



CITY OF
TUMWATER

**HISTORIC PRESERVATION COMMISSION
MEETING AGENDA**

**Online via Zoom and In Person at
Tumwater City Hall, Council Chambers,
555 Israel Rd. SW, Tumwater, WA 98501**

**Thursday, March 21, 2024
6:30 PM**

1. Call to Order
2. Roll Call
3. Changes to Agenda
4. Approval of Minutes
 - [a.](#) Historic Preservation Commission Meeting 07/20/2023
 - [b.](#) Historic Preservation Commission Meeting 09/21/2023
 - [c.](#) Historic Preservation Commission Meeting 11/16/2023
5. Public Comment
6. Election of 2024 Vice Chair & Chair
- [7.](#) Davis/Meeker Oak Tree
8. Next Meeting Date - 04/18/2024
9. Adjourn

Meeting Information

The public are welcome to attend in person, by telephone or online via Zoom.

Watch Online

<https://us02web.zoom.us/j/81895868340?pwd=NXkyYW9QUmUxV3RCYnZ1WnZqZmZnUT09>

Listen by Telephone

Call (253) 215-8782, listen for the prompts and enter the Webinar ID 818 9586 8340 and Passcode 641746.

Public Comment

The public may submit comments by sending an email to sklein@ci.tumwater.wa.us, no later than 4:00 p.m. the day of the meeting. Comments are submitted directly to the Commission members and will not be read individually into the record of the meeting.

Post Meeting

Audio of the meeting will be recorded and later available by request, please email CityClerk@ci.tumwater.wa.us

Accommodations

The City of Tumwater takes pride in ensuring that people with disabilities are able to take part in, and benefit from, the range of public programs, services, and activities offered by the City. To request an accommodation or alternate format of communication, please contact the City Clerk by calling (360) 252-5488 or email CityClerk@ci.tumwater.wa.us. For vision or hearing impaired services, please contact the Washington State Relay Services at 7-1-1 or 1-(800)-833-6384. To contact the City's ADA Coordinator directly, call (360) 754-4128 or email ADACoordinator@ci.tumwater.wa.us.

TUMWATER HISTORIC PRESERVATION COMMISSION

MINUTES OF HYBRID MEETING

July 20, 2023 Page 1

CONVENE: 6:30 p.m.

PRESENT: Chair David Shipley and Commissioners Alex Rossiter, Renee Radcliff Sinclair, and Marnie Slakey.

Absent: Commissioners Don Trosper and Dave Nicandri.

Staff: Parks and Recreation Director Chuck Denney and Parks and Facilities Manager Stan Osborn.

CHANGES TO AGENDA: Chair Shipley reported on one addition to the agenda.

APPROVAL OF MINUTES OF JUNE 15, 2023:

MOTION: Commissioner Slakey moved, seconded by Commissioner Rossiter, to approve the minutes of June 15, 2023 as presented. A voice vote approved the motion unanimously.

PUBLIC COMMENT: There were no public comments.

UPDATE ON IMPROVEMENTS AND ADDITIONS TO THE SCHMIDT HOUSE: Karen Johnson, Schmidt House Curator, Olympia Tumwater Foundation, provided information on the completion of improvements to the Schmidt House.

The Commission previously approved a Certificate of Appropriateness for some improvements and additions to the Schmidt House. The Olympia Tumwater Foundation received a heritage capital grant from the state of \$117,000 with a required 2:1 match. Project areas involved interior rehabilitation of the basement where archives are stored, addition of an exterior wheelchair lift, addition of an ADA restroom in the detached garage, and upgrades to building systems.

Ms. Johnson shared “before” and “after” photographs of the project. Exterior foundation walls of the house have been leaking for many years with water seeping from the porch and windows into the basement. The work included cleaning and sealing foundation walls, repainting of basement walls, and addition of climate-controlled spaces, lighting, and electrical outlets. Abandoned plumbing lines in the basement were removed and replaced with overhead water pipes. A small closet was improved with the addition of shelving. The Foundation uses the space as its art storage room for framed photographs, paintings from the Schmidt family dating to the 1600s, and other pieces of art.

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An ADA wheelchair was installed at the corner of the front porch. A new ADA-width sidewalk was also added to provide access to the wheelchair lift. Existing evergreen shrubs were replaced with lower-height shrubs. The wheelchair lift was certified by the state. The basement, second floor, and third floor of the house remain inaccessible to individuals with mobility issues. To accommodate for the height difference of the porch floor with the interior first floor, the contractor installed a rubberized floor mat manufactured at a specific height to accommodate the difference in height between the two floor areas. To ensure wheelchairs did not slide off the porch, the architect installed a low-height curb along the perimeter of the porch painted to match the house trim.

A major undertaking was installing an ADA restroom. The restroom was installed in the garage area. Restroom windows were designed to mimic the three windows on the third floor of the house. A sign was installed by the entry door of the restroom; however, the Foundation plans to add directional signs from the house to the restroom.

Of the building system upgrades, most of the improvements included the lighting systems with replacement of inappropriate light fixtures on the first floor in rooms with public access and the addition of low-profile art lighting along the walls of rooms for artwork of framed vintage photographs. New chandeliers were added to the dining room, front room, and entry hall.

Ms. Johnson reported the Foundation expended approximately \$350,000 on the entire project with \$117,000 from the grant. The improvements did not include audio/visual upgrades or fire suppression in the basement because of cost. All contractors working on the project were respectful of the house and its legacy. She invited Commissioners to contact her for a tour of the house.

Director Denney conveyed appreciation to Ms. Johnson for sharing information on the project. He noted that the City has contracted with the Foundation to provide historical programs and events.

Ms. Johnson said she has also been working with the Tree Board on research for the Board's legacy tree project. It is likely the large magnolia tree in front yard of the Schmidt House will be nominated as a heritage tree.

**BREWMASTER'S
HOUSE REPAIRS:**

Manager Osborn reported on recent vandalism to the Crosby House involving a homeless individual who threw a large rock through a large window in the rear of the house near the kitchen. The individual did not enter the house. The window has been since boarded. Heritage Restoration inspected the window and was able to save the window to

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include replacement of some wood around the jam. The company is matching the window to mimic the older style of the previous window.

Manager Osborn updated the Commission on the status of repairs to the Brewmaster's House following the recent arson fire. The City completed the service contract with Heritage Restoration to assess the damage and provide recommendations on the work necessary to repair the house. All interior contents of the house were removed. Some of the contents that were essentially destroyed have been discarded and other contents were stored to help eliminate the smell of smoke. Pending action is the Commission's recommendation for moving forward on wallpaper choices to enable staff to secure cost estimates.

Chair Shipley asked how the smell of smoke was rectified. Manager Osborn advised that the contractor initially cleaned all surfaces to the extent possible. For those areas that could not be accessed, the contractor sealed the areas using a product that eliminates the smell of smoke. The product is an organic compound manufactured using insects as an ingredient. The product seals any remaining smoke in rafters and in wood. The product is the consistency of milk and is amazingly effective. The product is sprayed on objects. Any remaining smell from fire is attributed to the lack of completing the repairs to the building to reframe some affected areas, resealing drywall, and wallpapering and painting. The entire repairs will seal any remaining smoke smell.

Manager Osborn thanked the Commission for working with staff to render some decisions on the house. Some of the information shared during the Commission's tour of the house was incorrect necessitating clarification from a wallpaper supplier. The company researched the historical home to help identify needed repairs. Based on the research, only well-to-do owners would have wallpapered ceilings using the same wallpaper on walls. The information as conveyed to him initially was different. The company provided additional information in several letters. Not all ceilings were originally wallpapered with some ceilings installed with backing paper or plastered. Wallpaper is currently available mimicking plaster.

Manager Osborn said he is seeking authority to enable him and Director Denney to make any necessary decisions prior to the next meeting. He shared letters from the wallpaper supplier from Tacoma. The supplier recommends plastering many of the ceilings in white.

Commissioner Slakey noted that plastering would likely be the best option in terms of long-term maintenance. Manager Osborn agreed. He added that the option would be less costly and is aesthetically pleasing. He shared some wallpaper samples and identified the rooms for

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wallpapering, as well as some ceiling options that mimic plaster, which would be more expensive.

Chair Shipley recommended agreeing on the ceiling option. Manager Osborn clarified that some of the prior direction is not possible. For example some minor changes in wallpaper color or design might be necessary as the supplier lacks sufficient stock to complete the dining room ceiling and walls. The supplier provided samples of similar wallpaper that would be appropriate. Staff recommends plastering ceilings in the first floor office and bathroom and all rooms in the upper story except for one bedroom.

MOTION:

Commissioner Slakey moved, seconded by Commissioner Sinclair, to approve plastering ceilings of the first floor office and the bathroom, and in the rooms on the upper story except for one of the two bedrooms with the Commission to determine the bedroom to wallpaper. The motion carried unanimously.

Manager Osborn shared different samples of wallpaper for the kitchen ceiling. He requested authority for flexibility in the wallpaper color based on the Commission's previous selection of wallpaper for kitchen walls.

Manager Osborn shared wallpaper samples previously selected for the entry and the living room and requested approval for flexibility on the final selection. New wallpaper for the dining room is necessary for consideration. He shared four samples of dining room wallpaper. Dining room wallpaper will cover only the top four to five feet of wall space with wallpaper or plaster for the ceiling. He suggested using the same ceiling choice for the entry in the dining room and selecting wallpaper that does not clash with the living room ceiling.

Commissioners reviewed the four wallpaper samples.

Staff was afforded flexibility on the stamped ceiling wallpaper in the kitchen, entrance, and living room for compatibility with gray wallpaper. The Commission recommended the #2 wallpaper sample for the dining room and #19 sample wallpaper for the dining room ceiling.

Manager Osborn reviewed wallpaper samples for the upper story rooms. All ceilings except for one bedroom would have plaster ceilings. He cited the prior selection of wallpaper of a room located north of the turret room.

MOTION:

Commissioner Slakey moved, seconded by Commissioner Sinclair, to approve design changes to the Brewmaster's House for the following:

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1. For the first floor, staff has flexibility for the selection of stamped wallpaper for the ceiling in the kitchen.
2. Staff has flexibility for the selection of the ceiling wallpaper in the entrance and dining room to be compatible with previously selected gray wallpaper.
3. Selection of #2 wallpaper for the dining room.
4. Selection of #19 wallpaper for the dining room ceiling.

MOTION; The motion carried unanimously.

MOTION: Commissioner Slakey moved, seconded by Commissioner Sinclair, to approve the following design changes:

1. All ceilings in the upper story will be plaster except for the northwest bedroom (#9).
2. The southwest bedroom (#8) with the bird wallpaper will have a plaster ceiling.

MOTION: The motion carried unanimously.

MOTION: Commissioner Slakey moved, seconded by Commissioner Rossiter, to afford some flexibility to staff for decision-making to adjust any final decisions in the design for compatibility with colors and materials.

Commissioner Slakey asked about the timing for completion of wallpapering. Manager Osborn advised that the original date of completion projected at the end of October would likely not be achieved for several reasons. Commissioner Slakey recommended scheduling a Commission meeting at the Brewmaster's House after all repairs are completed.

ADJOURNMENT: Commissioner Slakey moved, seconded by Commissioner Rossiter, to adjourn the meeting at 7:33 p.m. A voice vote approved the motion unanimously.

Prepared by Valerie L. Gow, Recording Secretary/President
Puget Sound Meeting Services, psmsoly@earthlink.net

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CONVENE: 6:41 p.m.

PRESENT: Chair David Shipley and Commissioners Dave Nicandri, Alex Rossiter, Renee Radcliff Sinclair, Marnie Slakey, and Don Trosper.

Staff: Parks and Recreation Director Chuck Denney, Communications Manager Ann Cook, and Parks and Facilities Manager Stan Osborn.

CHANGES TO AGENDA: There were no changes to the agenda.

APPROVAL OF MINUTES OF JULY 20, 2023: Consideration of the minutes of July 20, 2023 was deferred.

PUBLIC COMMENT: There were no public comments.

OLD BREWHOUSE TOWER PHASE 2 SEISMIC IMPROVEMENTS: Manager Cook introduced Jim Cary, Cardinal Architecture. Mr. Cary presented the final plan for seismic improvements to the old brewhouse.

Mr. Cary reported that since the last update in February, the geotechnical engineer and the structural engineer have been developing the construction drawings, which will be submitted to the City for Phase 2 of the project.

Mr. Cary displayed historic images of the old brewhouse and the original construction drawings produced in Milwaukee, Wisconsin used by the team throughout the project. The building sections reflect how brewery equipment was placed in the building. The team was able to develop a 3D model of the gravity brewing system used in the tower.

Foundation drawings assisted the team in recreating building details and how the building was used. Additional photos were of construction workers building the original roof of the brewery tower.

During Phase 1 of the project, masonry was repaired and installed and new roofs were installed. Phase 2 of the project is only for seismic improvements. The phase includes geotech exploration and input, installation of micropiles, and the addition of concrete and steel to preserve the structure during future earthquakes and seismic events.

Phase 2 efforts began with the foundation. The team worked from an historic foundation plan; however, the version was not developed in Milwaukee because it had been revised and developed onsite to accommodate the addition of 494 timber piles underneath the structure. Mr. Cary shared photographs of the crawl space. The water table is

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located four feet below grade. The foundation of the tower is approximately 14 feet below the main floor of the structure. Since initial construction of the building, the crawl space has been flooded with water. To assist the team in inspecting the foundation, the City pumped all water from the crawl space. The geotech engineer, structural engineer, and several members of the team were able to access the crawl space. They discovered approximately 18 inches of mud and an understanding of how the concrete was designed and installed. The original plan called for concrete footings that spread to distribute the load to the soil. However, after initial digging discovered groundwater, the water table prohibited further digging to reach basalt bedrock. At 14 feet, the maximum digging capacity was reached in 1905 necessitating a new foundation drawing to add a new piling plate comprised of 494 timber piles driven through the ground to bedrock with the piles topped with steel caps. The Milwaukee-designed concrete foundation was then poured on top of the timber pile to serve as the base for the old brewhouse.

Since the site inspection, the geotech engineer identified ways for ground forces imparted during an earthquake to be determined and measured on the building with the structural engineer using those measurements to design the amount of concrete and steel to be added to the building to mitigate seismic forces.

Mr. Cary displayed the structural engineer drawings. The construction drawings will be available within the next week for submittal to the City and to the Commission. The seismic improvements essentially build up through the foundation plan by adding new concrete structure within the crawl space, additional vertical and diagonal micropiles of steel casings filled with concrete to provide compression and tension structural support, infilling of some openings previously housing equipment, and adding an internal steel frame attached to the masonry.

Mr. Cary displayed a series of interior elevations and building section drawings reflecting the existing building and blue-colored improvements of concrete, supports in the crawl space, and new steel supports above the main floor. The addition of reinforced concrete extends up through the first floor, commonly referred to as “shock treat” to help protect the height of the first floor during seismic activity.

Mr. Cary displayed a model completed by the structural engineer during modeling to identify earthquake forces on the building. The ground remains stationary in the model with the tall first floor experiencing much movement with movement of the upper floors in unison but not to the same degree as the first floor. During masonry repairs, the team identified many areas that experienced stress during earthquake forces at the top of the building but less so in the lower elevation of the building.

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Commissioner Slakey asked whether the team identified any projections in the size of seismic activity based on the Richter scale. Mr. Cary advised that engineer calculations rarely recognize the Richter scale; however, the building would be protected from earthquakes measuring in the 7.0 range. The building would remain standing based on a projected earthquake per the building code and civil engineering codes.

Commissioner Nicandri asked about the exchange of the water within the crawl space and whether the field adaptation of the foundation achieved the original Milwaukee structural desirability for the building design. Mr. Cary advised that the field design was a solution engineered with a specific number of timber piles within a specific design that were laterally connected to create a cap beneath the foundation. The design solved the gravity issue but not the translation of the wet earth to the building. The failure of the earth around the building would be solved by the design incorporating new diagonal piles. The original timber piles are assumed to hold the heavy masonry building during a seismic event. Water in the crawl space was not brackish; however, the mud was old and not fresh. He believes the foundation lacks openings to allow for tidal actions in the crawl space/basement. The water table under the building is higher than the river.

Manager Osborn inquired as to whether the shot crete within the building would cover existing wall tiles. Mr. Cary said the treatment would cover portions of the east and west walls on the first level. Installation includes the attachment of rebar to the masonry wall to create a connection to enable the transference of engineering forces with concrete sprayed onto the wall until a specific thickness is attained with final finish to follow. The treatment would cover tiles on the west wall.

Chair Shipley asked whether that specific solution has been used for other buildings. Mr. Cary responded that the options are standard seismic mitigation solutions. For masonry buildings, lateral steel is used above ground with additional reinforcement of the foundation to distribute energy forces. Chair Shipley asked whether the concrete on the first floor is intended to stabilize the wall on the first level. Mr. Cary said the intent is to stabilize the walls on the first floor and provide a transition from the steel above to the concrete below.

Commissioner Trospen conveyed disappointment for not preserving the decorative tiles on the walls because the tiles were historically important for sanitation and the brewery process. Mr. Cory advised that the documents would include salvaging and preserving the tiles to the extent possible.

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Mr. Cary shared drawings for Phase 3 of the project. Future programming explored for the building was based on an analysis of the building code in terms of how much of the building could be occupied using all floors. He displayed a diagram depicting floor plans for floors 1 through 5. Usable space is highlighted along with required circulation, restrooms, and an elevator. Most of the building's space is consumed by stairs, elevator, and restrooms. A second version for building space reflects the existing brewery tower, an addition of a connecting pavilion served by terraced steps for access to the first level of the brewery tower, and connection to the concrete warehouse structure located to the east of the brewery tower. All components consuming space in the brewery tower were relocated with one staircase remaining in the brewery tower with the elevator and another staircase relocated to the outside of the building with access from the connection pavilion. The brewery tower could serve as a site for a museum. The concrete warehouse would be restored for programming space.

Commissioner Sinclair asked whether the City has ownership of the warehouse facility. Director Denney advised that the City controls only the brewery tower. However, the warehouse owner has indicated a willingness to work with the City on a joint project.

Mr. Cary confirmed that the proposed seismic improvements to the brewery tower would preserve the option of adding the connecting pavilion at some point in the future.

Manager Cook reported on next steps. The Commission is requested to forward the proposed structural design drawings to the Department of Archaeology and Historic Preservation (DAHP). If approved, the drawings would be forwarded to DAHP during the week of October 2, 2023. At the Commission's October 19, 2023 meeting, staff will request approval of a Certificate of Appropriateness based on no other changes recommended by DAHP. It is anticipated DAHP will issue a letter affirming the drawings meet the standards of the Secretary of Interior. During the week of October 23, 2023, the Certificate of Appropriateness would be submitted with the building permit application.

Staff requests the Commission forward the structural design drawings to the DAHP for its review.

MOTION:

Commissioner Nicandri moved, seconded by Commissioner Rossiter, to forward the proposed Structural Design Drawings for the Old Brewhouse Tower Phase 2 Seismic Improvements to the Department of Archaeology and Historic Preservation for review and approval. The motion carried unanimously.

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Manager Osborn asked whether the addition of the connecting pavilion located between the brewery tower and the warehouse facility would help to stabilize the structure of the brewery tower and lessen the need for some of the structural seismic improvements. Mr. Cary said the addition of the pavilion structure would be placed in a manner that does not directly connect to the brewery tower. It would be important to protect the brewery tower to avoid damaging or destroying the new structure.

Manager Cook reported on ongoing conversations with the owner of the warehouse facility and surrounding property. The owner is supportive of the proposed pavilion and repurposing the warehouse facility. The conversations included the potential of transfer of property. The owner presented a preliminary proposal for redevelopment of the site representing the most authentic and serious proposal the City has received to date for the historic property.

Commissioner Trospen asked about the timeline for completion of the project. Manager Cook advised that the completion timeline is based on the availability of funding and financing. The Council is scheduled to consider a proposal in early 2024.

OTHER BUSINESS: Commissioner Slakey requested an update on the status of the wallpaper selections for the Brewmaster's House. Manager Osborn said he recently met with the vendor. The vendor offered some recommendations based on logic. As a result, three of the ceilings will be wallpapered with the remaining ceilings to be textured. Following approval of the contract by the City's legal department, the contract will be forwarded to the City Council for approval.

NEXT MEETING DATE: The next meeting is scheduled on Thursday, October 19, 2023.

ADJOURNMENT: **Commissioner Slakey moved, seconded by Commissioner Sinclair, to adjourn the meeting at 7:33 p.m. The motion carried unanimously.**

Prepared by Valerie L. Gow, Recording Secretary/President
Puget Sound Meeting Services, psmsoly@earthlink.net

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November 16, 2023 Page 1**

CONVENE: 6:30 p.m.

PRESENT: Chair David Shipley and Commissioners Dave Nicandri, Alex Rossiter, Renee Radcliff Sinclair, Marnie Slakey, and Don Trosper.

Staff: Parks and Recreation Director Chuck Denney, Communications Manager Ann Cook, Parks and Facilities Manager Stan Osborn, Don Carney, Capital Projects Manager, and Volunteer Coordinator Brianna Feller.

CHANGES TO AGENDA: Two additional items were added to the agenda.

APPROVAL OF MINUTES: 7/20/23 & 9/21/23 - DELAYED: Action was delayed due to the lack of meeting minutes.

PUBLIC COMMENT: There were no public comments.

VISIT TO FORMER CHAMBERS PRAIRIE GRANGE (STARBUCKS): Chair Shipley presented a proposal resulting from his visit to the site of the Starbucks restaurant located at the corner of Yelm Highway and Henderson Boulevard formerly known as the Chambers Prairie Grange. The former owner of the grange property, Tom Schrader, invited him to visit the building, specifically the basement of the restored building.

Chair Shipley described the building’s renovation utilizing existing wood and materials to convert the building to a Starbucks restaurant with a drive through window. The basement is approximately the same size as the main floor and was not restored as part of the renovation project. Mr. Schrader had wanted the basement restored as a meeting room, but the Starbucks Corporation did not support the suggestion, which resulted in the basement serving as a storage room for the building’s historic materials.

Chair Shipley reported he was able to take many photographs of the materials in the basement. One item of interest is a chart listing all grange grandmasters from 1908 to approximately 1978-88 when the grange closed. Mr. Briggs, owner of the former Briggs Nursery, served as the second grandmaster. Other materials included assorted books, financial records, and minutes of grange meetings. He plans to revisit the basement to research some of the materials to learn more about the grange and its history. Based on possible support from the Starbucks Corporation, he plans to submit a proposal for placement of the original grange sign within the restaurant. The original sign was installed in front of the building along Yelm Highway. Mr. Schrader had shared that he first viewed the sign outside the building and discovered later that the sign had disappeared. After further investigation, he learned

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that the sign had been delivered to an antique dealer. Mr. Schroeder found it necessary to purchase the sign in order to preserve it. A new sign could be placed under the original sign visible to patrons in the building and protected from vandalism and weather. He plans to develop a proposal with some illustrations based on historical records. Additionally, he would like to include information on the Farm property, which is now the site of the Farm neighborhood. Some historical stories indicated that a bull on the farm killed two people. Additionally, across the street from the grange was the Hayes School. Although he has been unable to identify the exact location of the school, he plans to research the location. He was able to review some information on a reunion of all the classes held at the school. Roger Easton, a long-time historian, who has since died, had shared some time ago that he attended the school. He plans to incorporate information about the Chambers Prairie Grange, the farm, and the school within the signage proposal.

In response to questions about the current owner of the grange property, Director Denney reported Tom Schrader was the previous owner and the developer for the Starbucks project. Following completion of the project, Mr. Schrader sold the property; however, Mr. Schrader was hired to manage the building.

Commissioner Slakey advised that the original farmhouse still exists and is occupied within the Farm neighborhood.

Director Denney advised of options for signage for the site to include one sign with photographs of the area. Resources are available within the department to assist in designing the signs. The Commission’s budget in 2023 is \$10,000 and \$10,000 in 2024.

**OLD BREWHOUSE
TOWER PHASE 2
SEISMIC
IMPROVEMENTS:
CERTIFICATE OF
APPROPRIATENESS
APPLICATION:**

Manager Cook presented the application for a Certificate of Appropriateness for seismic improvements of the Old Brewhouse. She introduced Don Carney, Capital Projects Manager, and Jim Cary with Cardinal Architecture.

Phase 2 of the project began in 2022 and encountered some delays because of the pandemic, archeology, and historic preservation issues. The application includes a letter of concurrence from the Department of Archeology and Historic Preservation (DAHP).

Mr. Cary reported Phase 2 of the project is limited to seismic improvements to the building. The construction permit application with documentation was submitted to the City in October. The Commission’s approval of the Certificate of Appropriateness is an element of the permit application.

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Mr. Cary shared current and historic photographs of the building. Historic documentation available to the team was utilized for the project. Documentation included foundation drawings and other historic drawings produced in Milwaukee. The original foundation drawings anticipated a different type of foundation on substantial soils or bedrock. Communications reflected in letters in the early 1900s describing the building location indicated the owners anticipated a much stronger setting for the building. Other historic photographs were used by the team to review additional details. The Phase 1 project involved masonry work with the historic photographs used to help guide the project.

Mr. Cary shared photographs of the building when the project first began in 2014 as part of a study for the Craft Brewery District project. The photos were taken using a drone and reflect the deterioration of existing brick on the exterior of the building. A temporary roof structure was installed to help prevent infiltration of water until the masonry restoration project was completed in 2019. Mutual Materials provided new bricks with brick color matching existing brick.

Another series of photographs depicted the project's structural engineer and Mr. Cary in the crawl space beneath the building. The City pumped 12 feet of water from the crawl space enabling inspection of the foundation structure. The structure was found to be in good shape; however, the inspections revealed that despite the original drawings of spread footings, the foundation is supported by numerous timber piles. It is likely the owner did not anticipate groundwater problems and dug a hole for the foundation. Because of the inability of the construction crew to lower the water level, some piles were drilled to locate the depth of bedrock, which is located 12 feet below the anticipated footings. Subsequently, it appears a new plan was developed using over 500 timber piles with metal straps connecting the piles and capped with spread footings constructed on top to hold the heavy masonry building.

Part of the construction project for Phase 2 includes pumping water from the crawl space and removing up to 24 inches of mud with construction occurring in the crawl space to support all steel and concrete in the building for seismic improvements.

Mr. Cary shared current construction drawings for the project. The structural foundation plan is the plan for the crawl space. The project includes installation of micro piles of steel pipes driven with machinery down through existing concrete to the depth of the bedrock filled with concrete and capped. The piles will be tied into the existing foundation and to new foundation grade beams installed as part of the project. The project will protect the building from gravity loads and lateral loads to ensure stability of the building during seismic activity.

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Level 1 improvements include new concrete walls on the east and west sides of the floor. Upper floors include infilling of some large openings that were originally part of the brewery process. The spaces will be filled with concrete and reinforced steel to provide a stronger diaphragm at each level.

At Level 2, concrete transitions to a steel frame up to the top of the tower to transfer the loads from the top of the tower to the new foundation.

New drawings were prepared of the existing structure and the structure with the improvements to show the seismic reinforcements. Other drawings depict interior elevations with the improvements.

Mr. Cary said the scope of the project is included in the construction permit documents provided to the City of approximately 400 pages of structural calculations with diagrams. Because of the heaviness of the building, seismic forces occur higher with the top of the building moving during a seismic event. Previous phases of the project reflected that a majority of the damage to the building was at the higher levels.

Chair Shipley asked whether concrete and the steel beams would be visible from the interior. Mr. Cary affirmed the visibility within the interior. Additionally, steel beams would cross windows. The team reviewed patterns that would help minimize the size of the steel crossings; however, because of the level of forces, steel crossings increase in size exponentially to accommodate the increase in forces. At some point, the amount of structure added to a building begins to overwhelm the building's capability to withstand forces. Eventually, it is necessary to reinforce the base, which speaks to the proposal as a balance between the competing needs of the building.

Chair Shipley asked about the timeline to complete the project. Mr. Cary said the project would require a minimum of eight months.

Commissioner Nicandri inquired about the possibility of a top floor window being converted to a door to provide access or an elevated viewing platform. Mr. Cary affirmed the possibility. Another series of drawings includes a building code review in terms of future uses within the building. Based on technical aspects discussed with the City's Building Official, it is likely a method has been identified to increase accessibility within the building. A viewing platform would require guardrails, which might change the building's exterior. Such a change would require a separate Certificate of Appropriateness. Phase 3 of the project includes windows, doors, internal design, identification of occupant uses, and placement of stairs and elevators.

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Commissioner Trospen mentioned the importance of preserving the tiles on the first-floor walls. Mr. Cary affirmed that the tiles would be salvaged to the extent possible.

As Phase 2 was limited to seismic improvements, it was important to ensure that the scope of the project did not impede future uses in the building requiring some understanding as to the how the building would be used. Mr. Cary shared some drawings of potential occupancy options in the building. A potential use is likely public access or assembly uses, which is an occupancy category included in the Building Code. The Building Code dictates the amount of square footage per person, which establishes the building’s occupant load. The occupant load defines the number of stairs, exits, and public facilities within the building. The team considered the minimum occupancy and factored two exits from each floor, public restrooms, and an elevator. Based on those facilities, the space was filled with no space available for other uses. The team considered eliminating vertical circulation within the building with only one stairway remaining in the building and moving the elevator and the second stairway to the exterior of the building built from a steel structure connected on the east side of another existing and restored building to open up floor space for uses.

Chair Shipley pointed out that the City’s ownership is limited to the Old Brewhouse (Tower) and 12 feet of property surrounding the building.

MOTION: **Commissioner Slakey moved, seconded by Commissioner Nicandri, to approve the Certificate of Appropriateness for the Historic Brewery Tower Renovation Project Phase 2 Seismic Improvements.**

Commissioner Rossiter commented that the internal structure is an elegant plan. He thanked Mr. Cary for presenting the proposal in such detail. He is looking forward to Phase 3 to design the interior.

MOTION: **The motion carried unanimously.**

Manager Cook advised members on the next steps. Staff has secured some estimates for the construction for review with the Council in early 2024. In spring 2024, the Discovery Channel is airing a program on abandoned places featuring the brewtower. Concurrently, the City will relaunch the capital fundraising campaign for the brewtower.

OTHER BUSINESS: Commissioner Slakey requested an update on the status of the wallpaper selections for the Brewmaster’s House. Manager Osborn advised that the contract is pending approval by the Council.

NEXT MEETING The next meeting is scheduled on January 18, 2023.

**TUMWATER HISTORIC PRESERVATION COMMISSION
MINUTES OF HYBRID MEETING
November 16, 2023 Page 6**

DATE:

Commissioner Trosper suggested reformatting the meeting as a retreat to discuss future projects and promotion of tourism.

Director Denney noted a possible miscommunication with Councilmember Schneider who had planned to attend the meeting. Councilmember Schneider is requesting the Commission consider an allocation of approximately \$1,000 for a project at the Pioneer Cemetery. One large fir tree was recently removed from the cemetery after inspection by an arborist deemed the tree to be in poor health and posing a danger of falling on nearby headstones. Additional work was also completed on another adjacent tree. Councilmember Schneider is working with the Tree Board and local arborists to plant a Butternut tree cutting from a tree on the Bush family homestead. The tree is approximately six feet tall and Councilmember Schneider would like to plant the tree near the space of the former fir tree next to the Bush headstone and create a plaque with information about the importance of the butternut tree to the Bush family.

Following some discussion of the proposal, the Commission agreed to defer a decision until the Commission has an opportunity to review the plan and design of the plaque.

ADJOURNMENT: Commissioner Slakey moved, seconded by Commissioner Rossiter, to adjourn the meeting at 7:28 p.m. The motion carried unanimously.

Prepared by Valerie L. Gow, Recording Secretary/President
Puget Sound Meeting Services, psmsoly@earthlink.net

TO: Historic Preservation Commission
FROM: Chuck Denney, Parks and Recreation Director
DATE: March 21, 2024
SUBJECT: Davis/Meeker Oak Tree

1) Recommended Action:

Staff requests that the Commission consider and approve a recommendation to the Tumwater City Council for de-listing the Davis/Meeker Oak from the City's Historic Register.

2) Background:

Located near the Olympia Regional Airport and adjacent to Highway 99, the Davis Meeker Oak Tree was placed on the City's Historic Register on January 16, 1996. In June of 2023, an 18-inch diameter branch failed about 50 feet up in the tree and fell to the ground. A visual inspection showed that there was rot where the failed branch connected to the main stem of the tree. The City contract Urban Forester was asked to conduct a detailed tree assessment which showed significant rot in the main stem and branches of the tree. That assessment deemed the tree to be a hazard and identified risks to adjacent property. It is the arborist's recommendation that the tree be removed. Washington Cities Insurance Authority (WCIA) has reviewed the report and recommends removal of the tree.

3) Alternatives:

- Approve the de-listing from the City's Historic Register.
 - Do not approve de-listing from the City's Historic Register
-

4) Attachments:

- A. Historic Register Listing
- B. Tree Assessment

<https://www.ci.tumwater.wa.us/departments/executive-department/city-programs/historical-register>

Historical Register

- **Jack Davis Garry Oak Tree**



ADDRESS: Near 7525 Old Hwy 99, Tumwater, WA 98501

AMENITIES:

- None

CATEGORIES:

- Historic Properties

The tree is significant as a specimen tree of the Garry oak species, believed to be approximately 400 years old. The Coastal Salish Indian people managed the landscape by burning the prairies to provide open areas where plants, most notably Camas, could thrive. This helped the oak tree by eliminating the over-canopy of fir trees for the sun-loving oak. The Coastal Salish Indian people baked the acorns or ate them with salmon eggs or pounded them up and ate them with fish. Americans settled here because of the open prairie.

The Coastal Salish also used oak for digging sticks to harvest root foodstuffs and to manufacture yellow face paint made from the decaying bark of the oak tree as well as for hide scraping tools, braces for dip nets and firewood.

The tree is also on the historic northern branch of the Oregon Trail, the Cowlitz Trail. Although various stories about its being the "Meeker Oak" have been circulated, no direct connection with Ezra Meeker has been established. Other accounts about its being an Indian gathering site have not been verified.

In 1984 a community effort lead by environmentalist Jack Davis saved the tree when the highway was being improved in this area and the right-of-way was re-routed and a barrier installed to ensure its security. The tree name honors his work.

Listed on the Tumwater Register of Historic Places.

SUF

SOUND URBAN FORESTRY, LLC

Appraisals ~ Site Planning ~ Urban Landscape Design and Management
Environmental Education ~ Environmental Restoration ~ Risk Assessments

10/10/2023

City of Tumwater
Marc LaVack
555 Israel Rd SW
Tumwater, WA 98501

RE: Meeker Oak Risk Assessment

Mr. LaVack:

Upon your request, a thorough evaluation of the Meeker Oak located at the Olympia Regional Airport has been conducted. This tree has become of concern due to the recent failure of a two large diameter scaffold branches on the north side. Per your direction, this evaluation has included a risk assessment by myself, an aerial assessment by a climbing certified arborist and a sonic tomography by Tree Solutions Inc, all conducted during the months of June -August of this year. The purpose of this report is to present the findings and offer my recommendations based on those findings to the City of Tumwater.

Tree Risk Assessment Methodology

The tree risk assessment methodology used for this report was developed by the International Society of Arboriculture in 2013. It replaces the original method adopted in 2011.

Tree risk assessment can be conducted at different levels of intensity, each employing varying methods and providing the client with varied options of reporting and recommendations. The level selected should be appropriate for the assignment.

The ANSI standard for risk assessment and ISA's *Best Management Practices: Tree Risk Assessment* defines three levels of tree risk assessment:

- Level 1: Limited visual
- Level 2: Basic
- Level 3: Advanced

Level 1 assessment involves a visual assessment of an individual tree or populations of trees near specified targets, conducted from a specified perspective in order to identify certain obvious defects or specified conditions. A limited visual assessment typically focuses on identifying trees with *imminent* and/ or *probable* likelihood of failure.

A Level 2 or basic assessment is the standard assessment performed by arborists in response to most private client requests for tree risk assessments. It consists of a detailed visual inspection of a tree and its surrounding site and a synthesis of the information collected. A basic assessment requires walking completely around the tree – looking at the site, buttress roots, trunk and branches. Looking at the tree from some distance away, as well as close up, to consider crown shape and surroundings.

Level 3 is an advanced assessment and it is performed to provide detailed information about specific tree parts, defects, targets, or site conditions. It may be in conjunction with or after a basic assessment if additional information is needed and the client approves the additional service. Specialized equipment, data collection and analysis, and/or expertise are usually required for advanced assessments. These assessments are, therefore, generally more time intensive and more expensive.

After determining the likelihood of failure and the likelihood of impacting a target, the combined likelihood of a failure impacting a target can be categorized. Matrix 1 can be used as a guide in relating these likelihood factors within a given time frame. The resulting terms (unlikely, somewhat likely, likely, very likely) are defined by their use within the table and are used to represent this combination of occurrences in Matrix 2.

Matrix 1. Likelihood of Failure

Likelihood of Failure	Likelihood of Impacting Target			
	Very Low	Low	Medium	High
Imminent	Unlikely	Unlikely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk Rating

Likelihood of Failure and Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Field Data and Recommendations

A level 3 risk assessment was conducted by myself on June 14, 2023. The following table presents a summary of my findings. More detail can be found in Appendix 1, Tree Risk Assessment Form.

Table 3. Complete Risk Assessment Summary

Species	DBH (in)	Height (ft)	Live Canopy Ratio	Target	Distances to Target	Condition	Comments	Risk Rating
Oregon White Oak <i>Quercus garryana</i>	66	125	35	Hwy 99, south parking, north parking, power-lines, aircraft hangar	6', 30', 40', 4', 12'	Poor	Recent failure of an 18" scaffold branch on the north side at 50'. Also, a former failure of a 12" scaffold branch on the east side at 65'. There are signs of white rot infection on the upper sides of both points of failure. Failures were likely due to the infection along with the inclusions and end weight. Trunk soundings on the north and northeast sides at the base indicated probable interior decay up to 6'+. An open decay cavity is present within this location. Two core samples extracted from this area at 3' above grade: #1 taken above the cavity revealed 5" of solid wood, #2 revealed 4" of solid wood. A probe inserted into the cavity did not meet any resistance until 2' and the tip was covered in wet, decayed wood.	High

Aerial Assessment

An aerial assessment was conducted by Amanda Hancock (ISA Certified Arborist TX4155AU & TRAQ) with Waxwing Tree Specialists on June 29, 2023. This inspection found extensive white rot decay within the large scaffold that recently experienced failure at the union (see photo). Further examination determined that the main stem's decay column continues upward into the eastern co-dominant stem and large diameter scaffold branches (see attached diagram). The west facing co-dominant stem contains solid healthy interior wood upward into the large scaffold branches overhanging the drive and aircraft hangar.

Sonic Tomography

A sonic tomography was conducted on the tree by Tyler Bunton (ISA Certified Arborist PN-8715A and TRAQ) with Tree Solutions Inc. on August 24, 2023. A detailed summary of his findings can be found in Appendix 2 but essentially, his test conducted at 50 cm above the base found that due to the extent of decay, the tree has slightly more sound wood than required to support itself. He is recommending the tree receive retrenchment pruning to reduce the height and spread by 15 feet in order to lower the chance of future failures.

Comments

With the exception of the recent large branch failures, the Meeker Oak appears to be in very good health. The crown density, leaf color, leaf size and internode growth all indicate a vigorous tree. However, there are structural concerns associated with the significant decay found in the stem base, lower main stem, east facing co-dominant stem and large scaffold branches. Probable future failures include large diameter scaffold branches from the east facing co-dominant stem and the entire west facing co-dominant stem at the union. The associated inclusions and stress loads will contribute to future failures. Structural support systems in conjunction with pruning were considered but the extent of decay in the main stem and upper east side of the canopy removes that as a mitigation option in my opinion.

The other mitigation options are retrenchment pruning and removal. A considerable amount of thought has been put into my final recommendation. The retrenchment option would be controversial to say the least along with the potential of its ineffectiveness. The targets around this veteran tree are many and high-use and the risk rating would remain high. If the City of Tumwater and the community opts for retrenchment pruning, there will be a need for the development of pruning specifications and a long-term management plan.

Based on my findings and information I have been provided, I am recommending removal.

Professionally Submitted,



Kevin M. McFarland, Principal
Consulting Urban Forester, Contracted City of Tumwater Tree Protection Professional
ISA Certified Arborist PN-0373 & Tree Risk Assessment Qualified
Sound Urban Forestry, LLC
P.O. Box 489
Tahuya, WA 98588
360-870-2511

References

Dunster, Dr, Julian et al. 2017. *Tree Risk Assessment Manual. Second Edition* International Society of Arboriculture. Champaign, IL.

Mattheck, C. & Brelor, H (1998). *The body language of trees. A handbook for failure Analysis*. Research for Amenity Trees No. 4. The Stationary Office, London.

Smiley, E. Thomas, Nelda Matheny and Sharon Lilly. 2011. *Best Management Practices – Tree Risk Assessment*. International Society of Arboriculture. Champaign, IL.

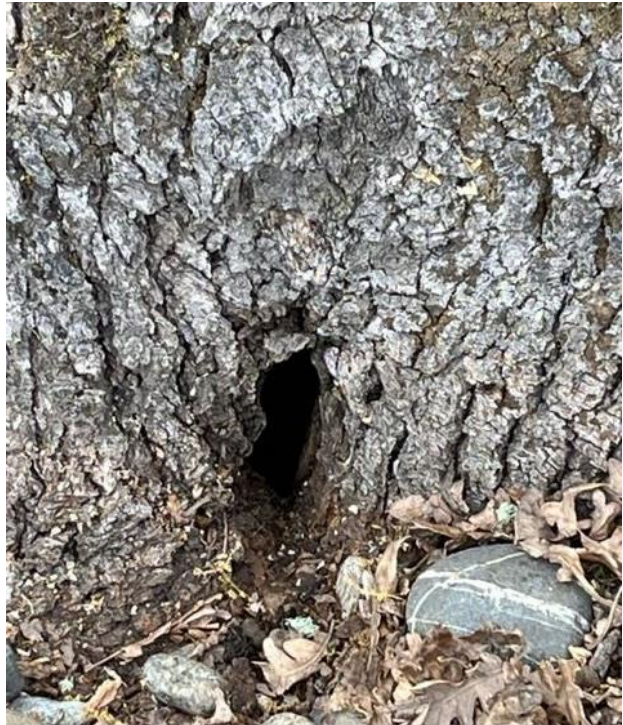
Location of Assessed Tree



Photos



Point of recent failure



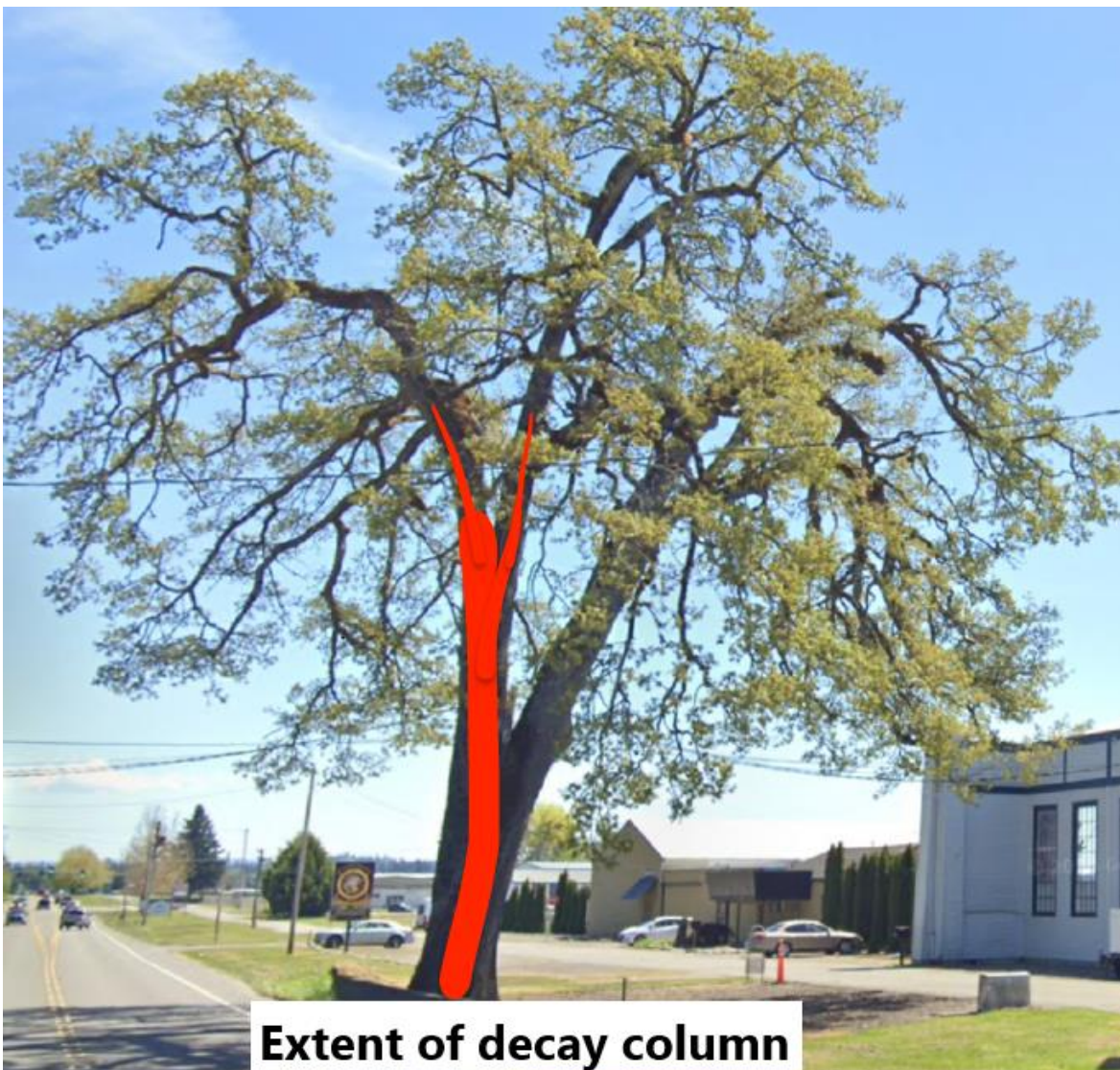
Open decay cavity at the base



Points of failure of eastern stem



Aerial assessment by climbing arborist



Extent of decay column

Appendix 1

ISA Basic Tree Risk Assessment Form

Client City of Tumwater Date June 14, 2023 Time 10AM
Address/Tree location 7637 Old Hwy 99 SW, between airport and Hwy 99 Tree no. 1 Sheet 1 of 2
Tree species Oregon White Oak, Quercus garyana dbh 66" Height 125' Crown spread dia. 70'
Assessor(s) Kevin M. McFarland Time frame 1 year Tools used Mallet, increment borer, binoculars, probe, D-tape

Target Assessment

Table with 5 columns: Target number, Target description, Target zone (Target within drip line, Target within 1x HL, Target within 1.5x HL), Occupancy rate, Practical to move target?, Restriction practical? Rows include Hwy 99, Airplane hangar, North and south parking, Electric service drop.

Site Factors

History of failures Large scaffold branches, recent and past Topography Flat Slope Aspect
Site changes None Grade change Site clearing Changed soil hydrology Root cuts Describe
Soil conditions Limited volume Saturated Shallow Compacted Pavement over roots 40% Describe Road and parking
Prevailing wind direction SW Common weather Strong winds Ice Snow Heavy rain Describe

Tree Health and Species Profile

Vigor Low Normal High Foliage None (seasonal) None (dead) Normal 100% Chlorotic Necrotic
Pests Abiotic
Species failure profile Branches Trunk Roots Describe

Load Factors

Wind exposure Protected Partial Full Wind funneling Relative crown size Small Medium Large
Crown density Sparse Normal Dense Interior branches Few Normal Dense Vines/Mistletoe/Moss
Recent or planned change in load factors

Tree Defects and Conditions Affecting the Likelihood of Failure

Crown and Branches

Unbalanced crown LCR 35% Cracks Lightning damage
Dead twigs/branches 5% overall Max. dia. 5" Codominant Included bark
Broken/Hangers Number Max. dia. Weak attachments Cavity/Nest hole % circ.
Over-extended branches Previous branch failures Similar branches present
Pruning history Crown cleaned Thinned Raised Dead/Missing bark Cankers/Galls/Burls Sapwood damage/decay
Reduced Topped Lion-tailed Conks Heartwood decay White Rot
Flush cuts Other Response growth Normal
Main concern(s)

Load on defect N/A Minor Moderate Significant
Likelihood of failure Improbable Possible Probable Imminent

Trunk

Dead/Missing bark Abnormal bark texture/color
Codominant stems Included bark Cracks
Sapwood damage/decay Cankers/Galls/Burls Sap ooze
Lightning damage Heartwood decay Conks/Mushrooms
Cavity/Nest hole 50% circ. Depth Poor taper
Lean Corrected?
Response growth
Main concern(s) Decay present at co-dominant union

Load on defect N/A Minor Moderate Significant
Likelihood of failure Improbable Possible Probable Imminent

Roots and Root Collar

Collar buried/Not visible Depth Stem girdling
Dead Decay Conks/Mushrooms
Ooze Cavity 50% circ.
Cracks Cut/Damaged roots Distance from trunk
Root plate lifting Soil weakness

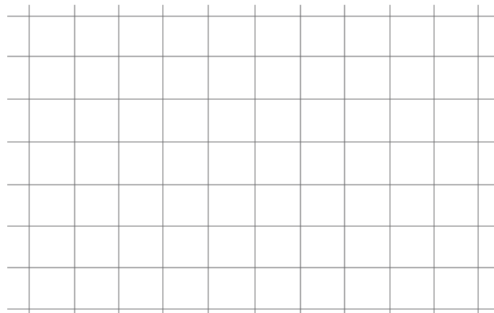
Response growth
Main concern(s) Suspect root collar and flare decay

Load on defect N/A Minor Moderate Significant
Likelihood of failure Improbable Possible Probable Imminent

Risk Categorization																										
Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood												Risk rating of part (from Matrix 2)							
							Failure				Impact				Failure & Impact (from Matrix 1)					Consequences						
							Improbable	Possible	Probable	Imminent	Very low	Low	Medium	High	Unlikely	Somewhat	Likely	Very likely		Negligible	Minor	Significant	Severe			
1	Large scaffold branch	Failure due to decay	16"	6'	1	None	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High	
			16"	30'	3	None	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High
							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
2	Co-dominant stem	Suspect weak union at stem inclusion due to decay	30"	80'	2	None	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	High	
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3	Branch	Poor attachment	6"	4'	4	None	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Low	
							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
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4							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
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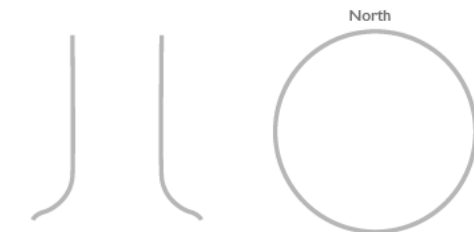
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target			
	Very low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely



Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low



Notes, explanations, descriptions _____

Mitigation options Retrenchment pruning Residual risk High
Removal Residual risk None
 _____ Residual risk _____
 _____ Residual risk _____

Overall tree risk rating Low Moderate High Extreme Work priority 1 2 3 4
 Overall residual risk Low Moderate High Extreme Recommended inspection interval _____
 Data Final Preliminary Advanced assessment needed No Yes-Type/Reason Aerial inspection, sonic tomography
 Inspection limitations None Visibility Access Vines Root collar buried Describe _____

Appendix 2



Project No. TS - 9053

Memorandum

To: Kevin McFarland – Sound Urban Forestry LLC

Site: Olympia Regional Airport
7525 Old Highway 99 SE
Tumwater, WA 98501

Re: Sonic Tomography of One Garry Oak Tree

Date: September 5, 2023

Project Arborist: Tyler Bunton
ISA Certified Arborist PN-8715A
ISA Qualified Tree Risk Assessor

Reviewed By: George White,
ISA Certified Arborist PN-8908A
ISA Qualified Tree Risk Assessor

This memorandum documents the visit by Tyler Bunton of Tree Solutions Inc. to the above referenced site on August 24, 2023 to perform sonic tomography on one Garry oak (*Quercus garryana*) tree. Kevin McFarland requested these services to obtain additional information about the extent of decay at the base of the tree to provide the City of Tumwater with a more informed risk assessment and management recommendations. The sonic tomogram can be found in Appendix A.

I used a PiCUS sonic tomograph to obtain a tomogram 50 centimeters above the tree base. I selected this height based on soundings of the trunk which indicated the most extensive decay was located low in the trunk. I used the PiCUS Q74 program to analyze the data and obtain a rough estimate of the remaining sound wood shell wall required to maintain tree stability, indicated by the green line in Figure 1 in Appendix A.

The tomogram indicates there is slightly more sound wood than is required to support the tree. However, due to the extent of the decay and thin shell wall around measuring points 3, 4, and 18 it is my opinion that this tree should be managed as a veteran tree and have retrenchment pruning performed to reduce the tree height and spread by approximately 15 feet. Reducing the tree height and spread will result in lowered wind loads acting on the trunk and branch unions resulting in a lower likelihood of failure.

If this tree is retained, it should be reassessed with sonic tomography in five years to determine if the decay is continuing to spread and what the remaining shell wall is at that time. Additionally, 4 to 6 inches of wood chip mulch should be added within the dripline of the tree to improve soil conditions. The wood chip mulch should be kept 12 inches from the base of the tree.

 TreeSolutions.Net
206-528-4670

 2940 Westlake Ave. N #200
Seattle, WA 98109

Appendix A Test Results

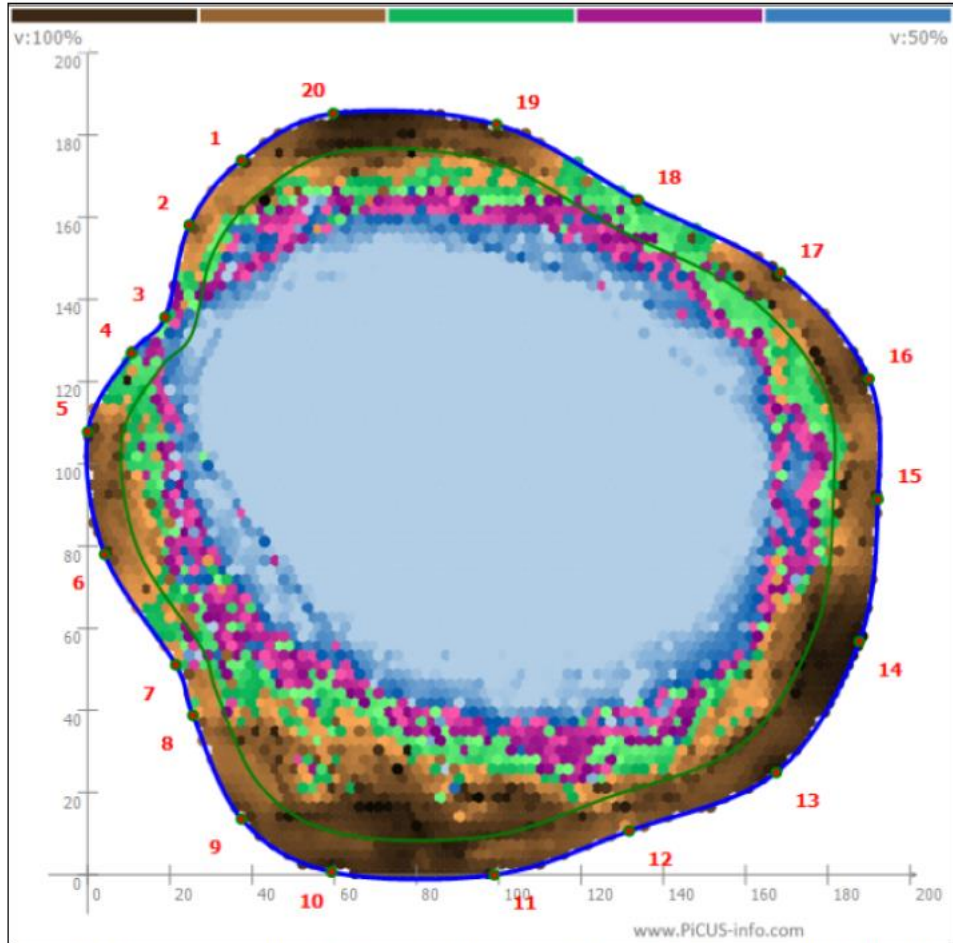


Figure 1. Sonic tomogram of the subject tree. North is located at measuring point 1, and the side of the tree towards the highway is along measuring points 17, 18, and 19. The blue areas indicate decay or a decay cavity, and the brown areas indicate sound wood. The purple and green areas indicate early or spreading decay. The green line is the calculated shell wall of sound wood required for the tree to remain stable.

Appendix B Photographs



Photograph 1. Measuring point 1 is circled in red. An opening into the decay cavity is indicated by the red arrow.



Photograph 2. The crown of the subject tree viewed from the southeast. The red line indicates approximately 15 feet of crown reduction.

Appendix C Assumptions & Limiting Conditions

- 1 Consultant assumes that the site and its use do not violate, and is in compliance with, all applicable codes, ordinances, statutes, or regulations.
- 2 The consultant may provide a report or recommendation based on published municipal regulations. The consultant assumes that the municipal regulations published on the date of the report are current municipal regulations and assumes no obligation related to unpublished city regulation information.
- 3 Any report by the consultant and any values expressed therein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event, or upon any finding to be reported.
- 4 All photographs included in this report were taken by Tree Solutions, Inc. during the documented site visit, unless otherwise noted. Sketches, drawings, and photographs (included in, and attached to, this report) are intended as visual aids and are not necessarily to scale. They should not be construed as engineering drawings, architectural reports, or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by the consultant as to the sufficiency or accuracy of the information.
- 5 Unless otherwise agreed, (1) information contained in any report by consultant covers only the items examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, climbing, or coring.
- 6 These findings are based on the observations and opinions of the authoring arborist, and do not provide guarantees regarding the future performance, health, vigor, structural stability, or safety of the plants described and assessed.
- 7 Measurements are subject to typical margins of error, considering the oval or asymmetrical cross-section of most trunks and canopies.
- 8 Tree Solutions did not review any reports or perform any tests related to the soil located on the subject property unless outlined in the scope of services. Tree Solutions staff are not and do not claim to be soils experts. An independent inventory and evaluation of the site's soil should be obtained by a qualified professional if an additional understanding of the site's characteristics is needed to make an informed decision.
- 9 Our assessments are made in conformity with acceptable evaluation/diagnostic reporting techniques and procedures, as recommended by the International Society of Arboriculture.

Definitions

Included Bark (Inclusion): Bark that becomes embedded in a crotch (union) between branch and trunk or between co-dominant stems. Causes a weak structure.

Retrenchment: Natural process during which an overly mature tree reduces its crown and increases its girth to consolidate resources and increase longevity; the deliberate process of reducing tree height to mimic process.

Sounding: Process of striking a tree with a mallet or other appropriate tool and listening for tones that indicate dead bark, a thin layer of wood outside a cavity, or crack in wood.

Tomography: The use of multiple sensors placed around a trunk or limb to record sound or magnetic waves traveling through the wood, with measurements resulting in a picture of internal density characteristics. Typically used in arboriculture to measure the extent of decay in trees.

Assumptions and Limitations of Tree Risk Assessment

1. Tree risk assessment is limited in scope to the specific risks(s) of interest, and does not include any and all risks.
2. Tree risk assessment considers significant known and/or assigned targets and visible or detectable tree conditions.
3. Tree risk assessments represent the condition of the tree and site at the time of inspection.
4. Only those trees specified in the scope of work were assessed, and assessments were performed within the limitations specified.
5. Any tree, whether it has visible weaknesses or not, will fail if the forces applied exceed the strength of the tree or its parts.
6. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/appraiser can neither guarantee nor be responsible for the accuracy of information provided by others. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable.
7. Loss or alteration of any part of this report invalidates the entire report.
8. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of Sound Urban Forestry, LLC.
9. Neither all or any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of Sound Urban Forestry, LLC – particularly as to the value considerations, identity of Sound Urban Forestry, LLC, or any reference to any professional society or to any initialed designation conferred upon Sound Urban Forestry, LLC as stated in its qualifications.
10. This report and any values expressed herein represent the opinion of Sound Urban Forestry, LLC and the fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence neither of a subsequent event, nor upon any finding to be reported.
11. Diagrams, graphs, photographs and sketches in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
12. Sound Urban Forestry, LLC shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made.
13. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, drilling or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the tree or other plant or property in question may not arise in the future.
14. The time frame for risk categorization should not be considered a “guarantee period” for the risk assessment.