



**WILSONVILLE**  
**PUBLIC WORKS**



**2024 Public Works Project of the Year**

# Wilsonville Public Works Complex

Structure • \$5 million to less than \$25 million • August 15, 2024

## General Description

The Wilsonville Public Works Complex applies forward-looking design in service of the City's vision for this vital center of operations. The complex includes multiple buildings, one for administration and several others to support field crew operations, and the design balanced functionality and aesthetics to create a cohesive experience across spaces. A sense of place and the work performed here inspired the warm industrial materiality. The architecture and interior design cultivates opportunities for connection between people and the outdoors. Resiliency and sustainability informed each design decision, ensuring the complex's longevity and the ability to adapt in the case of an emergency.



### Site Features

- |                                      |                         |                                |
|--------------------------------------|-------------------------|--------------------------------|
| 1 Operations Administration Building | 5 Warehouse             | 9 Storm Water Facility         |
| 2 Visitor Parking Lot                | 6 Truck Wash            | 10 Magnesium Chloride Facility |
| 3 Staff Courtyard                    | 7 Dewatering Facility   | 11 Generator                   |
| 4 Staff Parking Lot                  | 8 Bulk Material Storage |                                |



The Wilsonville Public Works Complex locates the entirety of the department's operations group—including managers and field crews—in one place. Scott Edwards Architecture collaborated with the City of Wilsonville to understand how these groups worked together, and how design could support processes while also creating a comfortable environment for staff and visitors. Through this collaboration, it was determined that separate buildings best served the City's needs and that the administrative office building would also house shared spaces like conference rooms, the breakroom, and the gender-neutral locker room. This approach to placing all complex communal spaces in the administrative building presents organic opportunities for public works staff to connect throughout the day, strengthening the shared culture. The decision also prioritizes recruitment and retention goals, as training and mentoring younger staff members is supported by co-location.





The administrative building is oriented at the NE corner of the site, maximizing its presence along the main road and its purpose as the public-facing area of the campus. When visitors arrive, they enter through a transparent vestibule that leads into a bright and open front lobby. An exposed concrete tilt-up wall and concrete floor combined with the use of renewable woods and durable surfaces is representative of the complex's functionality. An adjacent conference room connects directly to the lobby, placed here within the floorplan to facilitate gatherings between public works staff and external collaborators. An additional layer of security separates this area from the rest of the office due to the nature of the operations work performed within.



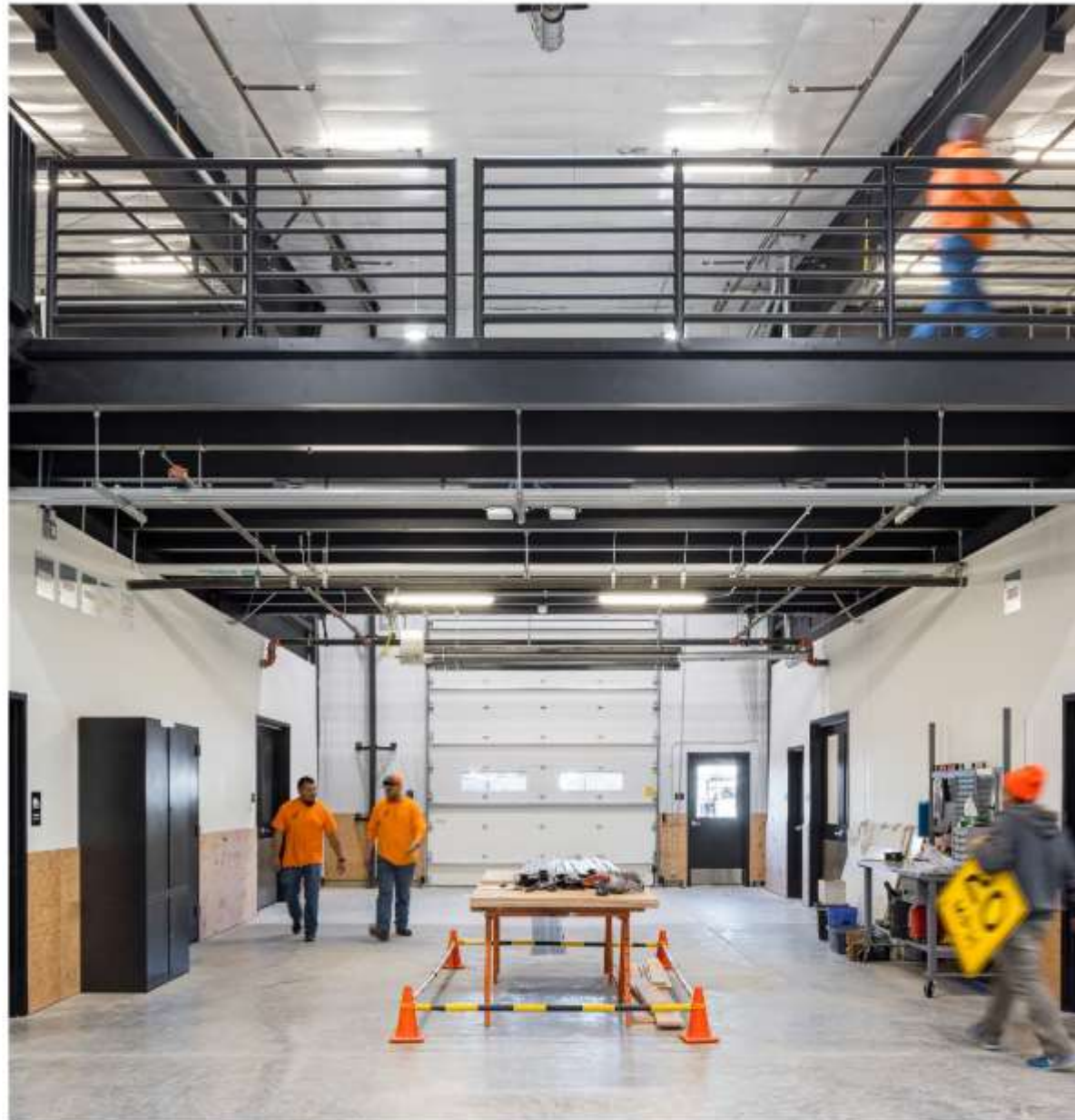


Each of the four crew rooms includes desks for crew members, an open meeting space, and a supervisor's office. Throughout the building, private offices are oriented around or placed near open collaboration areas to streamline efficiencies and promote connection.

The interior design and architecture create a cohesive design language through use of durable materials, simple geometry, and an elevated utilitarianism that implies and celebrates the important role public works serves in the Wilsonville community. The interior palette takes cues from the exterior by applying metal, wood, and concrete elements throughout. Wall treatments mimic textures and colors found in nature, and surfaces and furniture were selected to be durable and easy to maintain while still adding aesthetically to the space.

Across the courtyard from the administrative building is the warehouse, which has the sign, paint and wood shops, vehicle staging areas, crew storage areas, and fleet maintenance vehicles. Other buildings within the complex include a fleet vehicle wash station, chemical storage container, deicer/magnesium filling station, and a decant building. The connection between these buildings and the adjacent administrative building streamlines public works operations, a benefit to the efficiencies of providing services to the community.

The design of the warehouse thoughtfully incorporates staff, community, and environmental well-being, too. The warehouse is secured and climate-controlled both for staff comfort and to ensure vehicles and tools are safe and never too cold to hinder deployment—this feature facilitates prompt response times, minimizing public inconvenience. The project team’s decision to use a shed roof for the building’s architecture accommodates a mezzanine for additional storage and positions it to support a considerable PV solar array, a design solution that contributes to operational and sustainability goals.



## Completion Date



The Wilsonville Public Works Complex experienced no changes in the contracted completion date despite the project enduring significant impacts from labor and material shortages and winter weather events. During construction, the Public Works Department initiated its emergency operations protocols to address a significant ice storm. During this event, the project weathered the impacts and any delays that occurred were resolved without affecting the final completion date. The project reached substantial completion mid December of 2023. The complex was fully operational by February of 2024.



## Construction Schedule, Management, & Control Techniques

The Wilsonville Public Works project utilized numerous construction schedule, management, and control techniques to ensure efficient development. The design decision to specify the shop and site buildings as pre-engineered metal buildings allowed for efficient delivery of those structures. The project team used Procore, a construction management software, to streamline RFIs, Submittals, Change Order Requests, and communication between all team members. The project held weekly Owner/Architect/Contractor meetings reviewing four-week look-ahead schedules and sequencing of construction events along with a budget tracking log to track changes in costs, manage value engineering decisions, and summarize design change decisions, assuring alignment between elements. Additional control methods included the design team delivering weekly construction observation reports, maintaining constant communication with the general contractor field crew, and providing to the construction team a BIM model for the entire project, with the model enabling coordination between subcontractors and sequencing of events.



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At the onset of the project the initial construction bid cost consumed the majority of the project's contingency funds. The Owner, Architect and Contractor (OAC) worked collaboratively to identify cost savings either in design, materials or construction methods to free up needed contingency funds. In all the OAC team was able to identify over \$700,000 in value engineering. This collaborative approach allowed the project to finish on time and under the overall project construction budget of \$19.7 million.

## Safety Performance

To ensure safety during Wilsonville Public Works project construction phase, the construction team assigned a dedicated job site safety manager. The safety manager made routine visits to observe construction activities and through these observations, recommended and implemented adjustments to field activities. All sub-contractors and visitors were required to complete an on-site safety training. There were no lost-time injuries reported throughout the duration of the project.



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## Community Need

The Public Works Department provides services to 27,000 residents, 1,200 businesses, and daily visitors. The overall project consolidated services from seven different satellite locations to one central location. Additionally, it provided for a purpose-built warehouse to serve as the City's central warehouse facility, streamlining day-to-day operations and emergency situations.

As first responders, Public Works staff needed a facility that can be operational immediately following a seismic event. The administrative building is designed to Seismic Risk Category IV and includes an Incident Operations Center, storage space for emergency supplies, and backup power to maintain vital functions and support community response during events. The Incident Operations Center comprises two large conference rooms separated by an operable partition wall that can be retracted to create one large space, demonstrating the design's adaptability. This adaptability serves the community right now, by supporting public works operations in the day-to-day, and in the future, with consideration for how the space can be adjusted depending on need.

The design prioritized consideration for the future in other ways as well. The building is designed to accommodate future expansion of the department by building in workspace infrastructure in flex areas, so that should the area need to convert to staff workstations, the cost and effort to do so is minimal. Similarly, the administrative and warehouse buildings are designed for future build-outs if needed, again employing thoughtful and creative design to minimize future cost and effort.



## Sustainable Practices

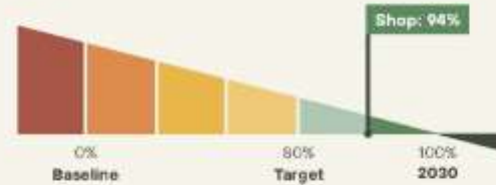
The Wilsonville Public Works Shop Building/Warehouse hosts a large photovoltaic array that offsets the majority of the building's energy use, generating approximately 107,273 kWh. Other sustainable measures include 100% LED lighting, Energy Star appliances, EV charging stations, a smoke-free campus, insulation 10-30% above code performance, and the receipt of \$12,684 in Energy Trust of Oregon incentives.

We selected materials that are durable and easy to maintain, maximizing the complex's longevity by mitigating the need to replace surfaces due to wear. When possible, we also made material selections as local to Wilsonville as possible, another project approach with sustainability in mind.

## Carbon Emissions Reduction Goals

The American Institute of Architects (AIA) 2030 Commitment calls for architects to reduce building energy use emissions to net zero by 2030. The Wilsonville Public Works shop building meets the current AIA 2030 Commitment reduction target based on energy modeling. This equates to:

### Shop Building 2030 Status



### Shop Building Achievements



**20,500 ft<sup>2</sup>**  
Shop building



**1.9 kBtu/ft<sup>2</sup>**  
Predicted energy used per sf (EUI)



**97 Tonnes**  
Emissions avoided

=



**23**  
off the road each year

### Sustainability Achievements

Seismic Resiliency: **Category IV Building**

**100%** LED Lighting

**Energy Star** Appliances

**EV** Charging Stations

**Smoke-free** Campus

**97.8 kW** Solar Array

Insulation **10-30% Above Code** Performance

**\$12,684** in ETO Incentives

### Solar Energy Analysis

The solar PV array produces a majority of the energy required to power the Shop Building:



**107,273 kWh**  
energy per year



**10 Homes**  
energy use per year



**\$11,774**  
saved per year

## Environmental Considerations

The development site was a green field that included a sloping grade and a Significant Resource Overlay Zone that required a vegetative buffer from the operations yard. The design team limited the development area so as not to encroach upon the natural zone, and we used the site's sloped topography to limit the amount of cut and fill needed. The innovative design worked with the grade changes to create the two-story administrative building with daylight basement.

The administrative offices are located on the upper floor, with the locker room, drying room and below grade parking in the lower floor. This allowed the project to meet its parking requirements while reducing cost and schedule impacts. The courtyard with its associated rain garden helped achieve City code



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requirements for green and open space as well as stormwater treatment. The courtyard and patio now serves as one of the focal points of the overall design.

Emerick implemented an extensive erosion control plan that began in the pre-construction phase and continued throughout the construction process. The erosion control plan was dynamic and adapted to each phase of the project. Since the site was a greenfield area during pre-construction, a thorough assessment of the site's conditions was conducted to determine the most suitable measures to be implemented.

The contractor utilized sediment fencing and wattle netting along the perimeter of the project site. On the uphill sloped areas, extensive wattle was used to prevent water run-off during the wet season. Additionally, the construction team created two large rectangular stockpiles of excavated earth for future use, which were stored along the site's South side. These stockpiles were wrapped in a plastic barrier and lined with straw wattle to provide further protection against water run-off.

To prevent debris from being tracked onto the local access road and the main public street, SW Boberg Rd, the contractor constructed the main entrance/exit of the site using large gravel, followed by a paved wheel washing station. A temporary entrance and road were constructed using a rock stockpile and lined with a fabric barrier and wattle. Additionally, Emerick installed multiple stormwater drains around the site and in the riparian buffer area. The construction team also implemented tree protection around existing trees and erosion control protection in the wetland area to ensure compliance with environmental regulations.

The contractor's Project Engineer, who was CECIL | Stormwater-certified, conducted daily inspections during all construction phases. Throughout the construction process, material debris piles were sorted into recyclable and non-recyclable materials and stored on-site until they could be safely removed.

## Community Relations

Service to the Wilsonville community was top-of-mind throughout development and drove decision-making, including the decision to develop a public works complex, rather than house specific functions in different places. The complex's courtyard is a multi-functional outdoor area providing space for department training and public-facing events.

During construction, the site was fenced off to prevent entering the construction zone, ensuring the safety of the public. An informational sign was installed along the fencing informing the community of the project. The sign included schematic drawings of the soon-to-be constructed administration building helping illustrate this new community asset to those interested. Additionally, consistent project updates were presented in the monthly City Manager's Report that is distributed to the community through the City Council meeting packet.

After completion of the project, the City held a Public Works Complex Open House and Ribbon Cutting ceremony in conjunction with National Public Works week. Attendees received a brochure that summarized attributes of the complex and included a map to be used for a self-guided tour of the facility. Staff were stationed strategically around the complex to answer questions about the buildings and Public Works functions. Guests had an opportunity to take selfie photos with equipment, safety gear and a PW Paws (Public Works Mascot) cutout along with his dog, Chipper. Participants could spin the wheel of disaster and win a prize related to emergency preparedness and see equipment displays. This event was wonderful opportunity to strengthen relations between Public Works and the public.



## Unusual Accomplishments

The site's slope presented an opportunity to design the administrative building to be two stories while remaining responsive to the neighborhood's one-story context. At the main street's level, the building appears to be one-story, and only as you move further into the building does the lower level reveal itself. The large breakroom is bright and inviting and offers seating and gathering spaces for staff to congregate. Large skylights and a windowed accordion door allow ample natural light to fill the space, and when opened, the door connects the breakroom directly to an outdoor balcony that overlooks the landscaped courtyard below.

The concrete tilt-up pour and lifting of the slab walls for the main building presented a challenge due to the nature of the walls and the tight window of

time to erect them. Emerick's team brought in extra crew members and two cranes to assist with the task. The coordination of the lift was carefully planned out between the Superintendent, Foreman, and Safety Coordinator. Precise timing was of the utmost importance when contending with a slab pour, weather conditions, and the final erection of the walls; one missed step had the potential to cause the whole process to fail and potentially posed a danger with the slabs hanging until secured in place.

The diligence of Emerick's Superintendent and Lead Specialist allowed the team the time needed to place the walls, and the crew worked double shifts to make it happen. The effort was successful and made possible through the high level of collaboration between the teams.



## Additional Considerations

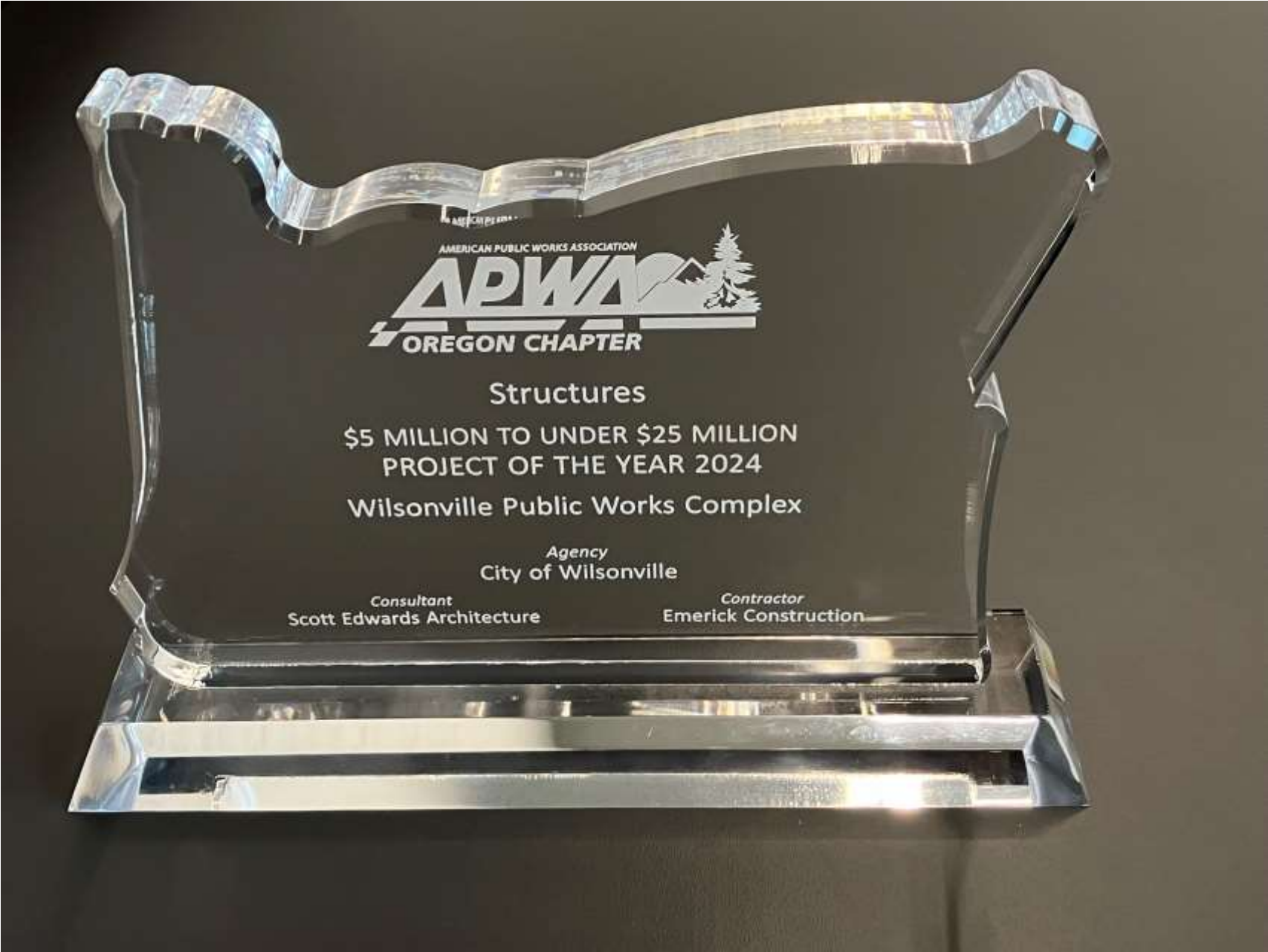


Consideration of future growth informed how the design developed—several collaboration spaces have the necessary electrical infrastructure to be used for additional desk space if needed, and what is currently an open parking garage on the 1st floor is designed to be closed in and converted into more office area. The building is designed to expand north if needed, with deliberate siting of the building to allow for this addition.

Wilsonville Public Works applied inclusive design principles throughout the project, including the gender-neutral restrooms and locker rooms to support the needs of a growingly diverse workforce. The architectural response incorporated and elevated essential amenity spaces supporting daily staff use and operations staff use during emergency events that require extended hours.

For example, the breakroom is designed like a residential kitchen, offering a space that is both comfortable and functional. The breakroom also connects to an outdoor area, a design decision recognizing that people benefit from nature-based reprieve.

The facility was designed to not only accommodate Public Works department needs, but other city department's uses as well. An example of this in practice is the placement of a conference room connecting directly to the lobby, rather than deeper within the building—this space can be accessed by other city officials for activities such as interviewing city candidates for hire, multi-department training programs, and external meetings.



AMERICAN PUBLIC WORKS ASSOCIATION  
**APWA**  
OREGON CHAPTER

Structures

\$5 MILLION TO UNDER \$25 MILLION  
PROJECT OF THE YEAR 2024

Wilsonville Public Works Complex

Agency  
City of Wilsonville

Consultant  
Scott Edwards Architecture

Contractor  
Emerick Construction





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