



819 SE Morrison Street  
Suite 310  
Portland, OR 97214  
503.274.2010 phone  
503.274.2024 fax

www.esassoc.com

# memorandum

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CITY OF MILWAUKIE  
PLANNING DEPARTMENT

date March 6, 2018  
to Vera Koliass, AICP (City of Milwaukie)  
from John Vlastelicia  
subject Natural Resource Review for Ledding Library Construction Project  
10660 SE 21st Avenue (Assessor Map 11E36BB, Tax Lot 1800)  
City of Milwaukie Land Use File #CSU-2018-002

Thank you for asking Environmental Science Associates (ESA) to assist the City of Milwaukie with natural resource evaluation services for the Ledding Library Construction Project located at 10660 SE 21<sup>st</sup> Avenue. This memorandum summarizes our technical review of land use application materials related to site natural resources regulated by Milwaukie Municipal Code (MMC), including Water Quality Resource (WQR) areas and Habitat Conservation Area (HCA). The materials we reviewed included a Natural Resource Review report prepared by Pacific Habitat Services (PHS, January 2018), which addresses requirements of MMC Section 19.402 (Natural Resources), and a Wetland Delineation Report prepared by Apex Companies, LLC (Apex, March 2017).

This memorandum is formatted to address specific technical review tasks identified by the City in your request for ESA services (letter from Vera Koliass to John Vlastelicia, February 9, 2018). The City-requested tasks are identified in **bold**, followed by our responses.

**Task 1: Conduct a site visit to assess existing conditions and generally corroborate the figures and narrative provided in the application submittal.**

Response: ESA staff (John Vlastelicia and Luke Johnson) visited the Ledding Library site on February 23, 2018. The site visit involved walking the property to assess existing conditions with the Natural Resources Review and Wetland Delineation reports in hand. In general, ESA observed site conditions to be consistent with those illustrated on the report figures and described in the narrative. Our observations of site conditions related to specific habitat characteristics, ecological functions, and MMC approval criteria are described in the responses to Tasks 2 and 3 of this memorandum. A more general discussion of observations related to the report figures and descriptions of regulated resource boundaries follows.

WQR Boundaries

- Stream/Wetland Distinction: The PHS Natural Resource Review Report explains on Page 1 that Spring Creek and its adjacent wetland are Primary Protected Water Features under MMC and that the WQR includes the stream/wetland and the Vegetated Corridor that extends outward 50 feet from the wetland boundary. The

PHS report references the Apex Wetland Delineation Report and states that “the surveyed locations of Spring Creek and associated wetlands are shown on Figure 3” and also that “the extent of the vegetated corridor on the project site, based on the surveyed boundaries of wetlands and waterways, is depicted on Figure 3.”

The PHS report Figure 3 (and other PHS report figures) does not distinguish Spring Creek from its adjacent wetland; the entire feature is simply labeled “Wetland” and there is no label on any PHS report figure that identifies Spring Creek. While some reference to Spring Creek on the figures would be helpful, the lumping of Spring Creek (below ordinary high water) with its adjacent wetland (above ordinary high water) into a single “Wetland” feature representing the Primary Protected Water feature is acceptable for establishing the adjacent vegetated corridor and thus the WQR regulated by MMC.

- PHS and Apex Wetland Boundary Difference: The “Wetland” boundary shown in PHS report Figure 3 does not appear to exactly match the wetland boundary shown in the Apex Wetland Delineation Report Figure 6, even though the PHS report text suggests that they are the same. Both figures are attached to this memorandum for reference.

It appears that the western “Wetland” boundary line shown in the PHS report figures generally follows the toe of a rock retaining wall that meanders in a north-south direction through the eastern portion of the site, while the Apex report Figure 6 shows a more complex boundary that likely differentiates wetland and non-wetland areas below the rock retaining wall. Also, the Apex report does not show a stream/wetland boundary extending beyond (north of) the asphalt-path crossing of the water feature on the northern portion of the site, while the PHS report figures show the wetland/stream extending through that area and encompassing the asphalt path.

During the site visit, ESA staff observed the rock retaining wall, which is shown and labeled on the existing conditions survey included in the land use application and attached to this memorandum for reference. The retaining wall represents a sharp topographic break that functionally separates the lower Spring Creek/wetland/floodplain area from the upland slopes of the adjacent riparian forest, and there is logic in using the retaining wall as the approximate boundary line separating the Primary Protected Water Feature from its adjacent Vegetated Corridor.

By drawing a “Wetland” boundary along the retaining wall and extending that boundary through the asphalt path that crosses the stream in the north portion of the site, the PHS report takes a conservative approach to defining the Primary Protected Water Feature and thus establishes a vegetated corridor offset and a WQR that maximize resource protections. For that reason, the wetland boundary discrepancies between the PHS report figures and Apex report figures do not impact the overall review of the proposal.

- Vegetated Corridor Width: The topographic survey included in the land use application and attached to this memo shows 1-foot contours for the site, including the area of the Vegetated Corridor. The survey and field observations made by ESA staff indicate that the slopes adjacent to the Wetland are less than 25%, and so the 50-foot vegetated corridor width shown on the PHS report figures is appropriate.

### HCA Boundaries

The PHS report notes that the HCA boundaries shown on the report figures were provided by the City of Milwaukee in the form of GIS data reflecting the City’s Natural Resources Administrative Map (NR Map, August

2011). The report also notes that coordination with City staff has indicated that the mapped HCA may be used to comply with MMC 19.402, and the land use application does not propose a detailed boundary verification or map revision.

ESA's field reviews of the site indicated that the mapped HCA boundaries are reasonable for planning purposes and are reflective of the resources warranting protection. On the subject property, the mapped HCA includes Spring Creek and the adjacent riparian area on the west side of the creek, which features a canopy dominated by mature oak trees. The mapped HCA approximately traces the riparian canopy extents, and it does not appear that a detailed HCA boundary verification is needed, nor would it substantially change the HCA boundary, HCA impacts, or mitigation requirements for the proposal.

**Task 2: Review the Natural Resource Review report prepared by Pacific Habitat Services. Assess and comment on the applicant's response to the following requirements:**

**a. Inventory of existing vegetation, identification of the ecological functions of riparian habitat, and categorization of the existing condition of the WQR on the subject property**

Response:

- Vegetation Inventory: Tables 1, 2, and 3 of the PHS report list plant species and percent cover from three sample points in the vegetated corridor. The sample point locations are not identified on the report's Figure 3 (they should be), but the species noted in the report tables and described elsewhere in the report text are generally consistent with vegetation conditions as ESA staff observed during our February 23 site visit. ESA noted that many of the young native trees in the understory of the corridor, including a number of western redcedar, appear to have been planted.

One non-native invasive species ESA observed that is not noted in the PHS report is English ivy (*Hedera helix*), which is identified as a nuisance species on Milwaukie's Plant List (Portland Plant List) and is present as groundcover in the southern portion of the vegetated corridor in particular. ESA also observed some English ivy on tree trunks, but not to an extent that tree health appears to be threatened. The riparian restoration planting should include removal of English ivy, along with other non-native invasive vegetation.

- Ecological Functions: The PHS report includes a good discussion of the ecological functions and values provided by the site's riparian habitat on the project site. Each of the seven function categories identified in MMC 19.402.1.C.2 is adequately addressed.
- Existing Condition Category: The PHS report describes the site's vegetated corridor as consisting of two plant communities (Conditions A and B), based on the predominance of woody species and the extent of the tree canopy. The corridor in the site's interior (north of southern portion of library and south of asphalt path) is classified as Good condition based on the dense tree canopy and dominance of native vegetation, while the corridor at the north and south ends of the site is characterized as being in Marginal condition due the presence of landscaping, a higher percentage of non-native vegetation, and less canopy coverage. ESA agrees with the condition categories assigned in the PHS report.

**b. Analysis of alternatives to the proposed development, including a critique of the rationale behind choosing the alternative selected**

Response: The alternatives analysis discussion in the PHS report presents a strong justification for the library expansion by noting that it's driven by a 2016 City bond measure that was passed to address public needs. One alternative approach to the site layout that could lessen building footprint - and therefore lessen HCA/WQR impact - is identified: construction of a two-story building rather than the proposed one-story building. The report notes that approach was rejected by the design team due to operational inefficiencies associated with a 2-story library (moving materials between floors) and added operational costs to have staff presence on two floors, elevator maintenance, additional restroom, etc.

The existing library is 12,000 square feet in size, and the PHS report notes the proposed library would be approximately 20,000 square feet "to meet community needs." The report also notes that because the WQR and HCA occupy most of the eastern half of the project site, it is not possible to construct a library building large enough to meet community needs and provide required parking, walkways, and other infrastructure while avoiding WQR/HCA impacts entirely.

It is clear that complete avoidance of WQR/HCA impacts is not practicable, based on the extent of HCA/WQR on the site and the fact that the existing undersized library encroaches into WQR/HCA. However, the alternatives analysis could be strengthened by a few additional details to more specifically justify the community's needs for a 20,000-square foot library (and not something smaller), the number of parking spaces required for such a facility, etc. An additional brief note explaining why it is not practicable to construct the new library on another property that would avoid HCA/WQR impacts could also help (e.g., no nearby suitable City property available, much higher costs, not authorized by the bond funding, etc.).

**c. Mitigation plan that is appropriate for the proposed disturbance and that ensures the disturbed portions of the WQR and HCA will be restored to an equal or better condition, including appropriateness of the proposed mitigation planting list**

Response: The PHS report includes an accounting of: (1) permanent HCA/WQR impacts, which are defined as permanent disturbance (new building, path, stormwater facility) within the HCA/WQR outside of the existing building and parking lot; and (2) temporary HCA/WQR impacts, which are defined as the area with HCA/WQR that will be disturbed by construction activities but are outside of the proposed development footprint. Defining permanent HCA/WQR impacts to exclude existing development (buildings and pavement) is typical and appropriate for determining mitigation requirements.

MMC 19.402.11 outlines two options for determining mitigation requirements for impacts less than one acre: (1) based on number and size of trees to be removed; and (2) based on disturbance area. The option that would result in more tree plantings based on the calculations prescribed in the MMC is the option that must be followed. The PHS report includes the calculation for both and proposes mitigation based on Option 2, which would consist of 19 trees (5 trees per 500 SF of HCA disturbance) and 96 shrubs (25 shrubs per 500 SF disturbance) for the 1,926 square feet of permanent HCA impact. The proposed planting area covers the entire temporary disturbance area within the HCA/WQR, as well as additional area within the HCA/WQR where no disturbance is proposed.

The species proposed in the PHS mitigation plan include bigleaf maple, red alder, and western red cedar trees, along with red-osier dogwood, Indian plum, and snowberry shrubs. The proposed mix of native trees and shrubs is well-suited for the riparian conditions at the site, and most of the proposed species can be found on the site currently, indicating a good potential for planting success. As noted previously, the riparian restoration planting should include removal of English ivy, along with other non-native invasive vegetation. The removal of invasive species and proposed two-year monitoring/maintenance period will help ensure plant establishment.

The trees to be removed as part of the proposal include one 36-inch diameter tree identified as “deciduous” in the PHS report, along with two smaller landscape trees (a pine and a rhododendron). The loss of functions provided by the 36-inch tree in particular cannot be immediately replaced through plantings, but the enhancement of the existing multi-layered native plant community within the proposed mitigation area should provide ecological lift over time and support water quality functions.

**Task 3: Evaluate the proposed activity with respect to the three approval criteria established in MMC Subsection 19.402.12.B:**

**a. Avoid = The proposed activity will have less detrimental impact to the WQR and HCA than other practicable alternatives.**

Response: The PHS report does not identify practicable alternatives that would have more impact to the WQR and HCA than the proposal, but provides rationale for why an alternative with less impact on WQR/HCA (a two-story building) is not practicable. The report notes that the proposed building has been sited as far to the west as possible to avoid impacts to the vegetated portion of the WQR/HCA as much as possible, and it is clear from the site constraints (size, WQR/HCA in the east, 21<sup>st</sup> St. to the west) that a one-story library expansion that avoids HCA/WQR entirely is likely not practicable. The fact that the existing, undersized library extends into the WQR/HCA highlights this point.

Please refer to the response to Task 2b in this memo for additional thoughts on demonstrating a thorough alternatives analysis.

**b. Minimize = Where impacts cannot be avoided, the proposed activity shall minimize detrimental impacts to the extent practicable.**

Response: The PHS report identifies measures that the project will incorporate to minimize impacts to habitat and ecological functions, soil and vegetation, hydrologic conditions, and wildlife corridors.

The impact minimization measures listed in the PHS report for soil and vegetation disturbance generally follow the development standards of MMC 19.401.11.A, although the report text and figures do not identify details of types/locations of proposed erosion and sediment control measures (e.g., sediment fence downslope of ground disturbance). The report notes that the applicant has prepared a Preliminary Grading and Erosion Control Plan that will conform to the requirements of 19.402.9 (Construction Management Plan), but details from that plan are not incorporated into the PHS report.

The most significant natural resources on the site are the mature riparian trees that provide the basis for the HCA designation. A Construction Management Plan must establish root protection zones (RPZz) around

trees in WQR/HCA adjacent to any approved work area. Per 19.402.9, the RPZ shall extend from the trunk to the outer edge of the tree's canopy, or as close to the outer edge of the canopy as is practicable for the approved project.

The proposed project involves ground-disturbing activities within the outer edge of the tree canopy, but the PHS report does not mention RPZs or document any analysis of the potential for tree impacts resulting from ground disturbance within default RPZs. Since protecting the existing mature trees on-site is critical to avoiding and minimizing resource impacts, some additional analysis of the potential for tree impacts resulting from RPZ disturbance is recommended.

**c. Mitigate = The proposed mitigation plan demonstrates appropriate and adequate mitigation for adverse impacts to the WQR and HCA.**

Response: As discussed in the response for Task 2c of this memorandum, the proposed mitigation approach for addressing adverse impacts to the HCA appears to be adequate and commensurate with the impacts.

Again, thank you for asking ESA to provide natural resources review assistance for the Ledding Library Construction Project at 10660 SE 21<sup>st</sup> Avenue. Please let me know if you have any questions or would like to discuss any of the information presented in this memorandum.

## **ATTACHMENTS**

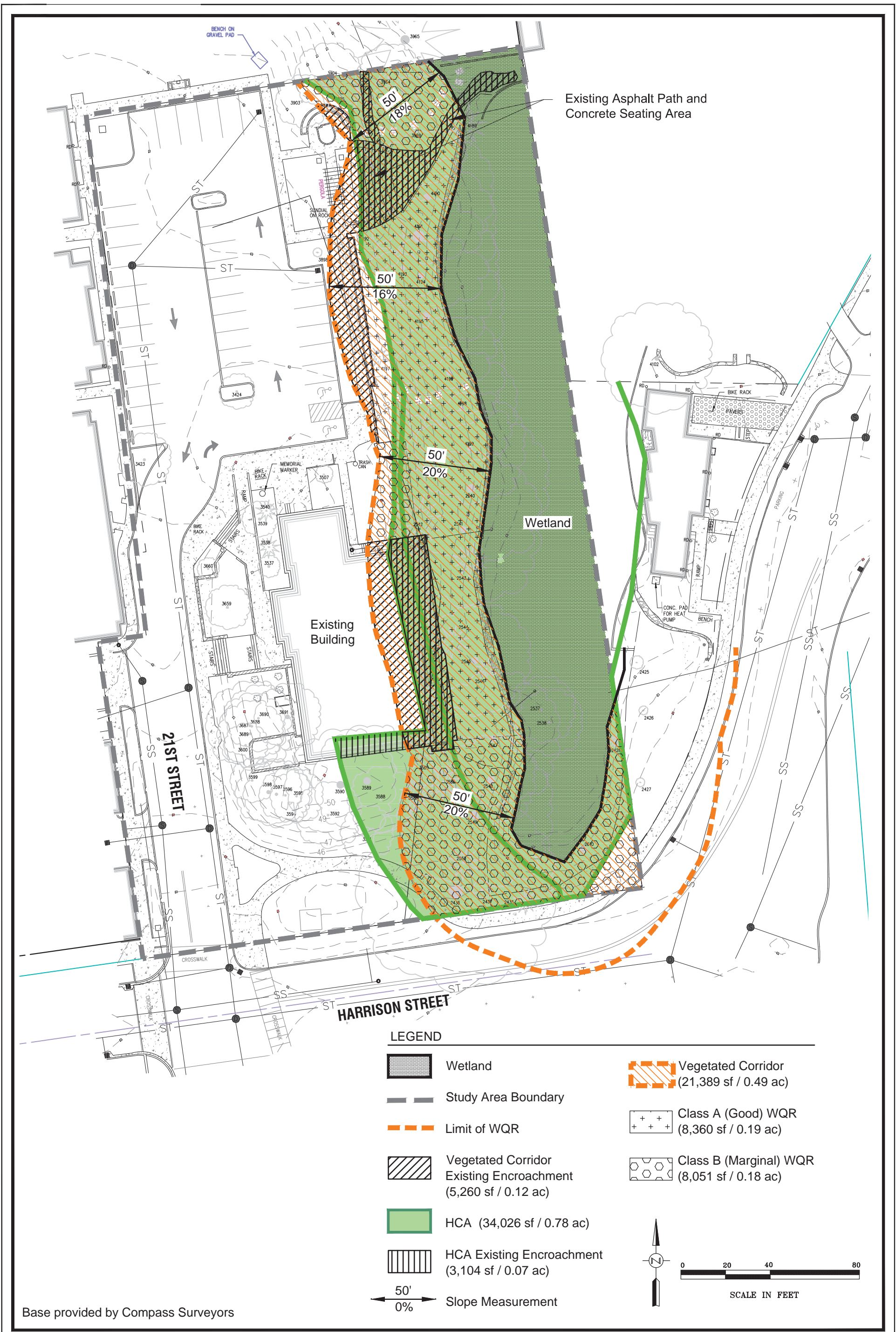
PHS Report Figure 3 (Existing Conditions)

Apex Report Figure 6 (Wetland Delineation Map)

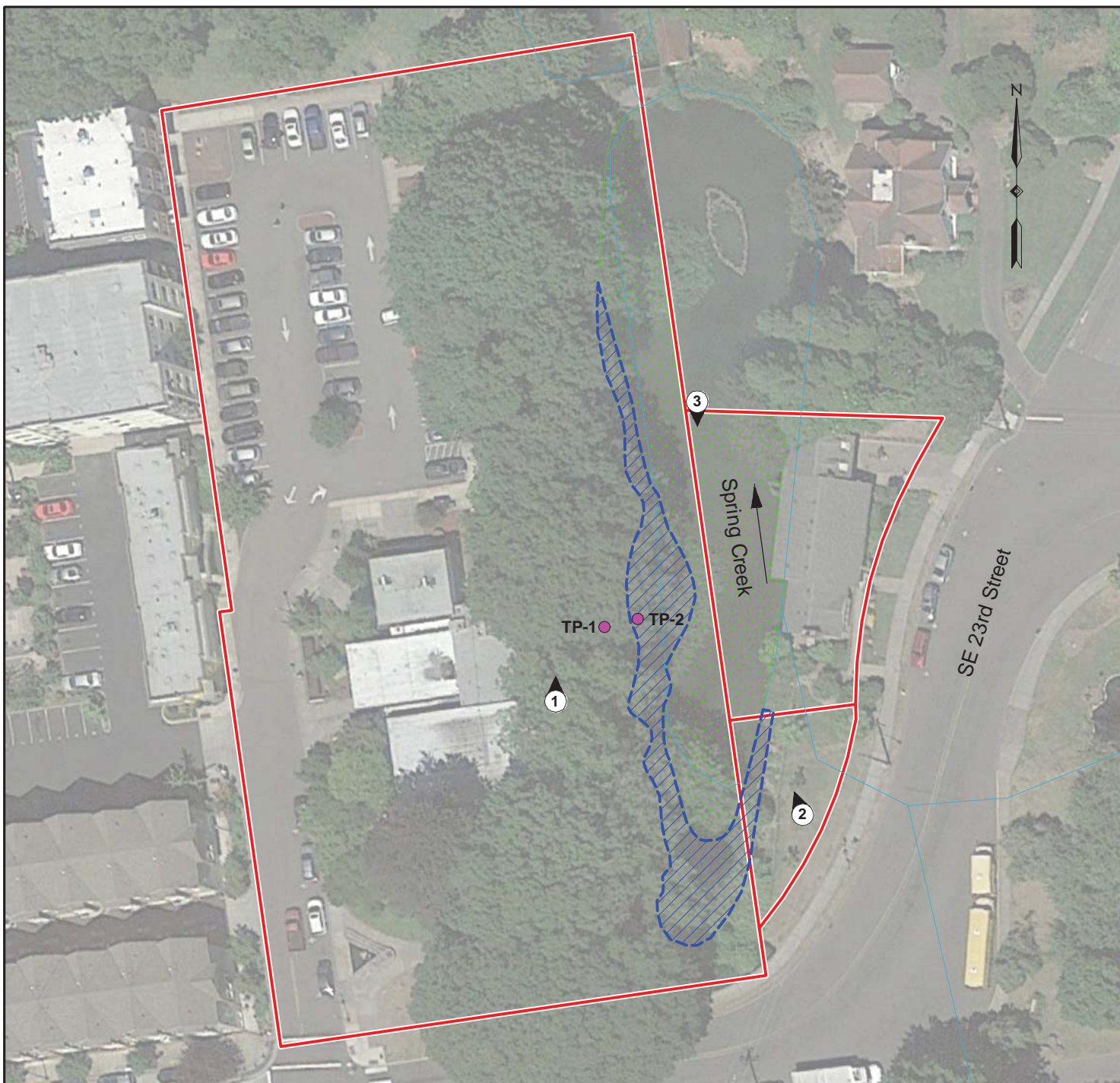
Site Survey from Hacker Land Use Review Application







Base provided by Compass Surveyors



**NOTE:** Base map prepared from Google Earth Pro Imagery. Aerial dated July 23, 2016. Tax Lot, road, railroad, and stream information from © Oregon Metro [www.oregonmetro.gov/rliis](http://www.oregonmetro.gov/rliis) (8-2016).

**Legend:**

- Site Boundary
- Flow Direction
- Emergent Wetland (BH001)  
*Note: Boundaries recorded using a sub-meter hand held GPS unit.*
- Waters of the State/US
- TP-1 Sample Point
- Photograph Location, Number, and Direction Taken (See Appendix B for Details)



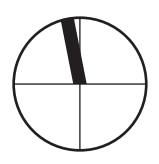
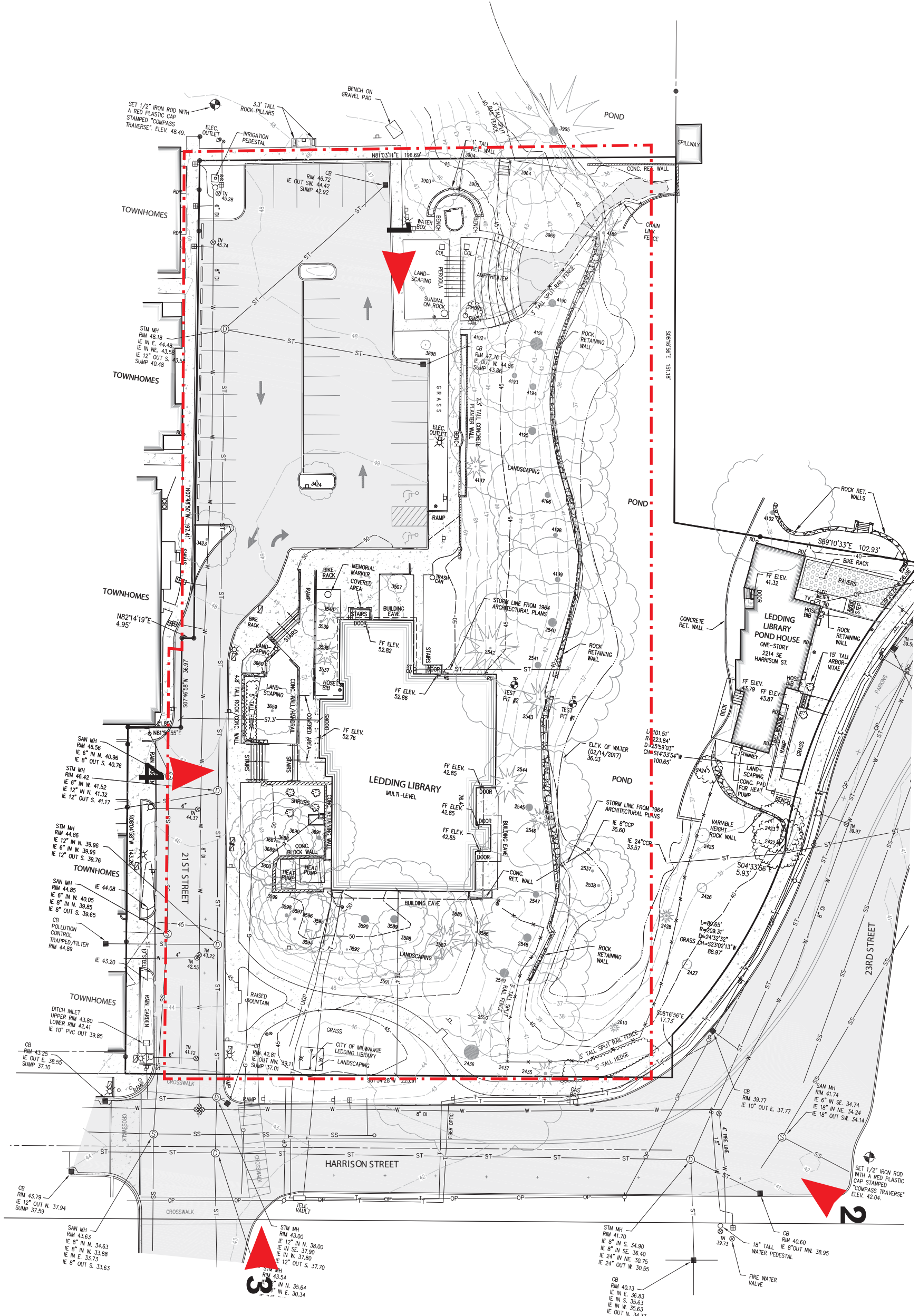
## Wetland Delineation Map

Wetland Delineation Report  
10660 SE 21st Avenue  
Milwaukie, Oregon

Apex Companies, LLC  
3015 SW First Avenue  
Portland, Oregon 97201

Project Number	2331-00
March 2017	

Figure  
**6**



SITE SURVEY AND EXISTING STREET VIEW KEY