



CONSERVING, SUSTAINING, AND
CONNECTING NATURAL AREAS, LANDS,
AND WATERS THAT MAKE THE PLACES
WE LIVE SPECIAL.

June 4, 2024

Allison Swanson, Director
Waterford Township Parks and Recreation
5200 Civic Center Drive
Waterford, MI 48329

Chris Ward, Director
Oakland County Parks
2800 Watkins Lake Road
Waterford, MI 48328

Re: OCC-Waterford campus

Dear Allison and Chris,

Thanks so much to both of you and your organizations for your commitment to conservation and for your partnership in the many projects we do together. And thanks to both of you for taking time to share some of your thoughts and knowledge about the OCC-Waterford campus issue.

It will not surprise either of you to know we have received numerous contacts asking us to weigh in on the future of this property. We have told everyone who has contacted us:

1. We think it is a tremendous opportunity for important conservation and for significant community benefit arising out of protecting the important conservation values and providing for additional recreational opportunities.
2. We are not an advocacy organization in the traditional sense. While seeing this land protected is most definitely an important priority within the context of our organizational mission, our approach to achieving that goal is to work with partners to get it acquired and preserved.

With that as foundation, I would like to go on record with the offers I've made to both of you in the conversations we've had. As you know, our work involves working with private and public landowners, both independently and with public agency partners, to get land permanently protected by acquiring conservation easements and/or the land itself as a preserve or to become a park. As a qualified 501(c)3 and also a private organization, we have access to tax benefits for donations and contributions, and because we are private we have tools available to us that may not be available to public agency partners, including financing through a line of credit with a local bank and lending from other institutions. This allows us to assist with acquisitions that may otherwise be challenging or out of reach for our friends and colleagues in the public sector.

We have worked with both of your communities before—the Drayton Plains Nature Center in Waterford Township came into being through the direct involvement and participation of Six Rivers; we hold a conservation easement on it and currently work directly with the Township on stewardship. Similarly and definitely a direct comparison to what could be done here, we are



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working with Oakland County Parks on the acquisition of Turtle Woods from the Troy School District. In this example (and many others) we are able to secure the property, then work with our partners to find funding for them to buy the property from us to become a public asset. In the case of Turtle Woods there is currently a pending grant application to the Michigan Natural Resources Trust Fund which will fund the majority of the purchase cost of the property for the County.

We believe the OCC property is a prime candidate for just such an approach. It has major conservation value and also significant community benefit as well as community support. While our primary interest is in seeing all of the natural land on this property and the adjoining properties protected, there is certainly substantial recreational value contained in the rest of the property.

I understand that some steps are underway to secure a portion of the property. If we can be of assistance with that we are glad to. If there is any interest at all from either or both of your organizations in preserving the natural lands—specifically the Luellen Woughter Nature Preserve—we would be very excited about the opportunity to engage and see if we can help this stay as a natural asset to the community for generations to come.

Given the amount of contacts we've had and the fact the preserve is treated as a public resource (just like Turtle Woods), I took liberty of sending our stewardship director Ian Ableson out to do a preliminary assessment of the property. I also had our partners at HRC run our water quality analysis tool on the parcel—this shows the amount of pollution and flooding that will be prevented by keeping the property in its current state versus allowing it to be developed under a variety of scenarios (the WQ tool uses USEPA and MI-DEGLE standards for its calculations). I have attached a copy of the report for your information. As you will see, it clearly indicates the quality and importance of the property from a conservation perspective, let alone its recreation and other public benefit values.

If you have any questions, would like to more, or if we can be of any help in any way, please don't hesitate to contact us. We are happy to participate in discussions or meetings or provide a presentation about the importance of this property and how we may be able to help get it protected.

Thanks again so much for all of your commitment to conservation and for the wonderful work you do to support our communities and the natural assets we all cherish and depend on.

Sincerely,



Chris Bunch,
Executive Director

Attachment



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LUELLEN WOUGHTER NATURAL FEATURES ASSESSMENT

Assessor: Ian Ableson, Stewardship Director

Date of Assessment: 5/13/2024

Weather: Clear

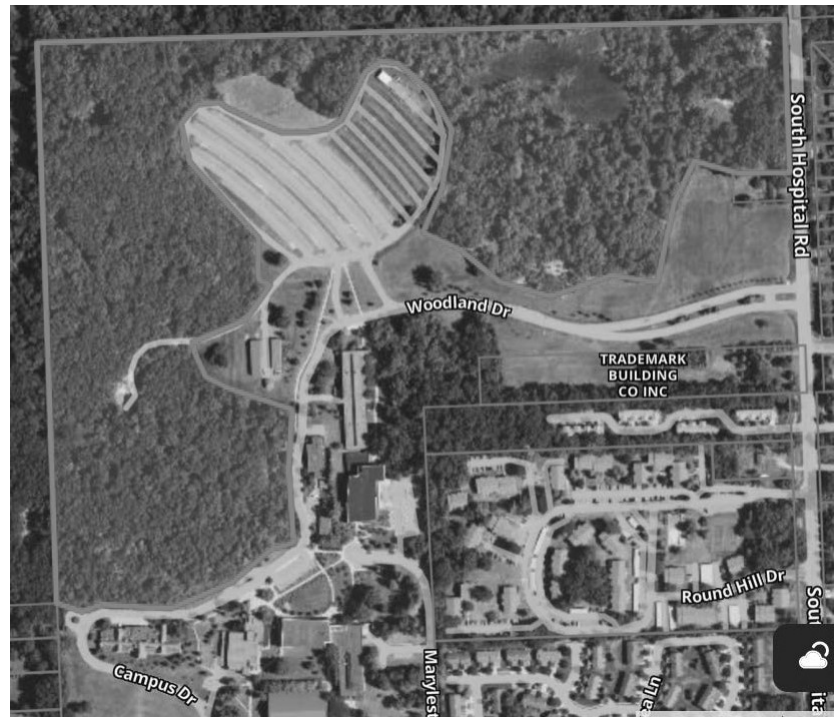
First Visit to Property?: Yes

Time spent on property: ~3 hours



SUMMARY: The approximately 57 acres of the Luellen Woughter Preserve are located in Waterford Township, Oakland County, Michigan, directly north of the Oakland Community College Waterford campus. This property contains high quality natural areas with healthy, biodiverse native communities, many of which are becoming increasingly uncommon in the Southeast Michigan region.

Overall, many of the natural areas within the Luellen Woughter Preserve are in great condition. In particular, the forest in the northwestern section of the preserve appears to be an ecologically sound southern mesic forest, with healthy populations of many native forbs and high biodiversity for the region. Invasive species impacts in this section, while present, are lesser than many similar forests in the area. It is my strong recommendation that this property be protected from any development, both to maintain the natural character of the area and to preserve the wonderful natural communities within for generations to come. I also highly recommend introducing consistent natural resource management by a qualified organization. Invasive species management, restoration of some areas that are highly impacted by invasive species, and the introduction of a prescribed fire regimen would ensure that the native species in this wonderful preserve continue to flourish.



Existing Trail Systems: Two separate trail systems are present on the property. The first is a rustic trail system that dominates the western section of the property. This trail system includes a trail connection to an adjacent parcel owned by the Waterford School District to the north and a connection to Hess Hathaway Park (a Waterford Township Park) to the west. The

connection with Hess Hathaway Park was gated off at the time of the assessment. There are several entrances to this trail system- two from the northern parking lot and two from the south along Campus Drive.

The second trail system is a system in the eastern section of the preserve consisting of wider mowed trails. This system includes a trail leading to the large cattail marsh within the eastern section and a second connection to the northern parcel. It can be accessed from multiple entrances from the mowed grass field along the southern border of the eastern section.

OBSERVED COMMUNITIES (Definitions determined according to Michigan Natural Features Inventory):

Mesic Southern Forest: The vast majority of the natural areas on the property are characteristic of mesic southern forests. These areas are dominated by maples, beeches, musclewood, elms, hickories, black cherry, and red oak. Trees of several different age classes are present throughout the preserve, providing a healthy forest structure. There is strong recruitment of young hickory trees in sunlit gaps. A few vernal pools are present in low-lying depressions.

The northwestern section of the preserve in particular consists of a very high quality mesic southern forest. The understory is dominated by forest sedges, mayapple, wild geranium, meadow-rue, and trillium. Many of these species, especially wild geranium and trillium, were found in unusually high quantities and unusually large individual sizes than similar forests in the area. The shrub layer also included many native species that are sensitive to disturbance, including large numbers of witch-hazel and some flowering dogwood (Coefficient of Conservatism: 8). While some scattered invasive species do exist, particularly buckthorn and garlic mustard, the impacts are relatively low compared to many other forests in similarly urban settings. Leaf litter on the forest floor is thick with dry leaves, and would likely benefit from the introduction of a prescribed fire regimen.

Other observed species: Marsh fern, false solomon's seal, avens, jewelweed, Virginia creeper

Emergent Marsh: A large emergent marsh dominates the northeastern section of the property. This community is primarily dominated by narrow-leaved cattail, with some adjacent areas dominated by forbs such as scouring rush, horsetail, poison ivy, and jewelweed. No invasive phragmites was observed at the site. Several wetland birds, including red-winged blackbirds, yellow warblers, and common yellowthroats, were heard calling in and around the marsh. Surrounding areas were likely once characteristic of southern shrub-carr or floodplain forest communities, but are now almost completely filled in by a dense thicket of invasive buckthorn. With concentrated effort towards invasive species management and restoration, these areas could likely be restored to native communities.

Other observed species: nannyberry, red-osier dogwood

Old Field: In a few areas, untended fields are dominated by cool-season grasses and disturbance-tolerant species, both native and non-native. These fields are present on a relatively small

percentage of the property. Some of the trailside areas in the southeastern parts of the property are equally dominated by disturbance-tolerant species.

INVASIVE SPECIES: Invasive species are present in varying densities throughout the property. Large swathes of the low-lying forest around the large emergent marsh are dominated by invasive buckthorn. The emergent marsh appears to consist predominantly of non-native narrow-leaved cattail. In other sections of the preserve, Asian bittersweet, Japanese barberry, multiflora rose, garlic mustard, and crown vetch were observed in various quantities.

This property would strongly benefit from introducing dedicated natural resource management regimens. Forestry mowing in the eastern forests would allow native species room to grow and would be a great first step towards restoring the floodplain around the marsh. Spot treating invasive species in the northwest will prevent any of these species from crowding out the healthy populations of native forbs.

OBSERVED INSECTS: Black swallowtail, spring azure, monarch butterfly, orange sulfur, cabbage white

OBSERVED BIRDS: Red-bellied woodpecker, red-eyed vireo, white-breasted nuthatch, northern cardinal, rose-breasted grosbeak, eastern phoebe, blue jay, black capped chickadee, turkey, yellow warbler, common yellowthroat, mourning dove, red-winged blackbird

OTHER OBSERVED VERTEBRATES: Woodland jumping mouse, eastern garter snake

Photos:





Six Rivers Land Conservancy Modeled Parcel Data Sheet

Site Information:

PIN: Multiple

Owner: OCC

Address: 7350 COOLEY LAKE RD

County: OAKLAND



Costs:

Parcel: \$

Easement: \$

Date Model Run:

5/13/2024

| Land Use Scenario | Total N Load (lb/yr) | Total P Load (lb/yr) | Total BOD Load (lb/yr) | Total Sediment Load (tons/yr) |
|----------------------|-------------------------|-------------------------|---------------------------|----------------------------------|
| Existing | 238.73 | 40.9 | 1024.72 | 4.57 |
| Forest | 12.01 | 5.77 | 29.02 | 0.62 |
| Pastureland | 306.2 | 31.16 | 962.11 | 8.26 |
| Cropland | 358.82 | 86.66 | 741.51 | 41.28 |
| Urban Commercial | 609.18 | 60.92 | 2832.67 | 11.42 |
| Urban Industrial | 508.24 | 81.32 | 1829.65 | 12.2 |
| Urban Institutional | 365.93 | 60.99 | 1585.7 | 6.81 |
| Urban Transportation | 1975.19 | 329.2 | 6123.1 | 49.38 |
| Urban Multi-Family | 378.84 | 68.88 | 1722.01 | 8.61 |
| Urban Single-Family | 191.69 | 34.85 | 871.31 | 4.36 |
| Urban Cultivated | 226.75 | 35.8 | 477.37 | 8.95 |
| Urban Vacant | 258.3 | 25.83 | 688.8 | 6.03 |
| Urban Open Space | 104.93 | 10.49 | 279.82 | 2.45 |

Existing Parcel Makeup

31 %

1 %

0 %

0 %

0 %

66 %

0 %

0 %

0 %

0 %

0 %

0 %

Pollutant Load Comparison

| Land Use Note | Total Nitrogen Load (lb/yr) | Total Phosphorus Load (lb/yr) | Total Biological Oxygen Demand Load (lb/yr) | Total Sediment Load (tons/yr) |
|---------------|--------------------------------|-------------------------------------|--|----------------------------------|
| Existing | 238.73 | 40.90 | 1024.72 | 4.57 |
| Commercial | 609.18 | 60.92 | 2832.67 | 11.42 |
| Difference | 370.44 | 20.02 | 1807.95 | 6.86 |

Qualitative Data

Wetland: Yes

Percentage: 2 %

FEMA Floodplain: No

Stormwater Runoff

| Land Use Note | Annual Runoff (acre-ft) | One Yr 15min Storm Event Runoff (acre-ft) | Five Yr 24 hr Storm Event Runoff (acre-ft) | Ten Yr 24 hr Storm Event Runoff (acre-ft) | One Hundred Yr 24 hr Storm Event Runoff (acre-ft) |
|---------------|----------------------------|---|--|--|---|
| Existing | 55.46 | 0.22 | 3.65 | 4.60 | 9.17 |
| Commercial | 112.08 | 0.58 | 6.71 | 8.14 | 14.52 |
| Difference | 56.62 | 0.36 | 3.05 | 3.54 | 5.35 |

**Parcel within 500 feet of
lake or stream:** Yes

Lake or Stream Name:

Unnamed Pond



Six Rivers Land Conservancy Modeled Parcel Data Sheet

Site Information:

PIN: Multiple

Owner: OCC

Address: 7350 COOLEY LAKE RD

County: OAKLAND



Costs:

Parcel: \$

Easement: \$

Date Model Run:

5/13/2024

| Land Use Scenario | Total N Load (lb/yr) | Total P Load (lb/yr) | Total BOD Load (lb/yr) | Total Sediment Load (tons/yr) |
|----------------------|-------------------------|-------------------------|---------------------------|----------------------------------|
| Existing | 238.73 | 40.9 | 1024.72 | 4.57 |
| Forest | 12.01 | 5.77 | 29.02 | 0.62 |
| Pastureland | 306.2 | 31.16 | 962.11 | 8.26 |
| Cropland | 358.82 | 86.66 | 741.51 | 41.28 |
| Urban Commercial | 609.18 | 60.92 | 2832.67 | 11.42 |
| Urban Industrial | 508.24 | 81.32 | 1829.65 | 12.2 |
| Urban Institutional | 365.93 | 60.99 | 1585.7 | 6.81 |
| Urban Transportation | 1975.19 | 329.2 | 6123.1 | 49.38 |
| Urban Multi-Family | 378.84 | 68.88 | 1722.01 | 8.61 |
| Urban Single-Family | 191.69 | 34.85 | 871.31 | 4.36 |
| Urban Cultivated | 226.75 | 35.8 | 477.37 | 8.95 |
| Urban Vacant | 258.3 | 25.83 | 688.8 | 6.03 |
| Urban Open Space | 104.93 | 10.49 | 279.82 | 2.45 |

Existing Parcel Makeup

31 %

1 %

0 %

0 %

0 %

66 %

0 %

0 %

0 %

0 %

0 %

0 %

Pollutant Load Comparison

| Land Use Note | Total Nitrogen Load (lb/yr) | Total Phosphorus Load (lb/yr) | Total Biological Oxygen Demand Load (lb/yr) | Total Sediment Load (tons/yr) |
|---------------|--------------------------------|-------------------------------------|--|----------------------------------|
| Existing | 238.73 | 40.90 | 1024.72 | 4.57 |
| Forest | 12.01 | 5.77 | 29.02 | 0.62 |
| Difference | 226.73 | 35.13 | 995.69 | 3.95 |

Qualitative Data

Wetland: Yes

Percentage: 2 %

FEMA Floodplain: No

Stormwater Runoff

| Land Use Note | Annual Runoff (acre-ft) | One Yr 15min Storm Event Runoff (acre-ft) | Five Yr 24 hr Storm Event Runoff (acre-ft) | Ten Yr 24 hr Storm Event Runoff (acre-ft) | One Hundred Yr 24 hr Storm Event Runoff (acre-ft) |
|---------------|----------------------------|---|--|--|---|
| Existing | 18.44 | 0.10 | 2.37 | 3.05 | 6.57 |
| Forest | 55.46 | 0.22 | 3.65 | 4.60 | 9.17 |
| Difference | 37.02 | 0.12 | 1.28 | 1.55 | 2.60 |

**Parcel within 500 feet of
lake or stream:** Yes

Lake or Stream Name:

Unnamed Pond



Six Rivers Land Conservancy Modeled Parcel Data Sheet

Site Information:

PIN: Multiple

Owner: OCC

Address: 7350 COOLEY LAKE RD

County: OAKLAND



Costs:

Parcel: \$

Easement: \$

Date Model Run:

5/13/2024

| Land Use Scenario | Total N Load (lb/yr) | Total P Load (lb/yr) | Total BOD Load (lb/yr) | Total Sediment Load (tons/yr) |
|----------------------|-------------------------|-------------------------|---------------------------|----------------------------------|
| Existing | 102.96 | 18.09 | 437.37 | 2.01 |
| Forest | 7.73 | 3.74 | 18.8 | 0.33 |
| Pastureland | 195.98 | 19.02 | 619.51 | 4.36 |
| Cropland | 205.75 | 48.33 | 425.81 | 21.8 |
| Urban Commercial | 321.92 | 32.19 | 1496.94 | 6.04 |
| Urban Industrial | 285.34 | 45.65 | 1027.21 | 6.85 |
| Urban Institutional | 205.44 | 34.24 | 890.25 | 3.82 |
| Urban Transportation | 951.84 | 158.64 | 2950.71 | 23.8 |
| Urban Multi-Family | 217.64 | 39.57 | 989.26 | 4.95 |
| Urban Single-Family | 119.84 | 21.79 | 544.74 | 2.72 |
| Urban Cultivated | 136.02 | 21.48 | 286.36 | 5.37 |
| Urban Vacant | 148.39 | 14.84 | 395.7 | 3.46 |
| Urban Open Space | 68.27 | 6.83 | 182.07 | 1.59 |

Existing Parcel Makeup

46 %

1 %

0 %

0 %

0 %

48 %

0 %

0 %

0 %

0 %

0 %

0 %

Pollutant Load Comparison

| Land Use Note | Total Nitrogen Load (lb/yr) | Total Phosphorus Load (lb/yr) | Total Biological Oxygen Demand Load (lb/yr) | Total Sediment Load (tons/yr) |
|---------------|-----------------------------|-------------------------------|---|-------------------------------|
| Existing | 102.96 | 18.09 | 437.37 | 2.01 |
| Commercial | 321.92 | 32.19 | 1496.94 | 6.04 |
| Difference | 218.96 | 14.10 | 1059.57 | 4.02 |

Qualitative Data

Wetland: Yes

Percentage: 5 %

FEMA Floodplain: No

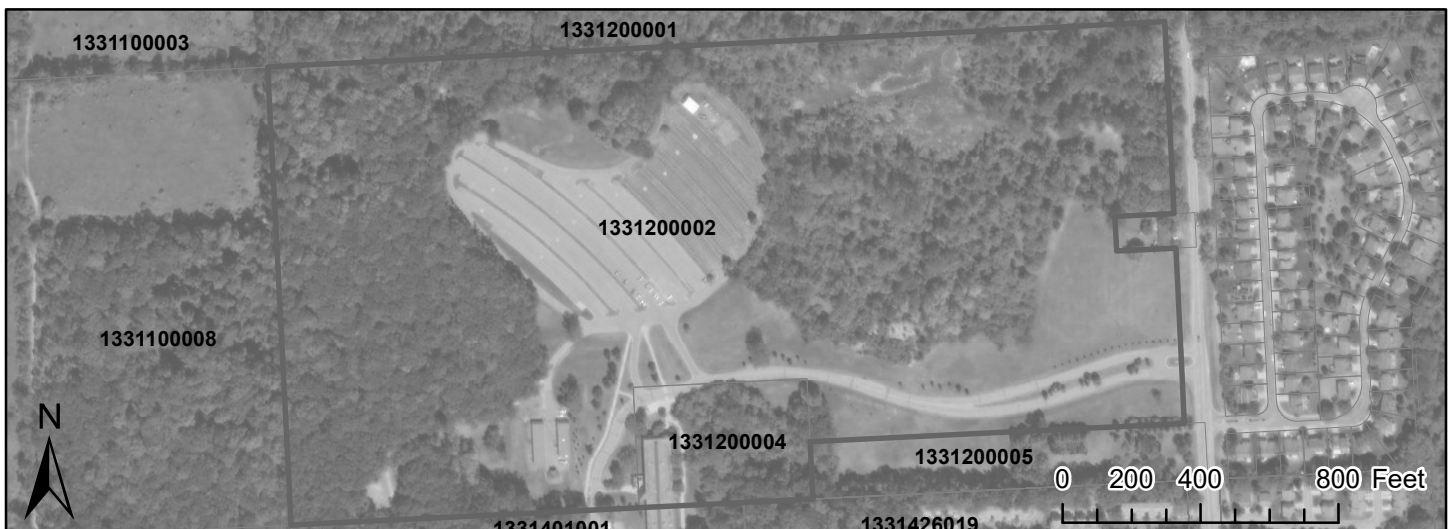
Stormwater Runoff

| Land Use Note | Annual Runoff (acre-ft) | One Yr 15min Storm Event Runoff (acre-ft) | Five Yr 24 hr Storm Event Runoff (acre-ft) | Ten Yr 24 hr Storm Event Runoff (acre-ft) | One Hundred Yr 24 hr Storm Event Runoff (acre-ft) |
|---------------|-------------------------|---|--|---|---|
| Existing | 26.93 | 0.15 | 2.67 | 3.39 | 6.84 |
| Commercial | 59.23 | 0.45 | 5.14 | 6.24 | 11.12 |
| Difference | 32.30 | 0.30 | 2.47 | 2.85 | 4.27 |

Parcel within 500 feet of lake or stream: Yes

Lake or Stream Name:

Unnamed Pond



Six Rivers Land Conservancy Modeled Parcel Data Sheet

Site Information:

PIN: 1331200001

Owner: Unknown

Address: S HOSPITAL RD

County: OAKLAND



Costs:

Parcel: \$

Easement: \$

Date Model Run:

5/13/2024

| Land Use Scenario | Total N Load (lb/yr) | Total P Load (lb/yr) | Total BOD Load (lb/yr) | Total Sediment Load (tons/yr) |
|----------------------|-------------------------|-------------------------|---------------------------|----------------------------------|
| Existing | 157.66 | 15.75 | 498.3 | 3.81 |
| Forest | 7.72 | 3.73 | 18.75 | 0.34 |
| Pastureland | 200.35 | 19.58 | 632.79 | 4.59 |
| Cropland | 209.01 | 49.67 | 432.29 | 22.94 |
| Urban Commercial | 335.41 | 33.54 | 1559.66 | 6.29 |
| Urban Industrial | 303.05 | 48.49 | 1090.97 | 7.27 |
| Urban Institutional | 218.19 | 36.37 | 945.51 | 4.06 |
| Urban Transportation | 979.37 | 163.23 | 3036.04 | 24.48 |
| Urban Multi-Family | 224.7 | 40.85 | 1021.36 | 5.11 |
| Urban Single-Family | 118.96 | 21.63 | 540.72 | 2.7 |
| Urban Cultivated | 135.63 | 21.42 | 285.53 | 5.35 |
| Urban Vacant | 153.2 | 15.32 | 408.55 | 3.57 |
| Urban Open Space | 69.64 | 6.96 | 185.7 | 1.62 |

Existing Parcel Makeup

1 %

83 %

0 %

0 %

0 %

0 %

0 %

0 %

1 %

0 %

0 %

0 %

Pollutant Load Comparison

| Land Use Note | Total Nitrogen Load (lb/yr) | Total Phosphorus Load (lb/yr) | Total Biological Oxygen Demand Load (lb/yr) | Total Sediment Load (tons/yr) |
|---------------|-----------------------------|-------------------------------|---|-------------------------------|
| Existing | 157.66 | 15.75 | 498.30 | 3.81 |
| Commercial | 335.41 | 33.54 | 1559.66 | 6.29 |
| Difference | 177.75 | 17.79 | 1061.35 | 2.47 |

Qualitative Data

Wetland: Yes

Percentage: 24 %

FEMA Floodplain: No

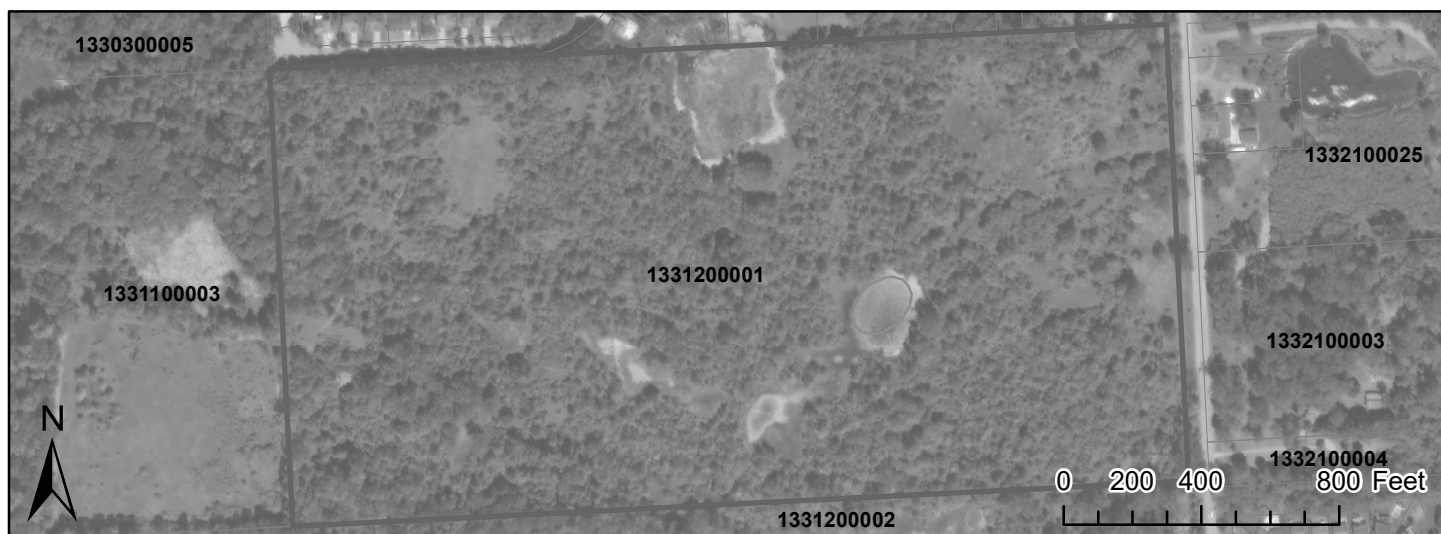
Stormwater Runoff

| Land Use Note | Annual Runoff (acre-ft) | One Yr 15min Storm Event Runoff (acre-ft) | Five Yr 24 hr Storm Event Runoff (acre-ft) | Ten Yr 24 hr Storm Event Runoff (acre-ft) | One Hundred Yr 24 hr Storm Event Runoff (acre-ft) |
|---------------|-------------------------|---|--|---|---|
| Existing | 17.19 | 0.20 | 3.76 | 4.80 | 9.79 |
| Commercial | 61.72 | 0.67 | 7.35 | 8.89 | 15.67 |
| Difference | 44.52 | 0.47 | 3.59 | 4.09 | 5.88 |

Parcel within 500 feet of lake or stream: Yes

Lake or Stream Name:

Unnamed Pond



Six Rivers Land Conservancy Modeled Parcel Data Sheet

Site Information:

PIN: 1331100008

Owner: Unknown

Address: S WILLIAMS LAKE RD

County: OAKLAND



Costs:

Parcel: \$

Easement: \$

Date Model Run:

5/13/2024

| Land Use Scenario | Total N Load (lb/yr) | Total P Load (lb/yr) | Total BOD Load (lb/yr) | Total Sediment Load (tons/yr) |
|----------------------|-------------------------|-------------------------|---------------------------|----------------------------------|
| Existing | 121.53 | 12.23 | 383.26 | 2.77 |
| Forest | 5.62 | 2.71 | 13.62 | 0.27 |
| Pastureland | 148.21 | 14.65 | 467.45 | 3.56 |
| Cropland | 156.53 | 37.66 | 323.54 | 17.81 |
| Urban Commercial | 257.04 | 25.7 | 1195.23 | 4.82 |
| Urban Industrial | 233.2 | 37.31 | 839.51 | 5.6 |
| Urban Institutional | 167.9 | 27.98 | 727.58 | 3.12 |
| Urban Transportation | 755.6 | 125.93 | 2342.35 | 18.89 |
| Urban Multi-Family | 169.2 | 30.76 | 769.11 | 3.85 |
| Urban Single-Family | 86.6 | 15.75 | 393.65 | 1.97 |
| Urban Cultivated | 99.56 | 15.72 | 209.59 | 3.93 |
| Urban Vacant | 115.37 | 11.54 | 307.64 | 2.69 |
| Urban Open Space | 51.31 | 5.13 | 136.84 | 1.2 |

Existing Parcel Makeup

24 %

76 %

0 %

0 %

0 %

0 %

0 %

0 %

0 %

0 %

0 %

0 %

Pollutant Load Comparison

| Land Use Note | Total Nitrogen Load (lb/yr) | Total Phosphorus Load (lb/yr) | Total Biological Oxygen Demand Load (lb/yr) | Total Sediment Load (tons/yr) |
|---------------|--------------------------------|-------------------------------------|--|----------------------------------|
| Existing | 121.53 | 12.23 | 383.26 | 2.77 |
| Commercial | 257.04 | 25.70 | 1195.23 | 4.82 |
| Difference | 135.51 | 13.47 | 811.97 | 2.05 |

Qualitative Data

Wetland: Yes

Percentage: 3 %

FEMA Floodplain: No

Stormwater Runoff

| Land Use Note | Annual Runoff (acre-ft) | One Yr 15min Storm Event Runoff (acre-ft) | Five Yr 24 hr Storm Event Runoff (acre-ft) | Ten Yr 24 hr Storm Event Runoff (acre-ft) | One Hundred Yr 24 hr Storm Event Runoff (acre-ft) |
|---------------|----------------------------|---|--|--|---|
| Existing | 11.88 | 0.03 | 0.78 | 1.01 | 2.14 |
| Commercial | 47.30 | 0.15 | 1.79 | 2.17 | 3.86 |
| Difference | 35.42 | 0.12 | 1.01 | 1.17 | 1.71 |

**Parcel within 500 feet of
lake or stream:** No

Lake or Stream Name:



Six Rivers Land Conservancy Modeled Parcel Data Sheet

Site Information:

PIN: Multiple

Owner: Unknown

Address: 825 S WILLIAMS LAKE RD

County: OAKLAND



Costs:

Parcel: \$

Easement: \$

Date Model Run:

5/13/2024

| Land Use Scenario | Total N Load (lb/yr) | Total P Load (lb/yr) | Total BOD Load (lb/yr) | Total Sediment Load (tons/yr) |
|----------------------|-------------------------|-------------------------|---------------------------|----------------------------------|
| Existing | 132.41 | 13.69 | 418.12 | 2.93 |
| Forest | 7.52 | 3.64 | 18.3 | 0.31 |
| Pastureland | 198.09 | 18.93 | 627.38 | 4.1 |
| Cropland | 196.06 | 45.87 | 405.85 | 20.52 |
| Urban Commercial | 317.2 | 31.72 | 1474.96 | 5.95 |
| Urban Industrial | 295.83 | 47.33 | 1065 | 7.1 |
| Urban Institutional | 213 | 35.5 | 923 | 3.96 |
| Urban Transportation | 888.61 | 148.1 | 2754.7 | 22.22 |
| Urban Multi-Family | 217.02 | 39.46 | 986.47 | 4.93 |
| Urban Single-Family | 115.54 | 21.01 | 525.19 | 2.63 |
| Urban Cultivated | 130.41 | 20.59 | 274.55 | 5.15 |
| Urban Vacant | 147.97 | 14.8 | 394.59 | 3.45 |
| Urban Open Space | 69.37 | 6.94 | 184.99 | 1.62 |

Existing Parcel Makeup

28 %

69 %

0 %

0 %

0 %

0 %

0 %

0 %

1 %

0 %

0 %

0 %

Pollutant Load Comparison

| Land Use Note | Total Nitrogen Load (lb/yr) | Total Phosphorus Load (lb/yr) | Total Biological Oxygen Demand Load (lb/yr) | Total Sediment Load (tons/yr) |
|---------------|-----------------------------|-------------------------------|---|-------------------------------|
| Existing | 132.41 | 13.69 | 418.12 | 2.93 |
| Commercial | 317.20 | 31.72 | 1474.96 | 5.95 |
| Difference | 184.79 | 18.03 | 1056.84 | 3.02 |

Qualitative Data

Wetland: Yes

Percentage: 3 %

FEMA Floodplain: No

Parcel within 500 feet of lake or stream: Yes

Lake or Stream Name:

Unnamed Pond

Stormwater Runoff

| Land Use Note | Annual Runoff (acre-ft) | One Yr 15min Storm Event Runoff (acre-ft) | Five Yr 24 hr Storm Event Runoff (acre-ft) | Ten Yr 24 hr Storm Event Runoff (acre-ft) | One Hundred Yr 24 hr Storm Event Runoff (acre-ft) |
|---------------|-------------------------|---|--|---|---|
| Existing | 15.68 | 0.12 | 2.40 | 3.07 | 6.32 |
| Commercial | 58.36 | 0.43 | 4.64 | 5.62 | 9.86 |
| Difference | 42.69 | 0.31 | 2.25 | 2.55 | 3.54 |

