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March 24, 2023

Chris McLeod, Planning Manager
Department of Planning and
Economic Development
City of Rochester Hills
1000 Rochester Hills Drive
Rochester Hills, MI 48309-3033

**Subject: South Oaks Development (Sidwell No. 70-15-376-078)
Wetland Use Permit Review #5
Site Plans dated February 28, 2023
ASTI File No. 11482-48**

Applicant: Bruce Michael

Dear Mr. McLeod:

The above-referenced project proposes to construct nine residential structures on 4.74 acres of land located along South Boulevard, west of Walnut Brook Drive and east of Crooks Road. The site includes wetland regulated by the City of Rochester Hills and also likely regulated by the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

ASTI has reviewed the site plans received by the City, dated February 28, 2023 (Current Plans), for conformance to the Wetland and Watercourse Protection Ordinance and the Natural Features Setback Ordinance and offers the following comments for your consideration.

COMMENTS

1. **Applicability of Chapter (§126-500).** The Wetland and Watercourse Protection Ordinance is applicable to the subject site because the subject site is not included within a site plan which has received final approval, or a preliminary subdivision plat which received approval prior to January 17, 1990, which approval remains in effect and in good standing, and the proposed activity has not been previously authorized.

2. **Wetland and Watercourse Determinations (§126-531).** This Section lists specific requirements for completion of a Wetland and Watercourse Boundary Determination.
- a. This review has been undertaken in the context of a Wetland and Watercourse Boundary Determination completed on the site, which was verified in the field by ASTI on July 18, 2022. The Current Plans depict the on-site wetland to ASTI's satisfaction. Moreover, the Current Plans show the wetland delineation as shown on the Current Plans was completed by Barr Engineering on April 15, 2021, which is to ASTI's satisfaction. The Applicant should be advised that wetland delineations are only considered valid by the City and EGLE for a period of three years.
 - b. Three wetlands were found on-site (Wetlands B, C, and E). Leuder's Drain was observed off-site to the east. Leuder's Drain, which is under the jurisdiction of the Oakland County Water Resources Commissioner, exhibited defined bed and banks and was flowing on the day of the site inspection and, thus, meets the definition of a stream under Part 301, Inland Lakes and Streams and per the City's Wetland and Watercourse Protection Ordinance.

Wetland Quality Assessment

Wetland B

Wetland B is a scrub/shrub wetland located in the northern portion of the site. The tree layer of Wetland B was sparse and was dominated by the common native species of green ash (*Fraxinus pennsylvanica*). The shrub layer was dense, dominated by the non-native species glossy buckthorn (*Frangula alnus*). The herbaceous layer was sparse and was dominated by the common native species of poison ivy (*Toxicodendron radicans*). Overall, vegetation within Wetland B was dominated by non-native species (80%) with minor common native species inclusions (20%). Soils within Wetland B were comprised of sandy loams and appeared to be undisturbed.

Observations of primary wetland hydrology indicators within Wetland B were sparsely vegetated concave surfaces. Neither ground water nor surface water were encountered within Wetland B on the day of the site inspection. These hydrological indicators suggest Wetlands B detains small amounts of sporadic and seasonal localized surface water runoff from precipitation. Wetland B is small (1,860 ft²) and isolated from other wetland areas, as well as Leuders Drain to the east.

As shown on the Current Plans, Wetland B is not within any floodplain area and does not appear to have any significant flood storage potential. Wetland B is not of significant size but is within 500 feet of the Leuders Drain, and thus, warrants regulation from the City. Based on review of historical aerial photography, Wetland B appeared to be directly connected to Leuders Drain, likely before any

apparent historic drain maintenance activities were completed. Wetland B is small, dominated by non-native species and likely only supports transient faunal usage by small wildlife and birds. Based on these factors, it is ASTI's opinion that Wetland B is of low ecological quality and function and should not be considered a valuable natural resource by the City.

Wetland C

Wetland C is a forested wetland located in the central portion of the site. Vegetation within Wetland C was dominated by the common native tree species of silver maple (*Acer saccharinum*) and American elm (*Ulmus americana*), which comprised approximately 80-90% of the total vegetation. Scattered sapling trees, such as the native tree species of green ash and the invasive shrub species of glossy buckthorn, were also observed within Wetland C, generally in equal distribution. The herbaceous layer was sparse and was dominated by the common native species of poison ivy. Overall, vegetation within Wetland C was dominated by native species (90%) with minor non-native species inclusions (10%). Soils within Wetland C were comprised of sandy loams and appeared to be undisturbed.

Observations of primary wetland hydrology indicators within Wetland C included sparsely vegetated concave surfaces, water marks, and oxidized rhizospheres on living roots. Neither ground water nor surface water was encountered within Wetland C on the day of the site inspection. These hydrological indicators suggest Wetland C detains varying amounts of seasonal localized surface water runoff from precipitation and from overbank flows from the Leuders Drain.

Wetland C is within the floodplain of the Leuders Drain as shown on the Current Plans. Soils within Wetland C were generally sandy and loamy and appeared to be affected by regular inundation events, likely from precipitation and associated runoff from the residential developments to the west and north and from overbank events of the Leuders Drain to the east. Wetland C is a portion of a larger City-regulated wetland system that extends to the east and is directly connected to the Leuders Drain; ASTI estimates that the total area of Wetland C is less than 1 acre in size. Wetland C is part of a larger undeveloped tract of land that contains upland forests on- and off-site site, which combined with the presence of the Leuders Drain to the east, could provide limited wildlife habitat. Based on these factors, it is ASTI's opinion that Wetland C is of medium-high ecological quality.

Wetland E

Wetland E is a forested wetland located in the southern portion of the site. The tree layer of Wetland E was dominated by the common native species of cottonwood (*Populus deltoides*). The shrub layer was dominated by the non-native species of glossy buckthorn. The herbaceous layer was sparse and dominated by the common native species of poison ivy. Overall, vegetation

within Wetland E was dominated by common native species (60%) with significant inclusions of non-native species (40%). Soils within Wetland E were comprised of sandy loams and appeared to be in a natural state.

Observations of primary wetland hydrology indicators within Wetland E were sparsely vegetated concave surfaces. Neither ground water nor surface water was encountered within Wetland E on the day of the site inspection. These hydrological indicators suggest Wetland E detains small amounts of sporadic and seasonal localized surface water runoff from precipitation. Wetland E is small (5,845 ft²) and isolated from other wetland areas and Leuders Drain to the east.

As shown on the Current Plans, Wetland E is not within any floodplain area and, thus, does not appear to have any significant flood storage potential. Wetland E is not of significant size but is within 500 feet of the Leuders Drain, and thus, warrants regulation from the City. Based on review of historical aerial photography, Wetland E did not appear to be historically connected to Leuders Drain. Wetland E is very small, dominated by non-native species and likely only supports transient faunal usage by small wildlife and birds. Based on these factors, it is ASTI's opinion that Wetland E is of low ecological quality and function and should not be considered a valuable natural resource by the City.

3. **Use Permit Required (§126-561).** This Section establishes general parameters for activity requiring permits, as well as limitations on nonconforming activity. This review of the Current Plans has been undertaken in the context of those general parameters, as well as the specific requirements listed below.
 - a. On-site wetland boundaries appear to be shown accurately on the Current Plans as inspected in the field by ASTI. The Current Plans also depict all individual alpha-numeric wetland flagging for each wetland.
 - b. All on-site wetlands are regulated by the City and likely EGLE, because they are all contiguous to the Leuders Drain, which meets the definition of a stream under Part 301.
 - c. The Current Plans depict similar proposed wetland impacts from the previous submittal. The Wetland, Floodplain, and 25' Wetland Setback Disturbances table on Sheet S6 shows that 1,536 ft² of Wetland B will be impacted, 5,845 ft² of impacts to Wetland E, and 4,772 ft² of impacts to Wetland C are proposed. As in previous reviews, the drawing on Sheet S6 also indicates an apparent additional impact to Wetland C, which reads "662 ft² proposed wetland filling." ASTI assumes this is a drawing error, which must be removed by the applicant.

- d. The Current Plans indicate that the majority of Wetland B (1,536 ft²) and the entirety of Wetland E (5,845 ft²) will be impacted by the completion of the project. Wetlands B and E are small and of low ecological quality and function and, thus, ASTI recommends the City allow for these impacts.
 - e. The Current Plans show that 4,772 ft² of permanent impacts to Wetland C will result from the construction of the site access road, the placement of a retaining wall, and the installation of a 20-inch box culvert. Wetland C is of medium-high quality and any impacts to this wetland should be minimized. The Current Plans show a 20-inch box culvert is proposed within Wetland C. This action will allow sheet flow from the remaining off-site portions of Wetland C to the west to maintain hydraulic connectivity with the Leuders Drain. Furthermore, this action will not bisect Wetland C and cause unintended additional wetland impacts. Additionally, the Current Plans show a retaining wall at the Wetland C crossing. ASTI supports the construction of a retaining wall in this general area, which should minimize unplanned impacts to this wetland. The Current Plans show the retaining wall along the edge of the road instead of within the wetland, which is to ASTI's satisfaction. Following these recommendations, impacts to the Wetland C in this area will be minimized. Moreover, these impacts will be necessary to allow prudent engineering design for accessing to the northern portion of the Property per City standards. Therefore, based on the comments above, ASTI recommends the City allow for these impacts.
 - f. The Current Plans show that the outflow pipe from Detention Basin 2 is proposed to empty into the Leauuders Drain. This proposed action qualifies for an exemption to the City's Wetland and Watercourse Ordinance provided that: (1) a prior written notice is given to the City Engineer and written consent is obtained from the City Mayor prior to work commencing; (2) the work is conducted using best management practices (BMPs) to ensure flow and circulation patterns and chemical and biological characteristics of wetlands are not impacted; and (3) such that all impacts to the aquatic environment are minimized. This is noted on the Current Plans to ASTI's satisfaction. This action may require a Part 301 permit from EGLE and a permit from the Oakland County Water Resources Commissioner (OCWRC), which should be ascertained by the applicant.
4. **Use Permit Approval Criteria (§126-565).** This Section lists criteria that shall govern the approval or denial of an application for a Wetland Use Permit. The following items must be addressed on a revised and dated Wetland Use Permit application and additional documentation submitted for further review:
- a. A Wetland Use Permit from the City is required for this project as proposed on the Current Plans. It is likely that a Part 303 and Part 301 permit from EGLE and a permit from OCWRC are also required. However, EGLE and OCWRC should be contacted to confirm this assertion.

5. **Natural Features Setback (§21.23).** This Section establishes the general requirements for Natural Features Setbacks and the review criteria for setback reductions and modifications.
- a. The Current Plans appear to show the Natural Features Setback where applicable. However, the Current Plans still show different names for the Natural Features Setback such as “25’ Natural Setback” and “Natural Features”, etc. The Applicant should complete a global change on future plans to show all Natural Features Setback areas labeled as such without multiple non-City approved versions. The previous plan submittal included a table on Sheet S6 labeled “25’ Natural Disturbances” all Natural Features Setback impacts in linear feet per City site plan requirements; this has now changed and no linear feet of Natural Features Setback impacts are shown. ASTI assumes this is a drawing discrepancy; this information must be placed back on future plans.
 - b. The majority of the Natural Features Setbacks around Wetland B (190 linear feet) and the entirety of the Natural Features Setback around Wetland E (425 linear feet) are proposed to be impacted as a result of the project. The Natural Features Setback in these areas were generally comprised of young upland forest and upland scrub/shrub. The tree layer in these areas were dominated by the common native tree species of linden (*Tilia americana*). The shrub layer was thick and dominated by glossy buckthorn. The herbaceous layer was varying in density and was dominated by the common native species of poison ivy and woodbine (*Parthenocissus inserta*) and the non-native species of garlic mustard (*Alliaria petiolata*), generally in equal distribution. The Natural Features Setback around Wetlands B and E were dominated by non-native species (60%) with significant common native species inclusions (40%). Due to the Natural Features Setback being dominated by thick non-native species, it should be considered a low-quality buffer to Wetlands B and E and, thus, recommend the City allow for these impacts.
 - c. The Natural Features Setbacks around Wetland C was generally comprised of young upland forest. These areas were dominated by vegetation of the common native tree species of linden, silver maple, box elder (*Acer negundo*), and black walnut (*Juglans nigra*). The shrub layer was sparse and dominated by glossy buckthorn. The herbaceous layer was varying in density and was dominated by the common native species of poison ivy and woodbine and the non-native species of garlic mustard, generally in equal distribution. The Natural Features Setback around Wetland C was dominated by common native species (85%) with minor inclusions of non-native species (15%). Due to the higher percentage of native species within the Natural Features Setback around Wetland C, it should be considered a medium quality buffer to Wetland C. However, the only prudent access to the northern portion of the project area is dependent on crossing the Natural Feature Setback area associated with Wetland C. The Current Plans propose 120 linear feet of Natural Features Setback impacts

around Wetland C. Based on the information presented above, ASTI recommends the City allow for these impacts.

- d. The Current Plans show the limits of the “Natural Features” disturbance (ASTI assumes this is the Natural Features Setback for the purposes of this comment) and remaining on-site wetland will be demarcated with a barrier comprised of sections of split rail fence, boulders, and signage. ASTI supports this action; this demarcation should help minimize any unplanned, post-development disturbances to remaining on-site wetlands and Natural Features Setback areas. ASTI re-iterates that a global name change showing Natural Features Setback areas named as such on all applicable sheets be completed on future plans to avoid any potential confusion during future plan reviews.

RECOMMENDATION

ASTI recommends the City approve the Current Plans only on the condition that the items in Comments 3.c, 5.a, and 5.d are addressed and shown on final site plans submitted to the City.

Respectfully submitted,

ASTI ENVIRONMENTAL



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