



ARCHITECTS. ENGINEERS. PLANNERS.

June 3, 2019

Loyd Cureton
DPW Director
CITY OF NORTHVILLE
215 W. Main Street
Northville, MI 48167

RE: Northville Downs
Preliminary Plan Review #1

Dear Mr. Cureton:

We have completed the preliminary plan review for the above referenced project with respect to grading, paving, storm drainage/detention, and availability of municipal utilities to serve the site. The site plan and application supplements, received by this office on May 28, 2019 and dated May 21, 2019, was prepared by Seiber Keast Engineering. The review comments are noted below.

PERMITS:

Various permits will be required for this site, including but not limited to the following:

- Soil erosion permit from the Wayne County Drain Commissioner
- Sanitary sewer extension permit from EGLE
- Water main extension permit from EGLE.
- Permit from the Wayne County Drain Commissioner for discharge into a county controlled drain
- Joint EGLE/USACE Permit for Work in Inland Lakes and Streams, Great Lakes, Wetlands, Floodplains, Dams, High Risk Erosion Areas and Critical Dune Areas
- Right-of-way permit from the Wayne County Road Commission

PROJECT DESCRIPTION:

The site borders E. Cady Street to the north, 7 Mile Road to the south, Wing Street & Center Street to the West and River Street/Griswold Street to the east. The applicant is proposing to construct a mixed used Planned Unit Development (PUD) on approximately 48 acres of land zoned Central Business District (CBD), Race Track District (RTD) and Second Density Residential District (R-2). The zoning of all adjacent parcels to the project should be noted on the plans as well. The proposed site includes townhomes, single family homes, apartments, commercial use buildings and associated parking. The applicant is proposing to construct the site in two phases: the first phase being north of Beal Street and the second phase being south of Beal Street. Both phases include all municipal utilities and storm sewer. Part of the second phase includes daylighting the Walled Lake River Branch of the Rouge River, which is currently enclosed on site.

GENERAL:

On the final PUD plan submittal, the applicant shall provide a project narrative on the cover sheet and sheets shall include a legend. The applicant shall also provide complete right-of-way lines, specifically near the proposed roundabout, on the final PUD plan submittal.

MUNICIPAL UTILITIES:

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Water System

Existing water mains are available as follows: 12” on Center Street, 8” on 7 Mile, 6” on Cady Street and 4” along Beal Street and through the existing parking area up to Cady Street. Portions of this 4” main and existing water main internal to the Northville Downs site will be required to be abandoned and/or removed as well and will need to be shown on future plan submittals for engineering reviews.

The applicant is proposing six (6) connections to the existing water main as follows: three (3) connections to the 12-inch water main on Center Street (one (1) at Beal Street as a portion of Phase 1, one (1) for the 28 units located at the existing Farmer’s Market, and one (1) at the southwest corner of the Phase 2 portion of the development), one (1) on 7 Mile to provide a water main system loop to the 28 units west of Center, one (1) at Hutton and Cady as part of Phase 1, and one (1) at Beal Street and Griswold Street as Phase 2.

Within the development, 8” water main is proposed to service the site; this is an acceptable size based on the development use. This water main will be required to be in a 12-foot wide exclusive easement for water main. Additionally, trees shall not be placed within the water main easement corridor. The proposed location of the water main may need to be shifted in order to meet this requirement; however, it appears that there is enough space to do so in the within the single-family home section where conflicts currently are shown.

A utility capacity study was completed in September of 2018 which noted that the 6” water main along Cady Street is undersized for a development of this magnitude and will need to be replaced and upsized to a 12” water main to adequately provide service to this site. Additionally, the removal of the 4” water main between Cady Street and Beal Street eliminates an existing loop and will need to be replaced. The capacity study offered Griswold Street as the appropriate replacement location for an 8” water main. This water main improvements are necessary to adequately supply the site with both fire suppression and water service.

As design progresses for the site, it is recommended that a tapping sleeve and valve is used for water main connections to the existing 12-inch water main on Center Street. The other connections will need to be evaluated to determine whether a tapping sleeve and valve or cut-in-tee should be used. At final PUD plan submittal, a water main basis of design and additional information on services, including pipe material type and size will be required. Adequacy of fire hydrant and valve spacing will be reviewed during the engineering review phase.

Sanitary Sewer System

The site is surrounded by the following existing sanitary sewers owned by the City: 12” on Center Street, 8” on Cady Street, 10” on Beal Street. Additionally, there are Wayne County Interceptor Sewers located on River Street and 7 Mile that are sized as 42” and 18”, respectively.

To provide sanitary service to the proposed site, the applicant is proposing three connections to the existing sanitary sewer as follows: one (1) on Center Street to service the 28 units to the west, one (1) on Beal Street as a portion of Phase 1 (which will be modified in Phase 2, as described below) and one (1) on 7 Mile Road just east of the proposed roundabout.

South of Cady Street, the applicant is proposing to remove portions of the existing 8-inch and 10-inch sanitary that runs through the proposed apartments and east on Beal Street, as well as 99 feet of sanitary sewer on Cady Street. Removal of these sewer portions will allow for rerouting of the existing sanitary sewer to a new location along the parcel’s frontage of Griswold Street. The rerouted sanitary sewer will connect to the existing sanitary sewer on Cady Street and will ultimately make a second connection on River Street to the existing Wayne County interceptor. Please note that the rerouted sanitary sewer cannot be constructed until after the enclosed river portion has been daylighted as indicated in Phase 2. Interim measures for providing sanitary sewer service include installing a manhole on the existing sewer on Beal Street. Additional information on the sewer phasing will be required in the final PUD plan submittal.



The final connection is proposed at the south end of the site to the existing sanitary sewer on 7 Mile Road. The applicant is proposing a sanitary lift station at this location; however, a lift station is not the desired connection. It is recommended that residential grinder pumps are installed in the single-family residential homes upstream of the connection that cannot be provided basement service at this elevation. It is understood that there may be conflicts between the elevation of the sanitary sewer system and the storm sewer system if a lift station is not utilized, however, a stormwater pump station would be more desirable than a sanitary sewer lift station. At final PUD plan submittal, a sanitary sewer basis of design shall be provided. Additional information on services, including pipe material type, size, and slope will be required. All sanitary sewer will need to be centered in a 20-foot wide exclusive sanitary sewer easement.

STORM SEWER AND DETENTION:

Storm water runoff will be collected via catch basins and routed through the proposed storm sewer systems to either underground storage (Hutton & Beal and Center & 7 Mile) or to open detention basins or bioretention swales (Griswold & Beal, along the linear park and River & 7 Mile) where it will then be discharge into the Johnson Drain and Walled Lake River Branch. The applicant shall label the county drain on the plans.

Currently, the stormwater management system shall be sized for the 100-year, 24-hour rainfall event. The maximum allowable discharge rate per Wayne County Storm Water Ordinances is 0.15 cfs/acre, at this time. It appears that applicant has met the allowable discharge and volume requirements and that detention area three is probably exceeding the current volume requirements. It should be noted that Wayne County is in the process of revising their storm management requirements and though the volume requirements of the systems are anticipated to remain of a similar magnitude, infiltration of the first inch of rainfall is being proposed as a requirement. The requirements that will need to be met will be dependent on the timing of the permit application to the County. The revised ordinances are proposed to be adopted by the end of 2019.

The applicant is proposing to connect to the existing storm sewer on Center and Griswold Streets. Storm sewer calculations shall be provided to verify that the existing storm sewer on Center and Griswold Streets have enough capacity to convey this additional runoff. If calculations prove that the existing storm sewer on either street does not have enough capacity, the applicant may need to install upsize this existing storm sewer to provide enough capacity.

Additional storm sewer sizing calculations, profiles, hydraulic grade lines and detention basin calculations will be needed for engineering review. Per Wayne County Standards, the detention basin will require 4-feet of standing water. It appears the applicant has met this standard, but a soil investigation will be required to determine if the water can sit at the proposed elevation within the detention basin. All storm sewer will require an easement or a common area with maintenance dedicated to the appropriate maintaining entity such as a future Homeowner's Association (i.e. not the City of Northville).

PAVING:

Entrance to the site is proposed by multiple access drives in various locations from Center Street, Cady Street, Griswold Street, Fairbrook Street and 7 Mile Road. Concrete sidewalk is proposed throughout the housing development and around the perimeter of the site. A sidewalk connection from the development via a pedestrian bridge over the Johnson Creek to the Hines Park Trail Head is partially proposed for pedestrian connectivity (the current proposal stops short of the edge of 7 Mile Road and shall be continued to the existing crosswalk).

Pavement slopes are to remain between 1% and 6% for drive areas, and between 1% and 4% for parking areas. At final PUD plan submittal, street and parking lot grades shall be provided to ensure proper drainage.



The applicant is proposing to provide 1,812 parking spaces which meets the required 1,308 parking spaces; however, the existing Cady Street spots were not included in this required number. At final PUD plan submittal, the parking space count shall include the total number of required and provided accessible parking spaces. Along with the accessible parking spaces provided at the commercial building parking lot, accessible parking spaces per ADA requirements will be required in the apartment building parking structure.

GRADING:

Existing contours were provided by the applicant. The site is sloped from the northwest to the southeast with the existing site drainage flowing toward the Johnson Drain. In general, the proposed site grading does not alter this existing pattern. Additional spot elevations will need to be provided at final PUD plan submittal.

The current 100-year floodplain limits encompass approximately half of the site. The applicant is in the process of obtaining revised floodplain limits based on improvements already made to the river and the proposed daylighting of the river. Once the limits have been revised and construction has occurred, the structures will all be located outside of the 100-year floodplain limits.

TRAFFIC:

There have been multiple meetings with the developers and the City of Northville/Wayne County regarding the proposed transportation system improvements. Improvements to the following intersections have been determined to be necessary and the following proposed treatments have been discussed and conceptually approved by Wayne County due to their locations on their road networks. The most recent meeting occurred on Friday, May 17, 2019 at Wayne County's offices.

Sheldon/Center/7 Mile/Hines

A roundabout is proposed at the intersection of Shelton Avenue/Center Street and 7 Mile Road/Hines Drive. The design of the roundabout shall include the installation of HAWK Beacons or Pedestrian Hybrid Beacon (PBH) to allow for safe pedestrian crossing. A PBH provides a protected pedestrian crossing that stops traffic only as needed and is activated by the pedestrian or cyclist that is walking their bike on the sidewalk network with a pushbutton. Cyclists can choose to remain on the roadway through the roundabout intersection or can exit the roadway prior to the intersection and use the sidewalks as a pedestrian.

Random arrivals to and departures from a roundabout help to disperse traffic such that platoons of cars are not arriving at a downstream intersection simultaneously. This allows for adequate gaps in the traffic to allow for turning movements from side streets near this intersection. The current AM/PM peak hour Level of Service (LOS) have been modelled to be "C". Additional modelling of future growth computes AM/PM LOS at "C" and "D" respectively if no intersection improvements are made. When the intersection is modelled as a roundabout with future traffic volumes, the AM/PM LOS improves to "A" and "B" respectively. The installation of a roundabout at this location will significantly improve the traffic flow in this area.

7 Mile/Hines

The Traffic Impact Study (TIS) indicates that the northbound right and left turns from Hines Drive are not functioning at an adequate LOS. It has been indicated that a right turn lane would be installed along Hines Drive in order to improve the traffic flow from this leg of the intersection. However, this does not appear on the current plan submittal.

7 Mile/Northville & 7 Mile/S. Main

In meeting with the County and reviewing the traffic analysis at these intersections, improvements to both have been proposed. The southern intersection is proposed to be converted to a dual left (southbound Northville Road onto 7 Mile). This can be accomplished by upgrading the traffic signal and restriping the lanes per the concept attachment created by F & V on behalf of the developer.



Additionally, the northern intersection is proposed to be enhanced with a traffic signal installation and a widening of the cross over opening. The inside northbound lane will be utilized for left turn storage and left turns will be allowed a turn phase to complete their movement. This is also illustrated in the attachment however not on the submitted plan set.

Center/Cady

The plan proposes to realign the east and west legs of Cady Street to help improve the LOS at this intersection. The realignment will remove the conflicting left turn movements from Cady Street; with these eliminated, the left turn vehicles will have one less decision point to consider prior to completing their turn. This does improve the LOS of the Cady Street legs during the AM and PM peak hours.

At final PUD plan submittal, the applicant shall show all proposed off-site improvements on the plans including but not limited to: addition of traffic calming measures to reduce requests for unwarranted stop signs, increase in the size of sidewalk adjacent to parallel parking to seven feet, decrease in the size of parking islands by one to two feet shorter than the parking stalls for increase maneuverability and for easier snowplow operations and proposed sidewalks should be continuous through the proposed townhome driveways.

RECOMMENDATIONS:

The site plan is not in substantial compliance with City of Northville requirements and has been stamped “Not Approved” by our office. The following items shall be addressed by the applicant prior to resubmittal to the City:

1. The water main along Cady Street shall be upsized to a 12” water main in order to adequately service the development use.
2. 8” water main shall be proposed along Griswold Street to replace the existing water main that will be abandoned/removed within the footprint of the proposed apartments.
3. The sanitary sewer connection at 7 Mile Road shall be made via gravity rather than the proposed pump station. This revision may require grinder pump installations in some of the single-family homes and/or a pump station for the storm sewer system.
4. It shall be noted that Wayne County is in the process of revising their stormwater management ordinances and depending on the adoption date of these ordinances and the submittal date of this development for permitting, the development may be required to follow the newer standards. These standards are proposing onsite infiltration of the first 1” of rainfall and similarly sized detention basins. The location and size of the stormwater facilities may not significantly change if the site is able to meet the new infiltration requirements.
5. The proposed traffic improvements as discussed with Wayne County shall be shown on the submittal set. These include the intersections of 7 Mile/Hines/Sheldon/Center, 7 Mile/Hines and 7 Mile/S. Main/Northville.

If you have any questions or need any further information, please feel free to contact our office.

Sincerely,
OHM Advisors

Jessica L. Katers, P.E.

Alisha Stidam

Modify Geometry to provide signal

Add traffic signal



Restripe approach

Restripe approach

