot or parcel to be developed.
  - d. Easements shall be provided in size and location in accordance with the City of Novi Stormwater Management Master Plan.
  - e. Drainage easements shall be provided at the location of and of the design width required for the 100-year overflow drainage way.
- (3) *Discharge of storm sewers.* Storm sewers shall not be permitted to discharge directly into a wetland or watercourse unless pretreatment is provided prior to its discharge.

### (b) *Sewer capacity.*

- (1) *Tributary area.* Sewers shall be designed to serve all natural tributary areas and areas designated in the City of Novi Stormwater Management Master Plan with due consideration given to topography, established zoning and the adopted city master land use plans and the capacity of the stormwater outlet proposed to be used. Discharge must not be diverted onto abutting properties without necessary easements. The outlet must be in accordance with the existing natural drainage courses in the area. Provisions for detention/retention of stormwaters where required must be included in the storm drainage system as described in article V of this chapter.
- (2) *Hydrologic considerations.* In general:
  - a. All stormwater drainage designs shall provide for a major/minor stormwater disposal system.
  - b. The minor stormwater disposal system shall utilize a piping system designed for a ten-year rainfall event. The rational formula shall be utilized to determine flows to be accommodated using a ten-year curve ( $I=175/T + 25$ ) for rainfall. Initial time of concentration shall be twenty (20) minutes maximum.
  - c. Runoff coefficients shall be determined for each individual drainage area and

calculations for each drainage area must be submitted as part of the design computations. Coefficient design determinations shall be based upon the following minimum coefficients:

Agricultural C=0.15  
Pavement and buildings C=0.80

- d. The major stormwater disposal system shall include an overland flood routing for a 100-year storm. The rational formula shall be utilized to determine flows to be accommodated using a 100-year curve ( $I=275/T + 25$ ). Initial time of concentration shall be twenty (20) minutes maximum. Typical cross sections of the overland flood route shall be shown on the storm sewer plans. Calculations shall be submitted verifying the ability of the cross section to accommodate the 100-year storm. A minimum freeboard of one (1) foot shall be provided from any building structure finish grade to the 100-year flood elevation. Manning's formula shall be used in hydraulic calculations for the overland flood routing and open channel design.

(3) *Hydraulics.*

a. *Pipe sizes.*

- 1. Minimum pipe sizes for storm sewers receiving surface runoff shall be 12-inch nominal internal diameter.
- 2. Pipe sizes shall not decrease going downstream unless specifically approved by the engineer.  
Trunk sewers shall be sized as design dictates with allowance for extensions.

b. *Allowable pipe slopes (n=0.013).*

| Pipe diameter (inches) | Minimum slope (feet per 100 feet) |
|------------------------|-----------------------------------|
| 10                     | 0.42                              |
| 12                     | 0.32                              |
| 15                     | 0.24                              |
| 18                     | 0.18                              |
| 21                     | 0.14                              |
| 24                     | 0.12                              |
| 27                     | 0.10                              |
| 30                     | 0.09                              |
| 36                     | 0.067                             |
| 42                     | 0.054                             |
| 48                     | 0.045                             |
| 54                     | 0.038                             |
| 60                     | 0.034                             |

Generally, all catch basin and inlet leads shall have a minimum of one (1) percent slope.

- c. *Minimum and maximum velocities.* Minimum design velocity shall be two and one-half (2½) feet per second with pipe flowing full. Maximum design velocity shall be

twenty-five (25) feet per second.

- d. *Calculations.* Manning's formula shall be used for hydraulic calculations. Allowances for head losses through manholes shall be provided.
    1. Allowances for changes in pipe size. The hydraulic gradient shall be maintained by matching the 0.80 diameter depth above invert for pipe size increases.
    2. Allowance for direction changes. Provide a drop of 0.10 feet in the downstream sewer invert for direction changes in excess of thirty (30) degrees to compensate for the hydraulic head losses.
  - e. *Surcharging.* Surcharging under design conditions is allowed. However, the hydraulic gradient should not exceed any structure cover elevations.
  - f. *Submerged storm sewers.* Submerged storm sewers shall not be permitted unless specifically otherwise approved by the engineer.
- (c) **Minimum depth of sewers. Unless specifically otherwise approved, no sewer shall have less than three (3) feet of cover.**
- (d) *Plunge pools.* Whenever differences in manhole pipe invert elevations exceed two (2) feet, the manhole shall be provided with a plunge pool (sump) to prevent channel erosion. Plunge pools shall generally be two (2) feet in depth.
- (e) *Manholes, inlets and catch basins.*
- (1) *Manhole locations.* Manholes shall be constructed at every change in sewer material, grade, alignment, pipe size, and at the junction of sewer lines. Generally, manholes shall be placed not more than three hundred (300) feet apart. The maximum distance between manholes shall be three hundred fifty (350) feet for sewers less than twenty-four (24) inches in diameter, four hundred (400) feet for twenty-four (24) to thirty (30) inches in diameter, four hundred fifty (450) feet for thirty-six (36) inches to forty-two (42) inches in diameter, and five hundred (500) feet maximum for forty-eight-inch diameter sewers and larger. Generally, manholes should be placed at street intersections. Manholes shall be provided where catch basin and inlet leads are to be connected to the sewer, unless expressly waived by the engineer for a specific location to a particular project.
  - (2) *Catch basin and inlet locations.* Catch basins and inlets shall be located using the following design criteria:
    - a. So that the flows to be accommodated do not exceed the intake capacity of the cover. The intake capacity of the cover is assumed to be 0.011 cubic feet per second (cfs) per square inch of opening.
    - b. At all low points in gutters, swales and ditches. A minimum of two (2) catch basins shall be located at all gutter low points in all public or private roadways.
    - c. At the upstream curb return, if more than two hundred (200) feet downstream of high point in gutter or of intercepting structure.
    - d. At maximum intervals of five hundred (500) feet along a continuous roadway slope.
    - e. Inlets shall only be allowed in pavement areas, and then, only as a high end structure and when followed by a catch basin within fifty (50) feet of the inlet.
    - f. End sections may be used as a ditch inflow device when followed within fifty (50) feet by a catch basin. Field catch basins shall be provided at the low point of all swales and ditches so as to prevent a concentrated flow of stormwater onto a paved surface such as streets, driveways, parking lots, etc.
    - g. In rear yard drainage systems (sub-division) so that not more than four (4) lots

## Sec. 11-194. Design considerations.

- (a) Street and roadway right-of-way widths, curbed pavement widths and pavement thickness.
- (1) See Table VIII-A for minimum requirements. Roads under the jurisdiction of the state department of transportation and the county road commission shall be subject to the requirements of those agencies. County road right-of-way dedication shall be in accordance with the current adopted road commission master right-of-way plan.
  - (2) Residential and industrial subdivision streets shall be surfaced with bituminous pavement or portland cement concrete pavement, curbed with portland cement concrete curb and gutter sections, and provided with enclosed storm drainage systems.
  - (3) The above requirements may be modified for residential subdivisions to permit open roadside ditches if the following conditions are met:
    - a. Each lot must have a gross area not less than one (1) acre.
    - b. Each lot must have a frontage of not less than one hundred fifty (150) feet.
    - c. Each lot must have a depth not less than the lot width, nor greater than three (3) times the lot width.
    - d. No lot shall be partitioned or divided if such partitioning or dividing would produce lots having less than the minimum width and area stipulated above.
    - e. No water, other than natural surface stormwater shall be allowed to enter such open roadside ditches. Basement sump water, for example, shall not be discharged into open roadside ditches. Footing drainage discharge shall be in accordance with Chapter 12, Article II, "Drainage in Connection with the Construction of Buildings and/or Improvement of Property."
    - f. Discharge of storm drainage into an open roadside ditch shall be in accordance with storm drainage design standards as set forth in this chapter.
    - g. The natural groundwater table must be below the bottom of all ditches.
    - h. Designs for subdivision roads with open roadside ditches shall conform to the requirements shown in Figure VIII-B.
  - (4) Whenever a subdivision is contiguous with a section line, and a road does not exist along the section line, a dedication of sixty (60) feet will be required along the section line as a half-width right-of-way for an arterial road. If some overriding feature of terrain, aesthetics or the like makes it impossible or undesirable for this arterial road to follow the section line, it may be relocated within the plat if it serves the same function. Where the arterial road is relocated within the plat, a dedication of one hundred twenty (120) feet for full-width right-of-way will be required. Provision for arterial roads in locations as outlined above will be required unless a detailed study reveals the inadvisability of same.
  - (5) Whenever a subdivision is contiguous with a quarter-section line, and a road does not exist along that line, a dedication of forty-three (43) feet will be required along the quarter-section line as a half-width right-of-way for a collector street. If some overriding feature of terrain, aesthetics or the like makes it impossible or undesirable for this collector street to follow the quarter-section line, it may be relocated within the plat if it serves the same function. Where the collector street is relocated within the plat, a dedication of eighty-six (86) feet for a full-width right-of-way will be required. Provision for collector streets in locations as outlined above will be required unless a detailed study reveals the inadvisability of same

- (6) Subdivision street right-of-way dedication shall not be less than sixty (60) feet in single-family residential subdivisions and for other than collector streets in multiple-occupancy developments, seventy (70) feet in industrial subdivisions (a sixty-foot dedicated right-of-way and two (2) five-foot easements for all public highway purposes may be substituted for a seventy-foot right-of-way), seventy (70) feet for collector streets in multiple-occupancy developments, eighty-six (86) feet for single-family residential collector streets or one-half mile roads, and one hundred (100) feet for boulevards (collector type), and eighty-six (86) feet for boulevards (minor or local type).
- (7) Cul-de-sac shall be designed in accordance with Figures VIII-F. The maximum cul-de-sac street length shall be eight hundred (800) feet for all developments except for R-A zoned properties where maximum cul-de-sac street length shall be one thousand five hundred (1,500) feet unless the property is to be developed using a Zoning Option which decreases lot size below the R-A district minimum in which case maximum cul-de-sac street length will be one thousand (1,000) feet. The standard outside pavement radius of cul-de-sac shall be sixty (60) feet in industrial areas and fifty-four (54) feet in all other areas. Wherever cul-de-sac contain islands, parking shall be prohibited along the island. The island radius shall be twenty-two (22) feet and standard pavement width shall be thirty-two (32) feet, back to back of curb. Islands will not be allowed in industrial areas.
- (8) Eyebrows. Eyebrows will be accepted for use in areas where property boundary or environmental restrictions limit the ability to provide a continuous two hundred thirty (230) feet centerline road radius. Eyebrows shall be designed in accordance with Figure VIII-G. Eyebrows shall have an outside pavement radius of sixty-four (64) feet for industrial developments and fifty-four (54) feet for residential subdivisions. The radius point shall be the intersection of, or projected intersection of the right-of-way lines on the opposite side of the street from the eyebrow. Islands will not be permitted in eyebrows.
- (9) U-street right-of-way widths shall be at least one hundred forty (140) feet, terminating in a half-circle at least one hundred forty (140) feet in diameter. Minimum pavement width at the half circle shall be thirty-two (32) feet back to back of curb.
- (10) Marginal access streets for residential or nonresidential uses, where permitted or required, shall have a right-of-way or easement width of at least thirty (30) feet for one-way operation abutting a major thoroughfare right-of-way. The width of the marginal access street shall be twenty (20) feet, back to back of curb and parking shall be prohibited. One-way operation shall be standard. However, the pavement width and right-of-way width may be increased to provide for two-way operation when it is demonstrated that two-way operation is more desirable than one-way operation from a safety and traffic flow perspective. At a minimum, pavement width for two-way operation shall be twenty-eight (28) feet and right-of-way or easement width shall be forty (40) feet.
- (11) Pavement width for alleys shall be at least twenty-two (22) feet.
- (12) For roadways (private), public right-of-way is not required.
- (13) Right-of-way shall be required to be platted or deeded for all public highway purposes.
- (14) The right-of-way widths required above shall generally govern; however, if the city determines that additional right-of-way is required for proper construction because of special circumstances, which shall include but not be limited to requirements for horizontal sight distances, grading operations, location of open channels, permanent structures occupying portions of the right-of-way, or for a road that is not so designated but which may function as a collector or arterial road, such facts will be made known to

the proprietor after a review of the plans by the planning commission and/or the council.

- (15) A minimum eight-inch 21AA full width aggregate base is required under all concrete roadways. However, alternate designs for pavement cross sections that provide equal or greater structural stability and longevity will be considered by the city engineer if adequate engineering data is furnished for analysis.
- (16) Joint layout for concrete pavement shall be in accordance with Figure VIII-H.
- (17) Standard details governing such items as intersection geometrics, grading cross sections and other design and construction details shall conform to current Road Commission for Oakland County (RCOC) and/or Michigan Department of Transportation (MDOT) standards, except where exceeded by a city standard detail. Standard details are available from the city and shall be considered a part of these standards.
- (18) Temporary "T" turn-around. A temporary "T" turn-around will be required to be constructed on all public street stubs which exceed one hundred fifty (150) feet in length as measured from the right-of-way line of the intersecting street to the end of the stub street. Design shall be in accordance with Figure VIII-I.
- (19) Except as provided below, a secondary (emergency) access driveway is required where only one access point is provided. A secondary access driveway shall be a minimum of eighteen (18) feet in width and paved to provide all-weather access and shall be designed to support a vehicle of thirty-five (35) tons. Minimum easement width for secondary access driveways shall be twenty-five (25) feet. A permanent "break-away" gate shall be provided at the secondary access driveway's intersection with the public roadway in accordance with Figure VIII-K. Cellular pavers, with established and viable turf, known as "turf pavers," may be used for a secondary access only, subject to the requirements of subsection c. below.
  - a. In the case of residential development, when each dwelling unit is within eight hundred (800) feet of street distance from the nearest point of external access; one thousand five hundred (1,500) feet in the RA district with conventional development; one thousand (1,000) feet in RA district with development option, e.g., RUD, preservation option, etc.
  - b. In the case of non-residential development, when the development is of a single building, and when the fire chief (or designee) determines, based upon the use and occupancy of the proposed building, the manner of construction of the proposed building, and the number of occupants for the proposed building, that there is a reduced risk of fire hazard such that the facility may be served by a single point of external access.
  - c. Turf pavers may be allowed for a secondary access drive, if all of the following are met:
    1. The proposed use of turf pavers shall be evaluated by the fire marshal, which evaluation shall include a review of the standard details for construction established by the city engineer and adopted by resolution of the city council.
    2. The pavers proposed for such use shall have a minimum design compressive strength of thirty-five (35) tons.
    3. A secondary access drive constructed of turf pavers shall be designated by landscaping and signage clearly indicating its function as a secondary access drive, and shall be mowed and kept clear of snow and ice as necessitated by the weather conditions.
    4. Under no circumstances shall the secondary access drive permitted under this section be considered suitable or intended for use as a platform for



fire engine or ladder truck operations.

- a. In the case of residential development, when each dwelling unit is within eight hundred (800) feet of street distance from the nearest point of external access; one thousand five hundred (1,500) feet in the RA district with conventional development; one thousand (1,000) feet in RA district with development option, e.g., RUD, preservation option, etc.
  - b. In the case of non-residential development, when the development is of a single building, and when the fire chief (or designee) determines, based upon the use and occupancy of the proposed building, the manner of construction of the proposed building, and the number of occupants for the proposed building, that there is a reduced risk of fire hazard such that the facility may be served by a single point of external access.
- (20) All fire apparatus access roads (public and private) with a dead-end drive in excess of one hundred fifty (150) feet shall be designed with a turn-around designed in accordance with Figure VIII-I or a cul-de-sac designed in accordance with Figure VIII-F.
- (b) *Alignment.*
- (1) Minimum sight distance entering onto a major or section line road shall be in accordance with Figure VIII-E entitled "Guide for Corner Sight Distance."
  - (2) Horizontal curves in proposed streets which appear to be continuous shall have a centerline radius of not less than two hundred thirty (230) feet.
  - (3) Vertical curves shall be designed in accordance with Figure VIII-D (minimum design speed shall be thirty (30) miles per hour).
  - (4) The centerline of construction shall coincide with the centerline of the right-of-way, except in those instances where the engineer determines that the presence of unusual topography or sensitive lands justifies off-center placement.
  - (5) The use of skewed intersections will be discouraged.
  - (6) The use of superelevation of horizontal curves will not be allowed in residential and industrial street design.
  - (7) Where left turn passing lanes are warranted, (see Figure IX-8) or, where directed by the city, where center turn lanes are warranted as a passing lane alternative, dimensions shall be in accordance with Figures IX-9 and IX-7, respectively.
  - (8) Local street and roadway intersections shall have a minimum pavement turning radius of twenty-five (25) feet. All other street intersections shall provide a minimum pavement turning radius as provided in Figure IX-1.
  - (9) Any public street which provides access to a major arterial, arterial, minor arterial or collector shall be separated from other public streets and commercial drives according to the standards and provisions in [section 11-216\(d\)\(1\)d](#).
- (c) *Grades.*
- (1) *Industrial subdivisions.*
    - a. Minimum grade, 0.6 percent.
    - b. Preferred maximum grade, six (6) percent; however, grades up to eight (8) percent will be considered under special conditions.
  - (2) *Collector streets.*
    - a. Minimum grade, 0.6 percent.
    - b. Maximum grade, eight (8) percent.
  - (3) *Residential streets.*
    - a. Minimum grade, 0.6 percent.



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May 20, 2014

Adam Wayne, Construction Engineer  
City of Novi  
45175 Ten Mile Road  
Novi, Michigan 48375

Re: Orchard Hills North  
Variances from Design and Construction Standards

Dear Mr. Wayne:

Our office has reviewed the proposed request for four (4) variances from the City's Design and Construction Standards, as follows:

1. Variance from **Section 11-94(c)**. Section 11-94(c) prohibits the construction of storm sewer with less than 3-feet of cover:
  - (c) Minimum depth of sewers. Unless specifically otherwise approved, no sewer shall have less than three (3) feet of cover.
  
2. Variance from **Section 11-194(a)(7)**. Section 11-194(a)(7) prohibits the construction of a cul-de-sac exceeding 800-feet:
  - (7) Cul-de-sac shall be designed in accordance with Figures VIII-F. The maximum cul-de-sac street length shall be eight hundred (800) feet for all developments except for R-A zoned properties where maximum cul-de-sac street length shall be one thousand five-hundred (1,500) feet unless the property is to be developed using a Zoning Option which decreases lot size below the R-A district minimum in which case maximum cul-de-sac street length will be one thousand (1,000) feet. The standard outside pavement radius of cul-de-sac shall be sixty (60) feet in industrial areas and fifty-four (54) feet in all other areas. Wherever cul-de-sac contain islands, parking shall be prohibited along the island. The island radius shall be twenty-two (22) feet and standard pavement width

shall be thirty-two (32) feet, back to back of curb. Islands will not be allowed in industrial areas.

3. Variance from **Section 11-194(a)(19)**. Section 11-194(a)(19) prohibits the construction of residential units more than 800-feet from an external access:

(19) Except as provided below, a secondary (emergency) access driveway is required where only one access point is provided. A secondary access driveway shall be a minimum of eighteen (18) feet in width and paved to provide all-weather access and shall be designed to support a vehicle of thirty-five (35) tons. Minimum easement width for secondary access driveways shall be twenty-five (25) feet. A permanent "break-away" gate shall be provided at the secondary access driveway's intersection with the public roadway in accordance with Figure VIII-K. Cellular pavers, with established and viable turf, known as "turf pavers," may be used for a secondary access only, subject to the requirements of subsection c. below.

- a. **In the case of residential development, when each dwelling unit is within eight hundred (800) feet of street distance from the nearest point of external access;** one thousand five hundred (1,500) feet in the RA district with conventional development; one thousand (1,000) feet in RA district with development option, e.g., RUD, preservation option, etc.

4. Variance from **Section 4.05A** of the Subdivision Ordinance. Section 4.05A of the Subdivision Ordinance requires the construction of sidewalks along both sides of a local street:

A. Pedestrian safety path (sidewalks) shall be constructed of concrete along both sides of all local streets shown on the plat. Provided, however, that pedestrian safety paths will not be required along industrial service streets, service drives, and will only be required along one side of marginal access streets. Pedestrian safety paths, where required, shall be five (5) feet wide and shall be placed one (1) foot off property lines.

Section 11-10 of the Ordinance Code permits the City Council to grant a variance from the Design and Construction Standards when a property owner shows all of the following:

- (b) A variance may be granted when all of the following conditions are satisfied:

- (1) A literal application of the substantive requirement would result in exceptional, practical difficulty to the applicant;
- (2) The alternative proposed by the applicant shall be adequate for the intended use and shall not substantially deviate from the performance that would be obtained by strict enforcement of the standards; and
- (3) The granting of the variance will not be detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property.

The developer's variance application indicates that the proposed Orchard Hills North Subdivision has unusual topographical conditions that create practical difficulties relating to access to the subdivision resulting in the need for multiple variances from the City's Design and Construction Standards. The unusual topography includes a large area of wetlands comprising almost the entire northern portion of the subject property, and the existing barrier created by the existing school property to the south and apartment complex to the west which both prevent the developer from making additional roadway connections.

As a result of the surrounding conditions, homes will be placed on only side of the street, eliminating the need for a sidewalk to be constructed on one side of the street.

In addition to limiting the availability for the connection to a secondary access, the street will be longer than contemplated by the City's Design and Construction Standards.

It is our understanding that proposed development is not able to connect with the school because the school's access point is to the south and that previous attempts to connect to the adjacent apartments have been rejected by the owners due to the loss of parking that would be likely to result.

Finally, due to the topography and the location of the storm sewer, 3-feet of cover cannot be placed over the storm sewer.

In the event that the developer can demonstrate, and City Council finds that the standards for the variances have been met, including providing a showing that the proposed variances will not be detrimental to the public health, safety or welfare, our office sees no legal impediment to granting the variances.

If you have any questions regarding the above, please call me.

Very truly yours,

JOHNSON, ROSATI, SCHULTZ & JOPPICH, P.C.



Elizabeth Kudla Saarela

Adam Wayne, Construction Engineer

May 20, 2014

Page 4

EKS

Enclosures

C: Maryanne Cornelius, Clerk (w/Enclosures)  
Charles Boulard, Community Development Director (w/Enclosures)  
Matt Wiktorowski, Field Operations (w/Enclosures)  
Brian Coburn, Engineering Manager (w/Enclosures)  
David Beschke, Landscape Architect (w/Enclosures)  
Jeff Johnson, Fire Department (w/Enclosures)  
Thomas R. Schultz, Esquire (w/Enclosures)



cityofnovi.org

**CITY OF NOVI**  
**Engineering Department**

**MEMORANDUM**

**To:** Charles Boulard, Community Development  
 David Beschke, Landscape Architect  
 Beth Saarela, Attorney  
 Jeff Johnson, Fire Department  
 Matt Wiktorowski, Field Ops

**From:** Adam Wayne, Engineering

**Date:** May 13, 2014

**Re:** Variance from Design & Construction Standards  
 Orchard Hills North

Attached is a request for a Variance from the **Design and Construction Standards Section 11-194(a)(7)**. Please review for a future City Council Agenda. In accordance with Section 11-10 of the Ordinance, the following three conditions **must be met** for a variance to be granted by Council:

- 1) A literal application of the substantive requirement would result in exceptional, practical difficulty to the applicant;
- 2) The alternative proposed by the applicant would be adequate for the intended use and would not substantially deviate from the performance that would be obtained by strict enforcement of the standards; and,
- 3) The granting of the variance would not be detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property.

Following review of the variance, check the appropriate box below and provide your signature. If you have no basis for recommending either approval or denial, please check the "No Exceptions Taken" box. If you are recommending approval or denial of the request, **please also complete the matrix on the reverse of this form**. Please return to my attention by **Friday May 23<sup>rd</sup>, 2014**.

**ROUTING**

| Delivered To                   | Returned On | RECOMMENDED ACTION |         |                     | Signature |
|--------------------------------|-------------|--------------------|---------|---------------------|-----------|
|                                |             | Approval*          | Denial* | No Exceptions Taken |           |
| Brian Coburn (Engineering)     |             |                    |         |                     |           |
| Charles Boulard (Comm Dev.)    |             |                    |         |                     |           |
| David Beschke (Landscape Arch) |             |                    |         |                     |           |
| Beth Saarela (City Attorney)   |             |                    |         |                     |           |
| Jeff Johnson (Fire Department) | 5/21/14     |                    | X       |                     |           |
| Matt Wiktorowski (Field Ops)   |             |                    |         |                     |           |

**\* SEE REVERSE**

**If recommending approval or denial, please complete the following:**

1. Would a literal application of the substantive requirement of the ordinance result in an exceptional, practical difficulty to the application?  Yes  No

Explain:

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2. Would the alternative proposed by the applicant be adequate for the intended use and not deviate from the performance that would be obtained by strict enforcement of the standards?  Yes  No

Explain:

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3. Would granting the variance not be detrimental to public health, safety, or welfare, and not injurious to adjoining or neighboring property?  Yes  No

Explain:

The applicant has exceeded the Cul-de-Sac Design and Construction ordinance by 175 feet. No alternative secondary egress was proposed. Granting this variance poses difficulty should the roadway be blocked. There is no easy access due to the natural and manmade feature surrounding the properties. This causes concern for the public health, safety and welfare.



cityofnovi.org

**CITY OF NOVI**  
**Engineering Department**  
**MEMORANDUM**

**To:** Charles Boulard, Community Development  
 David Beschke, Landscape Architect  
 Beth Saarela, Attorney  
 Jeff Johnson, Fire Department  
 Matt Wiktorowski, Filed Ops

**From:** Adam Wayne, Engineering

**Date:** May 13, 2014


**Re:** Variance from Design & Construction Standards  
 Orchard Hills North

Attached is a request for a Variance from the **Design and Construction Standards Section 11-194(a)(19)**. Please review for a future City Council Agenda. In accordance with Section 11-10 of the Ordinance, the following three conditions **must be met** for a variance to be granted by Council:

- 1) A literal application of the substantive requirement would result in exceptional, practical difficulty to the applicant;
- 2) The alternative proposed by the applicant would be adequate for the intended use and would not substantially deviate from the performance that would be obtained by strict enforcement of the standards; and,
- 3) The granting of the variance would not be detrimental to the public health, safety or welfare, nor injurious to adjoining or neighboring property.

Following review of the variance, check the appropriate box below and provide your signature. If you have no basis for recommending either approval or denial, please check the "No Exceptions Taken" box. If you are recommending approval or denial of the request, **please also complete the matrix on the reverse of this form**. Please return to my attention by **Friday May 23<sup>rd</sup>, 2014**.

**ROUTING**

| Delivered To                   | Returned On | RECOMMENDED ACTION |         |                     | Signature   |
|--------------------------------|-------------|--------------------|---------|---------------------|---|
|                                |             | Approval*          | Denial* | No Exceptions Taken |   |
| Brian Coburn (Engineering)     |             |                    |         |                     |   |
| Charles Boulard (Comm Dev.)    |             |                    |         |                     |   |
| David Beschke (Landscape Arch) |             |                    |         |                     |   |
| Beth Saarela (City Attorney)   |             |                    |         |                     |   |
| Jeff Johnson (Fire Department) | 5/21/14     |                    | X       |                     |  |
| Matt Wiktorowski (Field Ops)   |             |                    |         |                     |   |

**\* SEE REVERSE**



**If recommending approval or denial, please complete the following:**

1. Would a literal application of the substantive requirement of the ordinance result in an exceptional, practical difficulty to the application?  Yes  No

Explain:

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2. Would the alternative proposed by the applicant be adequate for the intended use and not deviate from the performance that would be obtained by strict enforcement of the standards?  Yes  No

Explain:

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3. Would granting the variance not be detrimental to public health, safety, or welfare, and not injurious to adjoining or neighboring property?  Yes  No

Explain:

The applicant has exceeded the permitted length of 800 feet from an external access and does not meet the Design and Construction Ordinance. No alternative secondary egress was proposed. Granting this variance poses difficulty should the roadway be blocked. There is no easy access due to the natural and manmade features surrounding the properties. This causes concern for the public health, safety and welfare.



# PLANNING COMMISSION MINUTES

CITY OF NOVI

Regular Meeting

**April 23, 2014 7:00 PM**

Council Chambers | Novi Civic Center | 45175 W. Ten Mile  
(248) 347-0475

## CALL TO ORDER

The meeting was called to order at or about 7:00 PM.

## ROLL CALL

**Present:** Member Anthony, Member Giacometti, Member Lynch, Chair Pehrson, Member Zuchlewski

**Absent:** Member Baratta (excused), Member Greco (Excused)

**Also Present:** Barbara McBeth, Deputy Director of Community Development; Sara Roediger, Planner; Kristen Kapelanski, Planner; Adam Wayne, Engineer; David Beschke, Landscape Architect; Beth Saarela, City Attorney; Pete Hill, City's Environmental Consultant; Matt Carmer, City's Environmental Consultant.

## PLEDGE OF ALLEGIANCE

Member Zuchlewski led the meeting attendees in the recitation of the Pledge of Allegiance.

## APPROVAL OF AGENDA

Moved by Member Lynch and seconded by Member Anthony:

## VOICE VOTE ON THE AGENDA APPROVAL MOTION MADE BY MEMBER LYNCH AND SECONDED BY MEMBER ANTHONY:

**Motion to approve the April 23, 2014 Planning Commission Agenda. *Motion carried 5-0.***

## AUDIENCE PARTICIPATION

No one in the audience wished to speak.

## CORRESPONDENCE

There was no Correspondence.

## COMMITTEE REPORTS

There were no Committee Reports.

## COMMUNITY DEVELOPMENT DEPUTY DIRECTOR REPORT

Deputy Director McBeth said the City Council approved the request of Rose Senior Living at Providence Park Hospital for a Concept Plan. This matter will return to the Planning Commission for consideration of the Preliminary Site Plan after the City Council approves the agreement for this project. Ms. McBeth shared the flyer again with the Planning Commission members regarding the Placemaking Strategy Development Workshops that are scheduled for May 8<sup>th</sup> and May 22<sup>nd</sup>. Those are both Thursday evenings and the sessions will run from about 6 p.m. to 9:30 p.m. The Commission members are asked to let us know if they can attend. Staff is looking forward to these sessions - we think it will be a good learning opportunity and really focused on issues here in the City of Novi.

## CONSENT AGENDA - REMOVALS AND APPROVAL

There were no Consent Agenda items.

## PUBLIC HEARINGS

### 1. ORCHARD HILLS NORTH, JSP14-01

Public hearing at the request of Mirage Development, LLC for Preliminary Site Plan with a Site Condominium, Wetland Permit, Woodland Permit and Stormwater Management Plan approval. The subject property is 9.1 acres in Section 26, located on the south side of Ten Mile Road, between

Meadowbrook Road and the CSX railroad in the R-4, One-Family Residential District. The applicant is proposing a 12 unit single-family residential development.

Planner Sara Roediger said the applicant is proposing a twelve unit single-family residential condominium development. The property is located on the south side of Ten Mile Road, and is surrounded by single family residential homes, with the exception of the Orchard Hills Elementary School located to the south, and Novi Ridge Townhouses to the west. This property and a majority of the sounding area is zoned R-4, One-Family Residential, with the exception of the RM-1 Low-Density Multiple-Family west of the site. Similarly, the Future Land Use map indicates primarily single-family uses for this area with multiple-family and education facility uses planned for the properties to the west and south respectively. There is one significant open water regulated wetland on the northern portion of property, with minimal impacts due to the installation of the required boardwalk along 10 Mile Road. In addition, the site is heavily wooded and the vast majority of the site contains regulated woodlands. 57 regulated trees are being removed, requiring 132 woodland replacement credits, either as new trees or through contribution to the tree fund. The twelve single-family detached home development would be constructed on an extension of the existing Woodglen Drive and end in a cul-de-sac at the site's western border. The site plan is significantly similar to the previously approved site plan that was approved by the City in 2005, but has since expired. All reviews recommend approval of the plan, with the landscape review noting that the applicant has requested a waiver from the required berm along the northern property line, which would be supported by staff to due to the location of the existing wetland and standing water. A second landscape waiver is being requested to reduce the berm height along the southern property line, which is not supported by staff.

The applicant has also requested a number of variances from the subdivision ordinance and the City's design and construction standards, including one administrative variance and five City Council variances. These include variances for allowing a sidewalk on one side of Woodglen Drive, a cul-de-sac longer than 800 ft., pathways to be located more than 1 foot away from the future ROW line, providing less than 3 feet of cover on top of the storm sewer and to not provide a secondary access or stub street to the adjacent property. This evening the Planning Commission is asked to hold a public hearing and approve the Preliminary Site Plan, Wetland Permit, Woodland Permit and Stormwater Management Plan.

Claudio Rossi, with Mirage Development, said as mentioned, we are proposing a 12 unit single family residential project referred to as Orchard Hills North. This proposed development was fully approved back in 2006 before the significant economic downturn, which resulted in its postponement. We are now before the commission again to request your consideration of an approval that was once granted. The proposed plan is basically the same with a few minor changes as recommended by city staff and with the same variances that were previously approved. As you can see, the density has not been maximized in order to preserve most of the natural features. The size and styles of home will be very similar to the homes built in Orchard Hills West with starting prices expected to be around the 400s. I'd be more than happy to answer any questions that you may have.

Chair Pehrson opened the public hearing. Seeing no one wishing to speak, Chair Pehrson asked if there was any correspondence. Member Lynch read the correspondence.

Terry Croad, of Aspen Drive, said in general, I am in support of the development and I believe the developer has a right to reasonably develop his property. However there is concern with a pathway connection to Orchard Hills Elementary. I recommend that the proposed pathway, adjacent to lot 12, from Woodglen south to the school's property (existing playground) be built as part of the proposed development. Also, the proposed cul-de-sac is in excess of the City's standard maximum 800 foot length and will force all traffic onto Quince. This will cause additional trip generations. Also, the intersection of Woodglen and Quince is heavily impacted by existing traffic and has the greatest degradation and pot holes. Then, I support the wavier of the southern sidewalk, with the exception of the sidewalk adjacent to

lot 12, since a sidewalk will be constructed on the north side of Woodglen adjacent to the proposed homes. Finally, I support the waiver of the boardwalk location, as long as a boardwalk and 8 foot pathway is constructed along Ten Mile connecting the existing pathways on the east and west of the subject property.

Michael Schlotta objects the plan. Please consider landscape berm along the east edge of lot 1 that is adjacent to the address shown below. This project will destroy a good amount of wildlife and supporting habitats.

Pamela Brown objects the plan. I have lived here for 33 years. We just keep building and building. Not only is it becoming more like Livonia in terms of congestion, but it is impossible to enter 10 Mile now from Meadowbrook Glens. Can't we please save some empty land?

Kelly Thompson objects the plan. It causes more traffic for Meadowbrook Glens residents. We need to protect wildlife. Not every area is Novi needs to be developed.

Chair Pehrson closed the public hearing and asked the Planning Commission for comments or a motion.

Member Anthony said can you point out to me what areas on the site will have a berm? And what's the height of the berms that you're proposing to have?

Mr. Rossi said there is a berm on the south side; I believe it is three feet in height. The reason why we can't make the berm taller is because if we make it taller then we have to go wider. To make it wider, you're going to impact the road. The road would have to be shifted and then the lots would have to be shifted which would affect the big pond that's there and encroach on the wetlands. There's also a berm proposed in the center along the Ten Mile right-of-way between the wetlands. Again, we're requesting a waiver as far as the right-of-way. We have to keep that closer towards the Ten Mile Road right-of-way in order to minimize the impact of the wetlands.

Member Anthony asked how much land do you have between the road and your property boundary in order to put in a berm. What's the width of that section?

Mr. Rossi said 20 feet.

Member Anthony said so 20 feet for a three-foot high berm and the city is requiring how high? I think four-foot high? Let me direct this to the city. Alright David, without pulling out a ruler and doing some calculations, for 20 feet it seems like we can do a four foot berm, what do you think?

Landscape Architect Beschke said you can if you go steeper and it's not something that they're going to have to maintain in terms of mowing. It was approved before. It's a practical hardship for them to push forward like Mr. Rossi is saying. I don't want to get into the wetland buffers or the wetland itself. The other upside is that they heavily planted the berm and there's a ton of evergreens. They've done a lot more than they'd need to do, typically.

Member Anthony said so is the city position to still support the four foot berm?

Landscape Architect Beschke said I believe so. I couldn't recommend approval because there's no mechanism for me to do it through the ordinance, but there is for you if you see a practical hardship.

Member Anthony said ok and then the berm itself being three-foot, what type of landscaping would be on top of that berm?

Landscape Architect Beschke said it's heavily landscaped with trees and shrubs mostly, mostly evergreens.

Member Anthony said but if it's heavily landscaped now, are you saying that they proposed that after the berm that the plantings would be heavily landscaped.

Landscape Architect Beschke said right, that edge is not a good woodland edge so they're going to be doing all new planting down the side of the road.

Member Anthony said so the additional landscaping would give the height and the visual effect that you're looking for with a four-foot berm?

Landscape Architect Beschke said I believe so.

Member Anthony said ok. I have one more question, one of the residents brought up a path that would connect Meadowbrook to the school, I'm unfamiliar with weather or not the school would want that. You can see from the aerial photos that there's already a natural path where people move through there. Could you help guide on that question?

Engineer Wayne said if I may defer to Sara, I believe she's been in contact with the school, or at least knows more information on our Non-Motorized Master Plan.

Planner Roediger said I would say that it's our stance that we maintain the path to the school. We haven't spoken with the school district at this point but following approval of the plan we would coordinate with the school district to ensure access. It makes sense to have the access there.

Member Anthony said I live in that area so it is a natural way that kids do walk and if you block that off it's going to create diversion.

Planner Roediger said as proposed right now it does dead-end into a fence. So when we get into the Final Site Plan if we need to shift that maybe, we can work with the school to see if they want it to be shifted a couple feet to the west to avoid the playground. But we'll work with the school to come up with something that is mutually agreeable. At a minimum, we will make them create a sidewalk to the schools edge so that there would be connection there in the future if that's ever desired by the school.

Member Anthony said great, thank you.

Mr. Rossi said I could probably comment on that a little because I've had a discussion with the school superintendent.

Member Anthony said well I was going to direct the question right to you. Can you put a path in there?

Mr. Rossi said we proposed a pathway alongside of lot 12 going to the south boarder of our property and the north boarder of the school where there is a chain linked fence there. The concern with the school is that it runs right into the playground and for security reasons they're not sure if they would want the path extended and whether they would extend it through their playground to get around the west end to go into the school doors. At this point, they've told us to keep the pathway, if it's being requested by the city, alongside lot 12. but they were going to have further discussions among themselves rather they were going to extend it around of whether there is a possibility of moving it to the west end off of the cul-de-sac and making more of a direct shoot to their north property line which would be at our west end.

Member Anthony said because that path would be consistent with our non-motorized transportation

plan, I would recommend that you do work with city staff to put in a pathway along the west side of lot 12. Would you object to that or have a problem with that?

Mr. Rossi stated that we have it proposed that way right now. Again, I don't know if the school would extend it through or not.

Member Anthony said I will limit my recommendation to working with the staff to be consistent with the Non-Motorized Master Plan, that way it doesn't involve the school and the school could be a later issue.

Member Lynch said I just have one question. Who owns the path? Is that the city's property? Will the city maintain it?

Engineer Wayne said all public pathways within common elements would have to have an easement over them where the city would maintain those and abate any trip hazards. The winter maintenance would most likely fall to the subdivision homeowners association.

Member Lynch said ok and the pathway is a concrete pathway?

Mr. Rossi said its asphalt.

Engineer Wayne said it would actually be required to be concrete unless it is actually ten feet wide, which I do not believe the applicant is proposing at this time.

Member Lynch said ok well it sounds like the developer is willing to do it. It sounds like the purpose of the berm is to isolate the residential from the roads. It sounds like the trees and everything do it. So I guess I'm in support of this proposal. You mentioned that it was approved in 2006?

Mr. Rossi said we got all of the final approvals back in 2006.

Member Lynch said so really the thing that's really outstanding is the path and you'll work with the school system. It sounds like the holdup is with the school system. It sounds like the developer wants it and the city wants it, it's just the school has to approve it. Ok I guess I'm in support of this project

Member Giacometti said I had a question concerning the secondary access driveway. If a waiver wasn't granted, would you be able to extend to Ten Mile Road?

Mr. Rossi said I think it would be very difficult to put a secondary access because of the huge open waterway that's there on the north end of the project in order to minimize the impact of the existing wetlands. On the northwest end is where our retention pond is so there is only limited space that you can do that. Again, we have not maximized the density of this property; we didn't even come in with an open space cluster option where we could have probably gotten 16 or 17 lots. We prefer to go with the eighty-foot wide lots. But I think we've done the best that we can and this is a very challenging piece of property with a lot of constraints. I think it would be very difficult to put in a secondary access.

Mr. Rick Hirth said the aerial shows some type of driveway or path. There is a pathway on the west end. We had granted the school permission to actually go through there to be able to do the addition on their school a few years back. We asked that they minimize any impact on the existing trees but we granted them permission to do that and that's where our temporary access will be for the main construction, sewers and roads. Then we'll finish up putting the sediment basin once all the major construction has been done so that we're not going through the existing sub.

Member Giacometti said that was my only question.

Chair Pehrson said the berm, just so I'm clear, three or four foot high works?

Landscape Architect Beschke said they've shown a variation between three and four feet - four feet where they can get it easy and three feet when they can't.

Chair Pehrson said ok and the city is ok with that?

Landscape Architect Beschke said yes.

Moved by Member Anthony and seconded by Member Lynch:

**ROLL CALL VOTE THE PRELIMINARY SITE PLAN APPROVAL MOTION MADE BY MEMBER ANTHONY AND SECONDED BY MEMBER LYNCH:**

**In the matter of Orchard Hills North, JSP14-01, motion to approve the Preliminary Site Plan with a Site Condominium based on and subject to the following:**

- a. The conditions and items listed in the staff and consultant review letters being addressed on the Final Site Plan; and
- b. City Council variance from Appendix C of the Subdivision Ordinance Section 4.05 of the City Code to permit a pedestrian pathway on only one side of the proposed road; and
- c. City Council variance from Section 11-194(a)(7) of the Design and Construction Standards of the City Code to permit a cul-de-sac street length greater than 800 ft.; and
- d. City Council variance from Section 11-194(a)(19)(a) of the Design and Construction Standards of the City Code to permit not provide a secondary access driveway; and
- e. City Council variance from Section 11.258(a) of the Design and Construction Standards of the City Code to permit a bicycle path to vary more than 1 foot from the future right-of-way; and
- f. City Council variance from Section 11-194(c) of the Design and Construction Standards of the City Code to permit less than 3 feet of cover to the top of the storm sewer; and
- g. Planning Commission waiver of the required berms in the locations of existing wetland and standing water; which is hereby granted; and
- h. Administrative variance from Appendix C of the Subdivision Ordinance Section 4.04(A)(1) of the City Code to not provide a stub street to adjacent property; and
- i. Planning Commission waiver of berm height to allow three foot berm height provided landscaping meets city requirements; which is hereby granted; and
- j. Applicant will work with staff to construct a pathway to the school west of lot 12 in accordance with the City's Non-Motorized Master Plan.

**This motion is made because the plan is otherwise in compliance with Article 4, Article 24 and Article 25 of the Zoning Ordinance and all other applicable provisions of the Ordinance. *Motion carried 5-0.***

Moved by Member Anthony and seconded by Member Lynch:

**ROLL CALL VOTE THE WETLAND PERMIT APPROVAL MOTION MADE BY MEMBER ANTHONY AND SECONDED BY MEMBER LYNCH:**

**In the matter of Orchard Hills North, JSP14-01, motion to approve the Wetland Permit based on and subject to the findings of compliance with Ordinance standards in the staff and consultant review letters, and the conditions and items listed in those letters being addressed on the Final Site Plan. This motion is made because the plan is otherwise in compliance with Chapter 12, Article V of the Code of Ordinances and all other applicable provisions of the Ordinance. *Motion carried 5-0.***

Moved by Member Anthony and seconded by Member Lynch:

**ROLL CALL VOTE THE WOODLAND PERMIT APPROVAL MOTION MADE BY MEMBER ANTHONY AND SECONDED BY MEMBER LYNCH:**

**In the matter of Orchard Hills North, JSP14-01, motion to approve the Woodland Permit based on and subject to the findings of compliance with Ordinance standards in the staff and consultant review letters, and the conditions and items listed in those letters being addressed on the Final Site Plan. This motion is made because the plan is otherwise in compliance with Chapter 37 of the Code of Ordinances and all other applicable provisions of the Ordinance. *Motion carried 5-0.***

Moved by Member Anthony and seconded by Member Lynch:

**ROLL CALL VOTE THE STORMWATER MANAGEMENT PLAN APPROVAL MOTION MADE BY MEMBER ANTHONY AND SECONDED BY MEMBER LYNCH:**

**In the matter of Orchard Hills North, JSP14-01, motion to approve the Stormwater Management Plan, subject to the findings of compliance with Ordinance standards in the staff and consultant review letters and the conditions and the items listed in those letters being addressed on the Final Site Plan. This motion is made because the plan is otherwise in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance. *Motion carried 5-0.***

**2. CZ CARTAGE, JSP13-70**

Public hearing at the request of CZ Trucking Realty, LLC for Preliminary Site Plan, Wetland Permit, Woodland Permit and Stormwater Management Plan approval. The subject property is located in Section 17, south of Grand River Avenue and east of Wixom Road in the I-1, Light Industrial District. The subject property is 17.78 acres and the applicant is proposing to construct a parking area for 72 trailer trucks.

Planner Kapelanski said the applicant is proposing to construct a new truck parking area for 72 trailer trucks on a vacant parcel adjacent to the existing CZ Cartage. The site is bordered by various industrial uses and vacant land with the existing CZ Cartage property to the west. The subject property is zoned I-1, Light Industrial with I-1 zoning to the north, west and east and I-2, General Industrial zoning to the east and south. The Future Land Use map indicates Office Research Development and Technology uses for the subject property and properties to the north, east and west with Community Commercial planned to the west as well. The majority of the site is covered by regulated wetlands and woodlands, most of which the applicant will not be impacting with development planned for the northern portion of the site only. The applicant is proposing a tractor trailer parking area on approximately 1.8 acres of the 3.2 acre site. The new lot would be connected to the existing CZ Cartage property to the west. The parking area would not be curbed and would be constructed of asphalt millings.

The planning, traffic and fire reviews recommend approval of the plan with minor items to address on the Final Site Plan submittal. The engineering review recommends approval of the plan but also notes the need for a Design and Construction Standards variance from the City Council for the lack of pavement and curbs. The landscape review recommends approval of the plan. The applicant is seeking Planning Commission waivers for the deficient amount of interior parking lot landscaping and to permit more than 15 contiguous parking spaces without a landscape island. Staff does not support these waivers. The wetland and woodland reviews recommend approval and also note that both a City of Novi Non-Minor Use Wetland Permit and Authorization to Encroach into the 25 Foot Natural Features Setback are required for wetland impacts and a City of Novi Woodland Permit is required for proposed woodland impacts.



our dollars, and benefit a lot of other areas that are in need.

Mr. Schultz said it might be something that could be brought up with the Planning Commission at Capital Improvement Plan time, which is when they talk about those kinds of public improvements and when they ought to occur.

Mayor Landry asked Mr. Schultz if that wouldn't have to come as a recommendation from the developer rather than a request from the City. Mr. Schultz said it typically would, but we can plan for it and have a policy in place that talks about it when the request is made. Obviously, we are asking them to pay for something that is an improvement off site, and that is something we would have to get agreement on rather than impose.

Member Paul asked if that was an ordinance change, would it have to go through the Planning Commission. Mr. Helwig said they would be reviewing their committee structure at the next meeting, and depending on what they decide, Ordinance Review Committee, Planning Commission, or City Council could do it.

Member Paul said when Council looked at the budget two years ago they had a proposal for \$8,000 for a Greenway Plan. She said the Planning Commission came forward and requested an \$8,000 Greenway Plan, and this might be something that could fall in together.

Mr. Pearson said the plan that was budgeted is definitely moving forward. The staff submitted it in the last Parks and Recreation brochure, and there have been meetings at various locations. He said they have an adopted Sidewalk Plan as part of the Master Plan for Land Use, and there is a phasing plan in there. As a young City there are going to be those kinds of gaps and these opportunities. Typically, the developers want improvements, with their dollars, that are going to benefit their properties. On this site there is another development to the south, and they will be building sidewalks. These will be filled in over time, and we have a good track record.

Roll call vote on CM-05-11-355

Yeas: Nagy, Paul, Landry, Capello, Gatt,  
Margolis, Mutch

Nays: None

- 6. Consideration of a request from the developer of Orchard Hills North for: 1) a variance from Section 11-278(b)(5) of the Design and Construction Standards requiring the Ten Mile bike path to be located 1 foot inside the road right-of-way (a meandering location proposed) contrary to staff recommendation; 2) a variance from Section 4.05A of the City of Novi Subdivision Ordinance requiring that pedestrian safety paths be constructed along both sides of local streets (a sidewalk on only the north side is proposed); and 3) a variance from Section 11-194(a)(7) of the Design and Construction Standards limiting the length of a cul-de-sac to 800 feet (975 feet is proposed).**

Rick Hirth of Warner, Cantrell & Padmos, was present representing Mirage Development to answer any questions Council has about the variances.

Mr. Helwig said they provided their thoughts on this document, and are in agreement with variances #2 and #3. Regarding variance #1, they agreed with the requirement of the road commission that any fixed object be at least 12 feet from the curb. He said this would be similar to the boardwalk that the City authorized just west of Novi Road on the south side of Ten Mile.

Member Nagy said the south side of Ten Mile is where they are proposing to put in the boardwalk over the wetlands. She said the boardwalk would be across Meadowbrook Glens, and there is a wetland and a pond there. Her concern is that there is no sidewalk area along Ten Mile between Meadowbrook and Novi Road. She found it strange to put in this boardwalk that would lead to nowhere. Member Nagy said people don't walk on the north or south side of Ten Mile, because there are no sidewalks. She said rather than putting in this boardwalk why don't we ask the developer to fill in a gap somewhere else. It makes no sense to make the developer put it in this location.

Member Nagy said one of the things that is going to be difficult is on Ten Mile east of Meadowbrook on the north side there are sidewalks, but not on the south side. Now, when going west of Meadowbrook there will be something on the south side but not on the north side. It zigzags the City and makes no sense. She stated she would prefer to take that money and ask the developer to connect sidewalks in other areas that would benefit pedestrians.

Mr. Hayes said he could only comment on the utility of requiring what's in our ordinance as far as a developer putting in a boardwalk or sidewalk on a particular parcel. Member Nagy said she would make that recommendation for all the reasons she stated. She asked Mr. Hayes, regarding the rest of the proposal, what he felt about the one foot inside the road right-of-way. Mr. Hayes said that is our standard in the Design and Construction Standards of the ordinance. It provides us with a level of assurance that the sidewalk or bike path is going to be placed a safe distance away from the roadway. Member Nagy asked Mr. Hayes if the boardwalk would be a safety hazard. He responded that it would get too close to the pavement on Ten Mile Road. It would take us within five or six feet of the paved traveled roadway. Member Nagy asked if there were any other areas in the City close to the roadway. Mr. Hayes said there are areas that have deviated from the right-of-way line, but he didn't know how close they get to the pavement. She said she knew other areas had the deviation, and wondered why they were not allowing this one. Mr. Hayes said their requirement is to place the sidewalk or bike path one foot inside of the right-of-way or away from the property line. The applicant has proposed a meander that takes it to within five or six feet of the pavement. Member Nagy asked if they had proposed any other alternative. Mr. Hayes said no.

Mr. Hirth said the reason for the meandering is because they are crossing the wetlands in two spots with the boardwalk/sidewalk combination, and they are trying to minimize the impacts to the wetlands. If they don't get the variance it will be put in where the ordinance requires it and it will cause more wetland impact and a longer boardwalk. The boardwalk will be an item that the City owns and will be in the City's right-of-way. The maintenance of these boardwalks is greater than a sidewalk; so it is our feeling that this

location is the best location. In the past, the City had a meandering sidewalk as part of their Design and Construction Standards and five or six feet was normally considered

the absolute distance between pavement and a walkway. He said, as proposed, it does not meet the City standards and that is why they are here for the variance.

Mr. Hayes said when a meandering sidewalk has been allowed, it is where we have allowed pavement to occur. When we are meandering it's to avoid a wetland or woodland, and is when we would require a boardwalk to try to mitigate the impact to the wetlands or woodlands.

Member Nagy stated she would be willing to grant the variance because she believed it would save more of the wetlands and woodlands. That area is a part of the Middle Rouge and is very important with regard to the environmental issues there. Member Nagy asked if there was another way to alleviate the 975 foot cul-de-sac. She looked at the plan and there was nothing else they could do unless they totally took out the cul-de-sac and eliminated those homes.

Mr. Hirth said it was suggested that they try to tie into the apartment project, which is not only a practical difficulty but Mr. Rossi made several attempts with the apartment owners to tie into the water main, but they weren't willing to allow them to tie into the road, because the road is going to be a City road, the apartments are private and they would lose parking, etc. Mr. Hirth said normally a cul-de-sac link is planned out to be so many units, double loaded or lots on both sides. This development has lots only on one side. There are 12 lots and it is well under the usual 20 or 30 lots that could be done there. He said with the school property being adjacent to the site they felt this was the best way to minimize the impact to the ground.

**CM-05-11-356      Moved by Nagy, seconded by Paul; CARRIED  
UNANIMOUSLY: That the request from the developer of Orchard Hills North that 2) A variance from Section 4.05A of the City of Novi Subdivision Ordinance requiring that pedestrian safety paths be constructed along both sides of local streets be waived due to the meandering bike path will enable more wetlands and woodlands to be saved, 3) that a variance be granted from Section 11-194(a)(7) of the Design and Construction Standards limiting the length of the cul-de-sac to 800 feet and to allow 975 feet because there are homes only on one side and because it will be a City street and not connect to the apartments. Also, the developer would meet with the Administration to see if a relocation of the street would be feasible.**

## **DISCUSSION**

Member Paul said when talking about moving the sidewalks, that's something that the developer would offer to us. So, this as part of the motion concerned her. She said she could support most of the motion, and asked for clarification.

Mr. Schultz said it concerned him as well. He said he had given an intentionally guarded answer to her question that we'd probably have to look at it, and formulate a response. The reason that we are able, as a City, to require a developer to build a sidewalk across the frontage of the property is that there is essentially case law. It says where there's an impact of the development that is going to relate to sidewalk that is going to specifically relate to this particular development. In addition to that kind of direct proportional benefit and cost, we also have a limitation in Michigan that we can't require improvement to be done off site. He said between the two of those things without a lot more discussion, consideration and, frankly, an actual formal offer from the developer, he had a lot of concern with that as well.

Member Paul said she could support the motion if an amendment was made to remove that portion. She said we are going to approve the bike path be located one foot from inside the road right-of-way, and the meandering location proposed. She could support that, but not the portion that suggests that Council ask him to move it to another area unless the developer comes forward with that proposal.

Member Nagy asked if Member Paul's amendment proposed taking out the Ten Mile boardwalk all together. Member Paul said no. Member Nagy asked if she wanted the boardwalk built. Member Paul said the beginning of the motion suggested that the developer be asked to move the sidewalk to another location. She thought that portion had to be extracted, because that has not been offered so we can be sure that we are meeting every requirement of our City ordinances as well as the State ordinance.

Member Nagy said the first variance of the motion is what is to be removed and Member Paul said she was correct. Member Paul suggested calling the vote on Items 2 and 3 and then discuss the sidewalk. Member Nagy accepted the amendment.

Member Paul said just removing the first portion of the motion regarding the sidewalk location, and then we can decide if we want it to be on that area one foot from inside the right-of-way or have it meandering. Member Paul said she would rather preserve the environment and do the meandering one as suggested.

Mayor Landry said Member Paul was suggesting that Council vote on Item #6 in two stages. First stage with respect to the second and third variance only, and then as a separate item address the request for the first variance. Member Nagy agreed and Mayor Landry asked Mr. Schultz if that was appropriate.

Mr. Schultz said if that is the motion, it is appropriate.

Mayor Landry said there has been a friendly amendment and it has been accepted. Now the motion is to approve the second and third request of variance. That being the elimination of the five foot wide sidewalk on the single loaded cul-de-sac and the variance to allow a 975 foot cul-de-sac.

Member Mutch asked Mr. Hayes if the plan depicted the road moving south, and if the road is moving south what else is moving south. He said he was trying to see where these improvements to the southerly boundary of the wetlands were taking place.

Mr. Hirth said the reason for their request eliminating the sidewalk on the south side of the road is that there are no houses there. He said the sidewalk on the north side of the road is making a connection to the school's walkway pattern. He said the roadway won't shift and the location of the pavement in right-of-way will remain the same in both instances. Mr. Mutch asked Administration to address this.

Mr. Hayes said the road itself wouldn't move further to the south. The point they were trying to make was that they would eliminate the impact to the wetlands and woodlands on the south side of that roadway. Mr. Mutch asked if there was any opportunity to shift the road and the lot south, and would there be any benefit to that occurring. Mr. Mutch said if we are taking out the sidewalk, which he agreed didn't make sense there, if there is an opportunity to shift the road south and bring the road and the houses away from the wetland, which makes sense. He said he would like to see that take place if possible. Obviously, if the sidewalk isn't along the southerly right-of-way, you've got 60 feet of right-of-way to work with that gains us at least another 15 feet and could potentially move those lots and the road away from the wetland further. Mr. Mutch said along the southern boundary the only thing going there is a berm. He said it made sense otherwise we are saving the developer some money not constructing a sidewalk we don't need. However, this wouldn't address the rationale provided to Council.

Ms. McBeth said the plan has been worked on very carefully over the past several months regarding the exact location of the cul-de-sac, and the location of the road and sidewalk. She believed, with the road as currently located, they are able to get as many units as possible without the need for a sidewalk on the south side, and it kind of benefits over on the far west side of the property where the cul-de-sac is located. She said that is the pinch point involved in this development, and is where the wetlands cease to exist on the north and south side. There is no need for the sidewalk to be located there, and she didn't think it increased the opportunity to shift the property any farther to the south than is seen on the plan.

Mr. Mutch asked if her opinion was that it would be too much work to do a shift south working with the right-of-way and the area that's available. Ms. McBeth thought it was possible to take another look at the plan, and see if the actual roadway could be moved a little to the south so there is a little more space on the north side. Mr. Mutch said even if the lot can't be shifted south, which he thought would be the ideal situation, even increase some of the front yards on those lots would, by moving that road to the south, benefit those future homeowners in that area. If that was accomplished it would be some benefit to giving up the sidewalk. Mayor Landry asked Member Mutch if that was a friendly amendment and he responded it was.

Mayor Pro Tem Capello commented that looking at the sidewalk to the west of Lot 12, he thought there should be an apron to get to the street.

Mr. Hirth stated they didn't want to put an apron there because they didn't want to encourage crossing the road except at intersections. Mayor Pro Tem Capello said they have to there, because there is a sidewalk only on one side.

Member Paul asked if this was going back through the planning or Administration stages for the relocation of the street. She didn't want this going through another six month process and asked for clarification. Mayor Landry said the motion was that they would meet with Administration to see if this was feasible. Mr. Helwig agreed and said he would report back to Council.

Member Gatt asked if it comes back and is not feasible, does the motion just go through then. Mr. Helwig said that was his understanding. He said they would try, and if there's elbow room, they will abide by the wishes of Council.

**Roll call vote on CM-05-11-356**

**Yeas: Paul, Landry, Capello, Gatt, Margolis,  
Mutch, Nagy**

**Nays: None**

Mayor Landry asked for comments on the first part of Item 6, and the request for a variance regarding the location of the bike path along Ten Mile Road.

Member Mutch said he would not support a variance that eliminated the bike path entirely or resulted in the bike path being located where the applicant proposed. He said there would be problems with not meeting Oakland County standards. The other concern is that this particular location is used by a blind gentleman, who walks down Ten Mile Road along the curb and along the property, because there is no where for him to walk. This is a hazardous situation and alleviating it would be helpful. Member Mutch understood the arguments on the other side, but the concern he would have without having something formally in place to address the cost, is that we would end up installing this path at a cost to the City at a future date. He is not opposed to looking at alternatives because there are other locations in the City, and Council needs to address those paths. He wouldn't support the variance as stated.

Member Gatt agreed with Member Mutch, and said he would not be in favor of any variance being granted on this matter.

Member Nagy disagreed with some of the comments, because there is a sidewalk granted for the apartments, but even if a boardwalk is put in in front of the wetland you still would not be able to have a sidewalk at the end of the boardwalk. She said this is an Oakland County road, and asked if the money from the project could be put into escrow for future construction.

Mr. Schultz said in the past, Council has had applicants who wanted to delay construction of a sidewalk or boardwalk for a particular period of time, and on occasion, Council has granted that. He said that is not really what they are asking for in terms of a variance. They are not asking to do it later; they want it in a different location.

Secondly, he thought that it is rare that we hit the number that it will actually cost in the future, so you have to weigh the reasonableness of the amount placed in escrow.

Member Nagy asked if Council could take the whole project out, and not require the developer to do it. Mr. Schultz said the question is instead of granting the variance request of moving it, can Council just delete the requirement. Mr. Schultz thought

Council would want an actual request to do that, but obviously, Council would have the authority to grant that kind of a waiver.

Member Nagy said she had concerns about putting in a boardwalk on 10 Mile. There have been no safety studies, and it seemed dangerous to put a boardwalk in the middle of an area, and then when you exit the boardwalk you're on grass again. She said she didn't understand the need for this.

Member Margolis said she could not support the variance because the Oakland County Road Commission is not in support of it. However, after talking with residents, people do want these paths created in a community. She thought the long term goal of this process was to connect the City up over time. She is concerned about Council deciding to move sidewalks from one area to another. She thought the goal was to work with the developers to connect up the City so people can have sidewalks. She encouraged them to find a way to do this without a variance.

Mayor Pro Tem Capello said we have been struggling for years to fill all the gaps in the sidewalks, and it made no sense to him to now create a gap when we have the opportunity to fill the sidewalks in. He said they had seen tentative plans from Walgreens at Ten Mile and Novi Road coming east to the railroad track, which will be developed in the near future. He assumed the Pico property would be redeveloped in the near future and would create another area where the sidewalk gaps would be filled. He said it made sense to create a sidewalk from Novi Road to Meadowbrook Road. There is a lot better chance to fill in the gaps on the south side of Ten Mile than on the north side. So to say we will relocate the sidewalk elsewhere, and create another gap over a wetland area that is going to cost us more money in the future to build the sidewalk, made no sense to him. Mayor Pro Tem Capello said Council granted a variance and had them remove the sidewalk within the subdivision. If we had an ordinance that said a developer could apply for a variance to not construct the sidewalks where required, and the developer would offer to build that sidewalk elsewhere, that would make sense. However, that is not in front of us now, so we can't do it. He said maybe Mr. Schultz could look at that and come back to Council. It seems the consensus of Council is they want the sidewalk there. It is going to be a boardwalk, and it will have to be carried further off the right-of-way.

**CM-05-11-357      Moved by Capello, seconded by Margolis; CARRIED UNANIMOUSLY: To deny #1, Consideration of a request from the developer of Orchard Hills North for: 1) a variance from Section 11-278(b)(5) of the Design and Construction Standards requiring the Ten Mile bike path to be located 1 foot inside the road right-of-way (a meandering location proposed) contrary to staff recommendation. The variance from Section 11-278(b)(5)**

**of the Design and Construction Standards is denied based on the reasons in the staff report. It was discussed that the developer would work with the Administration to determine if he could come back with something different.**

## **DISCUSSION**

Member Paul agreed with many of the comments made at the table, and thought that Council would have the sidewalk once the Walgreen area was further developed. She wondered what would be done with this portion. Member Paul said the developer wants five to six feet back from the edge of the pavement, and our Design and Construction Standards say one foot. She felt one foot from Ten Mile was a concern. She thought that the developer's proposal of five or six feet back with a meandering sidewalk was safer than it would be to come one foot off the right-of-way.

Mr. Hirth stated the ordinance called for one foot off the right-of-way line, which is normally 60 feet from the centerline of the road not the edge of the pavement. He said if they are to follow the ordinance they would construct the combination of walk and boardwalk at one foot from the right-of-way, which leaves 12 to 20 feet from the edge of the road. The reason they are requesting the variance is because if we swing it closer to the road, whether 5 feet or 12 feet, it shortens the length of the boardwalk which lessens the temporary impacts on the wetlands. He said that is the reason for their request for the variance. Mr. Hirth said if they didn't receive the variance they would have to build the boardwalk over a longer distance of wetland, which they are willing to do. However, they felt the farther they are from the edge of the wetlands, instead of building it within a reasonable distance of the edge, now they are a little farther back, it will have inevitable impact on the wetlands, albeit temporary, are probably going to be a little bit more. The variances were to try to minimize that. He said if they can get the variance to the 12 feet as the road commission requests they would be glad to do it, but it is not a project killer to build it at the ordinance required location. In any case it will be as safe as any other sidewalk or developments are.

Member Paul asked if there was a way to build a sidewalk within the Oakland County Road Commission standards, and decrease the amount of boardwalk. She thought that was a good idea. She said the boardwalks on Beck Road by Kirkway Place and Greenwood Oaks, and the one on Ten Mile by the Whitehall Nursing Home are starting to curl and need maintenance. She thought decreasing the amount of boardwalk would increase the ability to last longer, and it would decrease the amount of impact on the wetlands.

Mayor Landry said he couldn't support granting a variance to the sidewalk. He agreed with Member Mutch and thought the sidewalk needed to be there. There is a sidewalk to the west and if someone wanted to go from Quince to the apartments, they have to have a sidewalk. There is a school to the south of this with children coming in and out. He stated so to just do away with the sidewalk, he could not support that. Mayor Landry said if we build the sidewalk to the City's Design and Construction Standards, it meets Oakland County Road Commission rules, and there is no fixed object within 12 feet,



which complies with their rule. He said he would support the motion to deny the variance.

Member Mutch said the concern he has about placing this somewhere between where they are proposing and one foot off the right-of-way is that if Ten Mile Road is widened, the City could incur the cost of tearing it out and replacing it. He said in terms of getting those pathways completed, the developer has already had significant savings

by not placing the sidewalk on the south side. It is a trade off in this situation, and obviously, it will be more expensive to put in the boardwalk segment. However, he thought Council should look at the developer incurring that cost with some off set from the previous motion, and then getting that completed for the long term.

Mr. Schultz said, for clarification, the denial is based on the reasons in the staff report.

**Roll call vote on CM-05-11-357**      **Yeas: Landry, Capello, Gatt, Margolis, Mutch, Nagy, Paul**  
**Nays: None**

**7. Approval of resolution to authorize Budget Amendment #2006-06.**

**CM-05-11-358**      **Moved by Nagy, seconded by Paul; CARRIED UNANIMOUSLY:**  
**To approve resolution to authorize Budget Amendment #2006-06.**

**DISCUSSION**

Mayor Pro Tem Capello asked if they could contract with this individual employee, offer them something different, and not have any union problems.

Mr. Helwig said yes.

Member Gatt asked why they would want to do this. He asked if this person wouldn't stay with the City if she wasn't offered vacation and time off.

Mr. Helwig said the memo was provided so that Council would have the complete history. This is heightening the arrangement over what it was before, and that is the principal objective. It also accommodates the individual opting out of the health insurance and pension programs. Member Gatt asked Mr. Helwig if he recommended this and he replied he did.

**Roll call vote on CM-05-11-358**      **Yeas: Capello, Gatt, Margolis, Mutch, Nagy, Paul, Landry**  
**Nays: None**

**CONSENT AGENDA REMOVALS FOR COUNCIL ACTION – None**

**MAYOR AND COUNCIL ISSUES**

**1. Discussion of scheduling interviews for City Manager recruiting firms – Mayor**