



08/30/2023

Village of Pinckney
220 S. Howell Street
Pinckney, MI 48169

Re: Final Site Plan Review
Lakeland Knoll Residential Open Space Development
Pinckney, Michigan 48169

We understand the Lakeland Knoll Residential Open Space Development recently has been approved for a waiver to reduce the road width from 31' (as noted in the current Village of Pinckney – Technical Standards for Design and Construction) to 27'. **Please note: We have not received a full set of “Final Site Plans” which reflect the newly granted 27’ roadway and would recommend tabling this application until updated plans can be submitted and reviewed.**

Below are updated comments based on plans we have received to date and through our communication with the developers’ civil engineer and The Village of Pinckney.

- I. Previous Review Comments – 06/30/2020 – JCW
Responses in RED require attention – 07/27/2023 – JAL
 1. Provide soil boring information including static water elevations boundary in accordance with Section 2.2.J. of the Village of Pinckney Technical Standards.
 - a. Soil Boring locations have been shown in the construction plan set; however, we have not reviewed soil boring logs or the static water elevations boundary.
 2. Pursuant to Section 152.392 of the Zoning Ordinance, the Planning Commission has the discretion to require an Impact Assessment Report. We recommend that the Planning Commission direct the Proprietor to provide a report addressing the following items:
 - a. 152.392(B)(8): Public services, facilities and utilities. We are concerned that the existing water and sewer systems may not have sufficient capacity to service this development. This was discussed at the pre-planning meeting. Of primary concern is the capacity of the wastewater treatment plant (WWTP). To this end, the Sewer Committee has been in discussions to commission a study to evaluate the remaining available capacity at the WWTP. Additionally, the sewer collection system and water distribution system need to be evaluated and we can work with the design engineer to determine if any improvements are warranted to accommodate this development. Once this information has been gathered, the Proprietor shall submit a report for review.

i. Water Capacity:

1. The existing water capacity is not sufficient to support the entire development without the addition of a new supply well. We have been in contact with EGLE, Pinckney, and the developer to discuss the possibility of adding an additional well.
2. Per the technical standards: Contractor shall submit for approval design computations for single-family residential development based on average daily flow rate plus a fire demand of 1,500 gallons per minute (gpm) and a residual of 20 psi (pounds per square inch) at the most remote hydrant. 1.04(B)(1):
3. The proposed water main layout includes one connection to public water located at the Southeast corner of the parcel near Howell St. Given this single connection, our water system model indicates the most remote hydrant would maintain 1,331 gpm for fire demand with a residual of 20 psi.
4. We also conducted an analysis of the water system with a second connection located at the intersection of Hamburg Street and Pond Street. The dual connection increased the fire demand to 1,724 gpm at the most remote hydrant with a residual of 20 psi. To meet the minimum fire demand of 1,500 gpm **we recommend a second connection be made at this intersection.**

ii. Sewer Capacity:

1. We are in the process of modeling the Village of Pinckney's sanitary sewer system and require additional time to complete the full analysis. Once a comprehensive model has been created and all existing flows are known, we will determine the available capacity for the Lakeland Knoll Development.
- b. 152.392(B)(10)(c): Traffic impact study (TIS). A detailed traffic impact study is required for all sites over two acres in size. Provide a study that incorporates all of the requirements (1-7) of this subsection.
- i. We have received the requested TIS as requested.
3. Provide an area wide plan incorporating items required in Section 2.2.N. of the Village of Pinckney Technical Standards. Extend boundary of area wide plan to the south right-of-way line of Unadilla street, the east right-of-way line of North Howell Street, and the west right-of-way line of Reeves Street. A scale of 1"=120' or 1"=150' is acceptable for this plan.
- a. An area wide plan has been submitted; however, it appears to be lacking the following required information (several items below have been included within the Construction Plan Set, but are not on the area wide plan):
 - i. Proposed and existing utilities (including their connections) are not clearly shown and labeled, including rim elevations, invert elevations, pipe sizes, pipe directions, and pipe lengths between structures.
 - ii. Proposed detention basin outflows for the three proposed ponds are not shown.
 - iii. Existing contours and off-site drainage area delineations are not shown.
 - iv. Scale has been provided at 1"=160'.

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4. Temporary access drive to the water tower will be required during construction.
 - a. Notation for maintaining access to the water tower has been added to the plans.
 5. Sheet 1:
 - a. Confirm the parcels have been legally combined or provide separate descriptions for each parcel.
 - i. We have not seen confirmation the two parcels have been combined; however, separate legal descriptions have been provided on the cover of the construction plan set.
 - b. Add information to the Site Data Table.
 - i. Requested information has been added to the cover sheet as requested.
 6. Sheet 2:
 - a. Confirm that no existing easements encumber the site.
 - i. A statement has been added to the plan set stating no easements are present.
 - ii. We have received a title insurance policy for the property, dated 9/30/2021, which does not list any known easements.
 - b. Show Location and height of all existing structures within 250' of the property boundary. (Section 2.2.C. of the Village of Pinckney Technical Standards)
 - i. Some existing buildings within 250' are missing.
 - ii. Heights are not required at this time.
 7. Sheet 4:
 - a. Locate and show existing storm outlet under Lakelands Trail that will serve to drain the subject property.
 - i. The existing outlet (with inverts) has been shown as requested.
 - b. Stub water main to Coleman Street for future second water main feed to the site.
 - i. Stub has been shown as requested.
 - ii. Refer to water capacity comments above.
 8. Sheet 7:
 - a. Emergency Access Drive
 - i. Show breakaway fence location:
 1. Plastic bollards have been shown on the north and south sides of the trail crossing. We were unable to find any notation of a breakaway fence and we have not aware of any previous approval that has been granted to the developer to utilize bollards in lieu of a breakaway fence.
 2. Provide detail for proposed gate/fence to be approved by MDNR and Village of Pinckney.
 - ii. Consider utilizing a mowed drivable surface in lieu of gravel:
 1. Gravel cross section and call outs are shown on the plans.
 - iii. Gravel shown on Lakelands Trail:
 1. Plans have been revised as requested.
 - iv. MDNR approval to cross the Lakelands Trail must be secured prior to final site plan submittal.
 1. We have received a draft "Easement to Construct and Maintain Driveway".
 - a. Final easement has not been provided.

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- b. The easement specifically excludes construction of utilities. We expect an additional easement will be required to accommodate the proposed storm, sanitary, and water systems located within the Lakelands Trail property.
 - c. Bollards and gate (with key) mentioned in easement. Clarify which is being proposed.
 - d. Grading activities shown at the Southeast corner of the property may require an additional easement.

Sheet LP1:

- b. Village DPW and Engineer discouraged planting trees in the public right-of-way.
 - i. Trees have been relocated outside of the right-of-way as requested.
 - c. Village DPW has expressed concern with raised planter islands in the middle of the street near the entrance.
 - i. Planter islands have been removed as requested.
9. Sheet EAA-1:
- a. We are concerned that there is not a dedicated storm water outlet from the site. The intermittent drainage course flowing south from the parcel has been problematic in years' past and additional runoff volume will likely cause further issues. The Proprietor must engage the County Drain Commissioner to discuss establishing a county drain from the Mill Pond to the site.
 - i. It is our understanding that establishing a county drain in this area is not a possibility at this time.

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- II. Newest Comments on Final Site Plans (Rev 6/28/23) and Construction Plans for Lakeland Knoll (Dated 4/5/23) - 07/26/2023 – JAL

Please note: We have not received a full set of “Final Site Plans” which reflect the newly granted 27’ roadway and would recommend tabling this application until updated plans can be submitted and reviewed.:

General Comments:

1. Ordinary high water mark should be listed for all water features in the project area [152.389(D)(6)]. Water surface line type should be called out on plans or noted in legend.
2. Percentage of lot coverage is listed on “Parallel Plan”, but not on current layout. [152.389(D)(9)(e)]
3. Boundary survey prepared by a Land Surveyor has not been provided for review at this time. [152.391(C)(1)(e)]
4. Notation of performance guarantees has not been provided including amounts, types and terms. [152.391(C)(1)(i)]
5. Trees measuring at least eight inches in diameter at breast height shall be clearly labeled. [152.391(C)(2)(d)(1)]
6. Ordinary high water mark of a stream, river, lake or pond shall be verified by a Land Surveyor registered in the State of Michigan or any professional trained in wetland delineation listed above. [152.391(C)(2)(d)(3)]
7. Grading plan shall be provided in compliance with the Village Technical Standards. [152.391(C)(3)]
8. All finished contours must be connected to existing contour lines at or before the property lines. Please review Southeast property corner. [152.391(C)(3)(c)]
9. Please provide the following note on plan documents:
 - a. “The areas to be left undisturbed during construction shall be so indicated on the site plan and shall be identified on the ground by use of snow fencing or silt fencing so as to be obvious to construction personnel.”
10. Structures:
 - a. Show all applicable setbacks or building restrictions (from perimeter lot lines). [152.391(C)(5)(a)]
 - b. Typical layout, elevation and floor area for each type of building. [152.391(C)(5)(b)]
 - c. Distance between structures. [152.391(C)(5)(c)]
 - d. Total percentage of lot coverage. [152.391(C)(5)(d)]
 - e. Elevation Drawings. [152.391(C)(5)(e)]
 - f. Density calculations, types of dwelling units, and floor area per dwelling unit. [152.391(C)(5)(f)]
11. Show vision clearance area at main entrance including all potential obstructions. [152.391(C)(6)(e)]
12. Clearly indicate side slopes of stormwater drainage facilities. A letter of approval of the proposed drainage system from the Livingston County Drain Commissioner shall be submitted prior to final site plan approval. A maintenance agreement for entire stormwater system must be included [152.391(C)(8)(c)]

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13. Class of all sanitary sewer and storm sewer pipe shall be shown on all plan and profiles. [152.391(C)(8)(d)(1)]
 14. Top of casting elevation of all manholes, inlets, and/or catch basins etc. Shall be shown in both plan and profile. [152.391(C)(8)(d)(2)]
 15. Invert elevations for all sanitary and storm sewer lines, for both existing and proposed sewers, shall be shown in both plan and profile. [152.391(C)(8)(d)(4)]
 16. List construction methods for water, sanitary, and storm system installation and connections. (including but not limited to open cut, bore and jack, and directional drill). [152.391(C)(8)(d)(8)]
 17. Show utility hookups and proposed supply line location for coordination with water system improvements (i.e. gas and electric). [152.391(C)(8)(e)]
 18. Information regarding surface equipment shall be provided (electrical and telephone boxes, poles, and other misc. surface equipment) [152.391(C)(8)(f)]
 19. Location and specifications of exterior lighting fixtures and a photometric lighting plan shall be provided. [152.391(C)(11)]
 20. Proprietor or his/her authorized agent shall prepare all applicable regulatory permit applications and secure signature from the village as necessary prior to forwarding on the appropriate agencies.
 21. Applicant must provide proof that plans were submitted to all other agencies that regulate the proposed development. Verify traffic impact statement has been submitted to County Road Commission. [152.393(B)(2)]
 22. Landscape Plans:
 - a. Location and description of trees and shrubs to be planted, including common name, species (deciduous or evergreen), root type (shallow or deep), height, diameter at breast height and size of root ball and/or container. [152.327(C)(2)]
 - b. The location and dimensions of common open spaces and recreational areas, proposed improvements and maintenance provisions for the areas. [152.327(C)(6)]
 - c. Please note the following on the landscape plan sheet:
 - i. "Ground cover. All landscaped areas that do not contain trees, shrubs or planting beds shall be covered with living ground cover (including grass) and/or organic mulch. Stone or aggregate shall not be accepted as a ground cover. Ground cover shall be planted in sufficient quantity to present a finished appearance within one growing season and shall not exceed 18 inches in height at maturity." [152.327(D)]
 - d. Tree and Shrub Standards:
 - i. Large evergreen trees shall be at least six feet in height. [152.333(A)]
 - ii. Skyline Honey Locust is not permitted (has seeds/thorns). [152.333(B)(6)]
 - iii. Confirm the following trees not listed under permitted trees/plants are acceptable to the planning commission:
 1. Pink Profusion Crab
 2. Tuliptree
 3. London Plane Tree
 4. Kentucky Coffee Tree

Final Site Plans:

Please Note: Final Site Plans do not match Construction Plans. We have not received a full set of “Final Site Plans” which reflect the newly granted 27’ roadway and would recommend tabling this application until updated plans can be submitted and reviewed.

1. Sheet 2:
 - a. Show additional details regarding the existing water connection location.
 - b. Expand limits to include 250’ from project area as outlined in the Village of Pinckney Zoning Ordinance.
 - c. Provide Ordinary High Water Mark for all pond areas.
2. Sheet 3:
 - a. Provide additional sidewalk at southeast corner of the site, north and east of N. Howell Street. Sidewalk on N. Howell shall extend to nearest public street.
 - b. Provide thicker cross section for sidewalk per technical standards for all driveway crossing locations.
3. Sheet 4:
 - a. Maximum spacing for fire hydrants is 250’ along public roads. Additional hydrants are required to meet the Village of Pinckney Technical Standards.
 - b. Maximum spacing for gate valves is 800’.
 - i. Valves should be relocated to provide a maximum of 800’ along water main.
 - ii. Confirm all proposed valve locations with DPW and Village Engineer.
 - c. Confirm 10’ separation between water main and storm/sanitary sewer. Including, but not limited to intersections of: Horizon/N. Howell; Danline/Horizon; Danline/N. Howell.
 - d. Define abbreviations listed at eastern water main connection location (TSV & W).
 - e. 0.39% sanitary slope is less than minimum per technical standards (West end of N. Howell St.)
 - f. Adjust location of any hydrants not meeting technical standard minimum spacing and coverage requirements.
 - g. Consider revising storm at intersection of Horizon Ln. & Stonebrite Ct.
4. Sheet 5:
 - a. Note max slope for pond areas.
 - b. Provide enlargement for southeast site improvements including connection to existing streets, grading, and sidewalks.
5. Sheet 6:
 - a. 0.47 is listed as the runoff coefficient for all pond drainage areas. It appears that these coefficients should vary, please confirm.
 - b. Pond 1 lists Qa under II.D.2. Should this read Qp to match the allowable release rate above?
 - c. Total storage for Pond 2 is listed as less than 100-year Detention Basin Size II.D.6.
 - d. Forebay storage for Pond 3 is listed as less than listed minimum storage II.A.2.
6. Sheet 7:
 - a. Extend proposed gravel section to north edge of bituminous pavement on Pond Street. Review the possibility of adjusting the geometry of this access road to meet the existing end of Pond Street.

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- b. It appears there is proposed grading outside of the Right-of-Way, north of W. Depot Street. Please provide additional grading information for this area.
 - c. Extend sidewalk and add ADA compliant crossings at connection to W. Depot Street.
 - d. Add sidewalk on North and East side of N. Howell Street.
 - e. There are existing gravel access roads on the east and west sides of N. Howell St. Provide appropriate sidewalk (per technical standards) for access areas.
 - f. Is there any proposed water quality treatment or storage for south end of N. Howell St.? This area appears to drain directly to the public storm system with no additional stormwater controls.
 - g. Utility easement and authorization required from MDNR for required for Sanitary, Water, and Storm improvements located in 100' ROW area.
7. Sheet 9:
 - a. Refer to comments under, "Previous Review Comments" above.
 8. Sheet 10:
 - a. Developer will coordinate emergency access barrier type, access, and location with Fire Marshall and MDNR.
 - b. Refer to additional landscape comments under "General Comments" above.

Construction Plans:

1. C3.1
 - a. Provide additional grading at southeast corner of development.
 - b. Proposed slope at water tower access road does not appear to meet maximum requirements in technical standards. Access drive may not be greater than the existing slope in that area.
 - c. Provide proposed cross section for MDNR replacement pathway and ensure it meets emergency loading requirements.
2. C4.5
 - a. Expand grading enlargement for southeast corner of proposed improvements.
 - i. Include adjacent driveways, buildings, site distance, etc.
 - b. Provide additional notes on sawcutting, hand patching, curb transitions, ADA walks, etc. At N. Howell Street.
3. C6.0
 - a. Do all gutters discharge to surface or to proposed storm system?
 - b. Do sump pumps & footing drains discharge to proposed storm system?
 - c. Provide maximum drops of 24" at all storm structures per technical standards. (all sheets)
 - d. Provide sump for all inlet storm structures per technical standards.
 - e. Discuss the possibility of raising single runs of storm sewer to reduce instances of watermain lowering with multiple bends.

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4. C7.1
 - a. Provide 0.1' minimum drop at all sanitary manholes per technical standards.
 - b. Correct overlap in text at lower left corner.
 5. C7.2
 - a. Provide drop connections at manholes with pipe connections greater than 24" (all sheets).
 6. C8.0
 - a. Provide additional information on proposed water connection including existing conditions.
 - b. 250' max hydrant spacing (all sheets)
 - c. 800' max gate valve spacing (all sheets)
 7. C8.1
 - a. Add valve at dead end of water main per technical standards.
 8. C8.5
 - a. Add valve at dead end of water main per technical standards.
 9. C8.6
 - a. Gate valves not typically permitted in road areas.
 - b. Revise location of proposed water main.
 - c. Are bends necessary at this location?

Please note: We have not received a full set of "Final Site Plans" which reflect the newly granted 27' roadway and would recommend tabling this application until updated plans can be submitted and reviewed.

Please do not hesitate to call if you have any questions or require additional information.

Sincerely,

WOLVERINE ENGINEERS AND SURVEYORS, INC.



Jesse A. Lewter

CC: File 18-0115