



PLANNING COMMISSION REGULAR SESSION AGENDA
Monday, October 24, 2022 - 7:00 PM
City Hall, Council Chambers, 169 SW Coast Hwy, Newport, OR 97365

All public meetings of the City of Newport will be held in the City Council Chambers of the Newport City Hall, 169 SW Coast Highway, Newport. The meeting location is accessible to persons with disabilities. A request for an interpreter, or for other accommodations, should be made at least 48 hours in advance of the meeting to Peggy Hawker, City Recorder at 541.574.0613, or p.hawker@newportoregon.gov.

All meetings are live-streamed at <https://newportoregon.gov>, and broadcast on Charter Channel 190. Anyone wishing to provide written public comment should send the comment to publiccomment@newportoregon.gov. Public comment must be received four hours prior to a scheduled meeting. For example, if a meeting is to be held at 3:00 P.M., the deadline to submit written comment is 11:00 A.M. If a meeting is scheduled to occur before noon, the written comment must be submitted by 5:00 P.M. the previous day. To provide virtual public comment during a city meeting, a request must be made to the meeting staff at least 24 hours prior to the start of the meeting. This provision applies only to public comment and presenters outside the area and/or unable to physically attend an in person meeting.

The agenda may be amended during the meeting to add or delete items, change the order of agenda items, or discuss any other business deemed necessary at the time of the meeting.

1. CALL TO ORDER AND ROLL CALL

Commission Members: Jim Patrick, Bill Branigan, Bob Berman, Jim Hanselman, Gary East, Braulio Escobar, and John Updike.

2. APPROVAL OF MINUTES

2.A Approval of the Planning Commission Work Session Meeting Minutes of October 10, 2022.

[Draft PC Work Session Minutes 10-10-2022](#)

2.B Approval of the Planning Commission Regular Session Meeting Minutes of October 10, 2022.

[Draft PC Reg Session Minutes 10-10-2022](#)

3. CITIZENS/PUBLIC COMMENT

A Public Comment Roster is available immediately inside the Council Chambers. Anyone who would like to address the Planning Commission on any matter not on the agenda will be given the opportunity after signing the Roster. Each speaker should limit comments to three minutes. The normal disposition of these items will be at the next scheduled Planning Commission meeting.

4. PUBLIC HEARINGS

4.A File 3-NCU-22: Nonconforming Use Permit for the Replacement of Equipment at the NW Natural LNG Plant.

[Staff Report](#)

[Attachment A - Application Form](#)

[Attachment A-1 - Applicant Narrative](#)

[Attachment A-2 - Property Record](#)

[Attachment A-3 - Site Plan](#)

[Attachment A-4 - Construction Drawings](#)

[Attachment B - Zoning Map of the Area](#)

[Attachment C - Public Hearing Notice and Map](#)

5. ACTION ITEMS

5.A File 3-NCU-22: Final Order and Findings for Nonconforming Use for Replacement of Equipment at the NW Natural LNG Plant.

[Final Order - File 3-NCU-22](#)

[Findings of Fact - File 3-NCU-22](#)

6. NEW BUSINESS

6.A Draft Oregon Housing and Community Services System Development Charge Study.

Memorandum
Draft OHCS SDC Report
Newport SDC Revenue Chart

7. UNFINISHED BUSINESS

7.A Planning Commission Work Program Update.
[PC Work Program 10-20-22](#)

8. DIRECTOR COMMENTS

9. ADJOURNMENT

Draft MINUTES
City of Newport Planning Commission
Work Session
Newport City Hall Council Chambers
October 10, 2022
6:00 p.m.

Planning Commissioners Present: Jim Patrick, Bob Berman, Braulio Escobar, Jim Hanselman, Bill Branigan (*by video*), Gary East, and John Updike.

PC Citizens Advisory Committee Members Present: Annie McGreenery, and Greg Sutton (*by video*).

PC Citizens Advisory Committee Members Absent: Dustin Capri (*excused*).

City Staff Present: Community Development Director (CDD), Derrick Tokos; and Executive Assistant, Sherri Marineau.

1. **Call to Order.** Chair Patrick called the Planning Commission work session to order at 6:00 p.m.

2. **Unfinished Business.**

A. **Identify Candidates for City Center Revitalization Project Stakeholder/Advisory Committees.**

Tokos reported the State would be putting out a mini RFP through ODOT as part of the TGM program. The process would be released around the end of the month. Consultant teams would then have three weeks to get their proposals in. They expected there to be around two to three proposals come in. Tokos expected that once they chose the consultants they would look to start the project at the beginning of the next year.

Tokos explained that he was looking to the Commission to give their input on who they wanted to include in the advisory committee. He noted that the City Council would do the interview process to fill the spots on the committee. Tokos reviewed the list of groups that the committee could include and the areas they would represent. He thought they may want to include a few general public seats on the committee while being conscience of not making the size of the group too large.

Tokos asked if there were any stakeholders missing on the list. Berman thought the Lincoln County representative should be from Transit. Patrick thought the Chamber of Commerce should be involved. Hanselman asked if this was a visioning committee. Tokos confirmed it wasn't. Hanselman didn't think there were residents in this area in the stakeholder list and thought they needed to be included to get their voices heard. He also thought they should include a Farmers Market representative. Hanselman explained that he didn't want to hear from landlords because they were often absent. He thought the list included the usual stakeholders giving comments, and he didn't think they always got the best answers from the usual people. Hanselman felt this meant they missed out on what the community needs were. Berman reminded that Tokos stated the Council would want local residents included.

Escobar thought that a large committee would be unwieldy. He thought they should have a more focused group to make it easier to come up with good ideas with the consultants. Hanselman pointed out that there were residents in this area that wanted a neighborhood group and showed that they had interest in what happened in their neighborhood.

Branigan thought they should consider adding a representative from Samaritan because they were the largest employer in the area. Berman thought that one of the key properties in the study area was the armory and thought they should be included.

Berman asked if this was an ODOT project. Tokos reported this was a city project that the City applied for the funds to do. The funding came from the State of Oregon through the Transportation Growth Management Grant process. When done through this process, the City had a lot of influence on the scope of the work and how the process was structured. The State typically administered the consulting contracts. If not, the city would be given the money and told to hire the consultants. The consultants were pre-selected consulting teams that had already been vetted by the State and the DLCDC. These teams had the qualifications to do this kind of work, understood what the State's policy priorities were, and knew what local governments might want. Berman thought that ODOT should be involved directly because this was work on US 101.

Branigan thought the committee shouldn't get meshed into deciding whether or not to do a couplet or not. Tokos explained that one of the things that they were going to have to resolve with this was which of the two transportation solutions made the most sense, based on what they were trying to accomplish. There would need to be a product that came out of this that would make a decision on this front.

Tokos noted that the way the scope of work was structured was to have up to six stakeholder groups have interactions between the consultants, staff, and in public. This would happen over a two to three day period where the consulting team came out to have good dialogue with people. Tokos thought they might want to do some illustrative charrettes which would be more conducive to a smaller group environment. He asked for thoughts on what topic areas the Commissioners thought they should emphasize if they were breaking up the discussion with this number of stakeholder groups.

Berman liked the idea of the hospital but thought it should be termed as medical. He also thought it would be productive to invite all the business owners along US 20 for a group, and then another group for the business owners along US 101. Escobar thought there should be smaller groups of around seven. He thought they should get ahead of the curve and reach out to the citizens who would be affected to come up with a plan that would have more community based acceptance. Berman suggested the noticing be more liberal than just the standard 200 feet, so they could get a good representative sample of people in a particular area. Branigan thought they needed a focus group with the Hispanic community to get better feedback. Tokos thought this was a good thought to be strategic in terms of bringing in bilingual resources for outreach. He thought they would need to really reach out to get people to actually attend and participate. Updike thought it was important early in the process to determine and weigh what issues were more important in order to gauge what was at the top of people's minds. This would allow the focus team to not get lost in something that ended up being a very minor item from a community concern standpoint. Tokos asked if what Updike was talking about was weighing critical success factors in terms of the end product to get the highest priority issues. Updike agreed and thought they needed to get a sense of what the measures of success were as well.

Berman asked if they would choose a Commissioner to participate on the committee. Tokos confirmed they would and noted they would do this at a later date. Patrick thought the stakeholder meetings would run better now that they were past the restrictions of COVID. Tokos agreed but reminded that they didn't know where the pandemic related issues would go. They needed to be prepared to adjust if they had to. Patrick liked the format they used to do the outreach for the Urban Renewal in South

Beach and thought they should do that if possible. Tokos would take the information and come up with bullet points for the Council to consider when they were vetting this.

B. Short-Term Rental Ordinance Implementation Work Group Recommendations. Tokos reported that the Short-Term Rental Work Group had its last meeting in September and signed off on a letter, along with the draft ordinance, that would be given to the City Council on their October 17th meeting. The Council would initiate the legislative process and send the ordinance to the Commission for consideration at a public hearing.

Tokos asked if the Commissioners wanted a work session meeting before the hearing. Escobar thought they should do a public hearing and then a work session. Berman didn't think the changes were worth a work session. Hanselman thought they should see what the people thought first. Tokos reiterated that what he heard was that the Commission wanted to go straight to a hearing with what was drafted, and see what the public said. Then, based on that testimony, decide whether or not to schedule a second hearing or go to a work session to do some tweaks based on the testimony. The Commission was in general agreement on this.

Escobar asked Branigan why the Work Group wanted to establish a grace period for a new owner to operate. Branigan reported that a lot of the STRs booked months in advance, and which were already booked when the new owner had to apply for a license. This was done so they didn't have to cancel reservations and so the new owner could continue renting while they got all the paperwork done. Escobar asked if the new owner could apply while the property was in escrow. Tokos explained that currently the person had to have possession of the property before they could get a license. Tokos reminded that the grace period only applied to the licensed STRs in commercial and water zones where the new owner could take over the slot for the license. These types of situations usually meant the owner had bookings into the summer.

Escobar asked how people on the waitlist went up the list if a person could sell their license to a new buyer. Tokos explained the licenses who were in the commercial and water zones were only a fraction of the overall licenses. A lot of the licenses in the permissible area were such that if the owner were they chose to no longer operate a STR or they sold their property, the person who bought the property would have to go on the waitlist. The principal when they did the changes in 2019 was that if a vacation rental was in a residential area that it wouldn't always be a vacation rental. Whereas, there was always an expectation that vacation rentals were part and parcel with what they would see in a tourist commercial area, and was one area where it was reasonable to sell the property as a vacation rental to a new buyer. Hanselman asked how many overall businesses were allowed to operate when they didn't have a license. He thought this was a mistake. Tokos explained that a typical business licensing was where somebody had a business established and then they came in and got their business license. Escobar noted OLCC required people to have a liquor license before they operated. Berman didn't think it was fair to force people to cancel rental reservations. Hanselman thought it was odd in this case to provide the opportunity to run a business without a license. Patrick thought it was a reasonable accommodation for an odd circumstance. He reminded that this only applied to the commercial STRs, not the residential ones. Hanselman thought this was inappropriate. Escobar thought it would be better to have the new owner be able to do a preapplication before the property closed. Tokos noted that what he heard was to take this to a hearing to get testimony to determine if the Commission wanted to do a work session or go to another hearing. Branigan thought they should invite members of the work group to participate. Tokos liked this but didn't think they should have the City Council members on the Work Group to participate since they would be involved in their own hearing.

Updike thought the wording on the grace period created an opportunity for a loop hole for the new

owners to add new rentals. He thought they should limit this to existing rentals booked and not allow new bookings. Tokos liked this idea but thought it would be hard to prove. Patrick liked the suggestion as well. Tokos noted that when the Hallmark took over the Whaler STRs, the transaction took over renting before the licenses were issued. He thought sometimes it was an educational piece to notify the owners they were doing work without a business license. Branigan noted that on draft Ordinance 2022 it listed the grace period as 30 days and was a little narrower than what they were talking about. Tokos would reflect the changes the Commission had discussed and include them in the staff report for the hearing.

Urdike asked how the cap on the number of STR licenses ended up at 176. Tokos explained they took a look at the percentage of our housing that was tied up in seasonal housing, and how many units we were typically being added in a year. Then they looked at limiting STRs to a certain percent of the housing stock, which was the number they wanted to land at. The cap was set up so the City Council could set the number by resolution and choose to bring the number up to 200 if they saw fit. The Work Group wanted to do away with the 200 number and keep it at 176. This would mean that to adjust the number up or down from 176 there would need to be an amendment to the ordinance and public hearings. A resolution change could be done at any Council meeting.

C. **Planning Commission Work Program Update.** Tokos pointed out there would be a joint session with the City Council on November 14th. The regular session would start at 6 p.m. ECONorthwest would be here to go over the housing capacity analysis. There would be two hearings on November 14th for an exterior remodel of the historic Ernest Bloch house and a conditional use approval for a real estate office in Nye Beach.

3. **New Business.** None were heard.

4. **Adjourn.** The meeting adjourned at 7:08 p.m.

Respectfully submitted,

Sherri Marineau,
Executive Assistant

Draft MINUTES
City of Newport Planning Commission
Regular Session
Newport City Hall Council Chambers
October 10, 2022

Planning Commissioners Present: Jim Patrick, Bob Berman, Gary East, Braulio Escobar, Jim Hanselman, Bill Branigan (*by video*), and John Updike.

City Staff Present: Community Development Director (CDD), Derrick Tokos; and Executive Assistant, Sherri Marineau.

1. Call to Order & Roll Call. Chair Patrick called the meeting to order in the City Hall Council Chambers at 7:00 p.m. On roll call, Commissioners Patrick, Branigan, Hanselman, East, Berman, Escobar, and Updike were present.

2. Approval of Minutes.

Berman reported minor edits the minutes that were shared with the Commissioners before the meeting. Hanselman noted that the September 12th work session meeting minutes needed to have language added to include his comments about his concerns on adding new homes to the area when there was already water problems, and how it pertained to residents being placed on Level 2 water restrictions two summers before.

Berman commented that he was concerned he was the only Commissioner who submitted corrections to the minutes and asked that the Commissioners to confirm in the future that the statements they said were accurate in the minutes. Hanselman reported he read the minutes each time.

Berman thought that some of the minutes stated that Tokos would follow up on items but some things hadn't been done. He requested that Tokos follow up when these items were noted in the minutes. Tokos reported he generally got back to the Commission on these types of items but if there were things the Commissioners were concerned about they should let him know. Berman noted one instance was on the August 22nd work session minutes, before Item C, where there was a question on how the Housing Study treated rentals and second homes. It stated that Tokos would ask ECONorthwest for this information. Also, under the traffic study, there was a question on if the BLM project was enumerated in the TSP projects. Tokos reported the information on the second dwellings would come back to the Commission in the materials on the November 14th package. He would work to get back to the Commission on the enumerations.

A. Approval of the Planning Commission Work Session Meeting Minutes of August 22, 2022.

MOTION was made by Commissioner Berman, seconded by Commissioner Hanselman to approve the Planning Commission Work Session meeting minutes of August 22, 2022 as written. The motion carried unanimously in a voice vote.

B. Approval of the Planning Commission Regular Session Meeting Minutes of August 22, 2022.

MOTION was made by Commissioner Berman, seconded by Commissioner Hanselman to approve the Planning Commission Regular Session meeting minutes of August 2, 2022 with minor corrections. The motion carried unanimously in a voice vote.

C. Approval of the Planning Commission Work Session Meeting Minutes of September 12, 2022.

MOTION was made by Commissioner Berman, seconded by Commissioner Hanselman to approve the Planning Commission Regular Session meeting minutes of September 12, 2022 with minor corrections. The motion carried unanimously in a voice vote.

D. Approval of the Planning Commission Work Session Meeting Minutes of September 26, 2022.

MOTION was made by Commissioner Berman, seconded by Commissioner Hanselman to approve the Planning Commission Work Session meeting minutes of September 26, 2022 as written. The motion carried unanimously in a voice vote.

3. Public Comment. None were heard.

4. Action Items. None were heard.

5. Public Hearings. At 7:07 p.m. Chair Patrick opened the public hearing portion of the meeting. He asked the Commissioners for declarations of conflicts of interest, ex parte contacts, bias, or site visits. Branigan, Berman, and Hanselman reported site visits. Patrick called for objections to any member of the Planning Commission or the Commission as a whole hearing this matter; and none were heard.

A. File 2-CP-22.

Tokos reviewed his staff report and acknowledged that Matt Betenson, the manager for the Yaquina Head Natural Areas was present to answer questions.

Berman pointed out the study was placed under Goal 1 and thought it needed more than just the title of the report. He suggested it say “Policy 2, the city hereby adopts, as part of its comprehensive plan, the Yaquina Head Traffic Study.” Tokos thought he could wordsmith it, but the principal was that they wanted to list each of these studies over time under Policy 1. He pointed out that they would be doing other refinement plans that were area specific. Berman then thought it should say “Policy 1, improve and maintain a transportation system that is consistent with:” instead. Tokos would tweak the language to tighten it up. Updike thought it should be indented on the document with a heading so it seemed like it was the first of more projects.

Proponent: Matt Betenson, site manager of the Yaquina Head Natural Areas, addressed the Commission. He explained they went through a cooperating agency process to look at the traffic flow around the Yaquina Head, and they received quite a few concerns from the public related to walkers, bikers and pedestrians. They had about 545,000 visitors over the last year. Betenson reported that they did cooperating agency interactions with ODOT Federal Highways, the City of Newport, and the Bureau of Land Management on this project. They thought they came up with some really good options for a new design on the site to help alleviate what they were seeing for a lot of traffic congestion, and felt this would provide better experiences for people visiting the site. What the Commission was reviewing was about 30 percent of the final product. This was because

they still needed to do the final engineering, soil geotechnical work, and environmental compliance on the Federal side. Betenson noted that if this was added to the Comprehensive Plan it would allow them to look for more funding. They had funding through Federal Highways to get the traffic study done, but they didn't have any money beyond that.

Patrick asked how likely and how soon this would be done. Betenson thought it was hard to say since there were different areas that needed modifications. He thought it would be at least a year and a half to two years at a minimum, depending on the sources of funding. The synergy of working together with the city helped them find funding support. Patrick liked the work that had been done on the report. Betenson pointed out that they had a lot of public input on the potential changes as well.

Berman asked how the changes on the plan would be published. He also questioned if it would be codified in the Comprehensive Plan. Betenson didn't know the mechanics of how the Commission worked. This was 30 percent of the plan and there was flexibility built into what the city would be adopting. Betenson thought any major changes would have to go back out for public comment. The design was currently just schematic and it didn't talk about how the work would be done. Berman asked if what he was saying was this study was 100 percent of the projects they wanted to do, but only 30 percent of the details. Betenson agreed that this was a good way to look at it. Berman asked what the status of the peregrine falcons were at the site. Betenson said there were three on the cliffs that week and they hoped for chicks the next summer.

Tokos asked for thoughts on how they would keep the Yaquina Head Traffic Study alive for folks and asked if the partnership with the Friends of the Lighthouse could be a great way to have the study out there for people to look at. Betenson thought they could publish the final study on the Friends of the Lighthouse website. The BLM had a few other areas on the internet they could post it on.

Chair Patrick closed the hearing at 7:29 p.m.

Urdike thought the study was great and a simple addition to the policy. He has no concerns. East agreed that this was straight forward. Berman agreed and thought the study was fabulous. He thought the integration into the Comprehensive Plan needed a little wordsmithing, but he had no problems with it. Hanselman thought they did a good job of putting it together and appreciated the coordination between so many groups. Escobar thought there was a lot of effort by professionals to put this together and felt it was well reasoned. He would support approving it. Patrick thought it was a good proposal and vast improvement from the first draft.

MOTION was made by Commissioner Berman, seconded by Commissioner Escobar to forward a favorable recommendation for File 2-CP-22 to the City Council to incorporate the Yaquina Head Traffic Study into the Transportation Section of the Comprehensive Plan. The motion carried unanimously in a voice vote.

6. **New Business.** None were heard.
7. **Unfinished Business.** None were heard.
8. **Director Comments.** None were heard.
9. **Adjournment.** Having no further business, the meeting adjourned at 7:33 p.m.

Respectfully submitted,

Sherrri Marineau
Executive Assistant

Case File: #3-NCU-22
 Date Filed: September 22, 2022
 Hearing Date: October 24, 2022 Planning Commission

PLANNING STAFF REPORT
Case File No. 3-NCU-22

- A. **APPLICANT:** NW Natural Gas Company (Mike Smith, Norwest Engineering, authorized representative).
- B. **REQUEST:** Approval of a request per Section 14.32/“Nonconforming Uses, Lots, and Structures” of the Newport Municipal Code, to replace and upgrade electrical equipment. The new equipment will be placed on pile supported foundations near the existing electrical building. There will also be new underground conduit and cable trays.
- C. **LOCATION:** 1702 SE Bay Blvd.
- D. **LEGAL DESCRIPTION:** Lincoln County Assessor’s Tax Map 11-11-09, Tax Lot 01600 in the City of Newport, County of Lincoln, Oregon.
- E. **LOT SIZE:** Approximately 21.62 acres.
- F. **STAFF REPORT**
1. **REPORT OF FACT**
 - a. **Plan Designation:** Shoreland.
 - b. **Zone Designation:** W-1/“Water Dependent.”
 - c. **Surrounding Land Uses:** An estuary to the south and east. Water dependent and industrial zoned land border the property to the north and west. Property to the north is being positioned for industrial development. A disposal site for dredge materials is situated to the west.
 - d. **Topography and Vegetation:** The subject property is flat and elevated just above the adjoining estuary. Riprap embankments exist along the perimeter of the site. Upland areas are vegetated with grass.
 - e. **Existing Structures:** A large natural gas tank, control building, process building and other small buildings surrounded by a security fence.
 - f. **Utilities:** All are available to the site.
 - g. **Development Constraints:** Portions of the property, namely along the perimeter of the site, are within the 100-year floodplain and tsunami hazards overlay.

h. **Past Land Use Actions:**

File 2-NCU-21, approved the construction of three concrete equipment foundations on a vacant portion of the LNG Plant facility. The foundations support equipment, pressure vessels, process piping and a cable tray that are part of a Pretreatment Regen Optimization project.

File 2-NCU-18, approved the replacement of an existing glycol cooling system, which cool the compressors that maintain the natural gas as a liquid. The new equipment was placed on pile at two pad sites near the existing system, between the existing process building and the existing electrical building. New piping, a small oil cooler and a cable tray were also approved.

File 1-NCU-17, approved construction of for a new natural gas pre-treatment system to more effectively remove water, carbon dioxide, trace constituents and natural gas liquids from the domestic natural gas before it is delivered to the liquefaction plant.

File 2-NCU-15, approved the replacement of an existing office building (a.k.a. "Control Building") with a new, 3,893 sq. ft., single story office building.

- i. **Notification:** Notification to surrounding property owners and to city departments/public agencies was mailed on September 28, 2022; and the notice of public hearing was published in the Newport News-Times on October 14, 2022.

j. **Attachments:**

Attachment "A" – Application Form

Attachment "A-1" – Applicant's Narrative

Attachment "A-2" – County Assessor Information

Attachment "A-3" – Site Plan, Norwest Engineering, dated 9/15/22

Attachment "A-4" – Construction Drawings, Norwest Engineering, dated 8/31/22

Attachment "B" – Zoning Map of the Area

Attachment "C" – Public Hearing Notice and Map

2. **Explanation of the Request:** Pursuant to Section 14.32.070/"Alteration, Expansion, or Replacement of Nonconforming Uses and Structures" of the Newport Municipal Code, after verification of the status of a nonconforming use pursuant to Subsection 14.32.060, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood.

The applicants own property identified as Tax Lot 1600 on Tax Map 11-11-09. The property contains a Liquefied Natural Gas (LNG) storage tank, process buildings and a control building. The property appears to have been acquired by NW Natural in 1974 and the plant was commissioned in 1977. In their written narrative, the applicant states that they will be replacing and upgrading electrical equipment. The new equipment will be placed on pile supported foundations near the existing electrical building. There will also be new underground conduit and cable trays (Attachment "A-1"). The location of the work is shown on the applicant's site plan (Attachment "A-3").

3. Evaluation of the Request:

- a. **Comments:** No comments were received in response to the notice.
- b. **Application Submittal Requirements:** Pursuant to NMC 14.32.040, applications must include a completed application form, scaled site plan, names and addresses of property owners within the notification area, survey work if structures will not satisfy setback requirements and exterior architectural elevations if structures will exceed building height limitations.
- c. **Verification of Status of Nonconforming Use or Structure:** Pursuant to NMC Section 14.32.060, upon receiving an application to alter, expand, or replace a nonconforming use or structure, the approval authority shall determine that the use or structure is nonconforming. Such determination shall be based on findings that:
- The use or structure was legally established at the time the Zoning Ordinance was enacted or amended; and
 - The use has not been discontinued for a continuous 12-month period.

The approval authority may require the applicant provide evidence that a use has been maintained over time. Evidence that a use has been maintained may include, but is not limited to, copies of utility bills, tax records, business licenses, advertisements, and telephone or trade listings

The approval authority shall verify the status of a nonconforming use as being the nature and extent of the use at the time of adoption or amendment of the Zoning Code provision disallowing the use (September 7, 1982). When determining the nature and extent of a nonconforming use, the approval authority shall consider:

- Description of the use;
- The types and quantities of goods or services provided and activities conducted;
- The scope of the use (volume, intensity, frequency, etc.), including fluctuations in the level of activity;
- The number, location, and size of physical improvements associated with the use;
- The amount of land devoted to the use; and
- Other factors the approval authority may determine appropriate to identify the nature and extent of the particular use.

A reduction of scope or intensity of any part of the use as determined under this subsection for a period of 12 months or more creates a presumption that there is no right to resume the use above the reduced level. Nonconforming use status is limited to the greatest level of use that has been consistently maintained since the use became nonconforming. The presumption may be rebutted by substantial evidentiary proof that the long-term fluctuations are inherent in the type of use being considered.

- d. **Applicable Criteria (Section 14.32.070):** After verification of the status of a nonconforming use pursuant to Subsection 14.32.060, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure

when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood. In making this finding, the approval authority shall consider the factors listed below. Adverse impacts to one of the factors may, but shall not automatically, constitute greater adverse impact on the neighborhood.

- (1) The character and history of the use and of development in the surrounding area;
- (2) The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood;
- (3) Adequacy of infrastructure to accommodate the use. For the purpose of this subsection, infrastructure includes sewer, water, and streets;
- (4) The comparative numbers and kinds of vehicular trips to the site;
- (5) The comparative amount and nature of outside storage, loading, and parking;
- (6) The comparative visual appearance;
- (7) The comparative hours of operation;
- (8) The comparative effect on solar access and privacy;
- (9) Other factors that impact the character or needs of the neighborhood.

The approval authority must consider the purpose of the current zoning provisions that cannot be satisfied when determining whether or not the alteration, expansion, or replacement of a nonconforming use or structure will have a greater adverse impact on the neighborhood.

To the extent there is a rational nexus, and the City can establish that needed improvements are roughly proportional to proposed development, and alteration, expansion, or replacement of a nonconforming use or structure shall be brought into compliance with provisions of the Zoning Ordinance that relate to:

- (1) Surfacing or parking areas and landscaping;
- (2) Exterior design of structures;
- (3) Outdoor displays, storage, and signage.

e. **Staff Analysis:**

In order to grant the permit, the Planning Commission must find that the applicants have provided a complete application, that there is substantial evidence that the Commission can rely upon to verify the nature and extent of the existing nonconformity, and that the expansion will not result in a greater adverse impact on the neighborhood considering the criteria listed under NMC 14.32.070. With that in mind, staff offers the following analysis:

- (1) The applicant's property is located in a W-1/"Water-Dependent" zoning district (Attachment "B"). Utility facilities, such as the LNG Plant, are not permitted uses in this district (NMC 14.03.080).
- (2) Consistent with NMC 14.32.040, the applicant submitted a completed application form, narrative, names and addresses of property owners within the notification area, site plan, and structural details. In sum, this constitutes substantial

evidence upon which the Planning Commission can decide as to whether or not the new improvements satisfy the City's standards for the alteration and expansion of a non-conforming use.

(3) With respect to NMC 14.32.060, regarding the non-conforming status of the LNG Plant, the applicant has previously provided assessment information indicating that the property was acquired in 1974 and evidence that the facility has been continuously maintained since it was commissioned in 1977. Per the Newport Zoning Ordinance, the LNG Plant is non-conforming if it is established that the facility existed and has been continuously maintained since September 7, 1982. Considering the above, it would be reasonable for the Planning Commission to find, as it has with the last four decisions (File Nos. 2-NCU-21, 2-NCU-18, 1-NCU-17 and 2-NCU-15), that there is substantial evidence in the City records that the LNG plant qualifies as non-conforming.

(4) After verification of the status of a non-conforming use, pursuant to NMC 14.32.070, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion or replacement will not result in a greater adverse impact on the neighborhood. In making this finding the Planning Commission should consider the following factors:

a. The character and history of the use and of development in the surrounding area.

- i. The applicant notes that the property has been utilized in continuous use as an LNG peak-shaving facility since its inception in June of 1977.
- ii. The applicant further states that addition of the electrical equipment is in keeping with the character of the other existing equipment and buildings on the site and surrounding neighborhood. The existing buildings on the site consist of metal paneling exterior walls and standing seam metal gabled roofs. The proposed new equipment will be of similar construction and visual appearance to existing plant facilities.
- iii. The surrounding properties are largely undeveloped. Lands to the north and west will likely develop in an industrial manner in the coming years, to complement the Port of Newport's International Terminal. This would be consistent with the water dependent or heavy industrial zoning that is in place. These types of uses would orient toward Bay Boulevard for the transport of goods and materials by truck or toward the bay for barge or shipping out of the terminal site. In either case, the properties would orient away from the LNG Plant facility.
- iv. The alteration/expansion to the non-conforming use relates to the replacement and upgrade of electrical equipment. The new equipment will be placed on pile supported foundations near the existing electrical building. There will also be new underground conduit and cable trays. The equipment is situated in close proximity to the existing electrical building, roughly 68-feet from the north

property line within the fenced enclosure (Attachment “A-3”). Accordingly, there does not appear to be an increased risk to neighboring properties associated with the development.

v. The applicant provides community access to the estuary and portions of its property for recreational purposes. They are not required to do so, and the new electrical and electrical related equipment does not impact these areas as it is located within the perimeter of the security fence.

vi. Considering the above, it is reasonable for the Planning Commission to conclude that the proposed replacement and upgrade of electrical equipment is consistent with the character and history of development in the area given that the change will not further exacerbate the nonconforming situation.

b. The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood.

i. The applicant notes that the proposed electrical equipment is not anticipated to create any additional significant vibration, dust, odor, fumes, glare, noise or smoke, and that the new equipment is comparable in design and function to other existing equipment on site.

ii. Nearby water-dependent and heavy industrial properties are envisioned to develop with uses that generate noise, vibration, dust, odor, fumes, glare, or smoke in excess of anything that could be attributed to the LNG Plant facility.

iii. Considering the above, it is reasonable for the Planning Commission to conclude that the new electrical equipment and related improvements will not create noise, vibration, dust, odor, fumes, glare, or smoke in a manner that would result in a greater adverse impact on the neighborhood.

c. Adequacy of infrastructure to accommodate the use (including sewer, water, and streets).

i. The applicant explains that the existing infrastructure to the site from SE Bay Blvd is adequate and will accommodate use of the new equipment. They further note that the LNG Plant facility utility infrastructure is adequate, and no additional utilities are anticipated for the proposed development. Access to the equipment is available via an existing gravel roadway. The proposed development does not place any additional demands on on-site water and wastewater infrastructure.

ii. Considering the above, it is reasonable for the Planning Commission to conclude that the new electrical equipment and related improvements will not cause any greater adverse impact on the neighborhood as it relates to the adequacy of infrastructure to serve the use.

d. The comparative numbers and kinds of vehicular trips to the site.

- i. The applicant notes that no additional vehicular trips to the site are anticipated as a result of the new electrical equipment and related improvements.
- ii. Considering the above, it is reasonable for the Planning Commission to conclude that installation of the equipment will not cause any greater adverse impact on the neighborhood relative to this criterion.

e. The comparative amount and nature of outside storage, loading, and parking.

- i. The applicant indicates that, per the zoning ordinance, there is no minimum / maximum number of parking spaces required for this development and that a loading area is not required. This is attributed to the nature of the improvements, which are a component of the gas processing operation that do not generate demand for additional staff or service trips that cannot otherwise be accommodated with existing on-site parking and service areas.
- ii. The applicant's site plan illustrates where the electrical equipment, foundation improvements, and related work is to be performed (Attachment "A-3"). The equipment is to be an operational component of the LNG Plant facility that is secured to a concrete foundation and is not being stored on-site.
- iii. Given the above, it is reasonable for the Planning Commission to conclude that the electrical equipment and related improvements will not cause any greater adverse impact on the neighborhood with respect to comparative amount and nature of outside storage, loading, and parking.

f. The comparative visual appearance.

- i. The applicant states that the construction work will visually match the existing structures in color and general appearance, and surroundings so as to ensure good general visual appearance of the area.
- ii. Considering the above, it is reasonable for the Planning Commission to conclude that the electrical equipment and related improvements will not cause any greater adverse impact on the neighborhood as it relates to comparative visual appearance.

g. The comparative hours of operation.

- i. The applicant notes that the existing LNG Plant facility is in operation 24/7 and that the new electrical equipment is anticipated to be in operation on the same schedule.
- ii. Based on the above, it is reasonable for the Planning Commission to conclude that the electrical equipment will not cause any greater adverse impact on the neighborhood as far as comparative hours of operation.

h. The comparative effect on solar access and privacy.

- i. The applicant notes that the electrical equipment will be set along the north side of the property, a considerable distance from the adjacent neighbors. They further indicate that, at this time, no additional staff is anticipated to be needed and that they do not believe the project will have an effect on solar access or privacy.
- ii. Given the above, it is reasonable for the Planning Commission to conclude that the proposed electrical equipment and related improvements satisfies this criterion.

i. Other factors which impact the character or needs of the neighborhood.

- i. The applicant asserts, and it would be reasonable for the Commission to accept, that there are no other factors that will impact the character or needs of the neighborhood. They point out that the proposed equipment is of like kind to the longstanding and existing use of the property; that no additional vehicle or pedestrian traffic, visual or environmental impacts are anticipated; and that the proposed construction will not affect current public use of the surrounding area.

j. The approval authority must consider the purpose of the current zoning provisions that cannot be satisfied when determining whether or not the alteration, expansion, or replacement of a nonconforming use or structure will have a greater adverse impact on the neighborhood.

- i. The LNG plant is in a W-1 zoning district and is nonconforming because utility facilities are not permitted in this zone district. The purpose of the W-1 zone is to protect Yaquina Bay shoreland areas for uses that need contact with or use water for water-borne transportation, recreation, energy production or water supply (NMC 14.03.040). The LNG Plant facility is not dependent upon the bay for any of the factors listed.
- ii. The LNG Plant facility was constructed before the W-1 zoning was in place, and most of the applicant's property is dedicated to this use. In fact, it appears that the confines of the secure facility have remained more or less static. The new electrical equipment is being placed within the fence line, in close proximity to existing buildings and the LNG tank. Therefore, the addition of the equipment will not reduce the amount of land available for water-dependent development.
- iii. Based on the above, it is reasonable for the Planning Commission to conclude that the electrical equipment will not result in a greater adverse impact on the neighborhood relative to the objectives of the current zoning provisions.

4. **Conclusion:** If the Planning Commission finds that the alteration/expansion of the nonconforming use will not result in a greater adverse impact on the neighborhood, and the applicant has met the criteria established in the Zoning Ordinance for authorizing alteration/expansion of a nonconforming use, then the Commission should approve the

request. The Commission can attach reasonable conditions that are necessary to carry out the purposes of the Zoning Ordinance and the Comprehensive Plan. If the Commission finds that the request does not comply with the criteria, then the Commission should deny the application.

- G. **STAFF RECOMMENDATION:** As outlined in this report, this application to install new electrical equipment can satisfy the approval criteria provided conditions are imposed as outlined below. Accordingly, the Commission should approve this request, subject to the following:
1. Approval of this land use permit is based on the submitted written narrative and plans listed as Attachments to this report. No work shall occur under this permit other than that which is specified within these documents. It shall be the responsibility of the property owner to comply with these documents and the limitations of approval described herein.



Derrick I. Tokos AICP
Community Development Director
City of Newport

October 20, 2022



City of Newport Land Use Application

Applicant Name(s):	Property Owner Name(s) <i>if other than applicant</i>
Tim Murphy	NW Natural, Steve Walti
Applicant Mailing Address:	Property Owner Mailing Address:
250 SW Taylor Street, Portland, OR	250 SW Taylor Street, Portland, OR
Applicant Phone No.	Property Owner Phone No.
515.570.4279	503.351.1130
Applicant Email	Property Owner Email
Tim.Murphy@nwnatural.com	Steven.Walti@nwnatural.com
Authorized Representative(s): <i>Person authorized to submit and act on this application on applicant's behalf</i>	
Michael Smith	
Authorized Representative Mailing Address:	
4110 NE 122nd Avenue, Suite 207 Portland, OR 97230	
Authorized Representative Telephone No.	
503.701.2528	
Authorized Representative Email. msmith@norwestengineering.com	

Project Information

Property Location: <i>Street name if address # not assigned</i>	
1702 SE Bay Blvd	
Tax Assessor's Map No.: 11s11w09 (R500726)	Tax Lot(s): 11 -11 -09-00-0 1 600-00
Zone Designation: W- 1 Water Dependent	Legal Description: <i>Add additional sheets if necessary</i>
Comp.Plan Designation:	
Brief description of Land Use Request(s):	
<i>Examples:</i>	
1. <i>Move north property line 5 feet south</i>	See attachment 1
2. <i>Variance of 2 feet from the required 15-foot front yard setback</i>	
Existing Structures: <i>if any</i>	
NW Natural LNG Plant including Control Building, Process Buildings and LNG Tank	
Topography and Vegetation:	
Fairly flat vacant site area with no vegetation	

Application Type (please check all that apply)

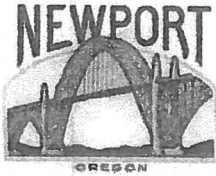
- | | | |
|--|---|--|
| <input type="checkbox"/> Annexation
<input type="checkbox"/> Appeal
<input type="checkbox"/> Comp Plan/Map Amendment
<input type="checkbox"/> Conditional Use Permit
<input type="checkbox"/> PC
<input type="checkbox"/> Staff
<input type="checkbox"/> Design Review
<input type="checkbox"/> Geologic Permit | <input type="checkbox"/> Interpretation
<input type="checkbox"/> Minor Replat
<input type="checkbox"/> Partition
<input type="checkbox"/> Planned Development
<input type="checkbox"/> Property Line Adjustment
<input type="checkbox"/> Shoreland Impact
<input type="checkbox"/> Subdivision
<input type="checkbox"/> Temporary Use Permit | <input type="checkbox"/> UGB Amendment
<input type="checkbox"/> Vacation
<input type="checkbox"/> Variance/Adjustment
<input type="checkbox"/> PC
<input type="checkbox"/> Staff
<input type="checkbox"/> Zone Ord/Map
<input type="checkbox"/> Amendment
<input checked="" type="checkbox"/> Other |
|--|---|--|

FOR OFFICE USE ONLY

File No. Assigned: 3-NCU-22		
Date Received: 9/22/22	Fee Amount: \$907.-	Date Accepted as Complete:
Received By: SM	Receipt No. 6267	Accepted By:

City Hall
169, SW Coast Hwy
Newport, OR 97365
541.574.0629

625-22-000058-PLNG



City of Newport Land Use Application

I understand that I am responsible for addressing the legal criteria relevant to my application and that the burden of proof justifying an approval of my application is with me. I also understand that this responsibility is independent of any opinions expressed in the Community Development and Planning Department Staff Report concerning the applicable criteria.

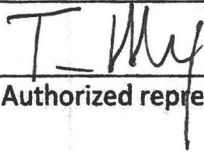
I certify that, to the best of my knowledge, all information provided in this application is accurate.


Applicant Signature(s)

9/22/22
Date

Property Owner Signature(s) (if other than applicant)

Date


Authorized representative Signature(s) (if other than applicant)

9/20/22
Date

Please note application will not be accepted without all applicable signatures.

Please ask staff for a list of application submittal requirements for your specific type of request.

**NW NATURAL
NEWPORT LNG REPLACEMENT
ELECTRICAL EQUIPMENT**

1702 SE Bay Blvd.
Newport, Oregon 97365

Type III Design Review Submittal

Norwest Project Number: 1398

September 19, 2022

**The City of Newport
Community Development Department
169 SW Coast Highway
Newport, OR 97365**



4110 NE 122nd Avenue, Suite 207 Portland, OR 97230
Phone – 503.254.0110 Fax 503.256.1239

NARRATIVE AND CODE CONFORMANCE

EXISTING CONDITIONS

The subject site is located on a property between Yaquina Bay Road and SE Bay Blvd. and bordered by Yaquina Bay in the City of Newport. The site is approximately 21.62 acres in size and carries the Water Dependent base zone.

Site Information	NW Natural Newport LNG Electrical Equipment Replacement
Location	1702 SE Bay Blvd.
Property ID	R500726
Tax Lots	Tax Lot 11-11-09-00-01600-00
Site Size	21.62 Acres
Land Use	
Jurisdiction	City of Newport
Comprehensive Plan	
Base Zone	W-1 Water Dependent
Overlay Zones	
Plan District	
Adjacent Base Zones	W-1 Water Dependent, I-3 Heavy
Existing Use	NW Natural Gas Co Control Building, Process Buildings and LNG Tank
Neighborhood District	
Surrounding Areas	Designation / Use
North	I-3 / Industrial, W-1
East	Yaquina Bay
South	Yaquina Bay
West	Yaquina Bay

PROJECT DESCRIPTION

The proposed development will consist of replacing and upgrading existing electrical equipment. The existing equipment will stay in service while the new equipment is being installed. The new equipment will be placed on pile supported foundations near the existing electrical building to ensure a speedy transfer to the new system from the old. There will also be underground conduit installed and some cable trays. All work on the site will be performed by Union trade contractors.

PROPOSAL SUMMARY

The applicant proposes to install replacement electrical equipment on a “vacant” portion of the LNG Plant facility property. The equipment will be located near the existing electrical building.

Land Use Request

The applicant is requesting approval of a Type III Land Use Review application for a non-conforming use to allow construction of replacement equipment centrally located on the site off of NE Bay Boulevard. This new equipment will be located amongst other existing buildings on the same site.

The proposed design is comparable to the existing non-conforming use in regard to the following:

- The character is of similar development in the surrounding neighborhood and the history of the use is well documented since its occupancy in 1977
- The degree of noise, vibration, dust, odor, fumes, glare, or smoke is consistent with the existing facility use
- There is adequate infrastructure to accommodate the use
- The numbers and kinds of vehicular trips to the site will remain unchanged
- The electrical equipment visual appearance is comparable to other equipment located on the site
- The electrical equipment will maintain the same hours of operation
- The electrical equipment does not have an adverse effect on solar access and privacy

WRITTEN FINDINGS OF FACT NARRATIVE

(a) The Character and history of the use and of development in the surrounding neighborhood.

The property has been in continuous use as an LNG peak-shaving facility since its inception in June of 1977. The addition of the electrical equipment is in keeping with the character of the other existing equipment and buildings on the site and surrounding neighborhood. The existing buildings on the site consist of metal paneling exterior walls and standing seam metal gabled roofs. The existing equipment is located outdoors, and the proposed new equipment will be of similar construction and visual appearance to existing plant facilities.

(b) The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood.

The proposed electrical equipment is not anticipated to create any additional significant vibration, dust, odor, fumes, glare, noise or smoke. The new equipment is comparable in design and function to other existing equipment on site.

(C) Adequacy of infrastructure (sewer, water, and streets) to accommodate the use.

The existing infrastructure to the site from SE Bay Blvd. is adequate and will accommodate use of the new equipment. The existing LNG Plant facility utility infrastructure is adequate, and no additional utilities are anticipated for the proposed development.

(d) The comparative numbers and kinds of vehicular trips to the site.

No additional vehicular trips to the site are anticipated as a result of the proposed process equipment.

(e) The comparative amount and nature of outside storage, loading and parking.

Per the zoning ordinance standard there is no minimum / maximum number of parking spaces required for this development. A loading area is not required.

(f) The comparative visual appearance.

All construction works visually match the existing structures in color and general appearance, and surroundings so as to ensure good general visual appearance of the area.

(g) The comparative hours of operation.

The existing LNG Plant facility is in operation 24/7. The new electrical equipment is anticipated to be in operation on the same schedule.

(h) The comparative effect on solar access and privacy.

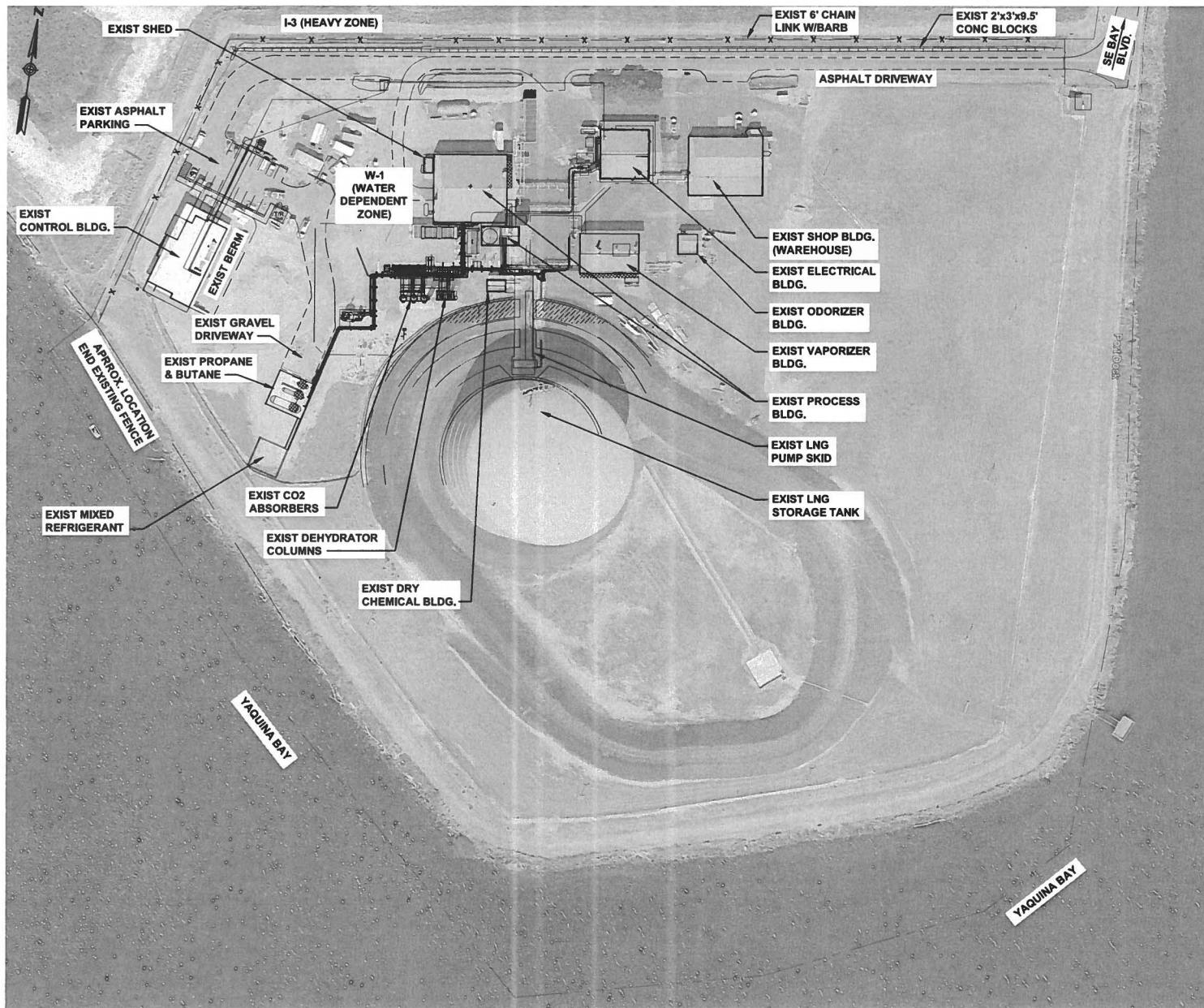
The electrical equipment is set along the north side of the property away a considerable distance from the adjacent neighbors. At this time, no additional staff is anticipated as a result of this new equipment. Therefore, no effect on any neighboring solar access or privacy is anticipated.

(i) Other factors which impact the character or needs of the neighborhood.

The applicant does not see other factors which will impact the character or needs of the neighborhood. The proposed addition is of like kind to the longstanding and existing use of the property. No additional vehicle or pedestrian traffic, visual or environmental impacts are anticipated. The proposed construction will not affect current public use of the surrounding area.

Conclusion

The above narrative and the attached exhibits set forth evidence meeting all applicable standards and requirements set forth in The City of Newport Community Design Guidelines. Approval of this application will allow the Applicant to replace the existing electrical equipment with an updated system to prolong the life of the Newport LNG Plant facility so that it can continue to serve NW Natural customers into the future. The Applicant therefore respectfully requests approval of the subject application.



EXISTING SITE PLAN



REPLACEMENT ELECTRICAL EQUIPMENT
EXISTING SITE PLAN
NEWPORT LNG PLANT, NEWPORT, OREGON

NORWEST ENGINEERING
CONSULTING ENGINEERS
503-254-0110
4110 NE 122ND AVE #207
PORTLAND, OREGON

N.E. #
RV1398

NO.	DESCRIPTION	BY	APPR	DATE
-	-	-	-	-
-	-	-	-	-
A	ISSUED FOR PERMIT	SPT	MJS	09/20/22

REVISIONS

CHKD. MJS	DRWN. SPT	PROJECT NO.
APPR. MJS	DATE 09/20/22	DWG. NO.
SCALE N.T.S.		A SK01

REV.
A

LINCOLNPROD PROPERTY RECORD CARD

Property ID: R500726

Map and Taxlot: 11-11-09-00-01600-00

Tax Year: 2022

PROPERTY SITUS ADDRESS

1702 SE BAY BLVD
Maintenance Area: 5-90

GENERAL PROPERTY INFORMATION

Prop Class: 023
NBH Code: N277
Prop Type Code: IND
Last Appr Date:
Appraiser:
Zoning:
Code Area: 104
Related Accts: P516137, P521770, P523903,
P525354, P530777, P531143,

VALUE HISTORY

Year	Land RMV	Imp RMV	Total RMV	Total AV	LSU Value
------	----------	---------	-----------	----------	-----------

OWNER NAME AND MAILING ADDRESS

NORTHWEST NATURAL GAS CO
AIMONE DAVID W, TREASURY MGR
220 NW SECOND AVE
PORTLAND, OR 97209

Owner Comment:

ASSESSMENT INFORMATION

Land Non-LSU:	Prior MAV:	CPR:
Land LSU:	Prior AV:	EX. MAV:
Improvement:	AV +3%:	LSU:
RMV Total:	Except RMV:	New M50 AV:

LEGAL DESCRIPTION

TWNSHP 11, RNG 11, TRACT PCM1974-203,
ACRES 21.62, MF48-0147

Road Access:

SALES INFORMATION

Date	Type	Sale Price	Adj Sale Price	Validity	Inst. Type	Sale Ref
------	------	------------	----------------	----------	------------	----------

Acres: 21.62 Sqft:

Effective Acres: 21.62

BUILDING PERMITS AND INSPECTIONS

Type	Appraiser	Issue Date	Date Checked	% Comp	Comment
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PARCEL COMMENTS

GenCom- JV#1296 INPUT 8-22-89 ;JV#413 REMAP INPUT 11-26-03.; Land- CENTRALLY ASSESSED

EXEMPTIONS

Code	Exempt RMV
EXC	

Exceptions

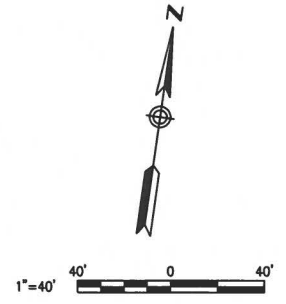
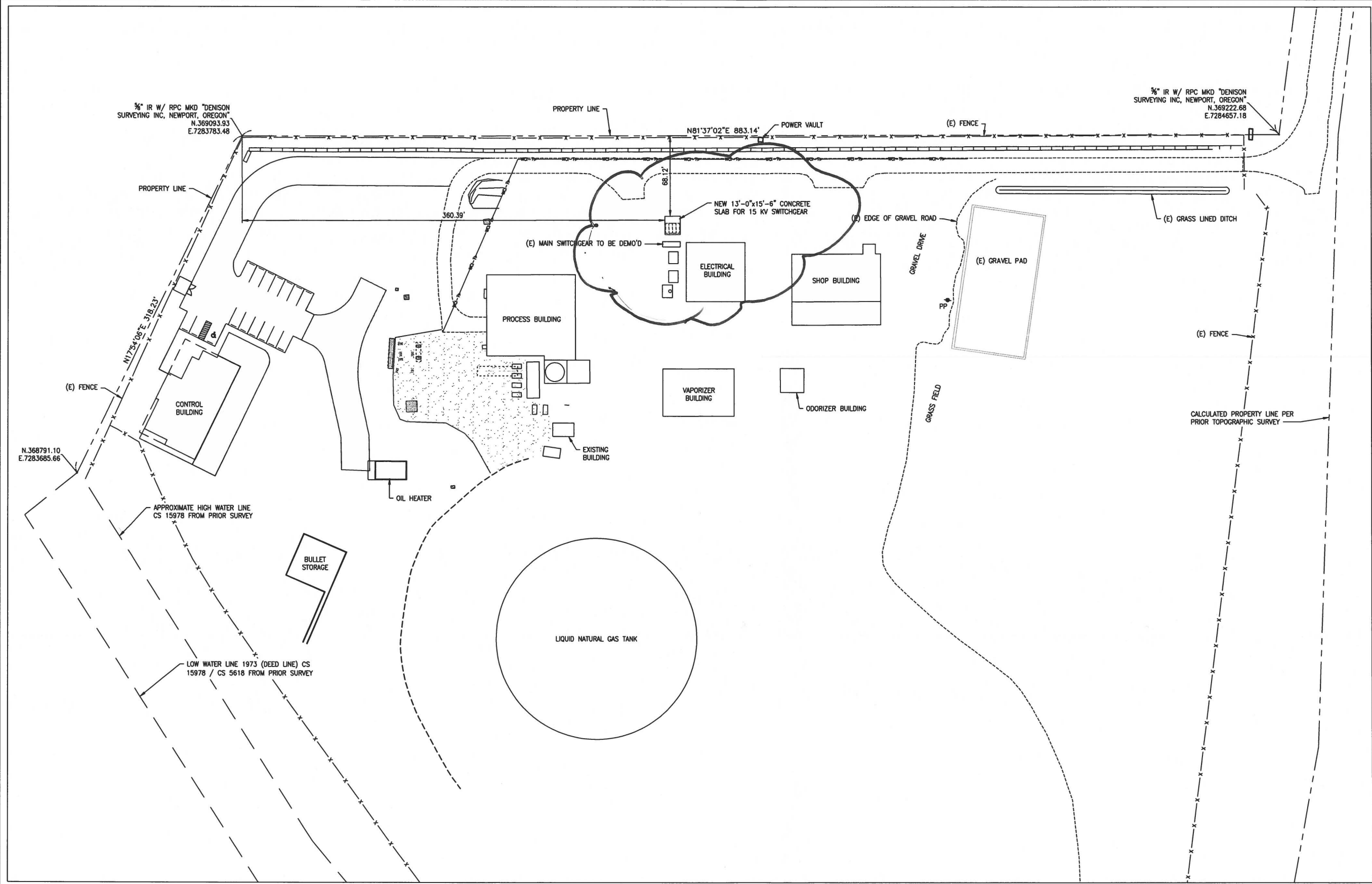
Code	Year	Amount	Method
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MARKET LAND INFORMATION

Type	Table	Method	Acres	Base Value	Adjustment Code - %	NBHD %	Total Adj %	Final Value
EXC: CENTRALLY ASSESSED		F	21.620					
			Total Acres:	21.620	Total Market Land Value:			

LAND SPECIAL USE

Code	SAV	Unt	Pr	MSAV	Unt	Pr	LSU
							Total LSU:



GENERAL NOTES
1. STATE PLANE COORDINATES ARE BASED ON OREGON STATE PLANE, NORTH ZONE, NAD 83, INTERNATIONAL FEET.

NORWEST ENGINEERING, INC.
CONSULTING ENGINEERS
PORTLAND, OREGON 503-254-0110
IRVINE, CALIFORNIA
www.NorwestEngineering.com

N.E. #		RV1398	
0	TRM	MJS	ISSUED FOR PERMIT
REV	DR.	APP.	REVISION
			09/15/22
			DATE

NW Natural
220 NW 2ND AVENUE
PORTLAND, OR 97209

NORTHWEST NATURAL
NEWPORT L.N.G. TERMINAL
LOCATION AND SITE PLAN

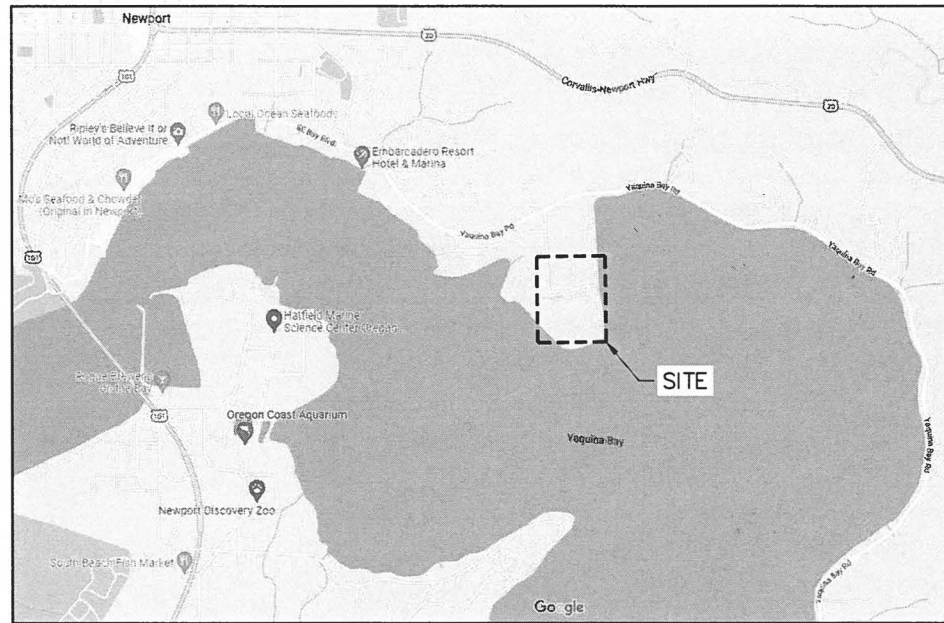
D1398-C001

BAR IS ONE INCH ON ORIGINAL DRAWING.
ADJUST SCALE AS SHOWN ACCORDINGLY.

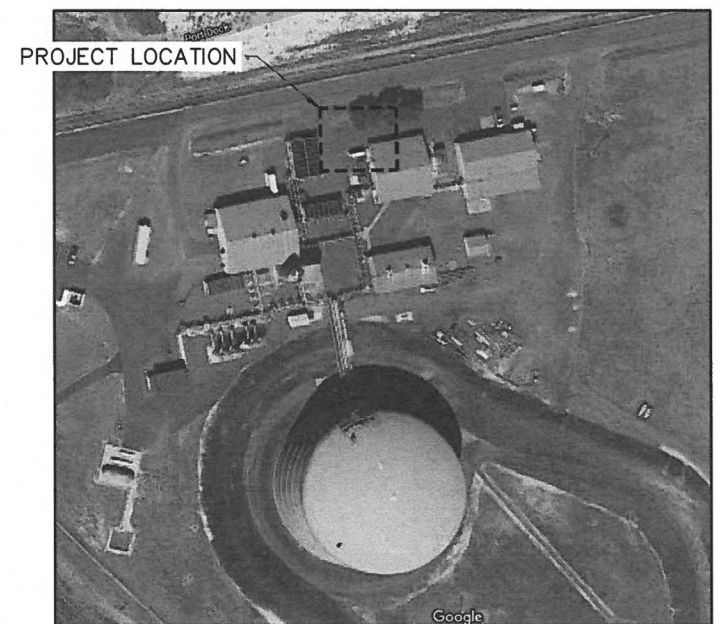
SHEET 1 of 1
SCALE AS SHOWN

DR. TRM
APP. DATE 09/15/22

APP. BY MJS



 **VICINITY MAP**
N.T.S.



 **SITE MAP**
N.T.S.

CIVIL DRAWING LIST	
DRAWING NUMBER	DESCRIPTION
20-1095-C-001	COVER SHEET AND DRAWING LIST
20-1095-C-002	GENERAL NOTES
20-1095-C-003	GENERAL NOTES
20-1095-C-004	SPECIAL INSPECTION AND TESTING
20-1095-C-005	PARTIAL SITE PLAN
20-1095-C-006	PILE FOUNDATION PLAN
20-1095-C-007	SWITCHGEAR ANCHORAGE PLAN
20-1095-C-008	MAT SLAB BLOCK-OUT PLAN
20-1095-C-009	MAT SLAB REINFORCING PLAN
20-1095-C-010	PILE & MAT SLAB FOUNDATION SECTIONS
20-1095-C-011	BOLLARDS & TRENCH SECTIONS

ABBREVIATIONS:
 T/ (E) TOP OF EXISTING
 CL CENTERLINE
 EL ELEVATION
 NW NORTHWEST
 (REF) REFERENCE
 APPROX APPROXIMATE
 N.T.S. NOT TO SCALE

ENGINEER OF RECORD: JHI ENGINEERING
 018 SW BOUNDARY COURT, SUITE 200
 PORTLAND, OR 97239
 CONTACT: 503-223-7799
 PROJECT MANAGER: GAVIN KURTZ
 CIVIL/STRUCTURAL: JESSE PUETZ P.E.

OWNER: NW NATURAL
 250 SW TAYLOR STREET
 PORTLAND, OR 97204-3038
 CONTACT: TIM MURPHY 515-570-4279

SITE NAME & ADDRESS: NORTHWEST NATURAL LNG PLANT
 1702 YAQUINA BAY RD
 NEWPORT, OREGON 97365

SITE COORDINATES: 44.623964, -124.027259

JURISDICTION: CITY OF NEWPORT OREGON
 COMMUNITY DEVELOPMENT DEPARTMENT
 169 SW COAST HWY
 NEWPORT, OREGON 97365
 CONTACT: 541-574-0627

CODE ANALYSIS SUMMARY
 BUILDING CODE: 2019 OREGON STRUCTURAL SPECIALTY CODE
 NEW SLAB AREA: 201.5 FT²



Expires: 12-31-22

ISSUED
FOR CONSTRUCTION

JHI Engineering, Inc.
 Portland • Kalama • Spokane
 503-223-7799
 PROJECT NO: 20-1095

 250 SW TAYLOR ST PORTLAND, OR 97204-3038		NEWPORT, OREGON 15 kV SWITCHGEAR COVER SHEET AND DRAWING LIST	BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALE AS SHOWN ACCORDINGLY.	SHEET 1 OF 11 SCALE AS NOTED DR. JLP DATE xx/xx/xx
0 JHS JLP ISSUED FOR CONSTRUCTION 08/31/22 REV DR. APP. REVISION DATE				

20-1095-C-001

DIVISION 0 – DESIGN PARAMETERS

- 1. DESIGN LOADS
A. RISK CATEGORY: III
B. DESIGN CODE: 2019 OREGON STRUCTURAL SPECIALTY CODE
C. DEAD LOADS VARY BASED ON ACTUAL EQUIPMENT OPERATING WEIGHTS
D. SNOW LOADING
FLAT ROOF SNOW LOAD P_F = 25 PSF MIN
GROUND SNOW LOAD P_G = 2 PSF
SNOW EXPOSURE FACTOR C_E = 1.0
SNOW LOAD IMPORTANCE FACTOR I_S = 1.10
THERMAL FACTOR C_T = 1.2
E. WIND DESIGN
BASIC WIND SPEED VULT= 145 MPH
WIND EXPOSURE D
F. SEISMIC DESIGN
IMPORTANCE FACTOR I_e = 1.25
MCE ACCELERATION SHORT PERIOD S_o = 1.53
MCE ACCELERATION 1 SEC PERIOD S_1 = 0.75
SITE CLASS F
SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT S_DS = 1.22
SEISMIC DESIGN CATEGORY E
MECHANICAL AND ELECTRICAL COMPONENTS
alpha_p = 2.5
R_p = 6.0
Omega_0 = 2.0
2. CONTROL GRIDS AND BENCH MARKS
TOP OF EXISTING ASPHALT ELEVATION = 0.00'

DIVISION 1 – GENERAL REQUIREMENTS

- 1. SCOPE OF WORK
A. COORDINATE ALL WORK IN SUCH A MANNER AS TO MINIMIZE EFFECT ON PROCESS OPERATIONS.
B. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND FOR CHECKING DIMENSIONS. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES AND RESOLVE BEFORE PROCEEDING WITH THE WORK.
C. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE.
D. PROVIDE MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DURING CONSTRUCTION. RETAIN A REGISTERED CIVIL ENGINEER WHO IS PROPERLY QUALIFIED TO DESIGN BRACING, SHORING, ETC. VISITS TO THE SITE BY THE OWNER'S REPRESENTATIVE WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.
E. INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE OWNER'S REPRESENTATIVE.
F. COORDINATE THE SIZE AND LOCATION OF OPENINGS ASSOCIATED WITH, BUT NOT LIMITED TO, ELECTRICAL, MECHANICAL AND PLUMBING TRADES. SUBMIT FINAL SIZING AND LOCATION REQUIREMENTS OF OPENINGS TO THE OWNER'S REPRESENTATIVE FOR REVIEW.
G. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING A SAFE PLACE TO WORK AND MEETING THE REQUIREMENTS OF ALL APPLICABLE JURISDICTIONS. EXECUTE WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY AGAINST DAMAGE BY FALLING DEBRIS AND OTHER HAZARDS IN CONNECTION WITH THIS WORK.
2. REFERENCE STANDARDS
A. AMERICAN CONCRETE INSTITUTE (ACI)
B. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
C. AMERICAN IRON AND STEEL INSTITUTE (AISI)
D. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
E. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
F. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
G. INTERNATIONAL CODE COUNCIL (ICC)
H. METAL BUILDING MANUFACTURERS ASSOCIATION OF AMERICA (MBMA)
I. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
J. STEEL DOOR INSTITUTE (SDI)
K. THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)
L. OREGON OCCUPATIONAL SAFETY & HEALTH (OREGON OSHA)
M. UNDERWRITERS LABORATORY (UL)

- 3. SUBMITTALS
A. SUBMITTAL PROCEDURES: THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER PRIOR TO FABRICATION AND INSTALLATION ALL SHOP DRAWINGS, PRODUCT DATA, ETC. NECESSARY FOR PERFORMANCE OF THE WORK.
B. CONTRACTOR SHALL ALLOW FOR 15 WORKING DAYS, EXCLUDING DELIVERY TIME TO AND FROM THE CONTRACTOR, FOR REVIEW OF SUBMITTALS

C. SCHEDULE OF SUBMITTALS

Table with 3 columns: ITEM (4), SUBMITTAL (1), DEFERRED SUBMITTAL (2). Rows include PILE DRIVING CRITERIA, PILE DRIVING LOGS, PILING, CONCRETE MIX DESIGN, CONCRETE REINFORCING PLACEMENT DRAWINGS, CONCRETE ANCHORAGE & ACCESSORIES, WELDERS CERTIFICATES.

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION OF STRUCTURAL ITEMS. ANY ITEMS THAT DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS SHALL BE CLEARLY INDICATED AND BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE STATE OF OREGON. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE AND ARE SUBJECT TO REVIEW AND ACCEPTANCE OF THE ENGINEER OF RECORD.
2. DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE STATE OF OREGON, AND SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION. CALCULATIONS SHALL BE INCLUDED FOR ALL CONNECTIONS TO THE STRUCTURE, CONSIDERING LOCALIZED EFFECTS ON THE STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. DESIGN SHALL BE BASED ON THE REQUIREMENTS OF THE DESIGN CODE AND AS NOTED UNDER THE DESIGN CRITERIA SECTION OF THESE GENERAL NOTES.
3. CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT, MACHINERY AND ASSOCIATED PIPING WITH THE STRUCTURE. CONNECTIONS TO THE STRUCTURE SHALL CONFORM TO ASCE 7-16 CHAPTER 13 & 15, BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF OREGON AND SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION AND CONSTRUCTION.
4. FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE STATE OF OREGON AND SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

D. RECORD DRAWINGS (AS BUILT DRAWINGS): UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL SUBMIT TO THE OWNER (1) COPY OF THE MARKED UP RECORD DRAWINGS.

- 4. TESTING, INSPECTIONS AND STRUCTURAL OBSERVATIONS
A. TESTING AND INSPECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE 'DESIGN CODE' AND THE STATEMENT OF SPECIAL INSPECTIONS, REFERENCE SPECIAL INSPECTIONS, ON SHEET C-004.
5. FIRE PREVENTION & PROTECTION
A. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL FIRE PROTECTION REGULATIONS AND ORDINANCES. WHERE THESE REGULATIONS DO NOT APPLY, APPLICABLE PORTIONS OF NFPA NO. 241 'STANDARD FOR SAFEGUARDING OF BUILDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS' SHALL BE FOLLOWED.
B. CUTTING AND WELDING SAFETY PROCEDURES SHALL BE IN ACCORDANCE WITH NFPA NO. 51B 'STANDARD FOR FIRE PREVENTION DURING WELDING, CUTTING AND OTHER HOT WORK', AND PLANT PROCEDURES.

DIVISION 2 – SITE WORK

- 1. REFERENCES
A. ANSI A10.6---SAFETY REQUIREMENTS FOR DEMOLITION
2. DEMOLITION
A. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS AND ORDINANCES CONCERNING DEMOLITION OPERATIONS, EROSION CONTROL AND REFUSE REMOVAL. WHERE THESE REGULATIONS DO NOT APPLY APPLICABLE PORTIONS OF ANSI A10.6 'SAFETY REQUIREMENTS FOR DEMOLITION' SHALL BE FOLLOWED.
B. NOTIFY AFFECTED UTILITY COMPANIES BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS.
C. DO NOT CLOSE OR OBSTRUCT EGRESS WIDTH OF EXITS.
D. DO NOT DISABLE OR DISRUPT BUILDING FIRE OR LIFE SAFETY SYSTEMS WITHOUT APPROVAL OF THE OWNER'S REPRESENTATIVE.
E. CONFORM TO APPLICABLE FACILITY PROCEDURES AND APPLICABLE STATE AND LOCAL REGULATIONS WHEN HANDLING HAZARDOUS OR CONTAMINATED MATERIALS.
F. SCHEDULE WORK TO MINIMIZE IMPACT ON PLANT OPERATIONS.
G. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS (OR PARTITIONS) AT REQUIRED LOCATIONS.
H. MARK LOCATION OF UTILITIES.
I. DISCONNECT, REMOVE AND CAP (AND IDENTIFY) DESIGNATED UTILITIES WITHIN DEMOLITION AREAS AS INDICATED ON THE DRAWINGS.
J. EXCEPT WHERE NOTED OTHERWISE, REMOVE DEMOLISHED MATERIALS FROM SITE.
K. REMOVE DEMOLISHED MATERIALS FROM SITE AS WORK PROGRESSES. UPON COMPLETION OF WORK LEAVE AREAS IN CLEAN CONDITION.

- 3. THE MAT SLAB FOUNDATION IS SUPPORTED ON STEEL DRIVEN PILING PER GEOTECHNICAL REPORT.
4. SITE CONDITIONS: THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SUBSURFACE, SITE CONDITIONS AND THE GEOTECHNICAL LETTER REPORT BY CORNFORTH CONSULTANTS DATED AUGUST 12, 2022.
5. MATERIALS.
A. IMPORTED GRANULAR FILL: CLEAN, FREE-DRAINING, WELL GRADED SAND OR SAND AND GRAVEL WITH ALL MATERIAL PASSING THE 1" SIEVE AND NOT MORE THAN 5% PASSING THE NO. 200 SIEVE BY THE WET SIEVE ANALYSIS.
B. SAND FILL: CLEAN, FREE-DRAINING SAND WITH ALL MATERIAL PASSING THE NO. 3 SIEVE AND MAXIMUM OF 10% PASSING THE NO. 200 SIEVE.
C. CONTROLLED LOW STRENGTH MATERIAL (CDF): SELF COMPACTING, SELF LEVELING, CONTROLLED LOW STRENGTH MATERIAL CONSISTING OF A MIXTURE OF WATER, PORTLAND CEMENT, FLY ASH, FINE AGGREGATE, FILLER MATERIALS AND ADMIXTURES WITH A MINIMUM UNCONFINED COMPRESSIVE STRENGTH IF 100 PSI WHEN SAMPLED AND TESTED IN ACCORDANCE WITH ASTM D5971 AND D4832.
6. EXCAVATION
A. VERIFY INTENDED GRADE ELEVATIONS FOR THE WORK.
B. WORK IN THIS CONTRACT INCLUDES EXCAVATION FOR MAT SLAB, PILING AND TRENCHING FOR BURIED DUCTS PER THE DIMENSIONS AND ELEVATIONS INDICATED. ALL EXCAVATIONS TO BE PERFORMED USING A VACUUM EXCAVATOR. "POST HOLE" PRIOR TO EXCAVATION TO LOCATE EXISTING BURIED LINES.
C. IDENTIFY REQUIRED LINES, LEVELS, CONTOURS AND DATUM.
D. LOCATE, IDENTIFY AND PROTECT EXISTING UTILITIES TO REMAIN DURING AND/OR AFTER CONSTRUCTION.
E. PROTECT SITE FEATURES SUCH AS BENCH MARKS, EXISTING STRUCTURES, FENCES, SIDEWALKS, PAVING, CURBS FROM EXCAVATION EQUIPMENT AND VEHICULAR TRAFFIC.
F. UNDERPIN ADJACENT STRUCTURES WHICH MAY BE DAMAGED BY EXCAVATION WORK.
G. DO NOT EXCAVATE CLOSER THAN 1:1 SLOPE BELOW BASE OF FOOTINGS UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, UNDERPINNING AND PROTECTION OF EXISTING CONSTRUCTION.
I. EXCAVATE SUBSOIL REQUIRED TO ACCOMMODATE MAT SLAB ON GRADE, PAVING AND CONSTRUCTION OPERATIONS. REMOVE ABANDONED FOOTINGS, UTILITIES, ETC. WHICH INTERFERE WITH NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED.
J. GRADE TOP PERIMETER OF EXCAVATION TO PREVENT SURFACE WATER FROM DRAINING INTO EXCAVATION.
K. CLEAN ALL FOOTINGS OF LOOSE MATERIAL AND STANDING WATER PRIOR TO PLACING CONCRETE.
L. NOTIFY OWNER'S REPRESENTATIVE OF UNEXPECTED SUBSURFACE CONDITIONS AND DISCONTINUE AFFECTED WORK IN AREA UNTIL NOTIFIED TO RESUME WORK.
M. ALL OVEREXCAVATION SHALL BE BACKFILLED AND COMPACTED WITH GRANULAR FILL, CONTROL DENSITY FILL OR CONCRETE.
7. BACKFILLING
A. NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT OF FILL FOR SUBGRADE AND FILL MATERIAL INSPECTION BY GEOTECHNICAL ENGINEER.
B. PREPARE AREAS TO RECEIVE FILL BY SCARIFYING, PROOF ROLLING, MOISTURE CONDITIONING AND COMPACTING IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
C. CRUSHED ROCK, GRANULAR, SAND AND COMMON FILL: PLACE AND COMPACT MATERIAL IN CONTINUOUS LAYERS NOT EXCEEDING 6" COMPACTED DEPTH.
D. COMPACTION TESTING WILL BE PERFORMED IN ACCORDANCE WITH ASTM D3017 (NUCLEAR METHOD OR ALTERNATE METHOD APPROVED BY GEOTECHNICAL ENGINEER). REFER TO THE STATEMENT OF SPECIAL INSPECTIONS AND GENERAL NOTES DIVISION 1 SECTION 4 FOR INSPECTION REQUIREMENTS.
E. COMPACTION SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS AS SHOWN AS A PERCENTAGE OF THE MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D1557

Table with 2 columns: MAXIMUM DRY DENSITY, LOCATION. Row: 95%, FILL BENEATH MAT FOUNDATION

- 8. PILES
THE FOLLOWING NOTES ARE PROVIDED FOR CONTRACTOR CONVENIENCE AND ARE BASED ON PILE SPECIFICATIONS PROVIDED BY GEOTECHNICAL REPORT.
A. PILES SHALL BE PLACED UNDER CONTINUOUS OBSERVATION BY THE GEOTECHNICAL ENGINEER IN ACCORDANCE WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT AND THE DESIGN CODE. REFER TO THE STATEMENT OF SPECIAL INSPECTIONS AND GENERAL NOTES DIVISION 1 SECTION 4 ON THIS SHEET FOR INSPECTION REQUIREMENTS.
B. ALL STEEL PIPE PILES SHALL BE 24" INCH MINIMUM OUTSIDE DIAMETER, 1" MINIMUM WALL THICKNESS, DRIVEN PILES. PILE MATERIAL TO BE PER ASTM-A252 GRADE 3 (50 KSI).
C. PILE TIP ELEVATIONS AND/OR PILE LENGTHS SHALL BE DETERMINED BY GEOTECHNICAL ENGINEER. FINAL PILE LENGTHS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER BASED ON FIELD CONDITIONS.
D. AFTER PILES HAVE BEEN DRIVEN TO FINAL POSITION, BACKFILL THE ANNULUS BETWEEN THE HYDROVAC/PRE-DRILLED HOLE AND PILE WITH COMPACTED GRANULAR FILL OR CDF. INFILL THE ENTIRE PILE WITH CONCRETE
9. CONTRACTOR SHALL SUBMIT A PILE INSTALLATION PLAN INCLUDING:
A. TYPE OF EQUIPMENT, HAMMER TYPE, ENERGY, AND EFFICIENCY; CUSHION DRIVING CAPACITIES, EQUIPMENT AND PROPOSED METHOD OF PILE INSTALLATION
B. LIST AND SIZE OF PROPOSED EQUIPMENT INCLUDING: PILE DRIVING RIG, AND AUTOMATED MONITORING EQUIPMENT.
C. STEP-BY-STEP PILE INSTALLATION DESCRIPTION.
D. PLAN SHOWING SEQUENCE OF PILING INSTALLATION.
E. CONTINGENCY PLANS FOR EQUIPMENT FAILURES DURING DRIVING.
10. PILE PLACEMENT SHALL BE CONTINUOUSLY MONITORED AND RECORDED. CONTRACTOR SHALL PROVIDE LOGS OF THE PILING INSTALLATION INCLUDING:
F. PILE NUMBER WITH AREA OF PLANT INDICATED
G. PILE LENGTH
H. ELEVATION OF PILE TIP
I. DATE AND TIME OF INSTALLATION
J. NATURE AND LOCATION OF OBSTRUCTIONS, IF ENCOUNTERED
K. ANY REMARKS CONCERNING INSTALLATION OF PILE
11. INSTALL PILES IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS.
12. ENGAGE THE SERVICES OF A LICENCED LAND SURVEYOR TO ESTABLISH THE PROPER LOCATION OF ALL PILES. PILE INSTALLATION TOLERANCE IS 3 INCHES ± IN PLAN. PILE OUT-OF-PLUMB TOLERANCE IS 1/4" PER FOOT. IF PILES DEVIATE FROM THESE TOLERANCES, CONTACT THE OWNER'S REPRESENTATIVE FOR DIRECTION.
13. PILES SHALL BE CUTOFF WITHIN 1/2" OF ELEVATIONS SHOWN ON THE CONSTRUCTION DOCUMENTS.
14. PILES THAT HAVE HEAVED OR SETTLED UPON PLACING OF ADJACENT PILES SHALL BE REPLACED AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER.
15. PILES HAVE BEEN DESIGNED FOR THE FOLLOWING LOADS:

Table with 2 columns: LOAD CASE, AXIAL FORCE (KIPS). Rows: D+L+E OR W (38), NET UPLIFT E OR W (0), NET ALLOWABLE COMPRESSION (D+L+E OR W) (80), NET ALLOWABLE UPLIFT (E OR W) (40), NET ALLOWABLE SHEAR (E OR W) BASED ON MAXIMUM ALLOWABLE DEFLECTION OF 6" (21)

- 16. PILE ACCEPTANCE CRITERIA TO BE SUBMITTED AND APPROVED BY GEOTECHNICAL ENGINEER PRIOR TO COMMENCING WORK.



ISSUED FOR CONSTRUCTION

JHI Engineering, Inc.
Portland • Kalama • Spokane
503-223-7799
PROJECT NO: 20-1095

20-1095-C-002

SCALE AS NOTED
DATE xx/xx/xx
APP. BY ...

NW Natural logo and project information: NEWPORT, OREGON 15 kV SWITCHGEAR GENERAL NOTES

Revision table with columns: REV, DR, APP, DATE. Row: 0 JHI JLP ISSUED FOR CONSTRUCTION 08/31/22

DIVISION 3 - CONCRETE

1. REFERENCES

- A. ACI 117---SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS
- B. ACI 301---STRUCTURAL CONCRETE FOR BUILDINGS
- C. ACI 302 ---GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION
- D. ACI 304---GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE
- E. ACI 305R---GUIDE TO HOT WEATHER CONCRETING
- F. ACI 306R---COLD WEATHER CONCRETING
- G. ACI 308---STANDARD PRACTICE FOR CURING CONCRETE
- H. ACI 309---GUIDE FOR CONSOLIDATION OF CONCRETE
- I. ACI 318---BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
- J. ACI 347---GUIDE TO FORMWORK FOR CONCRETE
- K. ACI SP-66---ACI DETAILING MANUAL
- L. ASTM A36---STANDARD SPECIFICATION FOR CARBON STRUCTURAL STEEL
- M. ASTM A82---STANDARD SPECIFICATION FOR STEEL WIRE, PLAIN, FOR CONCRETE REINFORCEMENT
- N. ASTM A615---STANDARD SPECIFICATION FOR DEFORMED AND PLAIN CARBON STEEL BARS FOR CONCRETE REINFORCEMENT
- O. ASTM A706---STANDARD SPECIFICATION FOR LOW-ALLOY STEEL DEFORMED AND PLAIN BARS FOR CONCRETE REINFORCEMENT
- P. ASTM A780---PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT DIP GALVANIZED COATINGS
- Q. ASTM A1064---STANDARD SPECIFICATION FOR STEEL WIRE AND WELDED WIRE REINFORCEMENT, PLAIN AND DEFORMED, FOR CONCRETE
- R. ASTM C33---STANDARD SPECIFICATION FOR CONCRETE AGGREGATES
- S. ASTM C94---STANDARD SPECIFICATION FOR READY-MIXED CONCRETE
- T. ASTM C150---STANDARD SPECIFICATION FOR PORTLAND CEMENT
- U. ASTM C260---STANDARD SPECIFICATION FOR AIR-ENTRAINING ADMIXTURES FOR CONCRETE
- V. ASTM C309---STANDARD SPECIFICATION FOR LIQUID MEMBRANE-FORMING COMPOUNDS FOR CURING CONCRETE
- W. ASTM C494---STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE
- X. ASTM C618---STANDARD SPECIFICATION FOR COAL FLY ASH AND RAW OR CALCINED NATURAL POZZOLAN FOR USE IN CONCRETE
- Y. ASTM C1017---STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR USE IN PRODUCING FLOWING CONCRETE
- Z. ASTM C1582---STANDARD SPECIFICATION FOR ADMIXTURES TO INHIBIT CHLORIDE INDUCED CORROSION OF REINFORCING STEEL IN CONCRETE
- AA. ASTM C1602---STANDARD SPECIFICATION FOR MIXING WATER USED IN THE PRODUCTION OF HYDRAULIC CEMENT CONCRETE
- BB. ASTM D1751---STANDARD SPECIFICATION FOR PREFORMED EXPANSION JOINT FILLER FOR CONCRETE PAVING AND STRUCTURAL CONSTRUCTION
- CC. CRSI---CONCRETE REINFORCING STEEL INSTITUTE - MANUAL OF STANDARD PRACTICE
- DD. CRSI---PLACING REINFORCING BARS

2. SUBMITTALS

- A. SHOP DRAWINGS: PREPARE IN ACCORDANCE WITH ACI SP-66. INDICATE BAR SIZES, SPACING LOCATIONS AND QUANTITIES OF REINFORCING STEEL AND WIRE FABRIC, BENDING AND CUTTING SCHEDULES AND TYPE AND SPACING OF SUPPORTING DEVICES.
- B. CONCRETE MIX DESIGNS
- C. CONCRETE ACCESSORIES PRODUCT DATA
- D. CONCRETE TEST/INSPECTION REPORTS

3. CONCRETE FORMWORK

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, ENGINEERING AND CONSTRUCTION OF ALL FORMWORK, SHORING AND BRACING NECESSARY TO CONFORM TO DESIGN AND CODE REQUIREMENTS. RESULTANT CONCRETE SHALL CONFORM TO REQUIRED SHAPE, LINE AND DIMENSION. DEFLECTION OF FORMS AND FORMWORK SHALL NOT EXCEED L/360 UNDER FULL LOAD.
- B. PERFORM ALL WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ACI 347.
- C. FORMWORK MATERIALS: AT THE DISCRETION OF THE CONTRACTOR UNLESS OTHERWISE NOTED.
- D. FORMWORK ACCESSORIES
 - 1. FORM TIES, GENERAL: SNAP-OFF TYPE, GALVANIZED METAL, CONE TYPE FREE OF DEFECTS THAT COULD LEAVE HOLES LARGER THAN 1" IN CONCRETE SURFACE.
 - 2. ALL EMBEDDED METAL INCLUDING FORM TIES TO HAVE A MINIMUM OF 1-1/2-INCHES CONCRETE COVER. PATCH ALL VOIDS WITH NON-SHRINK GROUT
 - 3. FORM RELEASE AGENT: COLORLESS MINERAL OIL WHICH WILL NOT STAIN CONCRETE OR ABSORB MOISTURE OR IMPAIR NATURAL BONDING OR COLOR CHARACTERISTICS OF COATING INTENDED FOR USE ON CONCRETE.

- E. VERIFY LINES, LEVELS AND CENTERS BEFORE PROCEEDING WITH FORMWORK. ENSURE THAT DIMENSIONS AGREE WITH DRAWINGS.
- F. HAND TRIM SIDES AND BOTTOM OF EARTH FORMS. REMOVE LOOSE SOIL PRIOR TO PLACING CONCRETE.
- G. APPLY FORM RELEASE AGENT ON FORMWORK IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION. APPLY PRIOR TO PLACEMENT OF REINFORCING STEEL, ANCHORING DEVICES AND EMBEDDED ITEMS. DO NOT APPLY FORM RELEASE AGENT WHERE CONCRETE SURFACES WILL RECEIVE FINISHES WHICH ARE AFFECTED BY THE AGENT.
- H. DO NOT REMOVE FORMS OR BRACING UNTIL CONCRETE HAS GAINED SUFFICIENT STRENGTH TO CARRY ITS OWN WEIGHT AND IMPOSED LOADS.

4. CONCRETE REINFORCING

- A. REINFORCING SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE NOTED:

LOCATION	TYPE
REINFORCING STEEL- GENERAL	ASTM A615 OR A706. 60 KSI

- B. REINFORCEMENT SHALL BE PLACED AND SUPPORTED IN ACCORDANCE WITH CRSI MANUAL OF STANDARD PRACTICE AND CRSI PLACING REINFORCING BARS.
- C. ALL REINFORCING SHALL BE SHOP FABRICATED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- D. CONCRETE REINFORCING ACCESSORIES
 - 1. TIE WIRE: MINIMUM 16 GA ANNEALED TYPE
 - 2. CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS: SIZES AND SHAPES FOR STRENGTH AND SUPPORT OF REINFORCEMENT DURING CONCRETE PLACEMENT CONDITIONS.
- E. PROVIDE REINFORCING CONTINUOUS. DO NOT LAP.
- F. TERMINATE REINFORCING STEEL IN STANDARD HOOKS, UNLESS OTHERWISE SHOWN.
- G. PLACE, SUPPORT AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. DO NOT DEVIATE FROM REQUIRED POSITION.
- H. MAINTAIN CONCRETE COVER AROUND REINFORCING 3" CLEAR PLACED AGAINST EARTH, 1 1/2 INCHES EXPOSED TO WEATHER UNLESS NOTED ON DRAWINGS.
- I. BOND AND GROUT ALL REINFORCEMENT AS INDICATED ON DESIGN DRAWINGS.
- J. FIELD INSPECTION/TESTING IS REQUIRED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS AND THE GENERAL NOTES DIVISION 1 SECTION 4.

5. CAST-IN-PLACE CONCRETE

- A. CONCRETE MATERIALS:
 - CEMENT: ASTM C150 TYPE I OR II MODERATELY SULFATE RESISTANT FINE AND COARSE AGGREGATES: ASTM C33
 - WATER: CLEAN AND NOT DETRIMENTAL TO CONCRETE, COMPLYING WITH ASTM C1602
 - FLYASH CONFORMING TO ASTM C618 TYPE F OR TYPE C MAY BE USED TO REPLACE UP TO 20% OF THE CEMENT CONTENT, PROVIDED THAT MIX STRENGTH IS SUBSTANTIATED BY TEST DATA.
- B. ADMIXTURES:
 - AIR ENTRAINMENT: ASTM C260
 - WATER REDUCING/SET TIME MODIFYING: ASTM C494
 - CORROSION INHIBITING: ASTM C1582
 - FLOWABLE CONCRETE: C1017
- C. CONCRETE MIX:
 - 1. MIX AND DELIVER IN ACCORDANCE WITH ASTM C94 ALTERNATIVE NO. 3.
 - 2. PROVIDE CONCRETE TO THE FOLLOWING CRITERIA:

LOCATION	EXPOSURE CLASS	COMP. STRENGTH F'c	W/C RATIO BY WEIGHT	MAX. AGG. SIZE	AIR ENT.
ALL	F1 MODERATE	4,500 PSI	0.45	3/4"	5%

- D. VERIFY REQUIREMENTS FOR REINFORCEMENT CONCRETE COVER.
- E. VERIFY THAT ANCHORS, SEATS, PLATES, REINFORCEMENT, AND OTHER ITEMS TO BE CAST INTO CONCRETE ARE ACCURATELY PLACED, POSITIONED SECURELY, AND WILL NOT CAUSE HARDSHIP IN PLACING CONCRETE.
- F. NO ALUMINUM CONDUIT OR PIPES SHALL BE EMBEDDED IN CONCRETE.
- G. TRANSPORT AND PLACE CONCRETE IN ACCORDANCE WITH ACI 301, ACI 304 AND ACI 318.
- H. NOTIFY OWNER'S REPRESENTATIVE 3 DAYS PRIOR TO COMMENCEMENT OF PLACING CONCRETE FOR INSPECTIONS AND OBSERVATIONS.
- I. ANCHOR BOLTS FOR ALL MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE SET USING TEMPLATES.
- J. PLACE CONCRETE CONTINUOUSLY BETWEEN PREDETERMINED EXPANSION, CONTROL AND CONSTRUCTION JOINTS.
- K. CONCRETE SHALL BE PLACED IN GENERALLY HORIZONTAL LAYERS NOT MORE THAN 12 INCHES THICK AND CONSOLIDATED IN ACCORDANCE WITH ACI 309.
- L. TOLERANCES: ALL TOLERANCES INCLUDING MEMBER CROSS-SECTION, BOWING, FLATNESS, LATERAL ALIGNMENT, RELATIVE ALIGNMENT, VERTICAL ALIGNMENT, WARPING, REINFORCEMENT AND EMBEDMENT PLACEMENT SHALL BE PER ACI 117 AND ACI 301 UNLESS OTHERWISE NOTED. MAINTAIN TOP OF MAT SLAB SURFACE FLATNESS OF MAXIMUM 1/4" IN 10 FEET. VERIFY WITH EATON SWITCHGEAR SPECIFICATIONS FOR FLATNESS REQUIREMENTS PRIOR TO PLACING CONCRETE.

M. CONCRETE FINISHING

- 1. FINISH CONCRETE FLOOR SURFACES IN ACCORDANCE WITH ACI 301.
- 2. FLOAT FINISH AND PROVIDE LIGHT BROOM FINISH ON TOP OF FOOTING AT WALKING SURFACE. SCREED SMOOTH TOP OF FOOTING UNDER SWITCHGEAR.
- N. CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 308 AND ACI 318. CURING MEMBRANES MEETING ASTM C309 SHALL BE USED. APPLY MEMBRANE AS SOON AS BLEEDING HAS STOPPED AND FREE WATER IS GONE FROM THE SURFACE OF THE CONCRETE. CONTRACTOR SHALL VERIFY COMPATIBILITY OF CURING COMPOUNDS WITH FINISHED FLOORING.
- O. HOT WEATHER AND COLD WEATHER CONCRETING OPERATIONS SHALL BE IN ACCORDANCE WITH ACI 305R AND ACI 306R RESPECTIVELY.
- P. FIELD INSPECTION AND TESTING WILL BE PERFORMED IN ACCORDANCE WITH ACI 301 AND THE DESIGN CODE. REFERENCE STATEMENT OF SPECIAL INSPECTIONS AND GENERAL NOTES DIVISION 1 SECTION 4.
- Q. PATCHING
 - EXCESSIVE HONEYCOMB OR EMBEDDED DEBRIS IN CONCRETE IS NOT ACCEPTABLE. NOTIFY OWNER'S REPRESENTATIVE UPON DISCOVERY. REMOVE FINS AND PATCH IMPERFECTIONS IN ACCORDANCE WITH ACI 301.
- R. DEFECTIVE CONCRETE
 - DEFECTIVE CONCRETE IS CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAILS, DIMENSIONS, AND TOLERANCES OR SPECIFIED REQUIREMENTS. REPAIR OR REPLACEMENT OF DEFECTIVE CONCRETE WILL BE DETERMINED BY THE OWNER'S REPRESENTATIVE.

6. CONCRETE ACCESSORIES

- A. ADHESIVE ANCHORS:
 - SIMPSON STRONG-TIE SET XP EPOXY ADHESIVE ANCHORS (ICC REPORT ESR-2508), ROD MATERIAL, SIZE AND EMBEDMENT DEPTH AS SHOWN ON DRAWINGS.
 - INSTALL ADHESIVE ANCHORS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND REQUIREMENTS OF THE CODE EVALUATION REPORT. FIELD INSPECTION/TESTING IS REQUIRED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS AND THE GENERAL NOTES DIVISION 1 SECTION D.
- B. JOINT SEALANT:
 - SEALANT FOR ALL CONTROL AND ISOLATION JOINTS SHALL BE SIKAFLEX 2C BY SIKA OR APPROVED EQUAL. SEALANT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. SEALANT COLOR: GRAY
- C. BONDING AGENT:
 - CONCRETE BONDING AGENT SHALL BE SIKA ARMATEC 110 EPOCEM BY SIKA OR APPROVED EQUAL. PREPARATION AND APPLICATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURERS WRITTEN RECOMMENDATIONS.
- D. REPAIR MORTAR:
 - CONCRETE REPAIR MORTAR SHALL BE SIKATOP 123 PLUS BY SIKA OR APPROVED EQUAL. PREPARATION AND APPLICATION SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURERS WRITTEN RECOMMENDATIONS.

DIVISION 5 - METALS

1. REFERENCES

- A. AISC 360---SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
- B. AISC 303---CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES
- C. ASTM A36---STANDARD SPECIFICATION FOR CARBON STRUCTURAL STEEL
- D. ASTM A53---STANDARD SPECIFICATION FOR PIPE, STEEL, BLACK AND HOT-DIPPED, ZINC COATED, WELDED AND SEAMLESS
- E. AWS D1.1---STRUCTURAL WELDING CODE - STEEL

2. SUBMITTALS

- A. SHOP DRAWINGS:
 - a. INDICATE PROFILES, SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, ATTACHMENTS, AND FASTENERS.
 - b. CONNECTIONS
 - c. CAMBERS
 - d. INDICATE WELDED CONNECTIONS WITH AWS WELDING SYMBOLS. INDICATE NET WELD LENGTHS.
- B. WELDERS CERTIFICATES: WELDERS TO BE CERTIFIED BY AWS AND THE GOVERNING JURISDICTION.
- C. MILL CERTIFICATES FOR STRUCTURAL STEEL
- D. TEST/INSPECTION REPORTS.

3. STRUCTURAL STEEL

- A. FABRICATE STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AISC 360 AND AISC CODE OF STANDARD PRACTICE.
- B. STRUCTURAL STEEL SHALL BE LOCATED AND INSTALLED SO AS TO CONFORM ACCURATELY WITH THE DRAWINGS WITHIN THE ALLOWABLE TOLERANCES AS DEFINED IN AISC CODE OF STANDARD PRACTICE.
- C. VERIFY THAT FIELD MEASUREMENTS ARE AS INDICATED ON DRAWINGS.
- D. TESTING AND INSPECTION
 - a. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH THE DESIGN CODE, AWS D1.1 AND D1.8.
 - b. REFER TO STATEMENT OF SPECIAL INSPECTIONS AND GENERAL NOTES DIVISION 1 SECTION 4.
- E. MATERIALS:

STRUCTURAL TUBING	
PILES	ASTM A252, GR. 3 (Fy=50)
PIPE BOLLARDS	STAINLESS ASTM 312, GR. TP316
PLATES	
BOLLARD COVER PLATE	STAINLESS ASTM A240, GR. 316
ROUND BAR	
BOLLARD SPACER	STAINLESS ASTM A276, TYPE 316

- F. UNLESS OTHERWISE NOTED, CONTINUOUSLY SEAL JOINED MEMBERS BY CONTINUOUS WELDS. GRIND EXPOSED WELDS SMOOTH.
- G. WELDS AT PILES SHALL BE MADE USING E70XX ELECTRODES AND SHALL BE BY AWS CERTIFIED WELDERS.
- H. WELD MATERIAL AT STAINLESS STEEL BOLLARDS SHALL BE PER AWS A316L ELECTRODES AND SHALL BE BY AWS CERTIFIED WELDERS.
- I. WELDING SHALL CONFORM TO AWS CODES AND SHALL BE PERFORMED IN ACCORDANCE WITH APPROVED WELDING PROCEDURE SPECIFICATIONS.



Expires: 12-31-22

ISSUED FOR CONSTRUCTION

JHI Engineering, Inc.

Portland • Kalama • Spokane

503-223-7799

PROJECT NO: 20-1095

20-1095-C-003

BAR IS ONE INCH ON ORIGINAL DRAWING.

ADJUST SCALE AS SHOWN ACCORDINGLY.

NO. 3 OF 11
SHEET 3 OF 11
SCALE AS NOTED
DATE xx/xx/xx

REV	NO.	DATE	DESCRIPTION
0	JHI	JLP	ISSUED FOR CONSTRUCTION
08/31/22			



NEWPORT, OREGON
15 kV SWITCHGEAR
GENERAL NOTES

STATEMENT OF SPECIAL INSPECTION			
ITEM	SPECIAL INSPECTION	STRUCTURAL OBSERVATION	IBC SECTION
SOILS	x		1705.6
DRIVEN DEEP FOUNDATIONS	x		1705.7
CONCRETE	x		1705.3

ITEMS INDICATED ABOVE WITH AN "X" INDICATE THE REQUIREMENT FOR SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATIONS. SEE INSPECTION NOTES AND

INSPECTIONS NOTES

- A INSPECTION, OBSERVATION AND TESTING REQUIREMENTS HAVE BEEN ESTABLISHED PER 2018 INTERNATIONAL BUILDING CODE
- 1 REFERENCE PROJECT DRAWINGS, STATEMENT OF SPECIAL INSPECTION AND IBC SECTION 110 AND CHAPTER 17 FOR REQUIREMENTS
- 2 ABBREVIATIONS USED:
- IBC INTERNATIONAL BUILDING CODE
 - AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION
 - ACI AMERICAN CONCRETE INSTITUTE
 - ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS
- P PERIODIC SPECIAL INSPECTION - SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED. (BC)
- C CONTINUOUS SPECIAL INSPECTION - SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED. (BC)
- OSV OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS, OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. (ASC360-10)
- PER PERFORM - PERFORM THESE TASKS FOR EACH JOINT OR MEMBER. (ASC360-10)
- DOC DOCUMENT - THE INSPECTOR SHALL PREPARE A REPORT INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENT. THE REPORT NEED NOT CONTAIN DETAILED MEASUREMENTS BUT MUST INCLUDE THE REFERENCE GRIDLINES AND THE FLOOR OR ELEVATION INSPECTED. ANY WORK NOT IN COMPLIANCE SHALL BE CLEARLY INDICATED. (ASC 341-10 J5)
- 3 ALL REFERENCES TO CODES AND STANDARDS ARE INTENDED TO BE THE CURRENT AND MOST RECENT UNDER THE DESIGN CODE
- B INSPECTIONS BY THE BUILDING OFFICIAL (IBC SECTION 110)
- 1 FOOTING AND FOUNDATION INSPECTION
- 2 IN ADDITION TO THE ABOVE REQUIRED INSPECTIONS, THE BUILDING OFFICIAL IS AUTHORIZED TO MAKE OR AUTHORIZE ANY ADDITIONAL INSPECTIONS AS NECESSARY TO ENSURE COMPLIANCE WITH BUILDING CODE OR ANY OTHER LAWS ENFORCED BY THE BUILDING DEPARTMENT
- C SPECIAL INSPECTIONS AND STRUCTURAL TESTING (IBC SECTION 1705)
- 1 THE OWNER, OR OWNER'S REPRESENTATIVE, SHALL EMPLOY AN APPROVED INDEPENDENT AGENCY TO PERFORM ALL SPECIAL INSPECTIONS
- a SPECIAL INSPECTION SHALL BE ACCOMPLISHED BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY APPROVED BY THE BUILDING OFFICIAL
 - b SPECIAL INSPECTOR SHALL HAVE EXPERIENCE WITH PROJECTS OF SIMILAR NATURE AND COMPLEXITY
- 2 THE SPECIAL INSPECTOR SHALL OBSERVE ALL WORK INDICATED ON THIS STATEMENT OF SPECIAL INSPECTIONS FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS
- 3 THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OF RECORD AND OTHER DESIGNATED PERSONNEL
- a ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR FOR POSSIBLE CORRECTIVE ACTIONS, THEN IF STILL NOT IN CONFORMANCE, REPORTED TO THE ENGINEER OF RECORD AND THE BUILDING OFFICIAL
 - b THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS COMPLETED IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. ANY INSPECTIONS OR TESTING WHICH IS NOT IN ACCORDANCE SHALL BE CLEARLY INDICATED
- 4 SPECIAL INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF IBC SECTION 17 AND ANY ADDITIONAL REQUIREMENTS OF THE BUILDING OFFICIAL. OMISSION FROM THE LISTED REQUIREMENTS DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING INSPECTION AND TESTING REQUIRED BY THE IBC, SPECIFICATIONS, OR THE BUILDING OFFICIAL
- E CONTRACTOR RESPONSIBILITY (IBC 1704.4)

GEOTECHNICAL SPECIAL INSPECTIONS AND TESTS				
SYSTEM OR MATERIAL	INSPECTION			REMARKS
	IBC CODE REF	CODE OR STANDARD REFERENCE	FREQUENCY	
SOILS				
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	TABLE 1705.6	PER GEOTECHNICAL ENGINEER	P	BY THE GEOTECHNICAL ENGINEER
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL			P	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS			P	
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL			C	
PRIOR TO PLACEMENT OF COMPACTED FILL OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY			P	
DRIVEN DEEP FOUNDATION ELEMENTS				
VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS	1705.7 TABLE 1705.7	GEOTECHNICAL REPORT	C	BY GEOTECHNICAL ENGINEER
DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED			C	
INSPECT DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT			C	
VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT			C	
FOR STEEL ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AND TESTING IN ACCORDANCE WITH STRUCTURAL STEEL SECTION	IBC 1705.2			BY SPECIAL INSPECTOR

STRUCTURAL SPECIAL INSPECTIONS					
SYSTEM or MATERIAL	INSPECTION			REMARKS	
	IBC CODE REF	CODE OR STANDARD REFERENCE	FREQUENCY		
CONCRETE					
INSPECTION OF REINFORCING STEEL AND PLACEMENT	1705.3	ACI 318: Ch 20, 25.2, 25.3, 26.6.1-26.6.3	P	ANCHOR INSTALLATION SHALL BE PERFORMED ONLY BY ACI/CRSI CERTIFIED ADHESIVE ANCHOR INSTALLERS. INSTALLATION SHALL BE IN CONFORMANCE WITH CONTRACT DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.	
INSPECTION OF ANCHOR RODS AND EMBEDDED ITEMS CAST IN CONCRETE		ACI 318: 17.8.2	P		BOLT GRADE, DIAMETER, STAND-OFF HEIGHT, EMBEDMENT DEPTH AND EDGE DISTANCES
INSPECTION OF ADHESIVE ANCHORS IN HORIZONTAL OR UPWARDLY INCLINED POSITIONS SUPPORTING SUSTAINED TENSION LOADING		ICC EVALUATION REPORT ACI 318: 17.8.2.4	C		
VERIFYING USE OF REQUIRED DESIGN MIX	ACI 318: CHAPTER 19, 26.4.3, 26.4.4	P			
AT TIME FRESH CONCRETE IS SAMPLED; FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE			C	SEE TESTING SECTION FOR ADDITIONAL INFORMATION	
INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES		ACI 318: 26.5	C		
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		ACI 318: 26.5.3-26.5.5	P		

TESTING				
SYSTEM or MATERIAL	TESTING			REMARKS
	IBC CODE REF	CODE OR STANDARD REFERENCE	FREQUENCY	
GEOTECHNICAL				
TESTING OF COMPACTED FILL MATERIALS	1803	ASTM D1557 ASTM D6938	P	ALTERNATES TO STANDARD REFERENCES MAY BE USED IF APPROVED BY GEOTECHNICAL ENGINEER
FILL IN-PLACE DENSITY OR PREPARED SUBGRADE DENSITY	1705.6	ASTM D 1557	P	
MATERIAL VERIFICATION		CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	P	
CONCRETE				
WHEN FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	1705.3 TABLE 1705.3	ASTM C172 ASTM C31 ACI 318: 26.4, 26.12	C	FABRICATE SPECIMENS AT TIME FRESH CONCRETE IS PLACED. SAMPLES SHALL BE TAKEN FOR EACH CLASS OF CONCRETE PLACED EACH DAY, AND NOT LESS THAN ONCE PER DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS. A MINIMUM OF FIVE TOTAL SAMPLES FOR EACH CLASS OF CONCRETE FOR THE PROJECT SHALL BE TAKEN. IF LESS THAN 50 TOTAL CUBIC YARDS OF A CLASS OF CONCRETE IS USED ON THE PROJECT TESTING MAY NOT BE NECESSARY, CONTACT THE ENGINEER OF RECORD FOR ADDITIONAL INFORMATION
CONCRETE STRENGTH	1705.3 TABLE 1705.3 1903	ASTM C39	C	
CONCRETE SLUMP		ASTM C143	C	
CONCRETE AIR CONTENT		ASTM C231	C	
CONCRETE TEMPERATURE		ASTM C1064	C	

REINFORCING STEEL WELDING AT PILE HEAD					
WELDING OF REINFORCING STEEL	VERIFY WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706	1705.3.1 TABLE 1705.3	AWS D1.4 ACI 318: 20, 25.2, 25.3, 26.5.1-26.5.3	P	
	SINGLE-PASS FILLET WELDS		P		
	OTHER WELDS		C		
STRUCTURAL STEEL FOR PILES					
FABRICATION OF STRUCTURAL ELEMENTS		1705.2.1	P	VERIFICATION OF DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES INCLUDING REVIEW FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS	
INSPECTION OF ERECTED STEEL			P	VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS	
STRUCTURAL STEEL - WELDING AT PILE					
PRIOR TO WELDING	WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	1705.2.1	AISC 360 TABLE N5.4-1	PER	
	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE			PER	
	MATERIAL IDENTIFICATION			OBSV	TYPE/GRADE
	WELDER IDENTIFICATION SYSTEM			OBSV	
	FIT UP OF GROOVE WELDS			OBSV	JOINT PREPARATION, DIMENSIONS, CLEANLINESS, TACKING, BACKING TYPE AND FIT
	CONFIGURATION AND FINISH OF ACCESS HOLES			OBSV	
	FIT UP OF FILLET WELDS			OBSV	DIMENSIONS, CLEANLINESS AND TACKING
	USE OF QUALIFIED WELDERS			OBSV	
	CONTROL AND HANDLING OF WELDING CONSUMABLES			OBSV	PACKAGING AND EXPOSURE CONTROL
	NO WELDING OF CRACKED TACK WELDS			OBSV	
DURING WELDING	ENVIRONMENTAL CONDITIONS	1705.2.1	AISC 360 TABLE N5.4-2	OBSV	WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE
	WPS FOLLOWED			OBSV	SETTINGS ON WELD EQUIPMENT, TRAVEL SPEED, SELECTED WELDING MATERIALS, SHIELDING GAS TYPE/FLOW RATE, PREHEAT APPLIED, INTERPASS TEMPERATURE MAINTAINED AND PROPER POSITION
	WELDING TECHNIQUES			OBSV	INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS AND MEETING QUALITY REQUIREMENTS
	WELDS CLEANED			OBSV	
	SIZE, LENGTH AND LOCATION OF WELDS			PER	
	WELDS MEET VISUAL ACCEPTANCE CRITERIA			PER	CRACK PROHIBITION, WELD/BASE-METAL FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT AND POROSITY
	ARC STRIKES			PER	
	k-AREA			PER	F WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3" OF THE WELD
	BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)			PER	
	REPAIR ACTIVITIES			PER	
AFTER WELDING	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER		PER		



Expires: 12-31-22

ISSUED FOR CONSTRUCTION

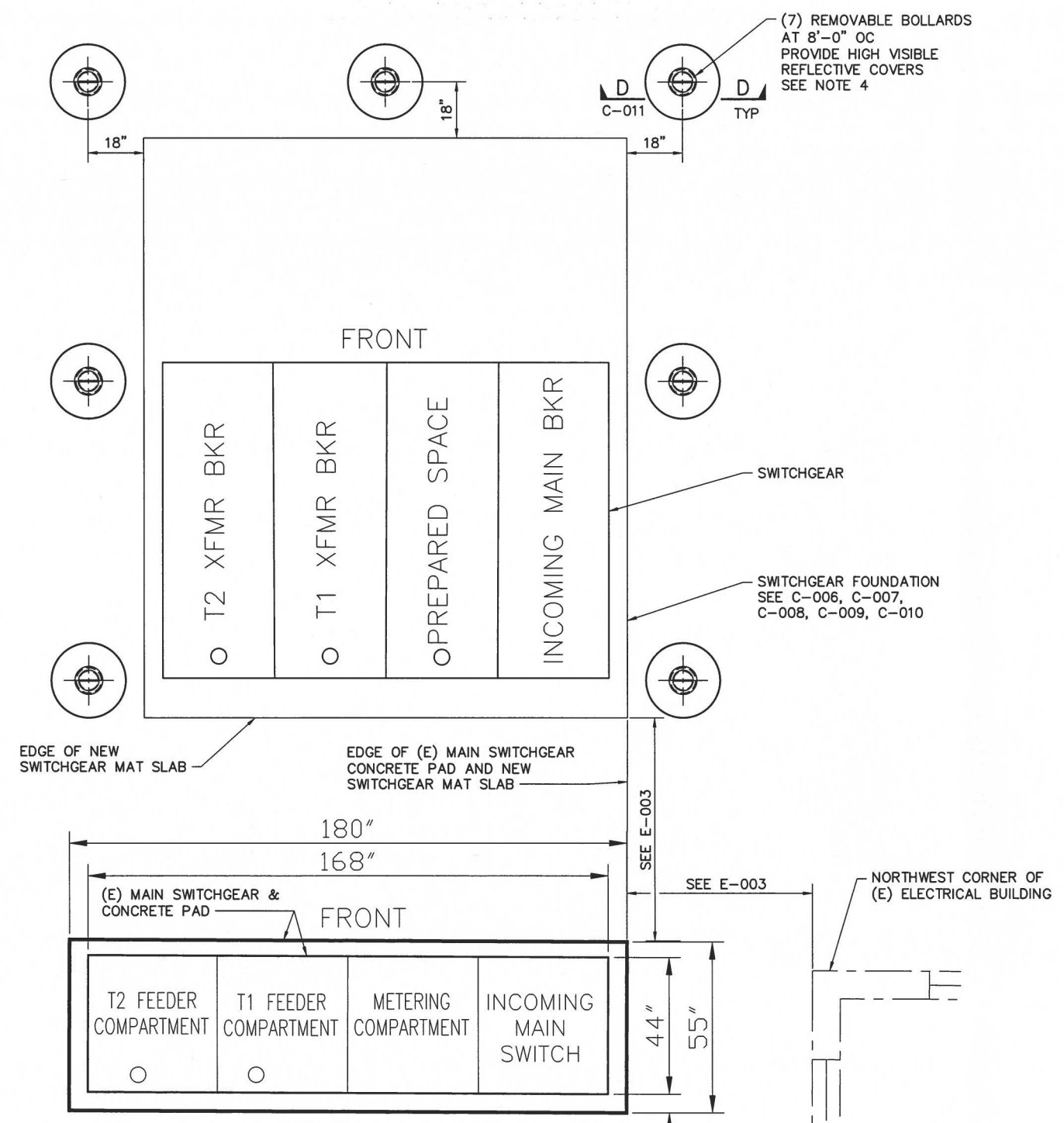
JHI Engineering, Inc.
Portland • Kalama • Spokane
503-223-7799
PROJECT NO: 20-1095

0	JHI	JLP	ISSUED FOR CONSTRUCTION	08/31/22
REV	DR.	APP.	REVISION	DATE

NW Natural
250 SW TAYLOR ST
PORTLAND, OR 97204-3038
NEWPORT, OREGON
15 kV SWITCHGEAR
SPECIAL INSPECTION AND TESTING

BAR IS ONE INCH ON ORIGINAL DRAWING.
ADJUST SCALE AS SHOWN ACCORDINGLY.
SHEET 4 OF 11
SCALE AS NOTED
DATE xx/xx/xx
APP. BY ...

20-1095-C-004



- NOTES:**
1. SEE STRUCTURAL NOTES AND SPECIAL INSPECTION DRAWINGS C-002 THROUGH C-004.
 2. (REF) INDICATES DIMENSIONS OR INFORMATION PROVIDED BY OTHERS OR FIELD MEASURED. CONTRACTOR TO VERIFY DIMENSIONS.
 3. CONTRACTOR TO VERIFY LOCATIONS FOR (E) BURIED UTILITIES PRIOR TO EXCAVATION. RELOCATE (E) UTILITIES AS REQUIRED WHERE THEY CONFLICT WITH NEW WORK.
 4. BOLLARD SLEEVES TO BE PER ULINE AT (WWW.ULINE.COM), TEL 1-800-295-5510. MODEL H-6426, YELLOW, REFLECTIVE. TRIM AS REQUIRED TO FIT BOLLARD HEIGHT.

SWITCHGEAR PARTIAL SITE PLAN
1/2"=1'-0"

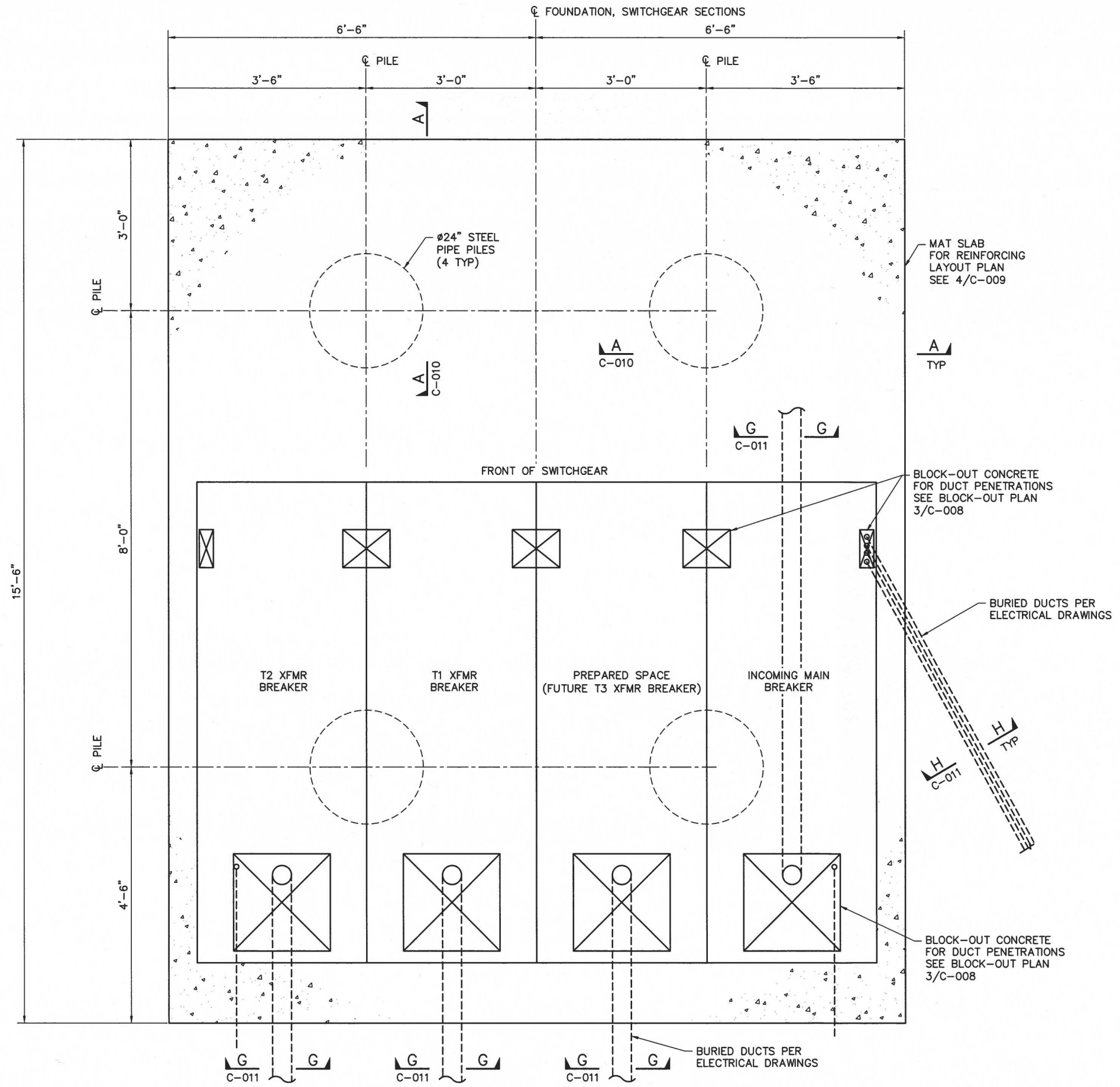


Expires: 12-31-22

ISSUED FOR CONSTRUCTION

JHI Engineering, Inc.
Portland • Kalama • Spokane
503-223-7799
PROJECT NO: 20-1095

<p>250 SW TAYLOR ST PORTLAND, OR 97204-3038</p>		<p>NEWPORT, OREGON 15 kV SWITCHGEAR PARTIAL SITE PLAN</p>	<p>BAR IS ONE INCH ON ORIGINAL DRAWING.</p> <p>ADJUST SCALE AS SHOWN ACCORDINGLY.</p>	<p>20-1095-C-005</p> <p>SHEET 5 OF 11 SCALE AS NOTED</p> <p>DR. JHI APP. DATE xx/xx/xx</p>
<p>0 JHI JLP ISSUED FOR CONSTRUCTION 08/31/22</p> <p>REV. DR. APP. REVISION DATE</p>				



- NOTES:**
1. SEE STRUCTURAL NOTES AND SPECIAL INSPECTION DRAWINGS C-002 THROUGH C-004.
 2. (REF) INDICATES DIMENSIONS OR INFORMATION PROVIDED BY OTHERS OR FIELD MEASURED. CONTRACTOR TO VERIFY DIMENSIONS.
 3. CONTRACTOR TO VERIFY LOCATIONS FOR (E) BURIED UTILITIES PRIOR TO EXCAVATION. RELOCATE (E) UTILITIES AS REQUIRED WHERE THEY CONFLICT WITH NEW WORK.
 4. COORDINATE SWITCHGEAR DIMENSIONS, LOCATION AND INSTALLATION INFORMATION WITH EATON APPROVAL DRAWINGS DATED 02/11/2022: MP511E2-0 SHEET 000 THROUGH SHEET 006.



ISSUED FOR CONSTRUCTION

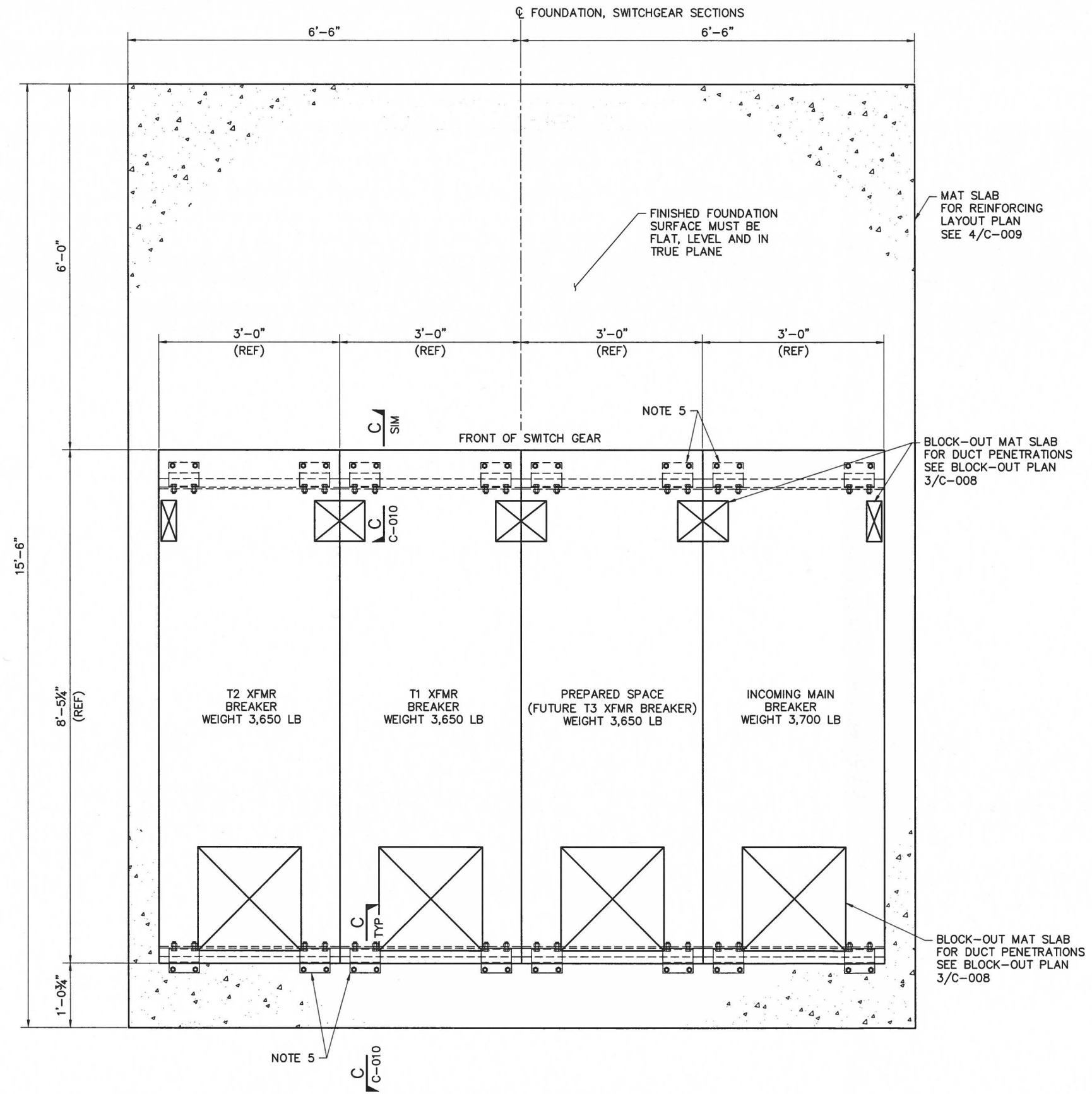
JHI Engineering, Inc.
 Portland • Kalama • Spokane
 503-223-7799
 PROJECT NO: 20-1095

PILE FOUNDATION PLAN (1)
 1"=1'-0" C-005, C-008, C009

REV	DATE	BY	APP.	REVISION
0	08/31/22	JHI	JLP	ISSUED FOR CONSTRUCTION

NW Natural
 290 SW TAYLOR ST
 PORTLAND, OR 97204-3038
 NEWPORT, OREGON
 15 kV SWITCHGEAR
 PILE FOUNDATION PLAN

BAR IS ONE INCH ON ORIGINAL DRAWING.
 ADJUST SCALE AS SHOWN ACCORDINGLY.
20-1095-C-006
 SHEET 6 OF 11 SCALE AS NOTED
 DESIGNED BY: JHI DATE: xx/xx/xx
 APP. BY: ...



- NOTES:**
1. SEE STRUCTURAL NOTES AND SPECIAL INSPECTION DRAWINGS C-002 THROUGH C-004.
 2. (REF) INDICATES DIMENSIONS OR INFORMATION PROVIDED BY OTHERS OR FIELD MEASURED. CONTRACTOR TO VERIFY DIMENSIONS.
 3. CONTRACTOR TO VERIFY LOCATIONS FOR (E) BURIED UTILITIES PRIOR TO EXCAVATION. RELOCATE (E) UTILITIES AS REQUIRED WHERE THEY CONFLICT WITH NEW WORK.
 4. COORDINATE SWITCHGEAR DIMENSIONS, LOCATION AND INSTALLATION INFORMATION WITH EATON APPROVAL DRAWINGS DATED 02/11/2022: MP511E2-0 SHEET 000 THROUGH SHEET 006.
 5. ANCHOR SWITCH GEAR SECTIONS TO FOUNDATION WITH VENDOR SUPPLIED MOUNTING CLIPS. (4) MOUNTING CLIPS PER SECTION LOCATED AT EACH CORNER.



Expires: 12-31-22

ISSUED FOR CONSTRUCTION

JHI Engineering, Inc.
 Portland • Kalama • Spokane
 503-223-7799
 PROJECT NO: 20-1095

SWITCHGEAR ANCHORAGE PLAN (2)
 1"=1'-0" C-008, C-009

REV	BY	APP.	DESCRIPTION	DATE
0	JHI	JLP	ISSUED FOR CONSTRUCTION	08/31/22

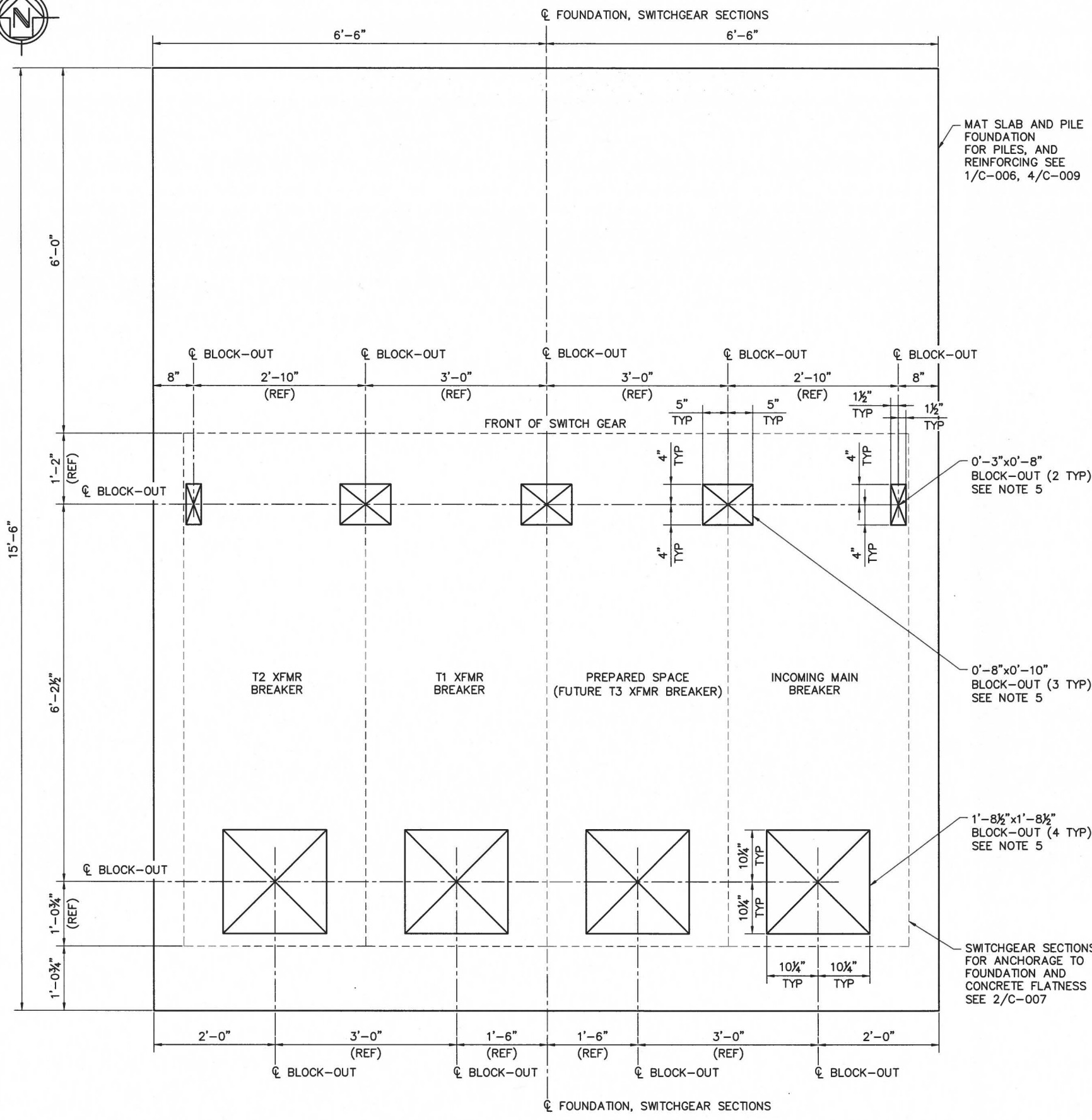


NEWPORT, OREGON
 15 kV SWITCHGEAR
 SWITCHGEAR ANCHORAGE PLAN

BAR IS ONE INCH ON ORIGINAL DRAWING.
 ADJUST SCALE AS SHOWN ACCORDINGLY.

20-1095-C-007

7 OF 11 SHEETS AS NOTED
 DATE xx/xx/xx



MAT SLAB AND PILE FOUNDATION FOR PILES, AND REINFORCING SEE 1/C-006, 4/C-009

- NOTES:**
1. SEE STRUCTURAL NOTES AND SPECIAL INSPECTION DRAWINGS C-002 THROUGH C-004.
 2. (REF) INDICATES DIMENSIONS OR INFORMATION PROVIDED BY OTHERS OR FIELD MEASURED. CONTRACTOR TO VERIFY DIMENSIONS.
 3. CONTRACTOR TO VERIFY LOCATIONS FOR (E) BURIED UTILITIES PRIOR TO EXCAVATION. RELOCATE (E) UTILITIES AS REQUIRED WHERE THEY CONFLICT WITH NEW WORK.
 4. COORDINATE SWITCHGEAR DIMENSIONS, LOCATION AND INSTALLATION INFORMATION WITH EATON APPROVAL DRAWINGS DATED 02/11/2022: MP511E2-0 SHEET 000 THROUGH SHEET 006.
 5. AFTER DUCTS ARE IN PLACE, INFILL BLOCK-OUT VOIDS PER NW NATURAL DIRECTION.

MAT SLAB BLOCK-OUT PLAN 3
1"=1'-0" C-006, C-007, C-009



Expires: 12-31-22

ISSUED FOR CONSTRUCTION

JHI Engineering, Inc.
Portland • Kalama • Spokane
503-223-7799
PROJECT NO: 20-1095

REV	DR.	APP.	REVISION	DATE
0	JHI	JLP	ISSUED FOR CONSTRUCTION	08/31/22

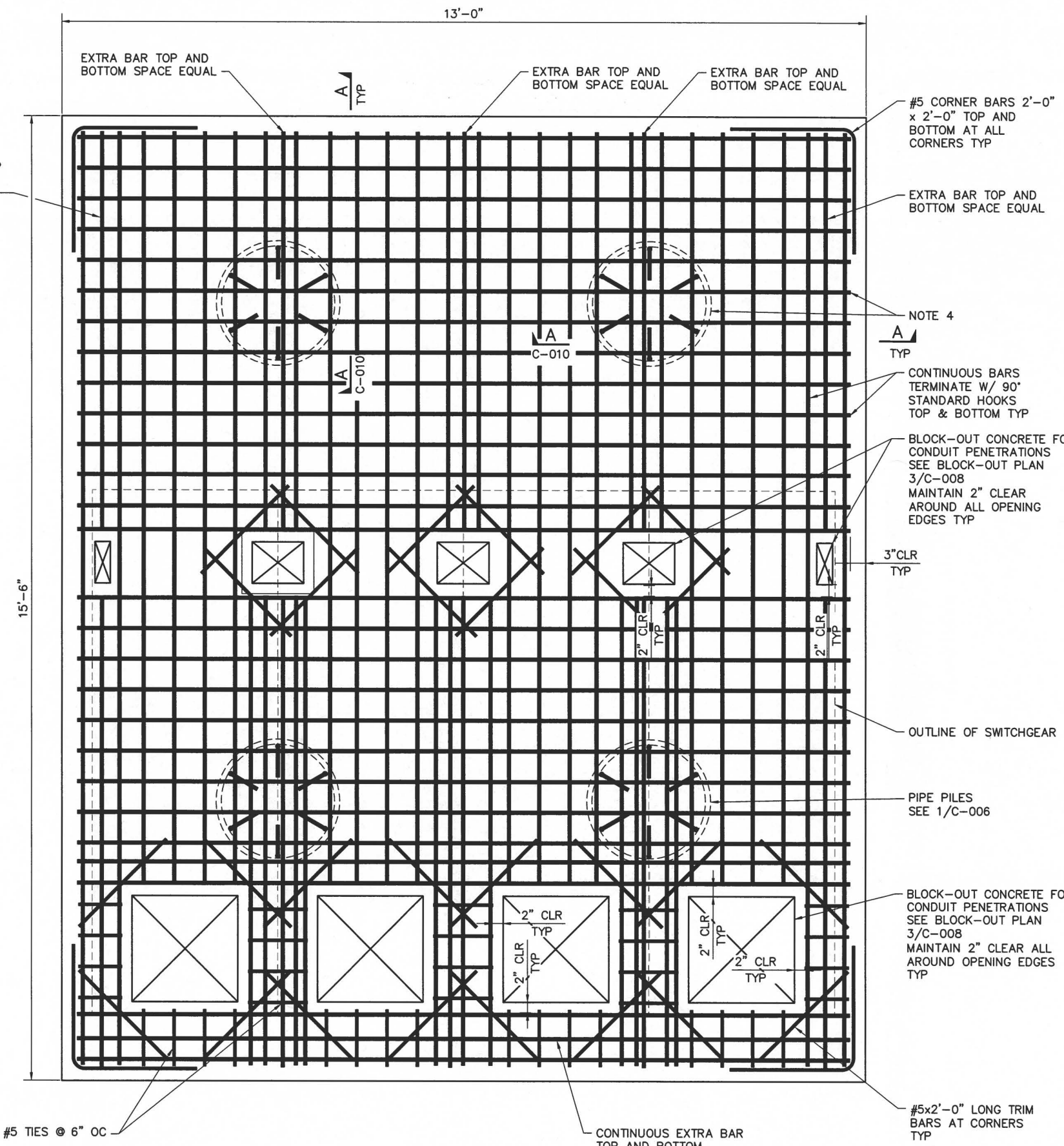
NW Natural
250 SW TAYLOR ST
PORTLAND, OR 97204-3038

NEWPORT, OREGON
15 kV SWITCHGEAR
MAT SLAB BLOCK-OUT PLAN

THIS IS ONE COPY OF ORIGINAL DRAWING.
ADJUST SCALE AS SHOWN ACCORDINGLY.

20-1095-C-008

SHEET 8 OF 11
SCALE AS NOTED
DATE xx/xx/xx



- NOTES:**
1. SEE STRUCTURAL NOTES AND SPECIAL INSPECTION DRAWINGS C-002 THROUGH C-004.
 2. (REF) INDICATES DIMENSIONS OR INFORMATION PROVIDED BY OTHERS OR FIELD MEASURED. CONTRACTOR TO VERIFY DIMENSIONS.
 3. CONTRACTOR TO VERIFY LOCATIONS FOR (E) BURIED UTILITIES PRIOR TO EXCAVATION. RELOCATE (E) UTILITIES AS REQUIRED WHERE THEY CONFLICT WITH NEW WORK.
 4. ELECTRICALLY GROUND FOUNDATION REINFORCING AND PILES AS REQUIRED PER ELECTRICAL DRAWING E-002.



Expires: 12-31-22

ISSUED FOR CONSTRUCTION

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 503-223-7799
 PROJECT NO: 20-1095

MAT SLAB REINFORCING PLAN 4
 1"=1'-0" C-006, C-007, C-008, C-010

#5 TIES @ 6" OC

CONTINUOUS EXTRA BAR TOP AND BOTTOM

#5x2'-0" LONG TRIM BARS AT CORNERS TYP

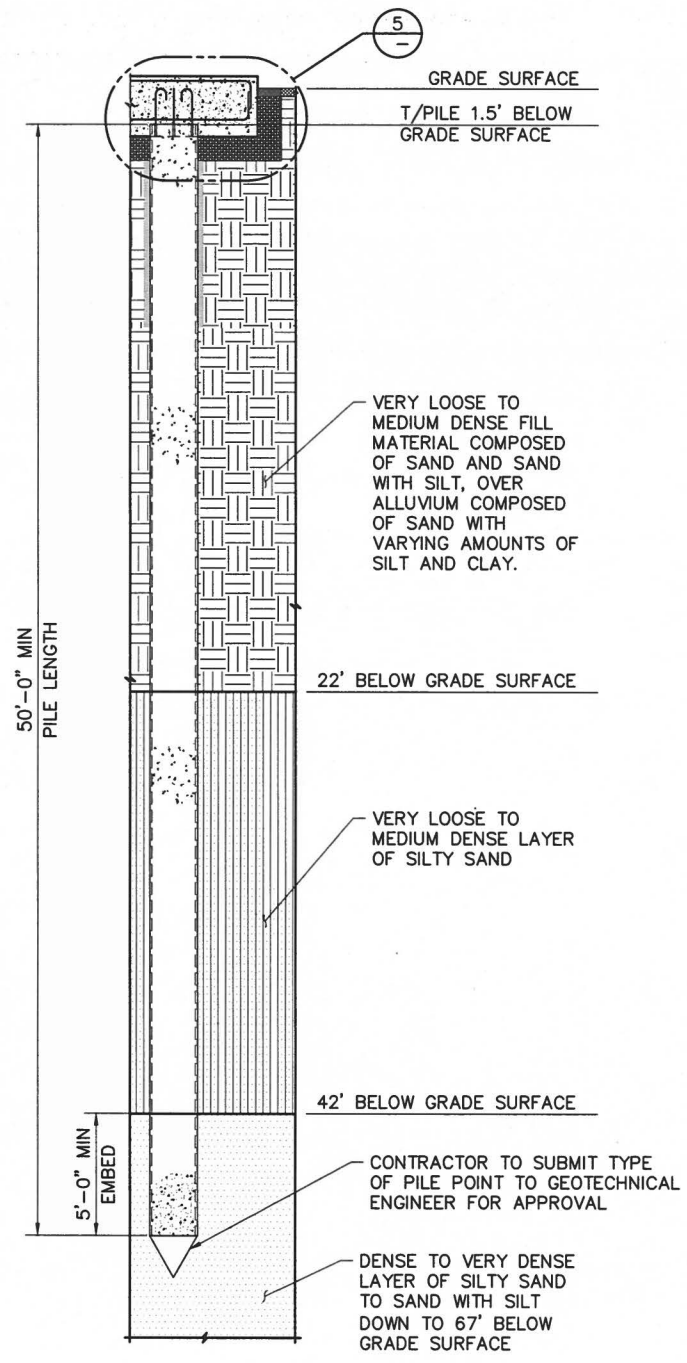
REV	BY	APP.	REVISION	DATE
0	JHI	JLP	ISSUED FOR CONSTRUCTION	08/31/22

NW Natural
 250 SW TAYLOR ST
 PORTLAND, OR 97204-3038

NEWPORT, OREGON
 15 kV SWITCHGEAR
 MAT SLAB REINFORCING PLAN

BAR IS ONE INCH ON ORIGINAL DRAWING.
 ADJUST SCALE AS SHOWN ACCORDINGLY.

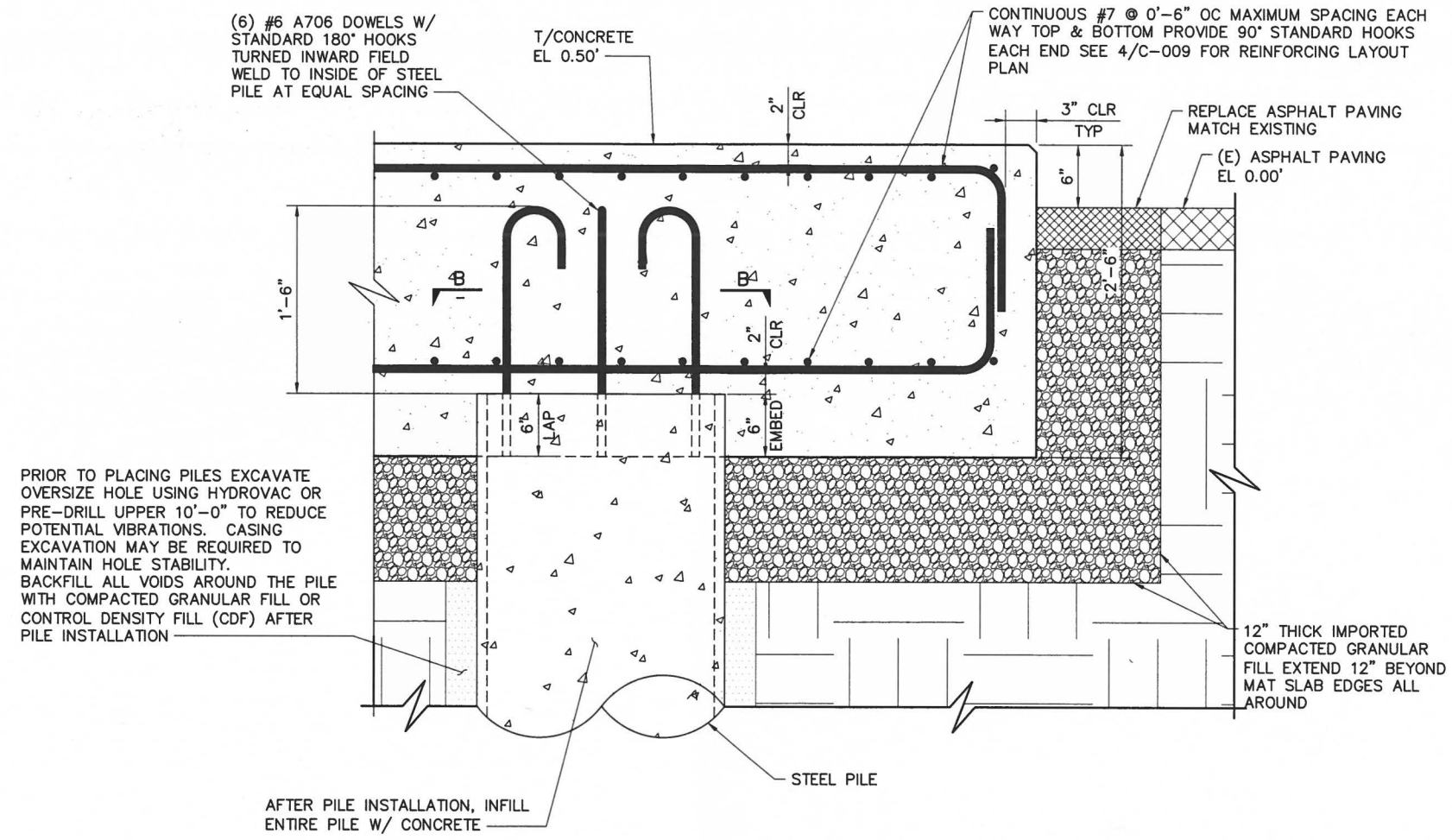
20-1095-C-009
 SHEET 9 OF 11
 DATE xx/xx/xx



GENERALIZED SUBSURFACE PROFILE

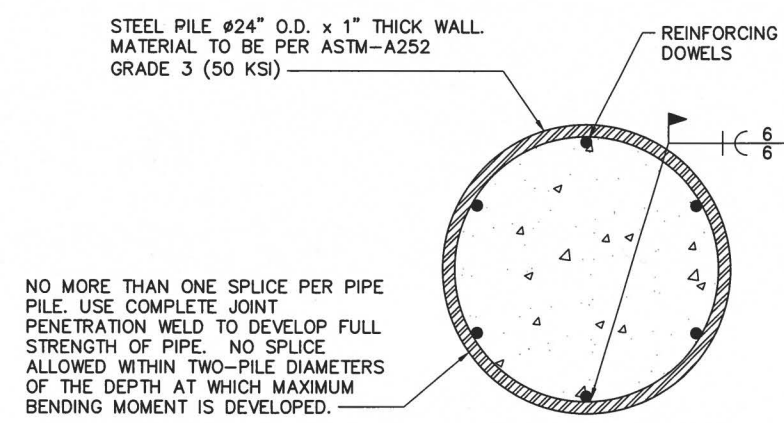
SUBSURFACE CONDITION SHOWN IS APPROXIMATE AND FOR REFERENCE ONLY. SEE GEOTECHNICAL LETTER REPORT BY CORNFORTH CONSULTANTS DATED: AUGUST 12, 2022 FOR COMPLETE SUBSURFACE CONDITION

SECTION A
1/4"=1'-0" C-006, C-009

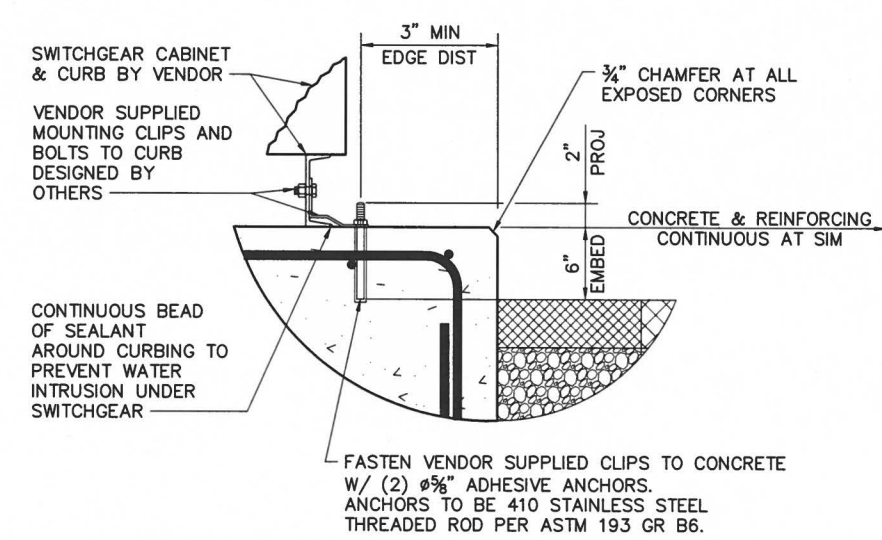


PRIOR TO PLACING PILES EXCAVATE OVERSIZE HOLE USING HYDROVAC OR PRE-DRILL UPPER 10'-0" TO REDUCE POTENTIAL VIBRATIONS. CASING EXCAVATION MAY BE REQUIRED TO MAINTAIN HOLE STABILITY. BACKFILL ALL VOIDS AROUND THE PILE WITH COMPACTED GRANULAR FILL OR CONTROL DENSITY FILL (CDF) AFTER PILE INSTALLATION

DETAIL 5
1 1/2"=1'-0"



SECTION B
1 1/2"=1'-0"



SECTION C
1 1/2"=1'-0" C-007

- NOTES:**
- SEE STRUCTURAL NOTES AND SPECIAL INSPECTION DRAWINGS C-002 THROUGH C-004.
 - (REF) INDICATES DIMENSIONS OR INFORMATION PROVIDED BY OTHERS OR FIELD MEASURED. CONTRACTOR TO VERIFY DIMENSIONS.
 - WELDS SHALL BE MADE USING E70 FILLER METAL. ALL WELDS TO BE BY AWS CERTIFIED WELDERS. WELDING SHALL CONFORM TO AWS CODES AND SHALL BE PERFORMED IN ACCORDANCE WITH APPROVED WELDING PROCEDURE SPECIFICATIONS.



Expires: 12-31-22

ISSUED FOR CONSTRUCTION

JHI Engineering, Inc.
Portland • Kalama • Spokane
503-223-7799
PROJECT NO: 20-1095

REV	BY	CHK	APP.	ISSUED FOR CONSTRUCTION	REVISION	DATE
0	JLP	GTK				08/31/22

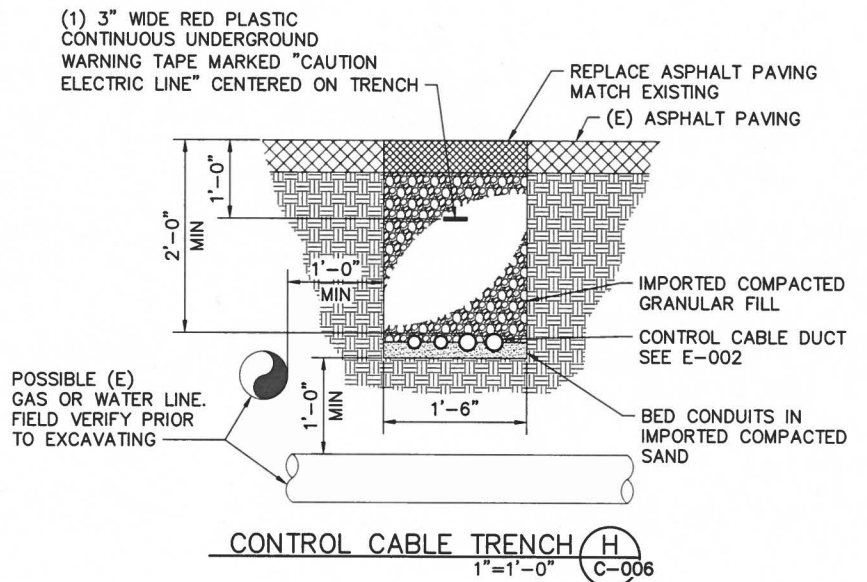
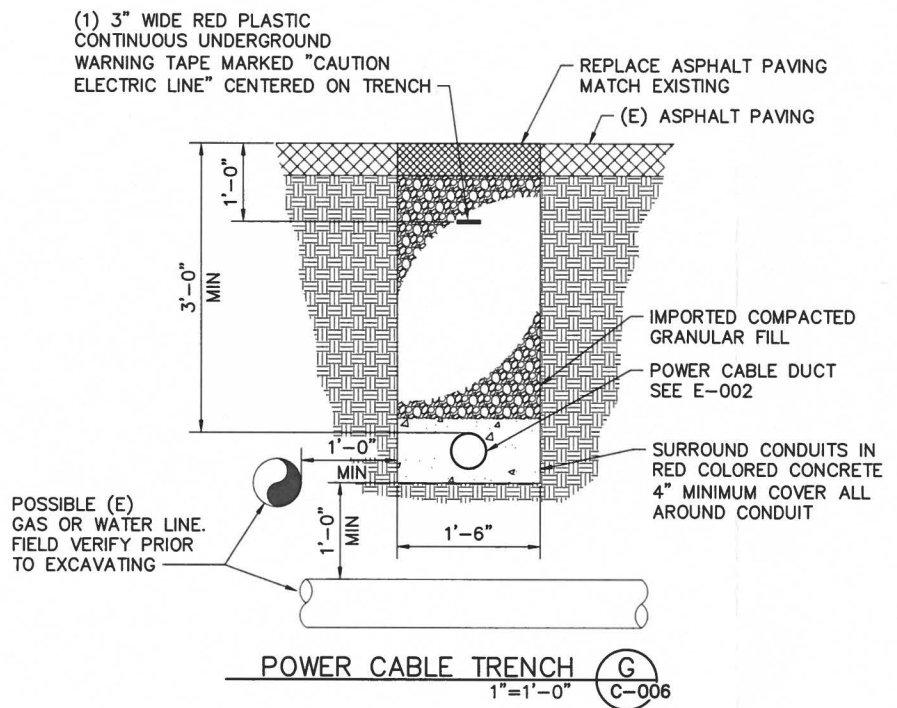
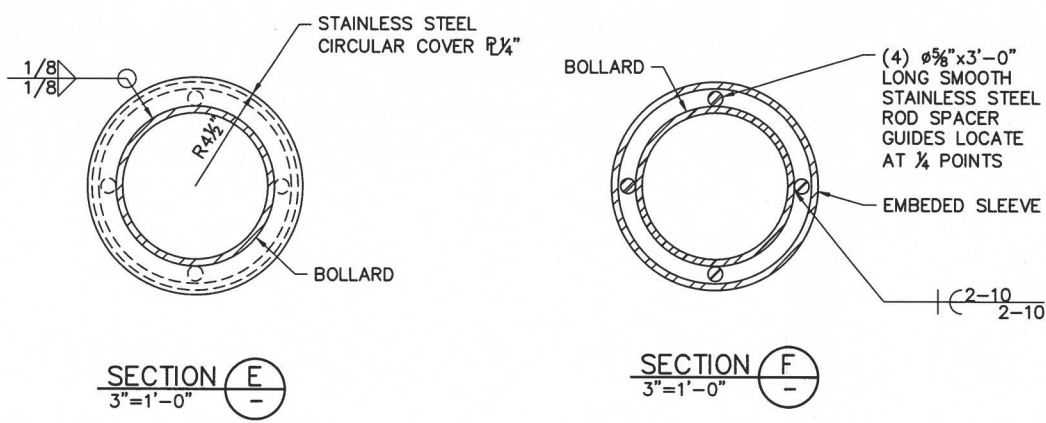
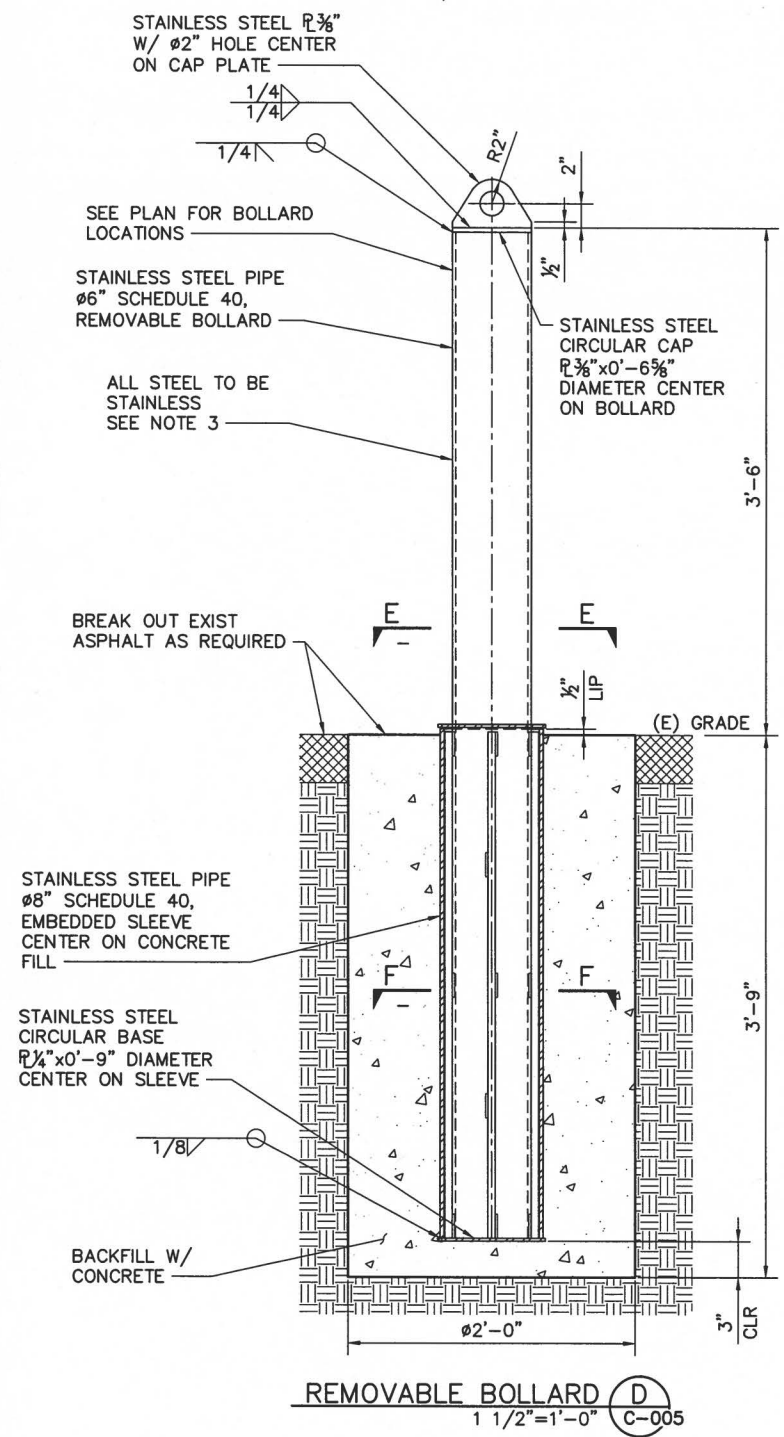
NW Natural
250 SW TAYLOR ST
PORTLAND, OR 97204-3038
NEWPORT, OREGON
15 kV SWITCHGEAR
PILE & MAT SLAB FOUNDATION SECTIONS

BAR IS ONE INCH ON ORIGINAL DRAWING.
ADJUST SCALE AS SHOWN ACCORDINGLY.

20-1095-C-010
10 OF 11
SCALE AS NOTED
DATE xx/xx/xx

NOTES:

- SEE STRUCTURAL NOTES AND SPECIAL INSPECTION DRAWINGS C-002 THROUGH C-004.
- (REF) INDICATES DIMENSIONS OR INFORMATION PROVIDED BY OTHERS OR FIELD MEASURED. CONTRACTOR TO VERIFY DIMENSIONS.
- STAINLESS STEEL PIPE TO BE PER ASTM 312, GR. TP316.
STAINLESS STEEL R TO BE PER ASTM A240, GR. 316.
STAINLESS STEEL ROUND ROD TO BE PER ASTM A276 TYPE 316. WELD FILLER MATERIAL TO BE PER AWS A316L. WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS.



Expires: 12-31-22

ISSUED FOR CONSTRUCTION

JHI Engineering, Inc.
Portland • Kalama • Spokane
503-223-7799
PROJECT NO: 20-1095

20-1095-C-011

REV	DATE	APP.	REVISION
0	06/31/22	JHI	ISSUED FOR CONSTRUCTION

NW Natural
250 SW TAYLOR ST
PORTLAND, OR 97204-3038
NEWPORT, OREGON
15 KV SWITCHGEAR
BOLLARDS & TRENCH SECTIONS

BAR IS ONE INCH ON ORIGINAL DRAWING.
ADJUST SCALE AS SHOWN ACCORDINGLY.

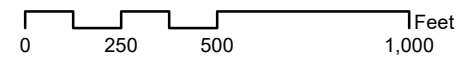
11 OF 11 SHEETS
DATE xx/xx/xx
APP. BY ...



NEWPORT
 City of Newport
 Community Development Department
 169 SW Coast Highway Phone: 1.541.574.0629
 Newport, OR 97365 Fax: 1.541.574.0644

1702 SE Bay Blvd - Zoning Map

Image Taken in 2021
 4-inch, 4-band Digital Orthophotos



This map is for informational use only and has not been prepared for, nor is it suitable for legal, engineering, or surveying purposes. It includes data from multiple sources. The City of Newport assumes no responsibility for its compilation or use and users of this information are cautioned to verify all information with the City of Newport Community Development Department.

**CITY OF NEWPORT
PUBLIC NOTICE¹**

NOTICE IS HEREBY GIVEN that the Planning Commission of the City of Newport, Oregon, will hold a public hearing to consider the following Nonconforming Use Permit request:

File No. 3-NCU-22:

Applicant: NW Natural, 1702 SE Bay Blvd, Newport, OR 97365, property owner (Mike Smith, Norwest Engineering, 4110 NE 122nd Ave, Suite 207, Portland, OR 97230, authorized representative).

Request: Approval of a request per Section 14.32/“Nonconforming Uses, Lots, and Structures” of the Newport Municipal Code, to build a foundation for replacement of Regen equipment at the NW Natural LNG Plant.

Location: Lincoln County Assessor’s Map 11-11-09-00; Tax Lot 01600 (1702 SE Bay Blvd).

Applicable Criteria: Pursuant to NMC Section 14.32.060(A), the approval authority shall determine that the structure was legally established at the time the Zoning Ordinance was enacted or amended, and that the use has not been discontinued for a continuous 12-month period. The approval authority must also verify the nature and extent of the nonconforming use, considering (1) a description of the use; (2) The types and quantities of goods or services provided and the activities conducted; (3) The scope of the use (volume, intensity, frequency, etc.) including fluctuations in the level of activity; (4) The number, location and size of physical improvements associated with the use; (5) The amount of land devoted to the use; and (6) Other factors the approval authority may determine appropriate to identify the nature and extent of a particular use (NMC Section 14.32.060(B)). Pursuant to NMC Section 14.32.070, after verification of the status of a nonconforming use pursuant to subsection 14.32.030, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood when considering the following factors: (A) (1) The character and history of the use and of development in the surrounding area; (2) The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood; (3) Adequacy of infrastructure, including sewer, water, and streets, to accommodate the use; (4) The comparative numbers and kinds of vehicular trips to the site; (5) The comparative amount and nature of outside storage, loading, and parking; (6) The comparative visual appearance; (7) The comparative hours of operation; (8) The comparative effect on solar access and privacy; (9) Other factors which impact the character or needs of the neighborhood. (B) The approval authority must consider the purpose of the current zoning provisions that cannot be satisfied when determining whether or not the alteration, expansion, or replacement of a nonconforming use or structure will have a greater adverse impact on the neighborhood. (C) To the extent there is a rational nexus, and the City can establish that needed improvements are roughly proportional to proposed development, an alteration, expansion, or replacement of a nonconforming use or structure shall be brought into compliance with provisions of the Zoning Ordinance that relate to: (1) Surfacing of parking areas and landscaping; (2) Exterior design of structures; and (3) Outdoor displays, storage, and signage.

Testimony: Testimony and evidence must be directed toward the criteria described above or other criteria in the Comprehensive Plan and its implementing ordinances that the person believes to apply to the decision. Failure to raise an issue with sufficient specificity to afford the city and the parties an opportunity to respond to that issue precludes an appeal (including to the Land Use Board of Appeals) based on that issue. Testimony may be submitted in written or oral form. Oral testimony and written testimony will be taken during the course of the public hearing. Letters sent to the Newport Community Development (Planning) Department (address below under “Reports/Application Material”) must be received by 3:00 p.m. the day of the hearing to be included as part of the hearing or must be personally presented during testimony at the public hearing. The hearing will include a report by staff, testimony (both oral and written) from the applicant and those in favor or opposed to the application, rebuttal by the applicant, and questions and deliberation by the Planning Commission. Pursuant to ORS 197.763 (6), any person prior to the conclusion of the initial public hearing may request a continuance of the public hearing or that the record be left open for at least seven days to present additional evidence, arguments, or testimony regarding the application.

Reports/Application Material: The staff report may be reviewed or a copy purchased for reasonable cost at the Newport

¹Notice of this action is being sent to the following: (1) Affected property owners within 200 feet of the subject property (according to Lincoln County tax records); (2) affected public/private utilities/agencies within Lincoln County; and (3) affected city departments.

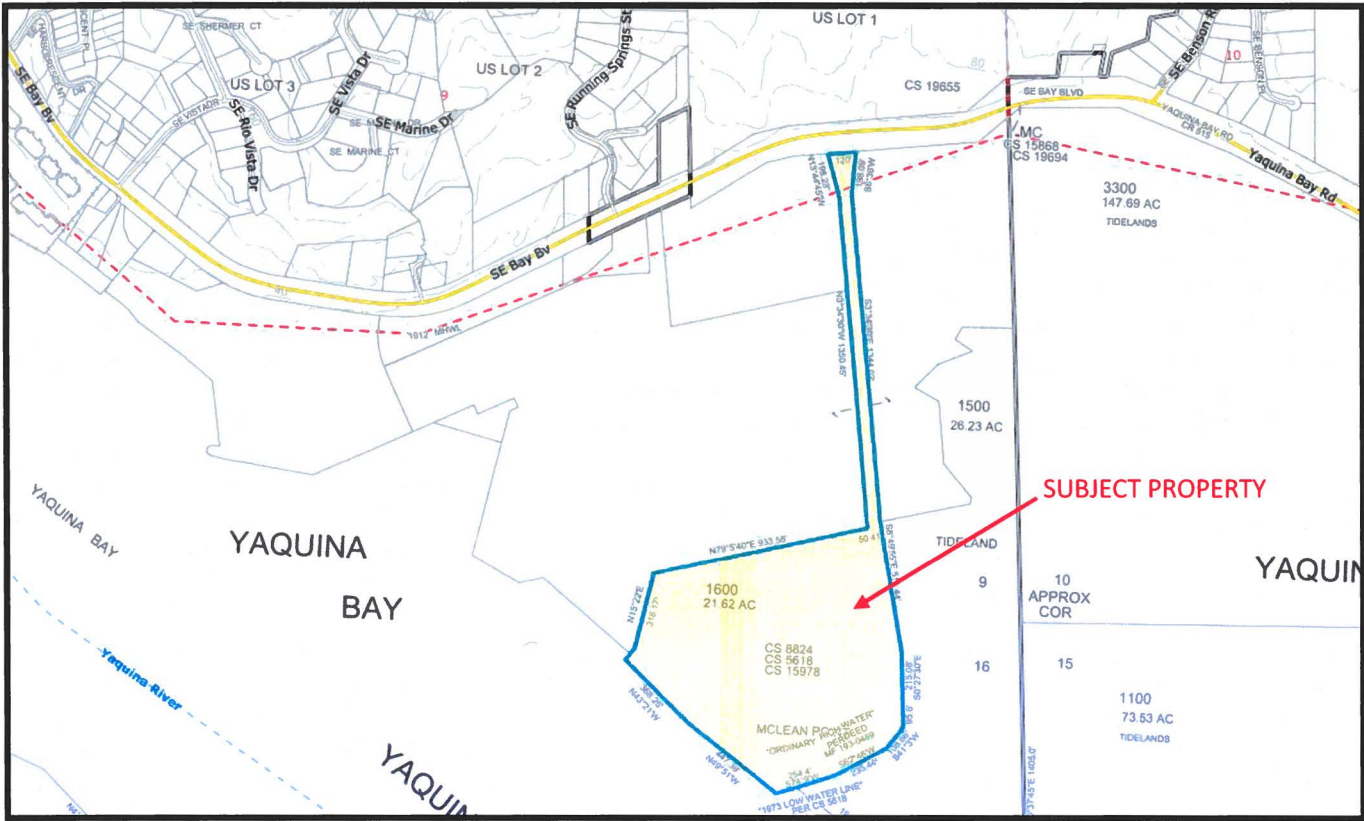
Community Development (Planning) Department, City Hall, 169 SW Coast Hwy, Newport, Oregon 97365, seven days prior to the hearing. The application materials (including the application and all documents and evidence submitted in support of the application), the applicable criteria, and other file material are available for inspection at no cost; or copies may be purchased for reasonable cost at this address.

Contact: Derrick Tokos, Community Development Director, (541) 574-0626, d.tokos@newportoregon.gov (mailing address above under "Reports/Application Material").

Time/Place of Hearing: Monday, October 24, 2022; 7:00 p.m.; City Hall Council Chambers (address above in "Reports/Application Material").

MAILED: September 28, 2022.

PUBLISHED: October 14, 2022/News-Times.



NW Natural
ATTN: Dave Sanders
1405 SW Hwy 101
Lincoln City, OR 97367

Charter Communications
ATTN: Keith Kaminski
2310 N Coast Hwy
Newport OR 97365

CenturyLink
ATTN: Corky Fallin
740 State St
Salem OR 97301

Central Lincoln PUD
ATTN: Ty Hillebrand
PO Box 1126
Newport OR 97365

Email: Bret Estes
DLCD Coastal Services Center
brett.estes@dlcd.oregon.gov

****EMAIL****
odotr2planmgr@odot.state.or.us

Joseph Lease
Building Official

Rob Murphy
Fire Chief

David Powell
Public Works

Beth Young
Associate Planner

Jason Malloy
Police Chief

Steve Baugher
Interim Finance Director

Laura Kimberly
Library

Michael Cavanaugh
Parks & Rec

Spencer Nebel
City Manager

Aaron Collett
Public Works

Clare Paul
Public Works

Derrick Tokos
Community Development

Lance Vanderbeck
Airport

EXHIBIT 'A'
(Affected Agencies)

(3-NCU-22)

HIGH DOINA FAMILY TRUST & HIGH
DOINA TRUSTEE
PO BOX 552
SILETZ, OR 97380

NORTHWEST NATURAL GAS CO
AIMONE DAVID W, TREASURY MGR
220 NW SECOND AVE
PORTLAND, OR 97209

PORT OF NEWPORT
600 SE BAY BLVD
NEWPORT, OR 97365

RONDYS INC
1301 W OREGON
BELLINGHAM, WA 98225

TIM MURPHY
250 SW TAYLOR ST
PORTLAND, OR 97204

NORTHWEST NATURAL GAS CO
ATTN: STEVE WALTI
250 SW TAYLOR ST
PORTLAND, OR 97204

MICHAEL SMITH
NORWEST ENGINEERING
PO BOX 20877
PORTLAND, OR 97294

File No. 3-NCU-22

Adjacent Property Owners Within 200 ft

**CITY OF NEWPORT
NOTICE OF A PUBLIC HEARING**

The City of Newport Planning Commission will hold a public hearing on Monday, October 24, 2022, at 7:00 p.m. in the City Hall Council Chambers to consider File No. 3-NCU-22. The request submitted by Northwest Natural Gas (Mike Smith, Norwest Engineering, representative) is for approval of a request per Section 14.32/“Nonconforming Uses, Lots, and Structures” of the Newport Municipal Code, to build a foundation for replacement of Regen equipment at the NW Natural LNG Plant. The subject property is located at 1702 SE Bay Blvd (Lincoln County Assessor’s Map 11-11-09-00; Tax Lot 1600). Pursuant to NMC Section 14.32.060(A), the approval authority shall determine that the structure was legally established at the time the Zoning Ordinance was enacted or amended, and that the use has not been discontinued for a continuous 12 month period. The approval authority must also verify the nature and extent of the nonconforming use, considering (1) a description of the use; (2) The types and quantities of goods or services provided and the activities conducted; (3) The scope of the use (volume, intensity, frequency, etc.) including fluctuations in the level of activity; (4) The number, location and size of physical improvements associated with the use; (5) The amount of land devoted to the use; and (6) Other factors the approval authority may determine appropriate to identify the nature and extent of a particular use (NMC Section 14.32.060(B)). Pursuant to NMC Section 14.32.070, after verification of the status of a nonconforming use pursuant to subsection 14.32.030, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood when considering the following factors: (A) (1) The character and history of the use and of development in the surrounding area; (2) The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood; (3) Adequacy of infrastructure, including sewer, water, and streets, to accommodate the use; (4) The comparative numbers and kinds of vehicular trips to the site; (5) The comparative amount and nature of outside storage, loading, and parking; (6) The comparative visual appearance; (7) The comparative hours of operation; (8) The comparative effect on solar access and privacy; (9) Other factors which impact the character or needs of the neighborhood. (B) The approval authority must consider the purpose of the current zoning provisions that cannot be satisfied when determining whether or not the alteration, expansion, or replacement of a nonconforming use or structure will have a greater adverse impact on the neighborhood. (C) To the extent there is a rational nexus, and the City can establish that needed improvements are roughly proportional to proposed development, an alteration, expansion, or replacement of a nonconforming use or structure shall be brought into compliance with provisions of the Zoning Ordinance that relate to: (1) Surfacing of parking areas and landscaping; (2) Exterior design of structures; and (3) Outdoor displays, storage, and signage. Testimony and evidence must be directed toward the criteria described above or other criteria in the Comprehensive Plan and its implementing ordinances that the person believes to apply to the decision. Failure to raise an issue with sufficient specificity to afford the city and the parties an opportunity to respond to that issue precludes an appeal (including to the Land Use Board of Appeals) based on that issue. Testimony may be submitted in written or oral form. Oral testimony and written testimony will be taken during the course of the public hearing. Letters sent to the Newport Community Development (Planning) Department, City Hall, 169 SW Coast Hwy, Newport, OR 97365, must be received by 3:00 p.m. the day of the hearing to be included as part of the hearing or must be personally presented during testimony at the public hearing. The hearing will include a report by staff, testimony (both oral and written) from the applicant and those in favor or opposed to the application, rebuttal by the applicant, and questions and deliberation by the Planning Commission. Pursuant to ORS 197.797 (6), any person prior to the conclusion of the initial public hearing may request a continuance of the public hearing or that the record be left open for at least seven days to present additional evidence, arguments, or testimony regarding the application. The staff report may be reviewed or a copy purchased for reasonable cost at the Newport Community Development Department (address above) seven days prior to the hearing. The application materials, the applicable criteria, and other file material are available for inspection at no cost; or copies may be purchased for reasonable cost at this address as well. Contact Derrick Tokos, Community Development Director, (541) 574-0626, d.tokos@newportoregon.gov (mailing address above).

(FOR PUBLICATION ONCE ON FRIDAY, October 14, 2022)

10/14/22

of how they intend to create the required spaces... [but] they've done nothing to implement the plan." The appellant asserts that the Oregon Department of Transportation (ODOT) needs to approve a permit for this proposal, but there has been no "permit issued for this project involving [U.S.] Highway 101." The appellant further questions if the City's Public Works Director has reviewed the traffic flow for this project, and asserts "that ODOT will need to sign off on a traffic study in order...to approve this use." APPLICABLE CRITERIA: Depoe Bay Zoning Ordinance Section 152.030 Retail Commercial Zone C-1 Section 152.031 Commercial Zone C-1 - Design Standards & Guidelines Section 152.058 Off-Street Parking and Off-Street Loading Requirements Conditions, Findings and Final Order for Case File #3-C1-PC-22 LOCATION: The subject property is located at 70 N Highway 101, and is further identified in Lincoln County Assessor's Map 09-11-05CD as Tax Lots 04400 and 04500. APPLICATION MATERIALS: Application materials, documents and evidence submitted by or on behalf of the appellant are available for inspection at City Hall and can be obtained at cost. Copies of the staff report for this case are also available for review and may be purchased at Depoe Bay City Hall, 570 SE Shell Avenue, seven days prior to the hearing. TESTIMONY: Testimony may be submitted in written or oral form. Oral testimony will be taken during the course of the public hearing. Failure to raise an issue in a hearing, either in person or in writing, or failure to provide statements/evidence sufficient to afford the City Council an opportunity to respond to the issues precludes appeal to the Land Use Board of Appeals (LUBA) on that issue. The comment period for written testimony expires, November 1, 2022, 5:00 p.m. Send letters to Depoe Bay City Hall or email planner@cityofdepobay.org. CONTACT: Kit Fox, a/cp, City Planner (541) 765-2361 x15, planner@cityofdepobay.org. TIME/PLACE: Tuesday, November 1, 2022, 7:00 P.M., Depoe Bay City Hall, 570 SE Shell Avenue, Depoe Bay, OR 97341. Mail comments to P.O. Box 8, Depoe Bay, OR 97341. O14 36-14

PUBLIC NOTICE
The Pacific Communities Health District Board of Directors will hold a Virtual and regular meeting on Tuesday, October 18, 2022 at 4:00 p.m. by Microsoft Teams or in person at the Center for Health Education located at 740 SW 9th St., Newport, OR, in conference rooms 1 & 2 on the second floor. Persons interested in joining the Virtual meeting must have the Microsoft Teams Meeting Application downloaded on personal computer or cell phone. To request a Teams Meeting invite

please email cmacnab@samhealth.org or call 541-574-4674. To join by phone (audio only) option, directly call 1-971-254-1254, followed by Conference ID: 703 486 962#. The meeting agenda includes meeting minutes, financial reports, and facility reports. /s/Catherine Macnab, Recorder, PACIFIC COMMUNITIES HEALTH DISTRICT. For additional information contact 541-574-4674 or www.pchdistrict.org. O14 35-14

NOTICE TO INTERESTED PERSONS IN THE CIRCUIT COURT OF THE STATE OF OREGON, FOR THE COUNTY OF LINCOLN, PROBATE DEPARTMENT, NO. 22PB09048, IN THE MATTER OF THE KENT AND MYRTLE HALL REVOCABLE LIVING TRUST, DATED December 30, 1997, TERESA A. HALL, TRUSTEE, PETITIONER. NOTICE TO CLAIMANTS. NOTICE IS HEREBY GIVEN THAT TERESA A. HALL is Trustee of this Trust under agreement dated December 30, 1997 (the "Trust"). KENT L. HALL, deceased, is the settlor of the Trust. All persons having claims against the Trust estate are required to present them, with vouchers attached, to the Trustee at PO Box 781, Corvallis, OR 97339. Claims against the Trust estate may be barred unless they are presented to the Trustee at the address specified above within four months after the date of the first publication of this notice. Dated and first published on October 14, 2022. KENT AND MYRTLE HALL REVOCABLE LIVING TRUST, agreement dated December 30, 1997 by Teresa A. Hall, Trustee. O14, O21, O28 34-28

NOTICE TO INTERESTED PERSONS
Notice is hereby given pursuant to ORS 113.155 that the undersigned has been appointed and has qualified as the personal representative of the ESTATE OF DONALD MICHAEL BARRETT, DECEASED, Lincoln County Circuit Court Case Number 22PB07630. All persons having claims against the estate are hereby required to present the same, with proper vouchers, within four months after the date of first publication of this notice, as stated below, to the personal representative at PO Box 1768, Newport OR 97365 or they may be barred. All persons whose rights may be affected by the proceedings in this estate may obtain additional information from the records of the court, the personal representative or the attorney for the personal representative. Date first published: October 14, 2022. Mareesa Elmquist-Barrett, Personal Representative of the Estate of Donald Michael Barrett, Gary Lynn Lovejoy, Attorney at Law, Attorney for Personal Representative, PO Box 1768, Newport OR 97365. O14, O21, O28 33-28

CITY OF NEWPORT NOTICE OF A PUBLIC HEARING

The City of Newport Planning Commission will hold a public hearing on Monday, October 24, 2022, at 7:00 p.m. in the City Hall Council Chambers to consider File No. 3-NCU-22. The request submitted by Northwest Natural Gas (Mike Smith, Northwest Engineering, representative) is for approval of a request per Section 14.32/"Nonconforming Uses, Lots, and Structures" of the Newport Municipal Code, to build a foundation for replacement of Regen equipment at the NW Natural LNG Plant. The subject property is located at 1702 SE Bay Blvd (Lincoln County Assessor's Map 11-11-09-00; Tax Lot 1600). Pursuant to NMC Section 14.32.060(A), the approval authority shall determine that the structure was legally established at the time the Zoning Ordinance was enacted or amended, and that the use has not been discontinued for a continuous 12 month period. The approval authority must also verify the nature and extent of the nonconforming use, considering (1) a description of the use; (2) The types and quantities of goods or services provided and the activities conducted; (3) The scope of the use (volume, intensity, frequency, etc.) including fluctuations in the level of activity; (4) The number, location and size of physical improvements associated with the use; (5) The amount of land devoted to the use; and (6) Other factors the approval authority may determine appropriate to identify the nature and extent of a particular use (NMC Section 14.32.060(B)). Pursuant to NMC Section 14.32.070, after verification of the status of a nonconforming use pursuant to subsection 14.32.030, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood when considering the following factors: (A) (1) The character and history of the use and of development in the surrounding area; (2) The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood; (3) Adequacy of infrastructure, including sewer, water, and streets, to accommodate the use; (4) The comparative numbers and kinds of vehicular trips to the site; (5) The comparative amount and nature of outside storage, loading, and parking; (6) The comparative visual appearance; (7) The comparative hours of operation; (8) The comparative effect on solar access and privacy; (9) Other factors which impact the character or needs of the neighborhood. (B) The approval authority must consider the purpose of the current zoning provisions that cannot be satisfied when

determining whether or not the alteration, expansion, or replacement of a nonconforming use or structure will have a greater adverse impact on the neighborhood. (C) To the extent there is a rational nexus, and the City can establish that needed improvements are roughly proportional to proposed development, an alteration, expansion, or replacement of a nonconforming use or structure shall be brought into compliance with provisions of the Zoning Ordinance that relate to: (1) Surfacing of parking areas and landscaping; (2) Exterior design of structures; and (3) Outdoor displays, storage, and signage. Testimony and evidence must be directed toward the criteria described above or other criteria in the Comprehensive Plan and its implementing ordinances that the person believes to apply to the decision. Failure to raise an issue with sufficient specificity to afford the city and the parties an opportunity to respond to that issue precludes an appeal (including to the Land Use Board of Appeals) based on that issue. Testimony may be submitted in written or oral form. Oral testimony and written testimony will be taken during the course of the public hearing. Letters sent to the Newport Community Development (Planning) Department, City Hall, 169 SW Coast Hwy, Newport, OR 97365, must be received by 3:00 p.m. the day of the hearing to be included as part of the hearing or must be personally presented during testimony at the public hearing. The hearing will include a report by staff, testimony (both oral and written) from the applicant and those in favor or opposed to the application, rebuttal by the applicant, and questions and deliberation by the Planning Commission. Pursuant to ORS 197.797 (6), any person prior to the conclusion of the initial public hearing may request a continuance of the public hearing or that the record be left open for at least seven days to present additional evidence, arguments, or testimony regarding the application. The staff report may be reviewed or a copy purchased for reasonable cost at the Newport Community Development Department (address above) seven days prior to the hearing. The application materials, the applicable criteria, and other file material are available for inspection at no cost; or copies may be purchased for reasonable cost at this address as well. Contact Derrick Tokos, Community Development Director, (541) 574-0626, d.tokos@newportoregon.gov (mailing address above). O14 28-14

PUBLIC SALE
The following storage units will be sold at public auction on Saturday, October 29, 2022 at 11:00 AM for non-payment of rent and other fees. Auction is pursuant to Auction Rules and Procedures of

Lincoln Storage 4809 S Coast Hwy South Beach, OR 97366 541-867-6550. Rules are available upon inquiry. Unit 235 Bonnie Tuck O12, O14, O19, O21 27-21

SELF STORAGE PUBLIC SALE

Safe-Lock Storage 3639 SE Ash St South Beach, Oregon 97366. Saturday 10/22/2022 @ 10:00am D29 Lucy Keith. Sale Subject to Cancellation. Safe-Lock Storage reserves the Right to refuse any and all bids. O7, O14 20-14

NOTICE OF SHERIFF'S SALE #22-0921

On November 8th, 2022, at the hour of 10:00 a.m., at the Lincoln County Courthouse, 225 W Olive St., in the City of Newport, Oregon, the defendant's interest will be sold, subject to redemption, in the real property commonly known as: 2009 SE Donelle Dr, Toledo, OR 97391. The court case number is 19CV34437, WILMINGTON SAVINGS FUND SOCIETY, FSB, AS TRUSTEE OF STANWICH MORTGAGE LOAN TRUST F, plaintiff(s) vs. UNKNOWN HEIRS, DEVISEES AND/OR SUCCESSORS IN INTEREST OF DONNA M. HASBROUCK; MARY T. COLE; JACQUELINE R. CHAVEZ; PAUL X. HASBROUCK; CAROL M. WARD; JEANNETTE S. MADSON; PHILIP G. HASBROUCK; UNKNOWN HEIRS, DEVISEES AND/OR SUCCESSORS IN INTEREST OF ANN MARIE HASBROUCK; UNKNOWN HEIRS, DEVISEES AND/OR SUCCESSORS IN INTEREST OF ERIK P. HASBROUCK; STATE OF OREGON; UNITED STATES OF AMERICA; GEMINI CAPITAL GROUP, LLC; PARTIES IN POSSESSION, defendant(s). This is a public auction to the highest bidder for cash or cashier's check, in hand. For more details go to <http://www.oregon-sheriffssales.org/county/lincoln/O7, O14, O21, O28 19-28>

NOTICE TO INTERESTED PERSONS IN THE CIRCUIT COURT OF THE STATE OF OREGON FOR THE COUNTY OF LINCOLN PROBATE DEPARTMENT ESTATE OF ROBERT ALLEN DIFENBACH. CASE No. 22PB08021 NOTICE TO INTERESTED PERSONS

Notice is given pursuant to ORS 113.155 that Margaret C. Diefenbach has been appointed personal representative of the above estate. All persons having claims against the estate are required to present them within four (4) months after the date of the first publication of this Notice, or their claims may be barred. Claims are to be presented at the address of the attorney for the personal representative, set forth below. All persons whose rights may be affected by this estate proceeding may obtain additional information from the records of the Circuit Court, the personal representative, or J.F. Ouderkirk, attorney for the personal rep-

resentative. Date of first publication: October 7, 2022. J.F. Ouderkirk, OSB #752903, Attorney for Personal Representative, Ouderkirk & Hollen, P. O. Box 1167, 615 SW Hubert Street, Suite A, Newport, OR 97365, 541-574-1630 / 541-574-1638 fax. O7, O14, O21 18-21

CITY OF YACHTS CITY COUNCIL PUBLIC HEARING

The zoom link for the October 19th meeting is: <https://us02web.zoom.us/j/83380335391> This is to notify you that the City of Yachats City Council will conduct a Public Hearing on October 19, 2022 at 2:00pm. The purpose is to discuss proposed amendments to Chapters 5 and 9 of the Yachats Municipal Code, specifically new regulations regarding fences, walls and hedges. Documents for review with a summary of changes will be posted on the city website located at: <https://www.yachatsoregon.org/DocumentCenter/View/1786/2022-09-18-Updated-Fences-Hedges-Walls---for-Pub-Hrg-Who-Receives-Notice>. This notice is to all who are MORTGAGEES, LIENHOLDERS, VENDORS, and SELLERS within the municipality of Yachats. If you receive this notice after having sold the property, this notice must be promptly forwarded to the purchaser. BACK-GROUND ON REQUIRED NOTICE: In 1998, Oregon voters passed a law known as Ballot Measure 56 requiring that local governments mail notices to landowners when a change in land-use laws may limit uses of property. Receiving this notice does not mean the changes will affect your property or property value. PUBLIC INPUT: The public may present their testimony orally at the public hearing or provide written comments. Oregon law requires that testimony and evidence presented be directed toward the relevant criteria in the Yachats Municipal Ordinances, State and Federal laws, other City plans or policies which a person believes pertains to the request, and which will be used in making the decision. Any written materials must be submitted seven (7) days prior to the hearing date; testimony can be emailed to cityhall@yachatsmail.org, mailed to P.O. Box 345, Yachats, OR 97498 or delivered to 501 Hwy 101 N, Yachats, Oregon. Please include your printed name, signature and mailing address. All written comments or evidence received prior to the close of the evidentiary record will be included in the evidentiary record. Failure to raise an issue in person by letter at the hearing, or failure to provide statements or evidence sufficient to afford the decision-maker an opportunity to respond to the issue means that an appeal based on that issue cannot be filed with the State Land Use Board of Appeals. O7, O14 17-14

**BEFORE THE PLANNING COMMISSION
OF THE CITY OF NEWPORT, COUNTY
OF LINCOLN, STATE OF OREGON**

**IN THE MATTER OF PLANNING COMMISSION)
FILE # 3-NCU-22, APPLICATION FOR ALTERATION)
AND EXPANSION OF A NONCONFORMING USE,) FINAL
AS SUBMITTED BY NW NATURAL GAS COMPANY) ORDER
(MIKE SMITH, NORWEST ENGINEERING, AUTHORIZED)
REPRESENTATIVE))**

ORDER APPROVING a request per Chapter 14.32 (“Nonconforming Uses, Lots, and Structures”) of the Newport Municipal Code (NMC) to replace and upgrade electrical equipment. The new equipment will be placed on pile supported foundations near the existing electrical building. There will also be new underground conduit and cable trays. The subject property is located at 1702 SE Bay Boulevard and is identified as Tax Lot 01600 of Lincoln County Tax Assessor’s Map 11-11-09.

WHEREAS:

- 1.) The Planning Commission has duly accepted the application filed consistent with the Newport Municipal Code; and
- 2.) The Planning Commission has duly held a public hearing on the request, with a public hearing a matter of record of the Planning Commission on October 24, 2022; and
- 3.) At the public hearing on said application, the Planning Commission received testimony and evidence; and
- 4.) At the conclusion of said public hearing, after consideration and discussion, upon a motion duly seconded, the Planning Commission **APPROVED** the request.

THEREFORE, LET IT BE RESOLVED by the City of Newport Planning Commission that the attached findings of fact and conclusions (Exhibit "A") support the approval of the requested nonconforming use permit.

BASED UPON THE ABOVE, the Planning Commission determines that the request to alter and expand a nonconforming use is in conformance with the provisions of the Comprehensive Plan and the Municipal Code of the City of Newport; and the request is, therefore, granted subject to the following conditions:

1. Approval of this land use permit is based on the submitted written narrative and plans listed as Attachments to this report. No work shall occur under this permit other than that which is specified within these documents. It shall be the responsibility of the property owner to comply with these documents and the limitations of approval described herein.

Accepted and approved this 24th day of October, 2022.

James Patrick, Chair
Newport Planning Commission

Attest:

Derrick I. Tokos, AICP
Community Development Director

EXHIBIT "A"

Case File # 3-NCU-22

FINDINGS OF FACT

1. NW Natural Gas Company (Mike Smith, Norwest Engineering, authorized representative) applied on September 22, 2022, per Chapter 14.32 (“Nonconforming Uses, Lots, and Structures”) of the Newport Municipal Code, to replace and upgrade electrical equipment. The new equipment will be placed on pile supported foundations near the existing electrical building. There will also be new underground conduit and cable trays.

2. The subject property is located at 1702 SE Bay Boulevard (Lincoln County Assessor’s Tax Map 11-11-09, Tax Lots 1600). The property is approximately 21.62 acres in size.

3. Staff reports the following facts in connection with the application:

- a. Plan Designation: Shoreland.
- b. Zone Designation: W-1/“Water Dependent.”
- c. Surrounding Land Uses: An estuary to the south and east. Water dependent and industrial zoned land border the property to the north and west. Property to the north is proposed to be developed with a log yard. A disposal site for dredge materials is situated to the west.
- d. Topography and Vegetation: The subject property is flat and elevated just above the adjoining estuary. Riprap embankments exist along the perimeter of the site. Upland areas are vegetated with grass.
- e. Existing Structures: A large natural gas tank, control building, process building and other small buildings surrounded by a security fence.
- f. Utilities: All are available to the site.
- g. Development Constraints: Portions of the property, namely along the perimeter of the site, are within the 100-year floodplain and tsunami hazards overlay.
- h. Past Land Use Actions: File 2-NCU-21, approved the construction of three concrete equipment foundations on a vacant portion of the LNG Plant facility. The foundations support equipment, pressure vessels, process piping and a cable tray that are part of a Pretreatment Regen Optimization project. File 2-NCU-18, approved the replacement of an existing glycol cooling system, which cool the compressors that maintain the natural gas as a liquid. The new equipment was placed on pile at two pad sites near the existing system, between the existing process building and the existing electrical building. New piping, a small oil cooler and a cable tray were also approved. File 1-NCU-17, approved construction of for a new natural gas pre-treatment system to more effectively remove water, carbon dioxide, trace constituents and natural gas liquids from the domestic natural gas before it is delivered to the liquefaction plant. File 2-NCU-15, approved the replacement of an existing office building (a.k.a. “Control Building”) with a new, 3,893 sq. ft., single story office building.

4. Upon acceptance of the application, the Community Development (Planning) Department mailed notice of the proposed action on September 28, 2022, to affected property owners required to receive such notice by the Newport Municipal Code, and to various city departments, agencies, and public utilities. The notice referenced the criteria by which the application was to be assessed. The notice required that written comments on the application be submitted by 3:00 pm on the date of the hearing, or be submitted in person at the hearing. The notice was also published in the Newport News-Times on October 14, 2022. No comments were received in response to the notice.

5. A public hearing was held on October 24, 2022, at which the Planning Commission received the staff report and allowed for testimony on the request. The minutes of the October 24, 2022 meeting are hereby incorporated by reference. The Planning Staff Report with Attachments is hereby incorporated by reference into the findings. The Planning Staff Report Attachments included the following:

- Attachment "A" – Application Form
- Attachment "A-1" – Applicant’s Narrative
- Attachment "A-2" – County Assessor Information
- Attachment "A-3" – Site Plan, Norwest Engineering, dated 9/15/22
- Attachment "A-4" – Construction Drawings, Norwest Engineering, dated 8/31/22
- Attachment "B" – Zoning Map of the Area
- Attachment "C" – Public Hearing Notice and Map

6. **Explanation of the Request:** Pursuant to Section 14.32.070/“Alteration, Expansion, or Replacement of Nonconforming Uses and Structures” of the Newport Municipal Code, after verification of the status of a nonconforming use pursuant to Subsection 14.32.060, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood.

The applicants own property identified as Tax Lot 1600 on Tax Map 11-11-09. The property contains a Liquefied Natural Gas (LNG) storage tank, process buildings and a control building. The property appears to have been acquired by NW Natural in 1974 and the plant was commissioned in 1977. In their written narrative, the applicant states that they will be replacing and upgrading electrical equipment. The new equipment will be placed on pile supported foundations near the existing electrical building. There will also be new underground conduit and cable trays (Attachment “A-1”). The location of the work is shown on the applicant’s site plan (Attachment “A-3”).

7. **Verification of Status of Nonconforming Use or Structure:** Pursuant to NMC Section 14.32.060, upon receiving an application to alter, expand, or replace a nonconforming use or structure, the approval authority shall determine that the use or structure is nonconforming. Such determination shall be based on findings that:

- The use or structure was legally established at the time the Zoning Ordinance was enacted or amended; and
- The use has not been discontinued for a continuous 12-month period.

The approval authority may require the applicants provide evidence that a use has been maintained over time. Evidence that a use has been maintained may include, but is not limited to, copies of utility bills, tax records, business licenses, advertisements, and telephone or trade listings.

The approval authority shall verify the status of a nonconforming use as being the nature and extent of the use at the time of adoption or amendment of the Zoning Code provision disallowing the use (September 7, 1982). When determining the nature and extent of a nonconforming use, the approval authority shall consider:

- Description of the use;
- The types and quantities of goods or services provided and activities conducted;
- The scope of the use (volume, intensity, frequency, etc.), including fluctuations in the level of activity;
- The number, location, and size of physical improvements associated with the use;
- The amount of land devoted to the use; and
- Other factors the approval authority may determine appropriate to identify the nature and extent of the particular use.

A reduction of scope or intensity of any part of the use as determined under this subsection for a period of 12 months or more creates a presumption that there is no right to resume the use above the reduced level. Nonconforming use status is limited to the greatest level of use that has been consistently maintained since the use became nonconforming. The presumption may be rebutted by substantial evidentiary proof that the long-term fluctuations are inherent in the type of use being considered.

8. **Applicable Criteria (Section 14.32.070):** After verification of the status of a nonconforming use pursuant to Subsection 14.32.060, the approval authority may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood. In making this finding, the approval authority shall consider the factors listed below. Adverse impacts to one of the factors may, but shall not automatically, constitute greater adverse impact on the neighborhood.

- (1) The character and history of the use and of development in the surrounding area;
- (2) The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood;
- (3) Adequacy of infrastructure to accommodate the use. For the purpose of this subsection, infrastructure includes sewer, water, and streets;
- (4) The comparative numbers and kinds of vehicular trips to the site;
- (5) The comparative amount and nature of outside storage, loading, and parking;
- (6) The comparative visual appearance;
- (7) The comparative hours of operation;
- (8) The comparative effect on solar access and privacy;
- (9) Other factors that impact the character or needs of the neighborhood.

CONCLUSIONS

In order to grant the permit, the Planning Commission must find that the applicant has provided a complete application, that there is substantial evidence that the Commission can rely upon to verify the nature and extent of the existing nonconformity, and that the expansion will not result in a greater adverse impact on the neighborhood considering the criteria listed under NMC 14.32.070.

1. The applicant's property is located in a W-1/"Water-Dependent" zoning district (Attachment "B"). Utility facilities, such as the LNG Plant, are not permitted uses in this district (NMC 14.03.080).
2. Consistent with NMC 14.32.040, the applicant submitted a completed application form, narrative, names and addresses of property owners within the notification area, site plan, and structural details. In sum, this constitutes substantial evidence upon which the Planning Commission can decide as to whether or not the new foundations and associated equipment satisfy the City's standards for the alteration and expansion of a non-conforming use.
3. With respect to NMC 14.32.060, regarding the non-conforming status of the LNG Plant, the applicant has previously provided assessment information indicating that the property was acquired in 1974 and evidence that the facility has been continuously maintained since it was commissioned in 1977. Per the Newport Zoning Ordinance, the LNG Plant is non-conforming if it is established that the facility existed and has been continuously maintained since September 7, 1982. Considering the above, the Planning Commission finds, as it has with the last four decisions (File No. 2-NCU-21, 2-NCU-18, 1-NCU-17 and 2-NCU-15), that there is substantial evidence in the City records that the LNG plant qualifies as non-conforming.
4. After verification of the status of a nonconforming use pursuant to Subsection 14.32.060, the Planning Commission may authorize alteration, expansion, or replacement of any nonconforming use or structure when it is found that such alteration, expansion, or replacement will not result in a greater adverse impact on the neighborhood. In making this finding, the Planning Commission shall consider the factors listed below.

a. The character and history of the use and of development in the surrounding area.

- i. The applicant notes that the property has been utilized in continuous use as an LNG peak-shaving facility since its inception in June of 1977.
- ii. The applicant further states that addition of the electrical equipment is in keeping with the character of the other existing equipment and buildings on the site and surrounding neighborhood. The existing buildings on the site consist of metal paneling exterior walls and standing seam metal gabled roofs. The proposed new equipment will be of similar construction and visual appearance to existing plant facilities.
- iii. The surrounding properties are largely undeveloped. Lands to the north and west will likely develop in an industrial manner in the coming years, to complement the Port of Newport's International Terminal. This would be consistent with the water dependent or heavy industrial zoning that is in place. These types of uses would orient toward Bay Boulevard for the transport of goods and materials by truck or toward the bay for barge or shipping out of the terminal site. In either case, the properties would orient away from the LNG Plant facility.
- iv. The alteration/expansion to the non-conforming use relates to the replacement and upgrade of electrical equipment. The new equipment will be placed on pile supported foundations near the existing electrical building. There will also be new underground conduit and cable trays. The equipment is situated in close proximity to the existing electrical building, roughly 68-feet from the north property line within the fenced enclosure (Attachment "A-3"). Accordingly,

there does not appear to be an increased risk to neighboring properties associated with the development.

v. The applicant provides community access to the estuary and portions of its property for recreational purposes. They are not required to do so, and the new electrical and electrical related equipment does not impact these areas as it is located within the perimeter of the security fence.

vi. Considering the above, the Planning Commission concludes that the proposed replacement and upgrade of electrical equipment is consistent with the character and history of development in the area given that the change will not further exacerbate the nonconforming situation.

b. The comparable degree of noise, vibration, dust, odor, fumes, glare, or smoke detectable within the neighborhood.

i. The applicant notes that the proposed electrical equipment is not anticipated to create any additional significant vibration, dust, odor, fumes, glare, noise or smoke, and that the new equipment is comparable in design and function to other existing equipment on site.

ii. Nearby water-dependent and heavy industrial properties are envisioned to develop with uses that generate noise, vibration, dust, odor, fumes, glare, or smoke in excess of anything that could be attributed to the LNG Plant facility.

iii. Considering the above, the Planning Commission concludes that the new electrical equipment and related improvements will not create noise, vibration, dust, odor, fumes, glare, or smoke in a manner that would result in a greater adverse impact on the neighborhood.

c. Adequacy of infrastructure to accommodate the use (including sewer, water, and streets.)

i. The applicant explains that the existing infrastructure to the site from SE Bay Blvd is adequate and will accommodate use of the new equipment. They further note that the LNG Plant facility utility infrastructure is adequate, and no additional utilities are anticipated for the proposed development. Access to the equipment is available via an existing gravel roadway. The proposed development does not place any additional demands on on-site water and wastewater infrastructure.

ii. Considering the above, the Planning Commission concludes that the new electrical equipment and related improvements will not cause any greater adverse impact on the neighborhood as it relates to the adequacy of infrastructure to serve the use.

d. The comparative numbers and kinds of vehicular trips to the site.

i. The applicant notes that no additional vehicular trips to the site are anticipated as a result of the new electrical equipment and related improvements.

ii. Considering the above, the Planning Commission concludes that installation of the equipment will not cause any greater adverse impact on the neighborhood relative to this criterion.

e. The comparative amount and nature of outside storage, loading, and parking.

- i. The applicant indicates that, per the zoning ordinance, there is no minimum / maximum number of parking spaces required for this development and that a loading area is not required. This is attributed to the nature of the improvements, which are a component of the gas processing operation that do not generate demand for additional staff or service trips that cannot otherwise be accommodated with existing on-site parking and service areas.
- ii. The applicant's site plan illustrates where the electrical equipment, foundation improvements, and related work is to be performed (Attachment "A-3"). The equipment is to be an operational component of the LNG Plant facility that is secured to a concrete foundation and is not being stored on-site.
- iii. Given the above, the Planning Commission concludes that the electrical equipment and related improvements will not cause any greater adverse impact on the neighborhood with respect to comparative amount and nature of outside storage, loading, and parking.

f. The comparative visual appearance.

- i. The applicant states that the construction work will visually match the existing structures in color and general appearance, and surroundings so as to ensure good general visual appearance of the area.
- ii. Considering the above, the Planning Commission concludes that the electrical equipment and related improvements will not cause any greater adverse impact on the neighborhood as it relates to comparative visual appearance.

g. The comparative hours of operation.

- i. The applicant notes that the existing LNG Plant facility is in operation 24/7 and that the new electrical equipment is anticipated to be in operation on the same schedule.
- ii. Based on the above, the Planning Commission concludes that the electrical equipment will not cause any greater adverse impact on the neighborhood as far as comparative hours of operation.

h. The comparative effect on solar access and privacy.

- i. The applicant notes that the electrical equipment will be set along the north side of the property, a considerable distance from the adjacent neighbors. They further indicate that, at this time, no additional staff is anticipated to be needed and that they do not believe the project will have an effect on solar access or privacy.
- ii. Given the above, the Planning Commission concludes that the proposed electrical equipment and related improvements satisfies this criterion.

i. Other factors which impact the character or needs of the neighborhood.

i. The Commission concurs with the applicant that there are no other factors that will impact the character or needs of the neighborhood. The proposed equipment is of like kind to the longstanding and existing use of the property; no additional vehicle or pedestrian traffic, visual or environmental impacts are anticipated; and the proposed construction will not affect current public use of the surrounding area.

j. The approval authority must consider the purpose of the current zoning provisions that cannot be satisfied when determining whether or not the alteration, expansion, or replacement of a nonconforming use or structure will have a greater adverse impact on the neighborhood.

i. The LNG plant is in a W-1 zoning district and is nonconforming because utility facilities are not permitted in this zone district. The purpose of the W-1 zone is to protect Yaquina Bay shoreland areas for uses that need contact with or use water for water-borne transportation, recreation, energy production or water supply (NMC 14.03.040). The LNG Plant facility is not dependent upon the bay for any of the factors listed.

ii. The LNG Plant facility was constructed before the W-1 zoning was in place, and most of the applicant's property is dedicated to this use. In fact, it appears that the confines of the secure facility have remained more or less static. The new electrical equipment is being placed within the fence line, in close proximity to existing buildings and the LNG tank. Therefore, the addition of the equipment will not reduce the amount of land available for water-dependent development.

iii. Based on the above, the Planning Commission concludes that the electrical equipment will not result in a greater adverse impact on the neighborhood relative to the objectives of the current zoning provisions.

OVERALL CONCLUSION

Based on the application material, the Planning Staff Report, and other evidence and testimony in the record, the Planning Commission concludes that the above findings of fact and conclusions demonstrate compliance with the criteria for the expansion of a nonconforming use found in Chapter 14.32 of the Newport Municipal Code (NMC); and, therefore, the requested alteration or expansion of a nonconforming use as described in the applicant's findings and supporting documents as submitted, is hereby approved with the following conditions:

1. Approval of this land use permit is based on the submitted written narrative and plans listed as Attachments to this report. No work shall occur under this permit other than that which is specified within these documents. It shall be the responsibility of the property owner to comply with these documents and the limitations of approval described herein.

Memorandum

To: Planning Commission
From: Derrick I. Tokos, AICP, Community Development Director
Date: October 20, 2022
Re: Draft Oregon Housing and Community Services System Development Charge Study

Enclosed is a draft copy of the study required per HB 3040 (2021). Oregon Housing and Community Services (OHCS) is accepting comments through November 1, 2022 (see link below for feedback form).

<https://www.oregon.gov/ohcs/development/Pages/housing-data-analysis.aspx>

As noted in the report, the Oregon Legislature requested that the study cover the history of the charges, methodologies for setting the fees, recent trends in fee levels, how the fees relate to other development costs, and how they ultimately affect the cost of housing. The study's findings are intended to inform future policy discussions related to System Development Charges (SDCs). It does not include policy recommendations.

The City of Newport collects SDCs when building permits are issued for projects that increase the use of public streets water, wastewater, storm drainage and park services. The funds are used to upgrade the infrastructure to support growth. In 2017, the City revised its SDC methodology reducing the number of capital projects it collects for. It also shifted to a price per square foot assessment for single family developments. These changes resulted in lower assessments for smaller homes versus larger ones, and reduced assessments overall for a range of development types. That created room for the establishment of an Affordable Housing Excise Tax that the City has collected since the fall of 2017. Attached is a chart showing the City's SDC collections over the last 10 years. Background documents related to the City's SDC methodology can be found on the Community Development Department webpage at: <https://www.newportoregon.gov/dept/cdd/sdcs.asp>.

This information is being provided to help inform the Commission about the role that System Development Charges play in the development process and to provide members an opportunity to comment on the draft report during the period of time that the state is accepting feedback. No formal action is being requested of the Commission at this time.

Attachments

Draft OHCS SDC Report
Newport SDC Revenue Chart

Oregon System Development Charges Study Public Review Draft

October 18, 2022

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Acknowledgements

This report was prepared by ECONorthwest on behalf of Oregon Housing and Community Services (OHCS) with funding from the 2021 Oregon State Legislature and substantial contributions from FCS GROUP and Galardi Rothstein Group. Staff and project team members are grateful to the many cities, counties, special districts, and housing developers who participated in focus groups and interviews to inform this study.

While many individuals contributed to this study, core project team members are listed below.

Oregon Housing and Community Services

Elise Cordle-Kennedy, Project Lead

ECONorthwest

Becky Hewitt, Senior Project Manager

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Michael Wilkerson, Director of Data Analytics

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FCS GROUP

John Ghilarducci, President/Principal

Executive Summary

In 2021, the Oregon legislature passed House Bill 3040 (HB 3040), directing Oregon Housing and Community Services (OHCS) to prepare a study of System Development Charges (SDCs)—a form of one-time impact fees charged on new development to help pay for existing and planned infrastructure to serve the development. The legislature requested that the study cover the history of the charges, methodologies for setting the fees, recent trends in fee levels, how the fees relate to other development costs, and how they ultimately affect the cost of housing. The findings from this study can inform future policy discussions related to SDCs, but the legislature’s direction for this study did not include making policy recommendations.

OHCS contracted with ECONorthwest and subcontractors FCS GROUP and Galardi Rothstein Group to undertake this report. The team drew its findings from reviews of national and local studies, surveys of cities, interviews, focus groups with local government officials and housing developers, original data analyses, and decades of experience conducting SDC studies and evaluating infrastructure funding mechanisms.

Key Findings

SDCs are a critical component of local funding for infrastructure needed to support growth.

SDCs can allow communities to build the infrastructure needed to accommodate orderly growth, making them an important part of Oregon’s growth management system. This study finds:

- **SDCs are increasing faster than inflation due to lack of alternative funding and increasing infrastructure costs.** Over the last several decades, flat or declining state and federal infrastructure spending, limitations on property taxes, and increasing costs for operations, maintenance, and regulatory compliance have increased dependence on SDCs and other local revenue sources. On average, SDCs and water and sewer utility rates have increased faster than construction costs over the past 10-15 years, yet many jurisdictions report falling behind in their ability to pay for infrastructure, especially in the last few years.
- **The variation in SDC rates across the state reflects differences in local needs and priorities.** Oregon’s SDC Act and the broader legal context provide guardrails to ensure SDCs recover an equitable share of costs for capacity increases, while also providing flexibility to tailor the approach to community values and local circumstances.

At their core, SDCs are a funding mechanism, and goals to support housing production and affordability may require other sources to fund infrastructure.

SDCs also increase the cost of building new housing in ways that can skew development towards higher-cost homes and can impact buyers and renters. SDCs likely account for anywhere from just under 2 percent to nearly 13 percent of total development costs for housing

in Oregon, depending on the housing type, SDC rates, other cost factors, and market conditions. In an accounting sense, housing developers pay the SDC (e.g., write a check), but the cost is typically shared with other actors, including landowners, homebuyers, renters, and (rarely) investors. A large body of evidence, including new analysis for Oregon, finds that higher SDCs/impact fees tend to be associated with higher home prices, though there are multiple possible explanations. This study identifies several ways that buyers and renters may be affected by SDC costs.

1. **Smaller and lower-cost housing units tend to be more affected by SDCs than larger and more expensive homes.** SDCs typically account for a larger share of total costs for smaller homes, middle housing, and moderately priced apartments. These housing types are often targeted to moderate-income households who may not be able to absorb higher prices or rents, making them sensitive to small increases in development costs. They often also have lower system impacts than larger homes. *Scaling fees for smaller units based on lower demand can even out financial impacts across housing types and sizes but only if implemented across multiple infrastructure systems at a meaningful discount.*
2. **High SDCs can inhibit new housing development in communities with weak housing markets.** Places with lower home prices and rents tend to be more sensitive to high SDCs because the market may not support passing costs on to buyers/renters and lower land values mean less room to absorb SDCs through land price negotiations. Over time, lack of housing production can lead to higher rents and home prices for existing housing, which can indirectly affect buyers and renters. However, SDC rates in these communities tend to be lower. Small, slow-growing communities may have little need to increase infrastructure capacity and few costs attributable to growth, but other communities need new housing largely for low to moderate-income households. Because SDCs are subject to the influence of local elected officials, many communities report intentionally keeping SDC rates down based on concerns about discouraging development. *The discretion to implement lower SDC rates allows communities to calibrate based on local market conditions but can shortchange their ability to pay for infrastructure.*
3. **High SDCs exacerbate affordability challenges in communities with strong housing markets.** Areas with strong demand and limited new housing supply are more likely to see rising costs—including SDCs—shift to homebuyers and renters. Higher SDCs in this context likely reinforce market factors—including high land costs and demand from higher-income households—that encourage more expensive housing development. In addition, higher-quality infrastructure investments can drive both higher SDC rates and higher home values, especially for facilities with visible value, such as parks. Affluent buyers and renters who value these amenities may choose to pay more to live in places that offer them, but low and moderate-income households may not have this option. There may be less political support for reducing SDC rates across the board unless they would be well above those of peer communities. *Reductions to SDCs may not be enough to dramatically change pricing for most new housing in high-cost areas, but a major reduction or elimination of SDCs for smaller and lower-cost units can sometimes enable market-rate developers to deliver entry-level homes that would not be financially feasible otherwise.*

Some jurisdictions have implemented SDC measures to support affordability, but broader adoption is hindered by administrative, legal, and financial concerns. Many jurisdictions are concerned about housing affordability, and a growing number have implemented new SDC rate structures and policies in response. Some have adopted scaled rates that account for lower demand from smaller dwelling units, some offer exemptions for affordable housing, and some allow developers to defer paying SDCs until construction is complete rather than before it begins. However, other jurisdictions express serious reservations about some of these measures.

- Scaled rates for smaller units are typically tied to evidence of lower development impacts, which is well within the discretion allowed under statute. Scaling reduces costs for smaller units while remaining revenue neutral for the jurisdiction, but it can increase complexity for both applicants and jurisdictions.
- SDC waivers can offer substantial savings for affordable housing development, but there are differing views on their validity. Some practitioners believe that jurisdictions implicitly have the discretion to exempt certain classes of development, including affordable housing. Others see legal risks if lost funds from are not paid from another source because the issue is not explicitly addressed in statute.¹
- Deferrals reduce financing costs for developers, which can be 10 to 25 percent of the SDC amount. While jurisdictions that have implemented deferrals reported few issues, many others expressed concerns about their ability to collect fees after permits are issued, administrative cost and complexity, and, in some cases, delaying revenue collection.

Difficulty estimating SDC costs up front can create challenges for multifamily, affordable housing, middle housing, and greenfield development. Developers value being able to estimate total SDC costs with some certainty during early project budgeting, but this is difficult for some types of development. Multifamily SDCs can be especially hard to calculate early in a project because they are often not a flat rate per unit. When they exceed initial estimates after financing and budgets are set, this can cause major challenges, especially for affordable housing. Rates for middle housing types are often not listed or defined. Policies related to credits for building SDC-eligible projects, which is common for greenfield development, can also be difficult to discern. While most jurisdictions provide some information about SDCs online, many do not yet fully comply with recent updates to statute increasing requirements for transparency and may not be aware of the change. *Rate structure and approach to rate changes can lead to variability between initial estimates and final SDC costs, but uncertainty for middle housing SDCs and SDC credit policies could be addressed through clearer information for applicants.*

¹ Oregon's SDC statutes emphasize that new users should contribute no more than an equitable share of costs but say little about assigning costs to individual developments. Other state statutes make clear that jurisdictions may waive SDCs for affordable multifamily housing in at least some circumstances, but they do not clearly address whether "backfilling" lost revenue is required.

Conclusion

Jurisdictions face competing goals of providing infrastructure and supporting housing affordability. Given fiscal constraints, SDCs are likely to remain central to local funding for infrastructure, and most stakeholders agree that development should contribute to growth-related infrastructure costs at some level. However, impacts to housing production and affordability for moderate and low-income households depend on how rates and policies are established. While there are limits on jurisdictions' ability to build progressivity into SDCs since they must relate to impacts, changes to rates structures, policies, and administrative practices can lead to improvements at the margins that could, collectively, yield a meaningful change.

Introduction

In 2021, the Oregon legislature passed House Bill 3040 (HB 3040), directing Oregon Housing and Community Services (OHCS) to prepare a study of System Development Charges (SDCs)—one-time fees charged on new development to help pay for existing and planned infrastructure to serve growth. The legislature requested that the study cover the history of the charges, methodologies for setting the fees, recent trends in fee levels, how the fees relate to other development costs, and how they ultimately affect the cost of housing. OHCS contracted with ECONorthwest and subcontractors FCS GROUP and Galardi Rothstein Group to undertake this study. This report’s framework is drawn from the legislative request.

What Is a System Development Charge?

System development charges (SDCs) are one-time fees paid by new development (or, in some cases, re-development) at the time of development. They are intended to capture an equitable share of the cost of “system” capacity—large backbone facilities that provide service system-wide or to a portion of the service area, with extra capacity beyond an individual development’s needs. They can be based on the value of capacity available to serve growth in existing facilities and/or the cost of building future facilities to provide additional capacity to serve growth.

This report provides a statewide look at how SDC rates are established, the role they play in funding infrastructure, and how they impact housing cost and production. In addition to research, data collection, and analysis by the consultant team, this report is based on input from stakeholders, including a wide range of service providers—cities, counties, and special districts—that charge SDCs and housing developers (see Appendix A and Appendix B for summaries of the input from stakeholders).

A summary of findings follows this introduction, followed by more detailed discussions of SDC History and Legal Context, The Role of SDCs in Funding Infrastructure, How and Why SDCs Vary

Across Oregon, SDCs and Housing Costs, and SDC Administrative Policy Implications that document the project team’s research and analysis as well as input from stakeholders, where applicable. A list of acronyms and a glossary are included following the Conclusions, followed by appendices with additional details of data and analysis discussed in the report.

Similar studies have been conducted recently in different contexts. The University of California Berkeley’s Tener Center for Housing and Innovation completed a study of residential impact fees in California in 2019. The Federal Highway Administration completed a national study of development impact fees and other development charges in 2021. Topics in both works include impact fee structure, design, transparency, and timing; legislative history and case law; alternative funding options; impact of housing affordability, development feasibility, and cost incidence; and case studies and nexus studies. This report explores these topics within Oregon’s context.

Summary of Findings

History and Legal Framework

- **Impact fees have a long history, emerging nationally after World War II and in Oregon in the 1970s.** Requiring developers to build public improvements became common during the Great Depression. After World War II, local governments began to require that developers pay money instead of or in addition to dedicating land or public improvements. The first SDC in Oregon was enacted in 1972 by the City of Corvallis.
- **U.S. Supreme Court rulings on development exactions inform how impact fees are set, though it's unclear whether they apply directly.** Legal doctrine surrounding development exactions (required dedications of land, money, or anything else of value as a condition of development approval) requires that they be clearly related and roughly proportional to the development's impact. A 2013 Supreme Court ruling raises questions about whether the same tests extend to impact fees, given that they are established in a legislative policy context rather than ad hoc for individual properties, but this broader legal context informs local approaches to impact fees.
- **The Oregon SDC Act of 1989 established guidelines on the purpose and use of the charges and the methods for developing a fee schedule.** The Act intended to help Oregon public agencies equitably recover the costs of infrastructure needed to serve growth from growth, thereby reducing the likelihood that those costs would be shifted to existing rate and taxpayers. The statutes allow SDCs to be used for capital improvements for five categories of public facilities: 1) water supply, treatment, and distribution; 2) wastewater collection, transmission, treatment, and disposal; 3) drainage and flood control; 4) transportation; and 5) parks and recreation. SDCs can be based on future improvements (an "improvement fee") identified in a capital improvement program or comparable plan and/or on available capacity in systems the jurisdiction has already built (a "reimbursement fee").

Fiscal Context

- **Federal infrastructure spending has declined since the 1980s, particularly for water infrastructure, while state and local infrastructure spending has increased.** While federal spending has been flat or declining, local and state spending on infrastructure has grown over the past several decades. Much of this increase in spending has been for operations and maintenance, rather than capital projects. The 2021 Bipartisan Infrastructure Law promises substantial federal investment in transportation and water infrastructure over the coming years, much of which is targeted to repair and replacement of aging or unsafe infrastructure.
- **In Oregon, declining state gas tax revenues and reductions in timber payments to many Oregon counties have caused further declines in available funding for transportation.** This has limited available revenue at the state and county level to fund major road improvements.

- **Oregon property tax limitations imposed in the 1990s slowed the growth of property tax revenue and sharply reduced localities’ abilities to use property taxes to finance infrastructure improvements.** Oregon’s Measures 5 and 50 limited property tax rates and the growth in assessed values, respectively. New operating or bond levies require voter approval under Measure 50, and special operating levies are subject to Measure 5 limits on total tax rate. These changes have constrained property tax revenue at the local level, which has generally grown at less than 5 percent per year for the past two decades.
- **At the same time, higher environmental and safety standards have increased the cost of infrastructure investments and maintenance, while construction costs and personnel costs (including pensions) have also risen.** Factors such as Clean Water Act requirements and requirements to manage water pollution from roadway runoff have increased the cost burden on local governments. Increasing awareness of risks from natural hazards such as earthquakes and tsunamis has also led to higher costs for many infrastructure capital projects, even before accounting for changes in material and labor costs.
- **Local governments and special districts have increased water/sewer rates and added user fees to close funding gaps.** Water and wastewater utility rates have increased by over 80 percent in total from 2008 levels compared to an increase of a little over 20 percent in the CPI over the same period. At least 50 cities across Oregon also impose on-going user fees for government services like parks, streets, and public safety to fill the void that tax limitations created.
- **There are few viable alternatives to SDCs for local investments in capital infrastructure, particularly in fast growing communities.** SDCs also provide an important leveraging tool for state and federal infrastructure grants, particularly for parks and transportation.²

SDCs Across Oregon

- **Most cities in Oregon charge at least one of the five allowable SDCs, but total rates vary substantially.** The total 2022 SDCs for a single-family residence range from under \$5,000 in some small cities to close to \$50,000 in some Portland Metro area jurisdictions. Some of the smallest cities, particularly in Eastern Oregon, do not charge SDCs at all.
 - Based on 2022 data collected by FCS GROUP, the average total SDC rate for a single-family residence statewide is roughly \$15,000. SDCs for water, wastewater, transportation, and parks all average between \$3,800 and \$4,600 per single-family dwelling for the jurisdictions included in the sample, but substantial variability exists in these amounts across the state.
 - There is less aggregated data available on SDC rates for other housing types (e.g., multifamily and townhouses), but rates are typically less than those applied to single-family detached homes (roughly two-thirds as much for apartments and

² See Oregon SDC Study Summary of Service Provider Focus Groups (page 3).

roughly 90 percent of the single-family detached rate for townhouses based on a review of several example communities).

- **SDC rates have increased over time in most Oregon communities for most infrastructure systems.** The average increase between 2007 and 2022 was roughly 105 percent over 15 years, with the highest increases for parks and transportation SDCs.³ For comparison, construction costs escalated by roughly 60 percent nationally and the Seattle area (the closest city included in the available construction cost index data) over the same period of time.
- **Many other states use impact fees, but comparing SDCs in Oregon to impact fees in other states can be misleading.** While a few studies have published national data on impact fees, differences between states in terminology and in which infrastructure systems or public services impact fees may apply to make it difficult to draw useful comparative conclusions. For example, both Idaho and Washington have separate statutes applicable to water and wastewater charges, and facilities charges related to these systems may not be consistently reported as impact fees. These studies primarily serve to highlight that impact fees in one form or another are used extensively in many states, and that total rates vary substantially between different communities in the states where they are in use.
- **Variation in local SDC rates stems from several factors, not all of which are related to the SDCs themselves.** Key factors include planning and policy choices made prior to establishing or updating an SDC rate, methodology choices during rate-setting, and cost factors that service providers do not control.
 - **SDC project lists typically draw from local infrastructure system plans, which can vary widely in type and level of planned capital investments.**
 - Water, sewer, and stormwater master planning efforts are largely technical exercises informed by state and federal regulations. Depending on the nature and condition of the system, some communities may need to make more costly investments than others.
 - Parks and transportation plans are generally responsive to community-defined goals and informed by public input. This aligns investments with local priorities but can also result in a longer and more expensive SDC-eligible project list.
 - **Decisions about use of other local funding mechanisms to pay for infrastructure may occur prior to SDC updates.** For example, if there is support by the local community, a GO bond may be used to fund a recreation center or a group of high-profile transportation projects.
 - **In establishing the SDC methodology, jurisdictions have flexibility on many elements that can impact SDC rates.** There are many methodology variables that

³ 2007 data comes from the earliest available SDC survey data from the League of Oregon Cities (LOC). 2022 data is from data collected by FCS GROUP for the same jurisdictions who participated in the 2007 survey. Note that regional and district charges may not be consistently reported in the 2007 LOC data, which could exaggerate the magnitude of increases to some extent.

can impact the total costs the SDCs are designed to recover or how those costs are allocated to future users. Within the framework of Oregon SDC law, local governments have flexibility in selecting approaches that balance local objectives and data availability. Examples of SDC methodology choices that could impact rates include:

- Narrowing projects to include in the SDC project list to keep costs down.
 - Valuing existing facilities based on replacement cost vs. original cost (with or without depreciation) in setting a fee based on available capacity.
 - How costs are allocated to growth vs. existing users when facilities serve both (e.g., relative to existing level of service, based on the incremental cost of an oversized facility, or based on share of demand).
 - Whether grants or other sources are assumed to cover a portion of eligible costs for bigger projects (e.g., aquatic centers or major transportation improvements).
 - Whether rates account for financing and administrative costs.
 - How demand is measured (e.g., meter size for water, impervious surface area for stormwater, trip ends for transportation, or population for parks).
- **A growing number of jurisdictions are adopting SDC methodologies that adjust rates to reflect differences in demand or impact based on housing unit size.** These adjustments are typically based on local demand data. While they often pivot off an average rate for an average-size unit, they can lead to substantial differences in SDCs across jurisdictions for smaller or larger units.
 - **Many jurisdictions make policy choices to reduce SDC rates below what their methodology would support.** Among jurisdictions surveyed in 2020, 14 percent reported discounting a wastewater SDC, and 29 percent reported implementing a discounted parks SDC.⁴ In focus groups, service providers highlighted elected officials' concern about impacts to development and desire to remain competitive with peer jurisdictions as primary reasons for these choices. Some also noted phasing in larger SDC increases over several years for similar reasons.
 - **The cost of constructing capital improvements varies across the state.** Local cost drivers include lack of local labor and materials in some rural areas, high land costs in some urban areas, and geological and soil factors (e.g., steep slopes, rock outcroppings, or soils at risk of liquefaction) that can increase the costs of grading and construction.

Implementation Considerations

- **Beyond the SDC rates themselves, administrative decisions can play a big role in how SDCs affect developers and jurisdictions.** Key factors include the timing of SDC payment, exemptions for affordable housing or other types of development, policies

⁴ FCS GROUP analysis of data from League of Oregon Cities, System Development Charges Survey Report (February 2020).

related to credits for making improvements on the SDC project list, and availability of information about SDCs.

- **There are differing views on the validity of SDC exemptions for affordable housing** (or any purpose that is unrelated to a reduced demand for system capacity). Several cities and service providers have waiver policies in place for regulated affordable housing, while others do not feel it is fair (or, in some cases, legal) to waive fees for affordable housing unless the foregone revenue is “backfilled” from other sources. When exemptions are available, they offer substantial savings for affordable housing development—millions of dollars in some jurisdictions—and make projects more competitive for state and federal funding.
- **SDC credits for developers that build public improvements on the SDC project list can be a win-win for developers and jurisdictions, particularly in greenfield settings, but how they are administered matters.** Credit policies differ across providers in terms of project eligibility, creditable costs, and transferability. This variation combined with a lack of clear information regarding how to calculate credit-eligible costs can create uncertainty for developers. In addition, occasionally jurisdictions require developers to pay SDCs up front that will be reimbursed later even when they are building eligible projects, which further increases carrying costs. Transferability was cited as a valuable benefit by multiple developers, especially given statutory limits on how long credits are valid (10 years). However, transfers can increase administrative costs for jurisdictions and reduce cash flow as more developers build projects or buy credits rather than paying SDCs directly.
- **The timing of SDC payment is important for both jurisdictions and developers, but for different reasons.** Jurisdictions have flexibility under statute to assess and collect SDCs at issuance of a development or building permit, or connection to or increased usage of a capital improvement. Many housing developers prefer to pay later in the process, such as at certificate of occupancy or even at time of sale (for for-sale housing), as this reduces financing costs or allows the money to go towards early construction costs and reduces the impact of the SDCs on development. Most service providers prefer to collect SDCs at issuance of the building permit as this offers the greatest certainty of payment with the least administrative effort, and many expressed concern about challenges with collecting payment at certificate of occupancy, and even more so at time of sale. However, the timing of the revenue was less of a concern, except in limited situations (e.g., park land acquisition within a new growth area). While many jurisdictions offer financing of SDCs over the longer-term (“Bancrofting”), these programs may not offer competitive loan terms.
- **Developers value certainty about SDC costs for a particular project.** Unexpected increases to SDC costs can be difficult for both market-rate and affordable housing developers to absorb after financing and budgets are set. Estimating costs for multifamily development can be particularly challenging when rates are based on detailed characteristics such as fixture counts that may not be known early on. Clear definitions of housing types (particularly related to middle housing) are also important to allow for accurate early estimates of SDC costs. And if developers that

defer SDCs are subject to the rates at time of payment, the uncertainty about rate changes erodes the value of the interest cost savings from the deferral.

- **Some jurisdictions go above and beyond statutory notice and information availability requirements to engage and inform stakeholders, while others may not fully comply with (or be aware of) recent additions to state law regarding transparency.** Some jurisdictions pro-actively engage stakeholders in methodology decisions, provide simplified summary information about SDCs for the general public, and/or offer SDC estimation tools for developers. However, based on focus groups and review of several jurisdictions' websites, newly required informational items (current rates, methodology reports, project lists, and contact information for questions) are not consistently available online — most jurisdictions provide at least one of these items, but not all.

SDC Impacts on Housing Costs and Production

- **SDCs fund infrastructure that is needed to support growth, which can enable development and benefit future residents, but they also increase the cost of building new housing. Both factors can influence housing costs and housing production.**
- **In an accounting sense, housing developers pay the SDC (e.g., write a check). But the cost burden of the charge can be shared with a variety of other actors, including investors, landowners, homebuyers, and renters.** Developers need to weigh SDCs and other cost inputs against the sales prices or rents they are expecting to achieve on each project. Because SDC costs are outside developers' control, they must make choices about other aspects of the development to bring total costs and prices or rents into alignment. How the SDC's additional costs are ultimately distributed among the various market actors depends on the actors' relative sensitivity to prices. Economic theory assumes the party with fewer alternatives is less sensitive to change in price and bears a greater portion of the SDC.
- **Homebuyers and renters in tight housing markets likely bear a greater share of SDC costs.** If developers build larger units to justify higher prices, build smaller units to stay within what buyers or renters are willing to pay, or charge higher prices/rents for the same housing, end users are getting less value for their money and absorbing some of the costs, even if they are paying the same amount. Developers cannot charge higher prices or rents unless the market demand is strong enough to accept the increase. This is more likely to occur if demand exceeds supply. Affluent households are less likely to be cost-sensitive than lower-income households, but lower-income households can be affected by limited supply and lack of lower-cost options, even if they are not absorbing costs directly.
- **Theory suggests that SDCs should be absorbed in large part by landowners who receive less value for their land, though this may not always be the case.** Whether and to what extent SDCs are absorbed in land prices depends on the availability of other developable land within the same market, how much SDCs vary between comparable pieces of developable land, and the timing of the land purchase relative to when SDCs are known.

- **Investors, lenders, and developers are unlikely to absorb SDCs by accepting lower returns except in very unusual circumstances or when SDC costs increase unexpectedly during development and cannot be passed on to others.** Generally, market-rate development will not occur unless the expected revenues from the project exceed the expected costs by a sufficient margin to create financial returns for investors, lenders, and developers that justify the risk of their investment. Investors and lenders usually have other options to invest in across multiple markets and will avoid places that generate lower risk-adjusted returns. Developers may absorb costs when they exceed initial expectations, but they can mitigate the costs through contingency funds and by getting estimates of SDC costs up front as much as possible.
- **Studies from Oregon and across the country have consistently shown a pattern of higher home prices in areas with higher SDCs. However, the reasons behind this are unclear.**
 - **Academic research from across the country spanning several decades shows positive correlations between impact fees and housing prices in a range of contexts.** The difference in home prices was larger than the difference in impact fees in some studies and smaller in others, but the direction of the relationship was consistently positive (higher home prices in areas with higher impact fees). Studies that evaluated relationships between impact fees and land prices or housing production had more mixed results, with some finding positive relationships and others finding negative ones. These studies could not control for all other potentially relevant variables and do not establish causation, though some authors posit that the amenity value of the infrastructure itself is responsible for the relationship, rather than the costs of the impact fees. Others suggest potential cost-related explanations.
 - **Academic literature has also established a link between property values and key infrastructure.** Studies suggests that property values are higher closer to parks and that congestion is associated with “disamenity” (negative) values for some economic indicators, while bicycle and pedestrian infrastructure can increase property values. These factors can potentially drive home prices and rents in areas where SDCs are providing infrastructure that is valued by housing consumers.
 - **A comparison between average single-family home values and single-family SDC rates for 76 cities in Oregon shows a general pattern of higher rates in areas with higher home values, but also substantial variation between communities.** Statistically this relationship accounts for only 33 percent of the variation in the data without controlling for any other factors. Service provider focus groups suggest that policy direction to keep rates low due to elected officials’ concern about impacts on development could account for some of the observed relationship (i.e., areas with lower home values and weaker housing markets may be less willing to impose high SDCs, even if infrastructure needs would justify them).
 - **An original analysis by ECONorthwest found a positive relationship between SDC levels and home prices for new development in Washington County, Oregon.** ECONorthwest analyzed sales transactions for new homes in three urban

expansion areas and adjacent recent subdivisions in Beaverton, Hillsboro, and Tigard. Current SDC rates for the areas range from roughly \$33,000 to \$53,000 per single-family detached unit, with higher rates in the expansion areas and differences between jurisdictions. A linear regression model showed higher housing prices in places with higher SDCs after controlling for other readily available housing characteristics: a \$10,000 difference in SDCs was associated with a \$7 per-square-foot difference in the price of newly built housing (about \$16,800 for a 2,400-square-foot home). However, developer interviews suggest the difference may also be due to the overall amount of infrastructure needed in the expansion areas and use of premium design and amenities to capture demand from higher-income households.

- **SDCs can be essential to funding infrastructure to enable development of greenfield areas.** Area-specific SDCs in these places substitute for other forms of exactions to some extent and distribute costs more fairly among property owners in these areas. Without these SDCs, developers would either not be able to move forward with development or would have difficulty allocating costs for facilities benefiting a broad area among multiple property owners or developments.
- **Longitudinal data from the City of Bend shows that changes in new home prices have not tracked closely with changes in SDC rates over time.** While both have increased over the past decade, new home prices have tracked with broader housing market conditions while SDC rates have tracked with construction cost indices that are used to adjust the rates year to year. While rising SDC costs could still be a contributing factor in rising home prices in Bend, they are not the primary driver.
- **SDCs affect some housing more than others — smaller entry-level homes, lower-cost middle housing and apartments, and communities with weaker markets are disproportionately affected by SDCs.** High-end single-family detached housing is generally impacted least.
 - **For a typical new single-family home, SDCs account for a relatively small share of development costs** (estimated at roughly 3 percent in Oregon at average costs). Even a relatively high SDC rate (e.g., \$30,000) would account for 6 percent or less of development costs in many medium and large cities. For larger single-family homes the share of costs is even less.
 - **SDCs are a greater share of costs for lower-cost housing types — multifamily, middle housing, and smaller single-family detached houses.** ECONorthwest’s estimates suggest SDCs account for roughly 4 to 5.5 percent of total development costs for these housing types at average costs for Oregon, but potentially 10 percent or more in high-cost markets with high SDCs. SDCs have a greater impact on financial returns and feasibility for these housing types as a result. This is supported by findings from developer focus groups, which highlighted entry-level homes and middle housing as particularly sensitive to SDC costs.
 - **When SDCs are scaled to unit size, their share of development costs is more consistent across housing types and unit sizes.** Compared to SDCs that are applied per unit, scaled SDCs result in lower SDC share of development costs for lower-cost housing types with smaller units.

- **While SDCs are typically lower in areas with weaker housing markets and lower land costs, these areas are also more sensitive increases in SDCs.** For example, in a small city outside a metropolitan area, typical SDC costs for a single-family detached home might account for only 2 to 3 percent of development costs. However, a \$10,000 change in fee for a single-family unit would have a greater impact on financial feasibility in such a city than for developments inside a metropolitan area where land and housing prices are relatively expensive. Developer focus groups suggest minimal impact from SDCs for high-end single-family homes (where there is a market for them), while impacts for typical new homes depend on market conditions.
- **Without SDC exemptions, affordable housing development can also face substantial SDC costs.** Data from several Oregon communities shows that recent affordable housing developments paid or would have paid millions of dollars in SDCs.

Part 1: SDC History and Legal Context

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1.1 History of System Development Charges

1.1.1 Origins of American Impact Fees

System development charges (also referred to as impact fees) are a form of exaction. When an owner of land plans to develop that land, the local government may determine that the planned development will create a need for additional public infrastructure. Having made such a determination, the local government may require the owner to provide some form of contribution or payment as compensation for the additional infrastructure that the local government must provide. This requirement is known as an exaction.

Exactions have long been viewed as the legitimate exercise of a local government's police power. Requiring developers to build public improvements became common during the Great Depression. Exaction of land or public improvements is still common today, and such an exaction is known as a dedication.

In terms of the police power, most local governments have great discretion in regulating to protect the public's health, safety, and general welfare. In contrast, local governments have almost no discretion in the exercise of their power to tax. It was natural, then, that local governments would turn to the police power, where they had discretion, in order to finance infrastructure needs.⁵

After World War II, local governments began to require that developers pay money instead of, or in addition to, dedicating land or public improvements. These monetary exactions come in two forms. An ad hoc monetary exaction is a customized calculation that is unique to a single development, its impacts, and the means of mitigating those impacts. A legislative monetary exaction is a rate or set of rates adopted by a governing body and applied consistently to development applications. These exactions are known generally as impact fees and known in Oregon as SDCs.

The first impact fee imposed in the United States (U.S.) may have been a "tap in" fee for new users imposed by the Hinsdale, Illinois, Sanitary District in 1947. The purpose of the fee was to finance expansion of the water treatment plant. The fee was challenged in court, but the Illinois Supreme Court ruled that the impact fee was "legal if used for capital and not operating expenses."⁶ The first SDC in Oregon was enacted in 1972 by the City of Corvallis.

1.1.2 The Rise of State Enabling Acts

States have explicitly authorized impact fees in a variety of forms, for a variety of public services, since 1987. By 1995, twenty-one states had authorized impact fees of one form or

⁵ Arthur C. Nelson, Liza K. Bowles, Julian C. Juergensmeyer, and James C. Nicholas, *A Guide to Impact Fees and Housing Affordability* (Island Press, 2008), page 49.

⁶ William Grady Holt, "Impact Fees" in *The Encyclopedia of Housing*, second edition, edited by Andrew T. Carswell (2012), page 385.

another. By 2007, twenty-seven states had authorized impact fees.⁷ It is now estimated that as many as thirty-four⁸ of the fifty United States have codified impact fee authority and accompanying constraints. All four of the states neighboring Oregon — Washington, California, Idaho, and Nevada — have impact fee statutes.⁹

Local governments in Oregon and other states have always had the authority to impose impact fees on developers, but constitutional, statutory, and case laws constrain that authority.

The Oregon SDC Act: A Brief History

The Homebuilders Association sponsored an SDC bill in Oregon that was vetoed by then Governor Goldschmidt in 1987. A small group of city and homebuilder representatives subsequently collaborated on a bill that became the initial law. In 1989, the Oregon Legislative Assembly passed the first provisions of the SDC Act, which is now codified in Chapter 223 (223.297 to 223.316) of the Oregon Revised Statutes (ORS). The SDC Act became effective in 1991.

The SDC Act's broad objective was to "provide a uniform framework for the imposition of system development charges by local governments, to provide equitable funding for orderly growth and development in Oregon's communities and to establish that the charges may be used only for capital improvements."¹⁰ It was thought that having a uniform framework would protect both developers and public agencies — and reduce the cost of potential future litigation.

More specifically, the law was intended to help Oregon public agencies equitably recover the costs of infrastructure needed to serve growth from growth, thereby reducing the likelihood that those costs would shift to existing ratepayers and taxpayers.

Since its original passing in 1989, there have been multiple attempts to modify key provisions of the Oregon SDC Law, including expansion and restriction of the types of costs that may be included in the SDCs, clarification of legislative intent and other "housekeeping" modifications, and changes to procedural and methodological requirements.

The most significant changes to the law occurred with the passage of Senate Bill 939 in 2003. Ultimately, SB 939 was a negotiated solution to a longer list of changes sought by the Homebuilders Association. The most recent change to the statutes occurred in 2021. Section 1.2.2 outlines the key elements of ORS 223.297 - 223.316.

⁷ Arthur C. Nelson, James C. Nicholas, Julian C. Juergensmeyer, "State Impact Fee Enabling Acts", contributed by Clancy Mullen, in *Impact Fees: Principles and Practice of Proportionate-Share Development Fees* (2009), page 114.

⁸ National Impact Fee Survey: 2019, Mullen.

⁹ Washington, RCW 82.02; Idaho, IC 67-82; Nevada, NRS 278B; California, CGC 66000.

¹⁰ ORS 223.297.

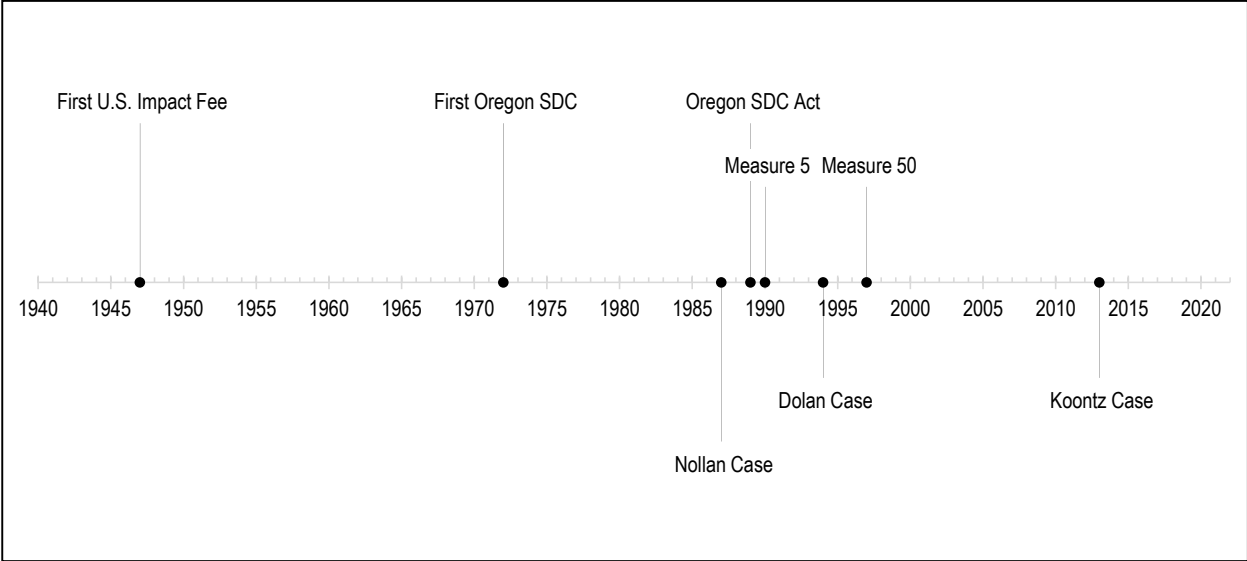
1.2 Legal Framework

1.2.1 Landmark Case Law

A number of U.S. Supreme Court cases related to exactions have defined tests of their constitutionality for exactions generally and monetary exactions. The most recent of these raises questions about whether the same tests extend to impact fees given that they are established in a legislative policy context rather than ad hoc for individual properties, but this broader legal context informs local approaches to impact fees. These cases are summarized below. The timing of these cases relative to other key events in SDC history is shown in Exhibit 1.

Exhibit 1. Impact Fee/SDC Historical Timeline

Source: FCS GROUP



Nollan (1987): Essential Nexus

Whether authorized by statute or not, all impact fees in the U.S. are subject to the Fifth Amendment of the U.S. Constitution, which created a distinction between an exaction that is a legitimate use of a local government’s police power and a taking that would require the local government to compensate the property owner.

The U.S. Supreme Court further clarified the line between exaction and taking in 1987 with its ruling on *Nollan v. California Coastal Commission*.¹¹ This ruling introduced the concept of “essential nexus” as a test for the validity of an exaction: whatever is being required (exacted) as a condition of development approval must be clearly and directly related to the impact of the proposed development.

In this case, the California Coastal Commission was concerned that the new, larger home that the Nollans proposed would obstruct the public’s view of the ocean. But instead of imposing a

¹¹ *Nollan v. California Coastal Commission*, 483 U.S. 825, 837 (1987)

restriction on the house’s height or width, the Commission required an easement for public access to the beach. The Court found that this requirement (exaction) did not fulfill the purpose of maintaining the public’s view and was therefore a taking. In other words, if the impact of the development is an obstructed view, a valid exaction must mitigate that particular problem. This is the “essential nexus” that was henceforth required of a valid exaction.

Dolan (1994): Rough Proportionality

Like the Nollan case, *Dolan v. City of Tigard*,¹² was about dedications, not monetary exactions. Taking a step beyond an “essential nexus,” the U.S. Supreme Court ruling held that a “rough proportionality” must exist between the impact of the proposed development and the exaction intended to mitigate that impact.

However, the exaction in Dolan was a land dedication, or “possessory exaction,” required ad hoc at the time of permit approval, leaving open the question of whether the “rough proportionality” standard applied to legislatively adopted, non-possessory (monetary) exactions, like impact fees. The court also noted that generally applicable legislative regulations should be treated with more deference than property-specific determinations.¹³

Koontz (2013): Monetary Exactions

In 2013, the U.S. Supreme Court finally ruled on a case involving monetary exactions. In *Koontz v. St. Johns River Water Management District*,¹⁴ the Court held that the Nollan and Dolan tests apply to monetary exactions just as they do to dedications, at least in the case of adjudicative exactions (specific to an individual parcels). However, the ruling may still leave open (to lower courts) the question of whether the more restrictive essential nexus test applies to legislative exactions that are programmatic or apply to development more broadly (e.g., service area-wide).^{15, 16, 17}

1.2.2 Oregon SDC Act: Overview of Key Elements

As mentioned previously, the broad objective of the Oregon SDC Act was to provide a uniform framework for the imposition of SDCs by local governments. The essential elements of this

¹² Dolan v. City of Tigard, 512 U.S. 374 (1994).

¹³ U.S. Department of Transportation, Federal Highway Administration, “Essential Nexus, Rough Proportionality, and But-For Tests: State of the Practice,” 2021.

¹⁴ Koontz v. St. Johns River Water Management District, 570 U.S. 595 (2013).

¹⁵ Julie Kim, Bene Tellus, Thay Biship, and Stefan Natzke. Value Capture: Development Impact Fees and Other Fee-Based Development Charges, A Primer. Report No. FHWA-HIN-21-004. Washington, D.C.: U.S. Department of Transportation, August 2021 (page 26).

¹⁶ Howard Ellman, Esq. and Kimberly Huangfu, Esq., “U.S. Supreme Court’s Koontz Decision Seemingly Broadened Landowner Protection in the Realm of Regulatory Takings Law, While Leaving Several Intriguing Questions Unanswered,” *Buchalter Nemer Client Alert*, September 2013.

¹⁷ Adam Lovelady, “The Koontz Decision and Implications for Development Exactions,” *Coates’ Canons NC Local Government Law*, UNC School of Government, July 1, 2013.

framework are listed below. More specific requirements and local approaches to each element are addressed later in this report. Appendix C summarizes Oregon case law that clarifies some provisions of the Oregon SDC Act.

Definition of Capital Improvements

SDCs may be used for capital improvements for the following public facilities:

- Water supply, treatment, and distribution
- Wastewater collection, transmission, treatment, and disposal
- Drainage and flood control
- Transportation
- Parks and recreation

Previous legislative bills to amend the law by broadening facilities to include schools, police or fire improvements have been unsuccessful.¹⁸ However, because of some of these efforts, the legislature did adopt a construction excise tax that is charged per square foot for new residential development to provide additional funding for schools.¹⁹

Determination of SDC Amount and Methodology

SDCs may consist of a reimbursement fee, an improvement fee, or both. Improvement fees are associated with capital improvements to be constructed, while reimbursement fees are designed to recover the costs associated with capital improvements already constructed or under construction. The statutes put some constraints on the costs that may be included in each fee component:

- Reimbursement fees exclude existing facility costs funded by gifts or grants and costs associated with “used capacity” (facility capacity needed to meet existing development service demands).
- Improvement fees are based on the projected costs of capital improvements included on an SDC capital project list that expand capacity to meet the service demands of future system users.²⁰

An SDC methodology based on a combination reimbursement and improvement fee structure must demonstrate that the charge is not based on providing the same system capacity.²¹

¹⁸ For example, HB 2581 from the 2007 Oregon Legislature.

¹⁹ ORS 320.176

²⁰ An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities. ORS 223.307

²¹ This requirement is straightforward to meet if there is no overlap in specific facility improvements between the two fee components, and if the value of used capacity in facility components is excluded from the reimbursement fee.

Beyond these constraints, the statutes provide flexibility in determining SDC amounts and methodologies, provided that new users contribute no more than an equitable share of costs.²² It is important to note that the statutes do not prescribe specific bases for charging individual developments, nor do they preclude local governments from providing discounts, waivers, or exemptions for certain classes of development, consistent with modern rate-making principles.²³

SDC Capital Project List

Local governments are required to prepare a capital improvement program or comparable plan, prior to the establishment of an improvement SDC, that includes a list of the improvements that the jurisdiction intends to fund with improvement fee revenues and the estimated timing, cost, and eligible portion of each improvement.²⁴ This requirement was an added provision to the original statute to provide greater transparency on the basis for improvement fee costs and expenditures. Since reimbursement fees are based on facilities already constructed or under construction, the project list requirement is not applicable.

SDC Credits

A credit must be provided against the improvement fee for the construction of “qualified public improvements.” Qualified public improvements are improvements required as a condition of development approval, identified in the SDC capital project list, and either:

- a) Not located on or contiguous to property that is the subject of development approval; or
- b) Located in whole or in part on or contiguous to property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.”²⁵

SDC Expenditures, Accounting, and Appeals

Expenditures of SDC revenues are limited to payment for capital improvements (including repayment of indebtedness) for the systems for which the fees are collected. Improvement fee revenues are limited to capacity-increasing capital improvements needed to provide service to future users, in accordance with the SDC capital project list.²⁶ SDC revenue may also be spent

²² ORS223.297 (Policy) indicates that the imposition of SDCs is intended “to provide equitable funding for orderly growth and development in Oregon’s communities...” and 223.304 indicates that reimbursement fees must “promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities.”

²³ See for example, “Affordability and Equity Considerations for Rate-Setting” (Eric Rothstein, Stacey Isaac Berahzer, Joe Crea, and Michael Matichich for *Journal AWWA*, September 2021) which argues that water, wastewater, and stormwater service providers have a social responsibility to ensure universal, affordable access to services, as part of their rate-setting framework. Not all service providers or experts agree with this interpretation.

²⁴ ORS 223.309

²⁵ ORS 223.304(4)

²⁶ Per 223.307(2), “an increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities.”

on the cost of complying with the statutes, but not for administrative office facilities or operation and maintenance costs associated with capital facilities.

Local governments are required to deposit SDC revenues into dedicated accounts and provide an annual accounting of revenues and expenditures.²⁷ Furthermore, local governments must create administrative procedures for individuals to challenge SDC revenue expenditures or calculations, and to provide adequate notice regarding review procedures, including the right to petition for review pursuant to ORS 34.010 to 34.100.

Methodology Notification, Review, Updating, and Transparency

The local government must maintain a list of persons who have made a written request for notification of establishment or modification of an SDC and provide notice to such individuals at least 90 days prior to the first public hearing to enact a new or modified SDC. The SDC methodology must also be made available for review 60 days prior to the first public hearing.²⁸

Application of one or more cost indices periodically is not considered a change in the methodology, provided that the index is published by a recognized agency, independent from the methodology, and incorporated into the methodology or adopted separately by ordinance or resolution.²⁹

Similarly, the SDC capital project list may be updated at any time. However, if an SDC is to be increased by a proposed modification to the list then written notice must be provided to interested parties at least 30 days prior to adoption of the proposed modification, and if requested within seven days of the planned adoption, a public hearing must be held.³⁰

As a result of the most recent amendments in 2021, local governments are required to make information on SDC rates, methodologies, planned capital improvement project funding, and local official contact information available on a website or other means free of charge upon request.³¹

²⁷ ORS 223.311. While not required, some local governments track fund balances for improvement fees and reimbursement fees separately, because there are fewer restrictions on reimbursement fee spending.

²⁸ ORS 223.304(7)

²⁹ ORS 223.304(8)

³⁰ ORS 223.309(2)

³¹ ORS 223.316

Part 2: The Role of SDCs in Funding Infrastructure

Primary Contributors: ECONorthwest, FCS GROUP, Galardi Rothstein Group

2.1 Evolving Fiscal Context

For the last 40 years, economic and political factors have moved many local governments across the U.S. to rely more heavily on SDCs and other local funding sources to pay for infrastructure. Oregon has been no exception. Some of the key factors include:

- Overall flat or declining funding from the federal and/or state level for infrastructure, particularly for new infrastructure.
- Additional environmental and other regulations that have increased infrastructure costs.
- Increasing operations and maintenance costs.
- Limitations on local property tax revenues.
- Increasing demand for local user fees and rate revenues, particularly for water and sewer.

These are addressed in more detail below.

2.1.1 Federal and State Funding

Trends in Federal Funding for Infrastructure

The U.S. Congressional Budget Office (CBO) describes historical trends in federal funding for infrastructure compared to state and local funding, going back to the 1950s:

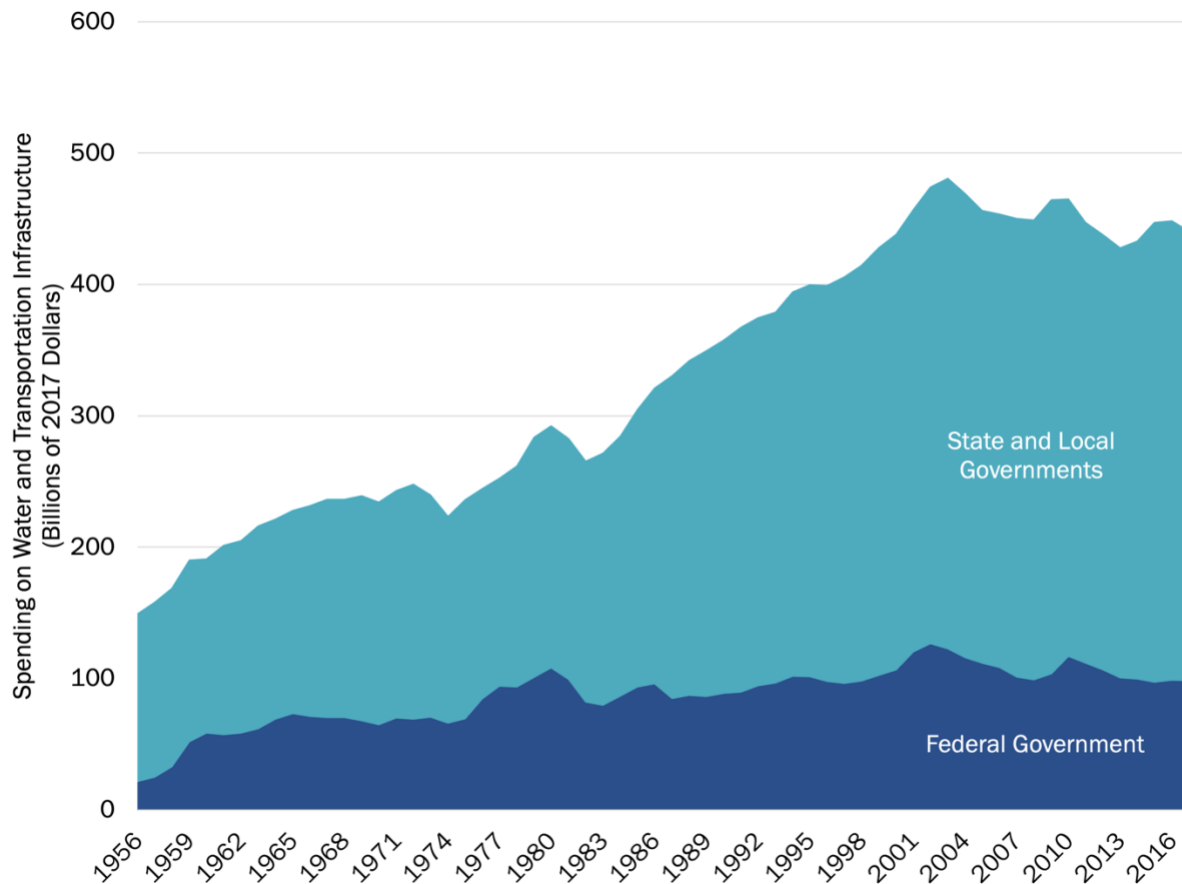
From the 1950s to the 1980s, the federal share of public infrastructure spending was typically much larger than it is today, reaching a high of 38 percent in 1977. But that share started to decrease in the 1980s, when state and local governments began to invest more in transportation and water infrastructure while federal spending on infrastructure remained relatively stable. Since 1987, federal spending has accounted for roughly one quarter of public spending on transportation and water infrastructure.³²

This is shown in Exhibit 2.

³² Congressional Budget Office, “Public Spending on Transportation and Water Infrastructure, 1956 to 2014,” <https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/49910-infrastructure.pdf>, March 2015, page 27.

Exhibit 2: Public Spending on Transportation and Water Infrastructure by Level of Government, 1956-2017

Source: ECONorthwest using data from the Congressional Budget Office, originally drawn from data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis.



Dollar amounts are adjusted to remove the effects of inflation using price indexes for government spending that measure the prices of materials and other inputs used to build, operate, and maintain transportation and water infrastructure.

The CBO notes that the American Recovery and Reinvestment Act (ARRA) “temporarily boosted federal outlays for infrastructure by \$55 billion, in nominal terms, over the 2009–2014 period; about one-half of that amount was spent in 2009 and 2010.”³³

This summary predates passage of the federal Bipartisan Infrastructure Law introduced in mid-November of 2021, which allocated funding to over 350 programs across several federal departments and agencies to improve broadband, rail and transit, clean energy, water, and other infrastructure.³⁴ This infrastructure bill specifically budgeted almost \$570 billion for transportation projects, including roads, bridges, public transit, passenger and freight rail, and airports and waterways projects.³⁵ Furthermore, the bill’s budget allocated over \$100 billion to resilience, water infrastructure, and clean drinking water projects. These investments far exceed

³³ Congressional Budget Office, “Public Spending on Transportation and Water Infrastructure, 1956 to 2014,” March 2015, page 16.

³⁴ The White House. 2022. Building a Better America: A Guidebook to the Bipartisan Infrastructure Law.

³⁵ The White House. 2022. “Data Guidebook.” A Guidebook to the Bipartisan Infrastructure Law.

those noted above from the ARRA and could dwarf federal spending on transportation and water infrastructure in 2017.

Exhibit 3: Bipartisan Infrastructure Law Budget, 2021: Transportation and Water Investments

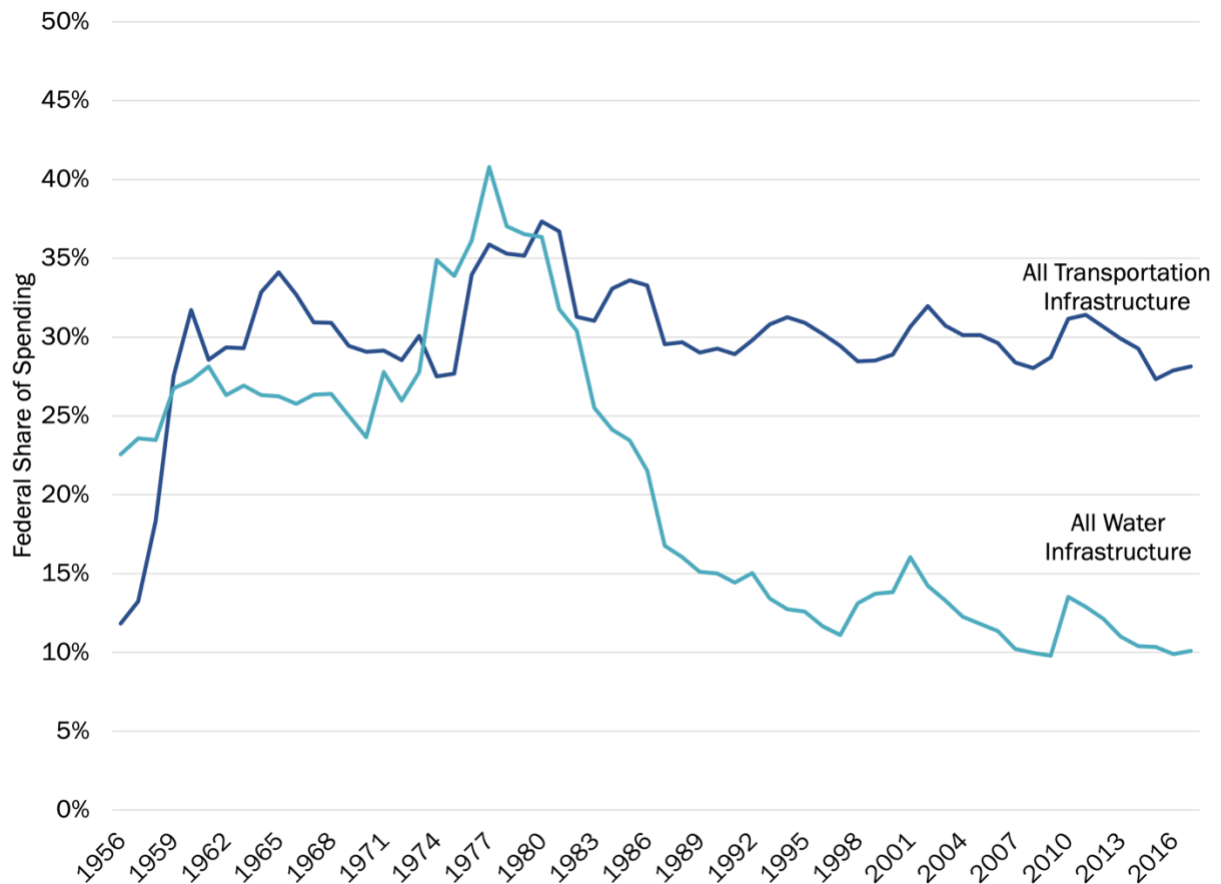
Source: The White House. 2022. "Data Guidebook." A Guidebook to the Bipartisan Infrastructure Law.

Investment Category	Budgeted (in billions)
Transportation	569
Roads, Bridges, and Major Projects	326
Public Transit	83
Passenger and Freight Rail	63
Electric Vehicles, Buses, and Ferries	19
Airports, Ports, and Waterways	42
Safety	38
Resilience, Water Infrastructure, and Clean Drinking Water	102
Total Transportation, Resilience, and Water	671

Federal contributions to infrastructure have varied between water and transportation over time, as shown in Exhibit 4. This shows that federal contributions to water infrastructure have dropped more dramatically as a share of total public spending, while federal transportation investments have remained relatively flat relative to total public spending.

Exhibit 4: Federal Contribution to Infrastructure Spending by Type, 1956-2017

Source: ECONorthwest using data from the Congressional Budget Office, originally drawn from data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis.

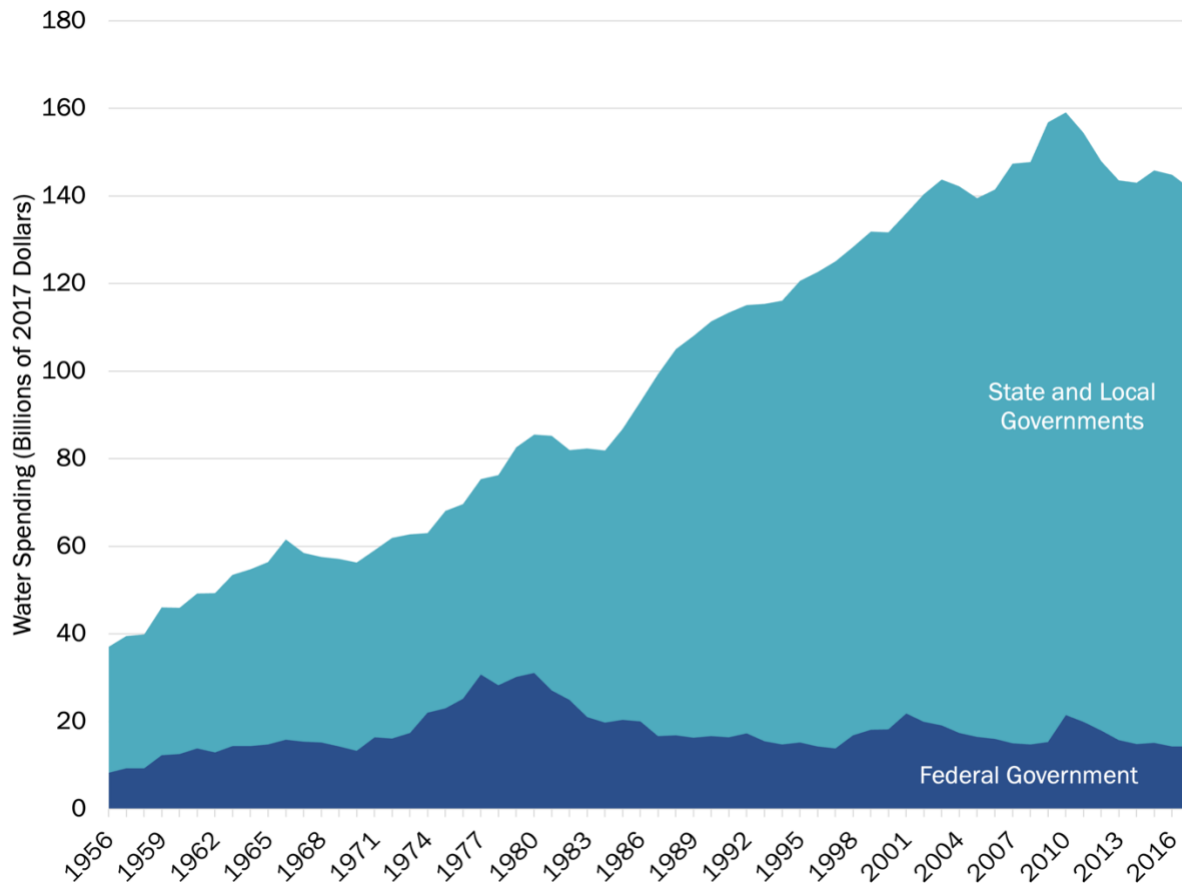


Federal Spending on Water and Wastewater Infrastructure

Data on public spending for water resources and water and wastewater utilities³⁶ specifically (Exhibit 5) shows the rise of state and local spending for water-related infrastructure, and the decline in federal investment since the 1980s.³⁷ Spending on water supply and wastewater treatment facilities increased in the mid-1970s when the federal government provided grants to state and local governments under the Clean Water Act of 1972.³⁸

Exhibit 5. Public Spending on Water Infrastructure* by Level of Government, 1956-2017

Source: ECONorthwest using data from the Congressional Budget Office, originally drawn from data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis.



*Combines data on water resources, which include water containment systems (dams, levees, reservoirs, and watersheds) and sources of freshwater, and water utilities, which include water supply and wastewater treatment facilities.

³⁶ According to the CBO data notes, “Water resources include water containment systems (dams, levees, reservoirs, and watersheds) and sources of freshwater (lakes and rivers). Water utilities include water supply and wastewater treatment facilities.”

³⁷ The rise in spending may be attributed to numerous factors including state and federal mandates and extensive need for infrastructure repair and replacement. In Oregon, recent changes to land use laws imposed on communities over 25,000 population by House Bill 2001 will further increase infrastructure spending needs for some local agencies to upgrade infrastructure to accommodate higher density development.

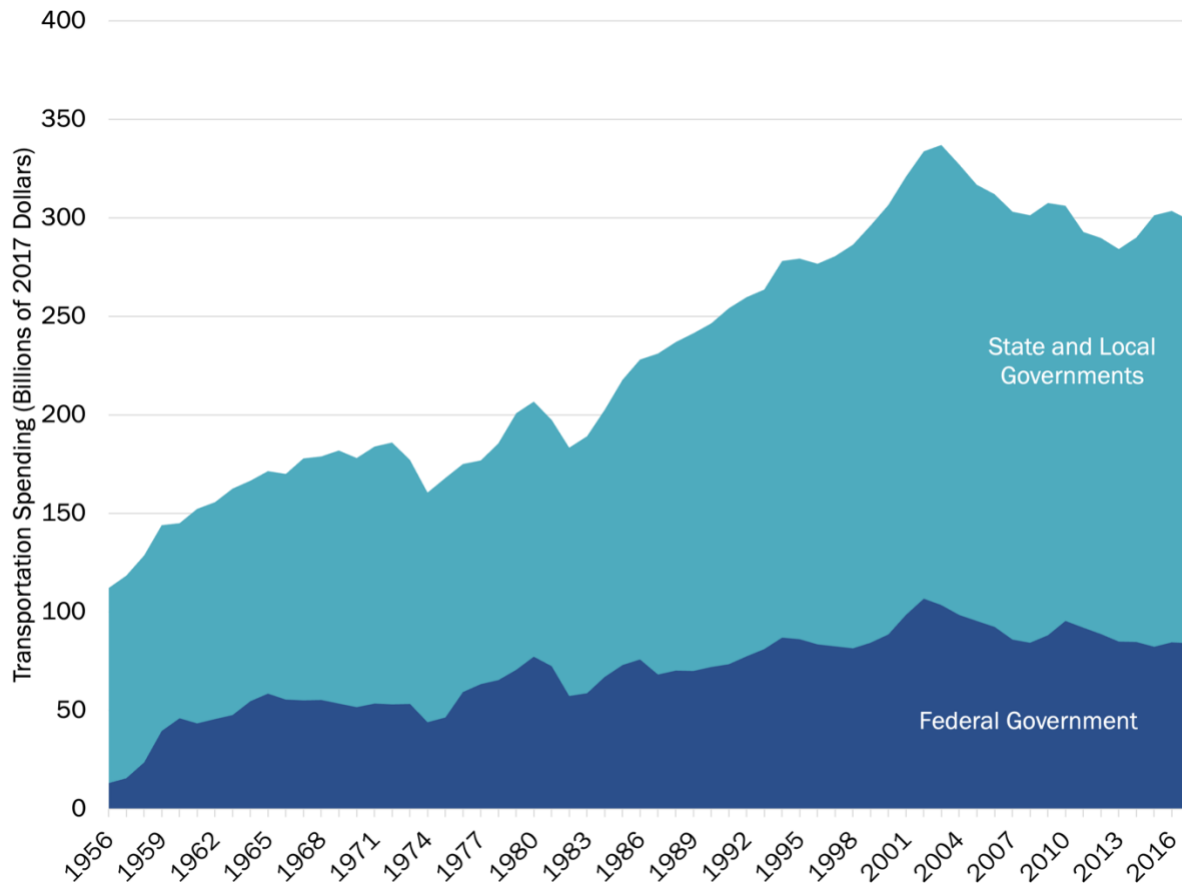
³⁸ Congressional Budget Office, “Public Spending on Transportation and Water Infrastructure, 1956 to 2014,” March 2015, page 16.

Federal Spending on Transportation

According to the CBO, “spending on highways increased under the Federal-Aid Highway Act of 1956 when the federal government funded construction of the Interstate Highway System. In the late 1990s, spending on highways and mass transit increased under the Transportation Equity Act for the 21st Century.” As shown in Exhibit 6, federal transportation spending has been relatively flat to slightly declining since the late 1990s in real terms.

Exhibit 6: Public Spending on Transportation* Infrastructure by Level of Government, 1956-2017

Source: ECONorthwest using data from the Congressional Budget Office, originally drawn from data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis.



* Transportation infrastructure includes highways, mass transit and rail, aviation, and water transportation.

According to one study:

The highway system that was to be primarily funded by federal sources has fallen into disrepair with increasing congestion because of inadequate federal funding. States elected not to assume the primary role that the federal government was abandoning for precisely the same reason that the federal government was abandoning it: cost. The

*responsibility for highway maintenance and other major public investments has fallen to local jurisdictions by default.*³⁹

Another component of federal funding for transportation in Oregon comes from federal timber payments in lieu of property taxes, 75% of which are dedicated to transportation. With declining timber harvests, these payments have been reduced, even with special allocations to address the decline.⁴⁰

State Funding for Transportation

Revenue limitations have affected state funding for transportation as well. Oregon's State Highway Fund is shared among the state highway program, county roads, and city streets under a formula in which approximately 50% of revenues go to the state, 30% to counties, and 20% to cities. The State Highway Fund's revenue sources include state fuel taxes, state weight-mile taxes on trucks, state vehicle registration and title fees, and federal funds. Neither fuel taxes nor user fees are indexed to inflation, and increasing vehicle efficiency, along with hybrid and electric vehicles, are reducing fuel consumption, which have led to flat or decreasing funding from these sources.⁴¹

Federal Financial Backing for Subdivision Development

The spike in federal transportation spending in the post-World War II era was accompanied by federal housing policies that supported new housing development and developers' ability to finance greenfield development costs. During that period, the Federal Housing Association (FHA) incentivized developers to build large new segregated single-family subdivisions through guaranteeing bank loans and mortgage insurance by way of pre-construction plan approvals.⁴² The FHA's approval of subdivision plans ensured builders' ability to obtain low-interest loans issued by banks to finance their construction projects.⁴³ At this time, banks were usually cautious about issuing loans for working families, but they often did so when the mortgages were insured.⁴⁴ Therefore, because the FHA's approval of the pre-construction plans would automatically guarantee mortgage insurance, this meant little risk for the banks, and so they regularly financed these massive subdivision construction projects and land acquisition costs, sometimes covering the full cost of entire suburbs.⁴⁵

³⁹ Arthur C. Nelson, Liza K. Bowles, Julian C. Juergensmeyer, and James C. Nicholas, *A Guide to Impact Fees and Housing Affordability* (Island Press, 2008), pages 12-13.

⁴⁰ Oregon Legislative Policy and Research Office, "Funding Transportation Background Brief," Updated: September 2016. <https://www.oregonlegislature.gov/lpro/Publications/BB2016FundingTransportation.pdf>

⁴¹ Oregon Legislative Policy and Research Office, "Funding Transportation Background Brief," Updated: September 2016. <https://www.oregonlegislature.gov/lpro/Publications/BB2016FundingTransportation.pdf>

⁴² Rothstein, Richard. 2018. *The Color of Law*. New York, NY: Liveright Publishing Corporation. p. 70, 75.

⁴³ *Ibid.*, p. 10.

⁴⁴ *Ibid.*, p. 11.

⁴⁵ *Ibid.*, p. 70- 71.

However, there was a major caveat to attaining the FHA's approval and mortgage insurance: the requirement of an "openly stated prohibition on sales to African Americans."⁴⁶ FHA rejected subdivision construction proposals that either considered housing African Americans and/or were to be built too close to where predominantly non-white communities resided. Anything that threatened possible integration was not federally insured.⁴⁷ The FHA (and later the Department of Veterans Affairs) required that any mortgage insurance approval would be reliant upon the addition of racially restrictive covenants in every one of the subdivisions' property deeds, often with overt racist language such as "no lot or portion of a lot or building erected thereon shall be sold, leased, rented, or occupied by any other than those of the Caucasian race."⁴⁸

Thus, suburban development during the post-World War II era enjoyed federally supported low-interest financing that facilitated infrastructure investments by private developers, but only for segregated, white-only subdivisions.

2.1.2 Increasing Infrastructure Costs

Costs Associated with Changing Environmental Regulations

A growing understanding of the importance of environmental and public health protections has led to an increase in federal regulations that affect water, wastewater, stormwater, and transportation infrastructure, including the National Environmental Policy Act (NEPA) of 1969, the Clean Air Act (CAA) of 1970, the Clean Water Act (CWA) of 1972 (CWA), and the Endangered Species Act (ESA) of 1973. These policies have led to major improvements in environmental protection and human health, but not without cost.

A study of the state and local costs associated with the Clean Water Act (CWA), for example, found that local government wastewater expenditures increased by \$157 per capita, or over 230 percent, after the implementing CWA mandates. Total city expenditures increased by approximately 33 percent, primarily driven by increased wastewater spending. To recoup the expenditures, cities increased wastewater user fees by \$40.80 per capita.⁴⁹

Another study found that the cost of water pollution control for streets also increased the cost burden on local governments:

As a result of new federal environmental mandates, local jurisdictions were also being directed to make massive investments in water pollution control facilities. These

⁴⁶ *Ibid.*, p. 10.

⁴⁷ *Ibid.*, p. 74.

⁴⁸ *Ibid.*, p. 84-85.

⁴⁹ Jerch, Rhiannon. 2021. The Local Benefits of Federal Mandates: Evidence from the Clean Water Act. Temple University.

*investments originally were funded up to 85 percent by federal grants. They are now funded by federal loans amounting to 45 percent.*⁵⁰

Operations and Maintenance Costs

As the total amount of infrastructure has grown over time and major facilities built in previous decades have aged, the cost of operations and maintenance for existing facilities has increased, with much of this cost falling on local governments.

*Spending for the operation and maintenance of all types of transportation and water infrastructure has increased steadily since 1956. Spending for capital—particularly for mass transit and rail, for aviation, and for water utilities—has also increased since then, but it has typically done so at a lower rate.*⁵¹

*Since 1956, state and local governments' expenditures for the operation and maintenance of infrastructure have grown at an average annual rate of 2.4 percent, roughly three times faster than the 0.9 percent average annual growth rate of spending on capital. As a result, although state and local governments spent more for capital than for operation and maintenance in 1956, state and local spending for operation and maintenance has exceeded capital spending each year since 1973.*⁵²

This is shown in Exhibit 7.

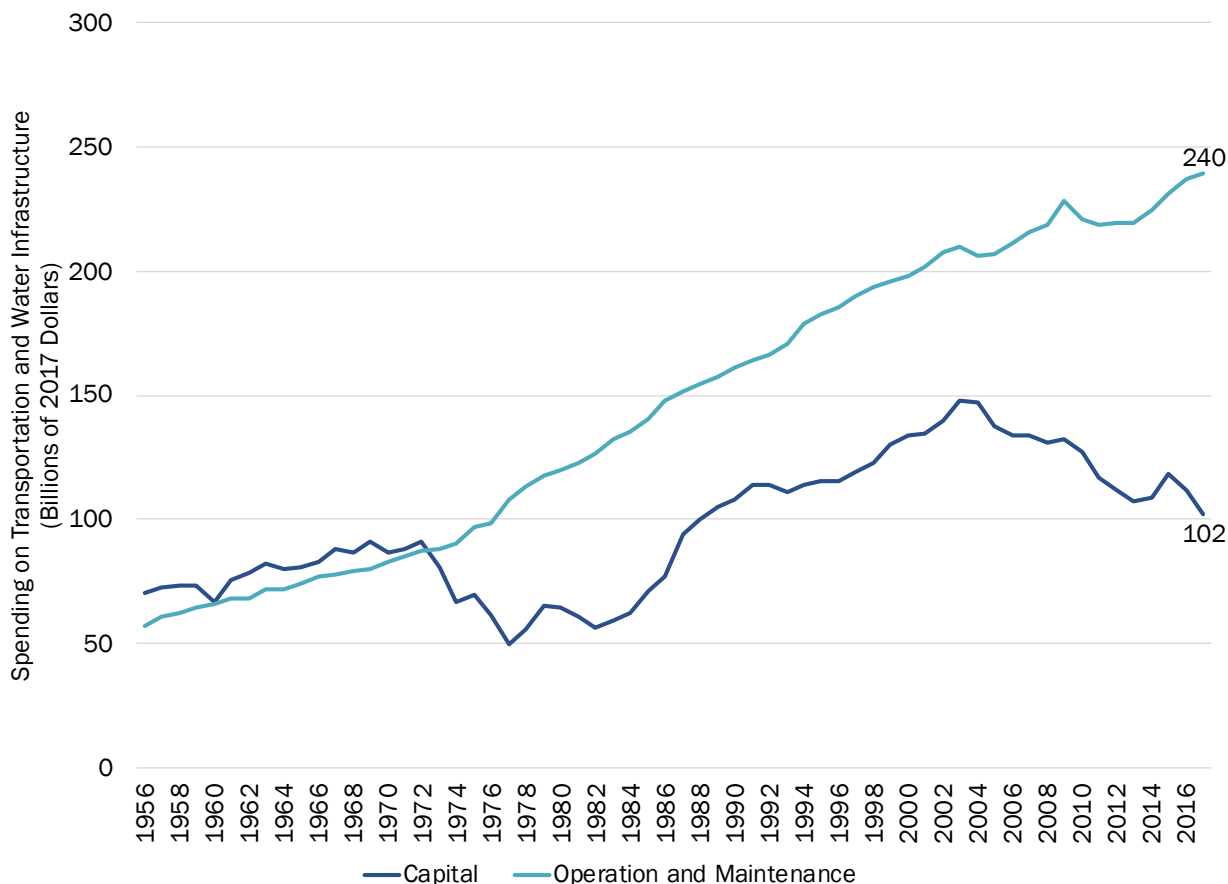
⁵⁰ Arthur C. Nelson, Liza K. Bowles, Julian C. Juergensmeyer, and James C. Nicholas, *A Guide to Impact Fees and Housing Affordability* (Island Press, 2008), pages 12-13.

⁵¹ Congressional Budget Office, "Public Spending on Transportation and Water Infrastructure, 1956 to 2014," <https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/49910-infrastructure.pdf>, March 2015, page 27.

⁵² *Ibid.*, page 22.

Exhibit 7: State and Local Spending on Transportation and Water Infrastructure, by Category of Spending, 1956 to 2017

Source: ECONorthwest using data from Congressional Budget Office originally drawn from data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis.



State and local spending is net of federal grants and loan subsidies.

a. Dollar amounts are adjusted to remove the effects of inflation using price indexes for government spending that measure the prices of goods and services consumed by governments, including materials and other inputs used to operate and maintain transportation and water infrastructure.

b. Dollar amounts are adjusted to remove the effects of inflation using price indexes for government spending that measure the prices of materials and other inputs used to build transportation and water infrastructure.

The Bipartisan Infrastructure Law’s focus on bridge repair and replacing lead drinking water pipes⁵³ could mitigate some of the more costly maintenance needs affecting water and transportation infrastructure, but it will not eliminate local operations and maintenance costs.

Rising Capital Construction Costs

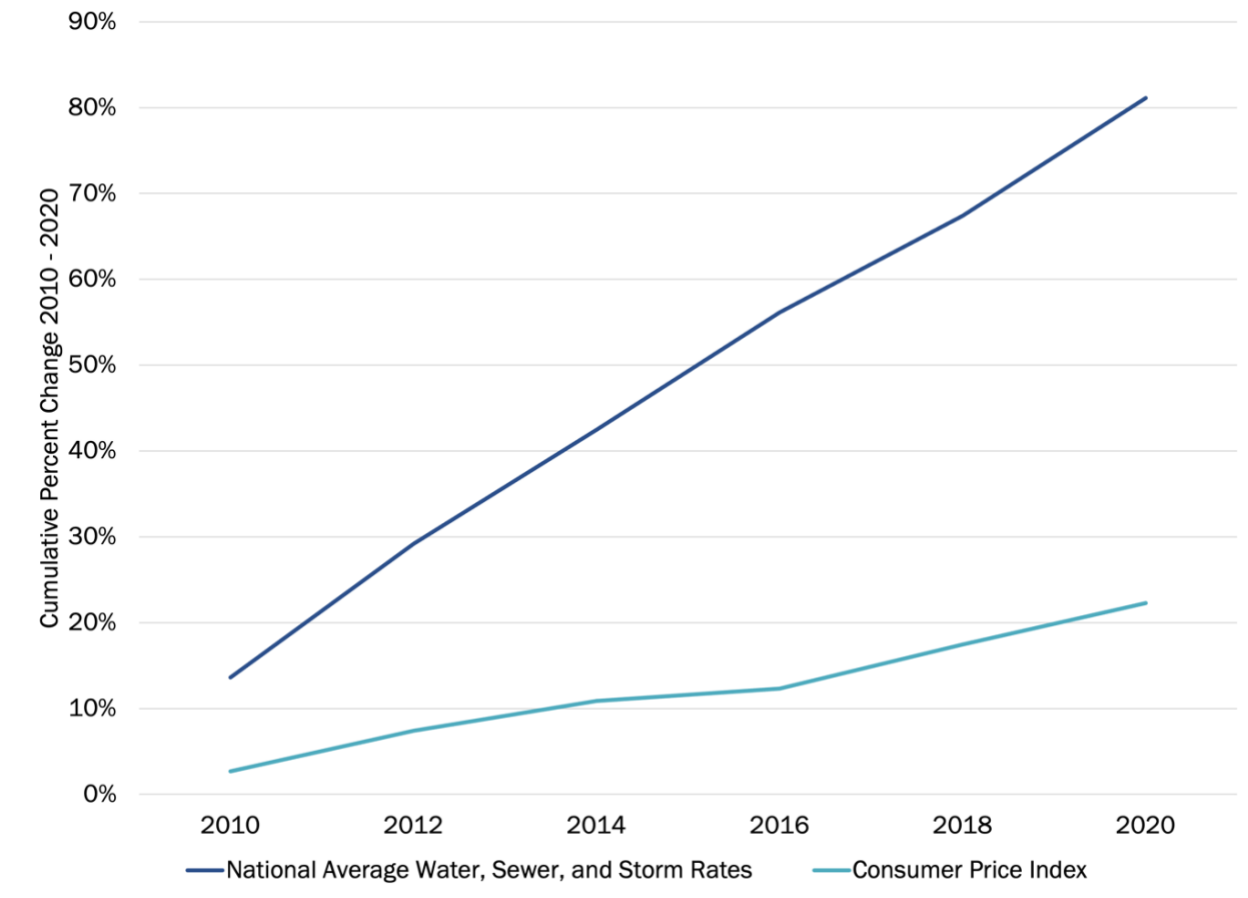
The most widely used construction cost indices in the Pacific Northwest are the Construction Cost Index for Seattle and the 20-City Average Index, both published by the *Engineering News-Record (ENR)*. Exhibit 8 shows the annual average percent change in each index between 2007 and 2021. While the Seattle index has greater variation from year-to-year (particularly during the Great Recession and the few years following recovery), the longer-term trends of both

⁵³ The White House, “President Biden’s Bipartisan Infrastructure Law”, <https://www.whitehouse.gov/bipartisan-infrastructure-law/>

indices are similar, with each increasing an average of about 3.0 percent per year. However, national and regional costs have increased significantly in the first half of 2022. Both the Seattle and 20-City average indices increased by 8-10 percent through June, compared to the 2021 annual average indices.

Exhibit 8. Historical Construction Cost Escalation and Utility Rate Increases, 2010-2020

Source: ECONorthwest and Galardi Rothstein Group using data from Engineering News Record, Construction Cost Index for Seattle and 20-City Average



Percent change is cumulative increase relative to 2008 baseline.

2.1.3 Property Tax Limitations

Starting around 1974, the U. S. experienced an inflationary period that significantly affected home prices. In areas where property tax bills were based on the market value of the home, resulting tax increases drew resistance. In 1978, voters in California passed the first of many such anti-tax measures across the country. Proposition 13 amended the California Constitution in three important ways:

- Real property valuations were rolled back to their 1975-76 values.
- Increases in assessed value were limited to 2 percent per year.
- Except for some voter-approved levies, total property tax per year was limited to 1 percent of a property’s assessed value.

Oregon Property Tax Measures

Oregon's property tax system changed substantially in the 1990s, following the trend in California and other states. The system as it existed in the early 1990s, and the major changes to it, are described in a publication from the Oregon Department of Revenue.⁵⁴ Excerpts of this summary are included below:

Measure 5, which introduced tax rate limits, was passed in 1990 and became effective in the 1991-92 tax year. When fully implemented in 1995-96, Measure 5 cut tax rates an average of 51 percent from their 1990-91 levels. Measure 50, passed in 1997, cut taxes, introduced assessed value growth limits, and replaced most tax levies with permanent tax rates. It transformed the system from one primarily based on levies to one primarily based on rates. When implemented in 1997-98, Measure 50 cut effective tax rates an average of 11 percent from their 1996-97 levels.

Pre-Measure 5

Pre-Measure 5 Oregon had a pure levy-based property tax system until 1991-92. Each taxing district calculated its own tax levy based on its budget needs. ... Generally speaking, the full market value of property was taxable; there was no separate definition of assessed value. ... Most levies were constitutionally limited to an annual growth rate of 6 percent, and levies that would increase by more than 6 percent required voter approval. ... The annual growth in taxes on an individual property depended on a number of factors, including new or larger levies and the amount of new construction within the district. ...

Measure 5

Measure 5 introduced limits, starting in 1991-92, on the taxes paid by individual properties. The limits of \$5 per \$1,000 real market value for school taxes and \$10 per \$1,000 real market value for general government taxes apply only to operating taxes, not bonds. If either the school or general government taxes exceeded its limit, then each corresponding taxing district had its tax rate reduced proportionately until the tax limit was reached. This reduction in taxes to the limits is called "compression." ...

Measure 50

The objective of Measure 50 was to reduce property taxes in 1997-98 and to control their future growth. It achieved these goals by cutting the 1997-98 district tax levies, and by making three changes: switching to permanent rates, reducing assessed values, and limiting annual growth of assessed value.

While Measure 5 simply limited the tax rates used to calculate taxes imposed, Measure 50 changed the concepts of both assessed values and tax rates. Assessed value

⁵⁴ Oregon Department of Revenue, "A Brief History of Oregon Property Taxation," 150-303-405-1 (Rev. 6-09). <https://www.oregon.gov/DOR/programs/gov-research/Documents/303-405-1.pdf>

is no longer equal to real market value. For 1997-98, the assessed value of every property was reduced to 90 percent of its 1995-96 assessed value. ...

For existing property, Measure 50 limited the annual growth in assessed value to 3 percent. ...For new property (e.g., newly constructed homes), assessed value is calculated by multiplying the new property's real market value by the ratio of assessed value to real market value of similar property. ...

Under Measure 50, permanent tax rates replaced most levies, making the permanent rates central to the property tax system. There are three types of property taxes that taxing districts may impose: taxes from the permanent rates, local option levies, and bond levies. Only the permanent rates are fixed. ...

Taxes from the permanent rates, typically referred to as operating taxes, are used to fund the general operating budgets of the taxing districts. ... Local option taxes represent the only way taxing districts can raise operating revenue beyond the permanent rate amount. Even so, these taxes are the first to be reduced if the Measure 50 limitations are exceeded. Because voters at the local level must approve these levies, they represent one aspect of local control over the level of property taxes.

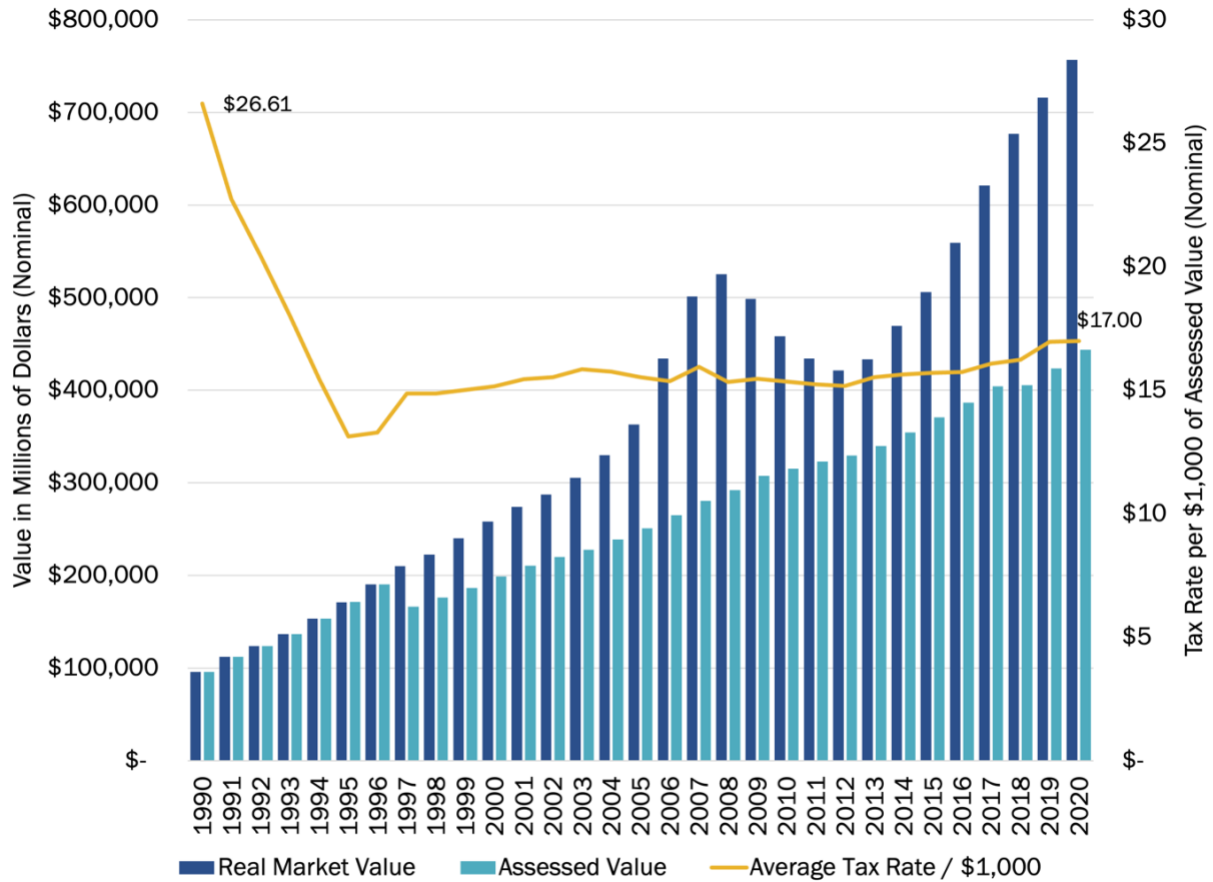
Bond levies have remained largely unchanged. They are used to pay principal and interest for bonded debt. Under the provisions of Measure 50, new bond levies, like new local option levies, are subject to a 50 percent voter participation requirement if the election is not a general election.

The statewide revenue implications of these measures can be seen in data from tables published by the Oregon Legislative Revenue Office, as summarized in Exhibit 9 and Exhibit 10, based on data from the Oregon Department of Revenue.

In Exhibit 9, the impact of Measure 5 can be seen by the decrease in the "Average Tax Rate/\$1,000" beginning in July 1991 (the start of FY 1991-92). Similarly, the impacts of Measure 50 are reflected in the July 1997 decrease and then generally smaller increases in "Assessed Value," as compared to the "Real Market Value" column.

Exhibit 9. Property Value (Real Market Value and Assessed Value) and Effective Tax Rate History, Oregon (Statewide), 1990-2020

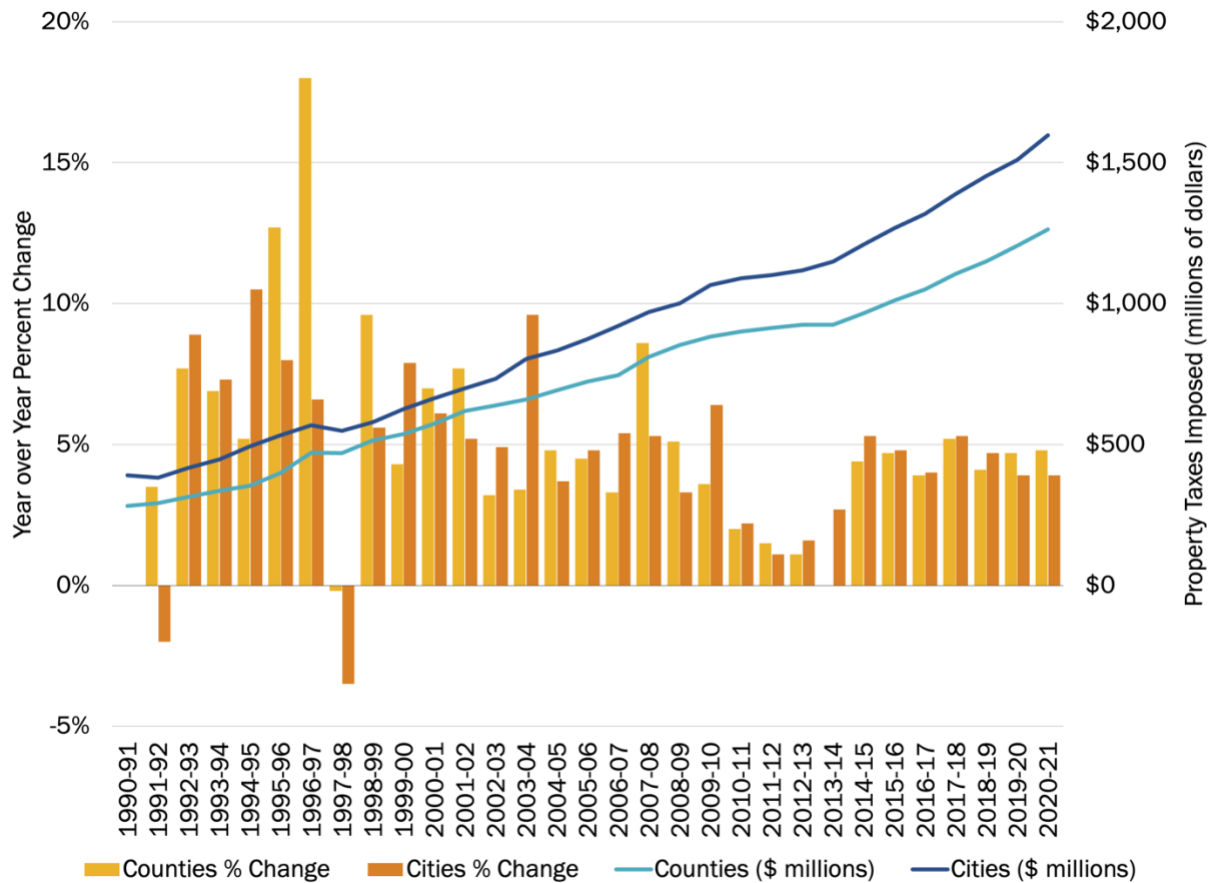
Source: ECONorthwest and FCS GROUP, using data from Oregon Legislative Revenue Office, 2022 Oregon Public Finance: Basic Facts, page D6



The impacts of these measures on city and county revenues become even clearer when the resulting property tax imposed for the same period are considered, as shown in Exhibit 10.

Exhibit 10. Property Tax Revenue History

Source: ECONorthwest and FCS GROUP, using data from Oregon Legislative Revenue Office, *2022 Oregon Public Finance: Basic Facts*, page D10



2.1.4 Increasing Demand for Water/Sewer Rates, User Fees, and Other Local Revenue Sources

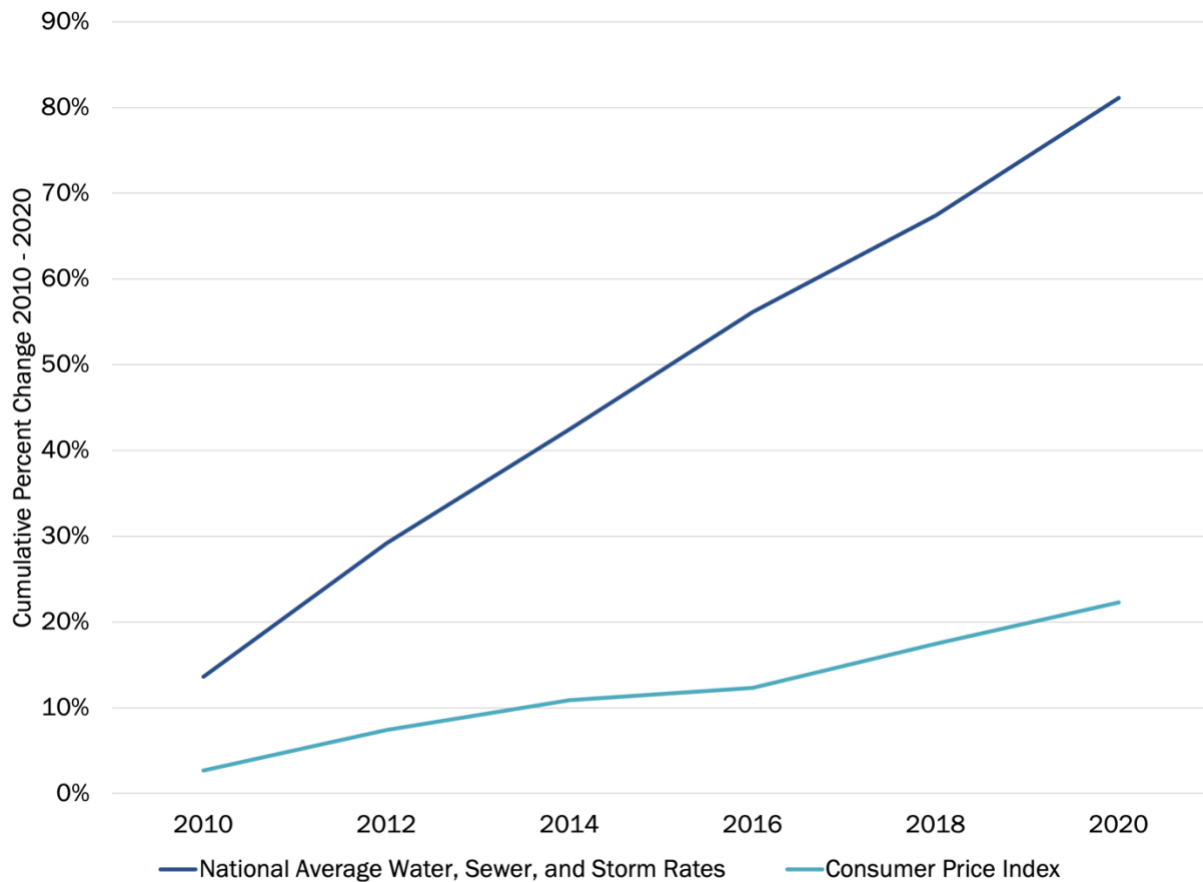
The combined effect of state property tax limitations⁵⁵ and flat or reduced federal funding has increased pressure on local governments to meet growing infrastructure needs using other sources. This has resulted in both increases in water and wastewater utility rates (charges to users based on consumption and for on-going operation of the system) and imposition of new user fees for other government services.

Exhibit 11 shows average utility rates increases for water and wastewater services relative to increases in the Consumer Price Index (CPI) based on a biennial national survey. Over the 2010 – 2020 period, average water and wastewater rate increases significantly outpaced the CPI, increasing by over 80% in total from 2008 levels compared to an increase of a little over 20% in the CPI over the same period.

⁵⁵ Property tax revenues for general infrastructure improvements may also be limited at a local level by urban renewal districts, which reserve increased tax revenues (stimulated by infrastructure improvements) to specific uses within the district.

Exhibit 11. Cumulative Water and Wastewater Utility Average Rate Increases Relative to 2008 vs. CPI (2010-2020)

Source: ECONorthwest and Galardi Rothstein Group, using data from 2020 Water and Wastewater Rate Survey published by American Water Works Association (AWWA) and Raftelis



In the context of fiscal constraints, local governments have increasingly implemented other types of operating fees for a broader suite of government services such as parks, streets, public safety, and others. In 2018, research by the City of Salem found 50 cities charging such operating fees across the state, for various services.⁵⁶

While on-going user charges or operating fees have helped to fill the void created by tax limitations, they typically rely on political/public support for fee increases. The fees for some services such as transportation and parks may only be sufficient to fund ongoing operation and maintenance costs (e.g., pavement preservation), as opposed to large-scale capacity projects. SDC revenue then becomes a primary source of funding for capital infrastructure and provides an important leveraging tool for state and federal infrastructure grants, particularly for parks and transportation.⁵⁷

As noted previously, the Oregon SDC Act was intended to provide a mechanism for recovering growth-related infrastructure costs from new development and to avoid shifting those costs to

⁵⁶ Sustainable Services Revenue Task Force Report, City of Salem (2018)

⁵⁷ See Oregon SDC Study Summary of Service Provider Focus Groups (page 3)

existing rate and taxpayers. Local agencies participating in the Oregon SDC Project Focus Groups indicated that SDCs have become an increasingly important tool for addressing these intergenerational equity concerns, particularly in fast-growing communities.

2.2 SDCs' Role in Funding Infrastructure

2.2.1 Perspectives From Local Jurisdictions

In focus groups, most service providers highlighted how important SDCs are to their ability to fund infrastructure. As detailed in Appendix A, growing communities rely on them heavily, and they are a key part of delivering infrastructure in new growth areas. Slower growing communities see less SDC revenue and need to rely on other sources. Some service providers highlighted SDCs' importance in contributing to major infrastructure projects that might not have been possible without that contribution, and they noted SDCs' importance for leveraging other funds, particularly for parks and transportation. Those with utility rates also highlighted the importance of SDCs to balance out reliance on user rates, and highlighted equity considerations from putting the cost of capacity increases on existing users.

2.2.2 Perspectives From Developers

Based on developer interviews, the value that developers ascribe to SDCs varies depending on whether they are funding area-specific improvements or citywide/broad improvements.

- **Area-Specific SDCs:** In a greenfield setting where there are no existing buildings or infrastructure, area-specific SDCs may be essential to funding infrastructure that enables new development to occur. Without these SDCs, developers would either not be able to move forward with development, or they would have difficulty allocating costs for facilities benefiting a broad area among multiple property owners or developments. In this case, the SDCs may make costs more predictable and more evenly distributed, but not necessarily higher than the costs of developing without SDCs in place. To some extent, SDCs would substitute for other forms of exactions.
- **Broad SDCs:** SDCs imposed across a broad area and used to fund incremental capacity increases in many locations generally offer less direct substitution for property-specific exactions, though the infrastructure they help to fund can contribute to the value of homes in the area generally, as discussed below.

2.2.3 Benefits to Residents

There is strong evidence that living in a community with functioning infrastructure has value to future residents.

- There is substantial literature demonstrating the value of parks to nearby residents. A review of 33 studies suggests that: a) property values are higher closer to parks, b) the

price premium is higher for larger parks, and c) the price premium is higher for “passive” parks than for “active” parks.⁵⁸

- There are also studies that show a positive relationship between bicycle and pedestrian facilities and home values.⁵⁹ Others show economic impacts from transportation delays.⁶⁰
- If water and sewer systems do not have sufficient capacity, and SDCs are not available to help fund improvements, water and sewer rates may need to increase to pay for upgrades. While water and sewer rates are generally not a major factor in housing location decisions (in part because they are often not known when the location decisions are being made), extremely high rates or major rate hikes could influence decisions at the margins.

⁵⁸ John L. Crompton. 2020. “Impact on property values of distance to parks and open spaces: An update of U.S studies in the new millennium.” *Journal of Leisure Research*, 51(2): 127-146.

⁵⁹ See, for example: Shi, Wei, “Impact of Bike Facilities on Residential Property Prices” (2017). TREC Friday Seminar Series. 110. https://pdxscholar.library.pdx.edu/trec_seminar/110

⁶⁰ Transportation Research Board. 2001. NCHRP Report 436. Economic Implications of Congestion. National Cooperative Highway Research Program.

Part 3: How and Why SDCs Vary Across Oregon

Primary Contributors: Galardi Rothstein Group, FCS GROUP

3.1 SDC Rates: Geographic Variations and Trends

3.1.1 System Development Charges Across the State

Data Sources

Several organizations in Oregon publish compilations of SDC rates for multiple jurisdictions:

- The League of Oregon Cities (LOC) surveys its member cities every three years regarding their usage of SDCs and current rates. LOC's most recent available report is from 2020 based on survey data collected in 2019. LOC has statewide coverage and relatively high participation. In the 2020 report (2019 survey), 96 jurisdictions responded. The respondents were distributed across the state with overrepresentation in the Metro, North Willamette Valley, and Central Oregon regions and underrepresentation of cities in the Coast regions, South-Central Oregon, and the Gorge.⁶¹ Variation in which jurisdictions participate in a given survey can affect year-to-year comparisons. Because survey participants represent cities, there are some inconsistencies in how SDCs administered by special districts and other service providers are reported, given that city staff may not know the rates for all other service providers operating in their jurisdiction. Reported rates focus on single-family detached homes and an office building using example projects.
- The Homebuilders Association of Metropolitan Portland (HBA of Metro Portland) publishes estimates for most jurisdictions in the greater Portland region. The most recent estimates are from 2020 and include both single-family detached and multifamily summaries. Special district SDCs appear to be consistently reported, and special rates for specific subareas are listed in addition to citywide fees. However, the data does not attempt to provide estimated SDCs for an example multifamily project and may not reflect all the adjustments that would apply to a given project. For example, water rates are listed for the same meter size as listed for single-family development, which is typically not the case. The data encompasses most jurisdictions in Washington, Clackamas, and Multnomah Counties, as well as select jurisdictions in Hood River, Yamhill, and Columbia Counties, but it does not cover the balance of the state.⁶²
- The Oregon Building Officials Association (OBOA) sends annual fee surveys to members. The most recent available data dates from January 2018 and covers 39

⁶¹ League of Oregon Cities, *System Development Charges Survey Report* (February 2020).

⁶² Home Builders Association of Metropolitan Portland, "System Development Charges," <https://www.hbapdx.org/system-development-charges.html>

jurisdictions in various parts of the state. The data covers single-family detached, multifamily, and commercial office development using example projects.⁶³

Given that all available sources are at least two years old and that some sources may not capture all special district or county SDCs, FCS GROUP collected data on current (mid-2022) SDC rates from jurisdictions across the state. To allow for historical comparisons, FCS GROUP collected data from jurisdictions that were represented in the oldest LOC survey data available, from 2007, which included a robust number of respondents.⁶⁴ Research was based on a combination of fee schedules published on City websites and direct communication with City staff. The 2022 data include regional and district charges that apply in the researched cities, to the extent data were verifiable. Where jurisdictions have area-specific SDCs, the 2022 data collected reflects the citywide rate and does not include supplemental area-specific fees.

To make effective comparisons between jurisdictions, the 2022 SDC calculations are based on the same single-family residence used in the LOC survey, as described in Exhibit 12.

Exhibit 12. Sample Survey Residence

Source: League of Oregon Cities, System Development Charges Survey Report (February 2020), page 3

Single-family, 3-bedroom home	Amount	Units
Lot size:	9,000	sq. ft.
Building size:	2,000	sq. ft.
Development value:	\$190,000	
Land value:	\$60,000	
Parking spaces:	2	
Water meter size:	3/4	inch
Water flow (gallons/month):	6,000	
Fixture units:	16	
Number of employees:	N/A	
Impervious square footage:	1,000	sq. ft.

FCS GROUP did not collect additional data for multifamily SDC rates.

Who Charges and Who Doesn’t?

Most cities in Oregon charge at least one of the five allowable SDCs—66 percent of the 2007 LOC survey respondents charge SDCs in 2022.⁶⁵ Exhibit 13 shows the number of services charged among those researched, and the average population of those cities.

⁶³ Oregon Building Officials Association, “OBOA Standards Committee,” <https://www.oregonbuildingofficials.com/standards>

⁶⁴ LOC reports that 121 out of 242 Oregon cities (50 percent) responded to the 2007 SDC survey. Of the 121 respondents, 79 (65%) charged at least one SDC. Of the 121 initial respondents, updated (2022) SDCs could be verified for 76.

⁶⁵ In the 2020 LOC survey, which captured a different sample of Oregon cities, 82% of the 96 respondents reported charging at least one SDC.

Exhibit 13. Surveyed Cities Charging SDCs in 2022

Source: FCS GROUP

Cities Charging SDCs	Number of Services Charged						Total
	0	1	2	3	4	5	
# of Respondents	39	3	12	10	17	34	115
% of Respondents	34%	3%	10%	9%	15%	30%	100%
Total population	82,810	18,006	21,750	33,886	247,174	1,406,700	1,810,326
Average population	2,123	6,002	1,813	3,389	14,540	41,374	15,742

This sample data suggests that more populous cities are more likely to use SDCs than less populous cities. This pattern appears in both the most recent LOC data and the HBA of Metro Portland data.

As noted in the *Oregon SDC Study: Summary of Service Providers Focus Groups* (included as Appendix A), factors contributing to local decisions not to charge SDCs include:

- Little development activity.
- Political concerns about affordability or economic development.
- Developers required to install infrastructure directly via exactions.

How Do Rates Vary Across the State?

The cities included in the 2022 data are shown on Exhibit 14 by the total amount charged for the sample single-family detached residence described in Exhibit 12. Cities with no SDCs are largely (but not exclusively) located in eastern Oregon and away from major metropolitan areas. The highest tier of SDCs (between \$25,000 and \$50,000) are primarily found in the Portland Metro region, though the City of Bend and a few smaller communities, including Carlton, Philomath, Donald, and Newberg, also have SDCs towards the lower end of this range. While not directly comparable due to the age of the data, the 2020 data from the HBA of Metro Portland suggests that there are likely more Portland region jurisdictions with rates in this range than were included in the 2022 update by FCS GROUP. The charges for each city and each infrastructure system are listed in Appendix D.

Exhibit 14. Total Single-Family Detached SDCs by City in Oregon, 2022

Source: ECONorthwest, using data from FCS GROUP

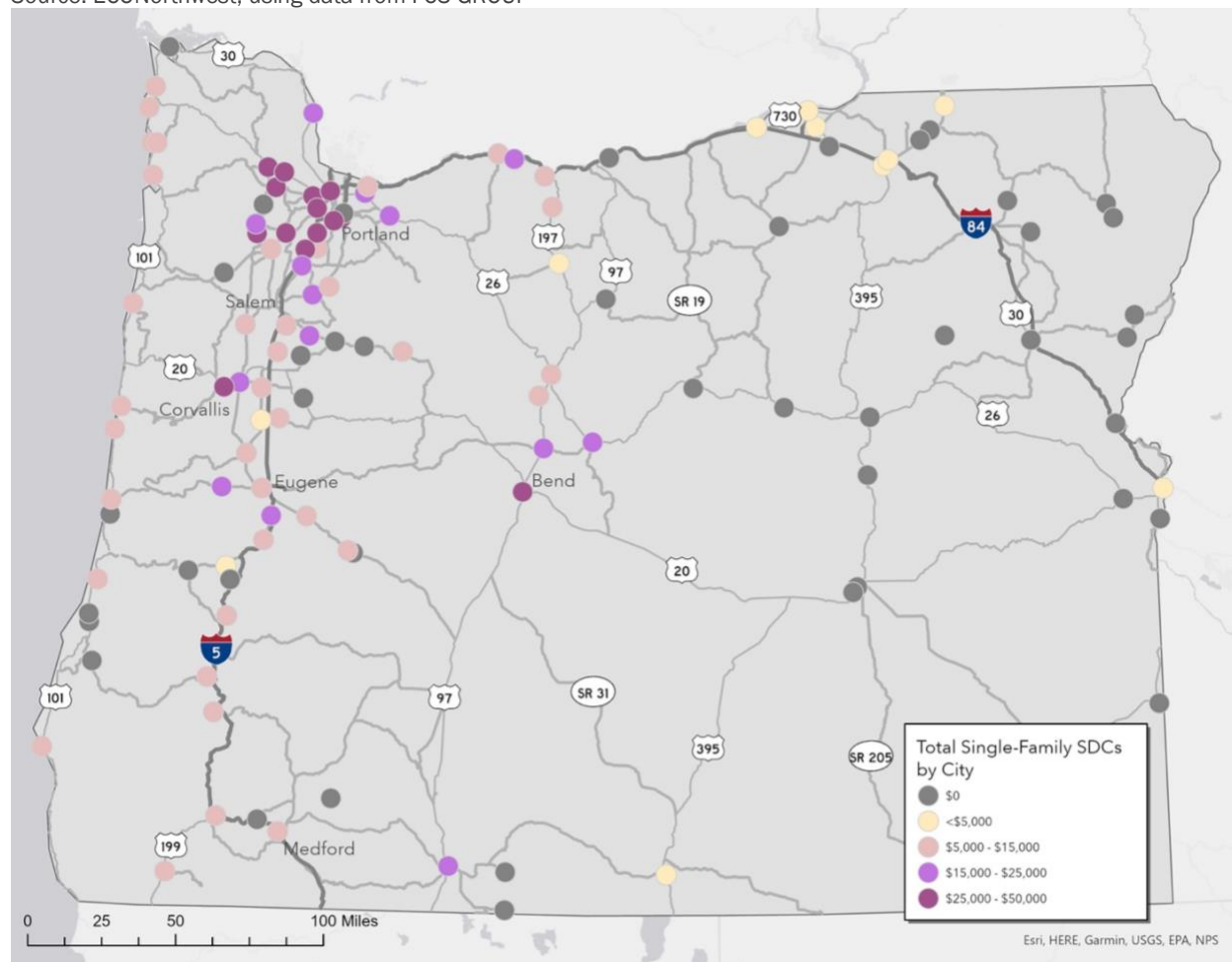


Exhibit 15 provides mean and median values by system.

Exhibit 15. Summary of City Mean and Median SDCs (2022)

Source: FCS GROUP

Mean and Median SDCs	Number of Cities	Mean	Median
Water	72	\$4,500	\$3,830
Wastewater	72	\$4,644	\$4,353
Stormwater	45	\$1,078	\$756
Transportation	51	\$4,433	\$3,489
Parks	55	\$3,829	\$2,535
Totals	76	\$15,047*	\$12,168

* This value represents the average of the totals for each jurisdiction, rather than a sum of the averages for each system.

For comparison, the 2020 LOC survey report found average total estimated SDC costs for single-family residential of \$13,135 for fiscal year 2018,⁶⁶ though, as noted previously, this figure likely undercounts special district and county SDCs. The average across the jurisdictions and special areas included in the HBA of Metro Portland 2020 data is just over \$27,000, though this data set is weighted towards larger jurisdictions and has little coverage outside the Portland

⁶⁶ League of Oregon Cities, *System Development Charges Survey Report* (February 2020), page 17.

metropolitan region.⁶⁷ The average of the total SDC rates for jurisdictions included in the January 2018 OBOA data was roughly \$14,500.⁶⁸ This variability suggests that aggregate statewide numbers from any given subset of communities may not be representative of the state as a whole.

Exhibit 16 shows the distribution of each SDC type as well as the distribution of total SDCs from the 2022 FCS GROUP survey data. The “box” captures the middle two quartiles of values for each set of data (25th percentile to the median in the lower box and median to 75th percentile in the upper box). Lines (“whiskers”) encompass the minimum and maximum range within the survey data.

Exhibit 16. Distribution of SDCs Among Surveyed Oregon Jurisdictions that Charge One or More SDCs by Infrastructure System (2022)

Source: ECONorthwest, using data from FCS GROUP

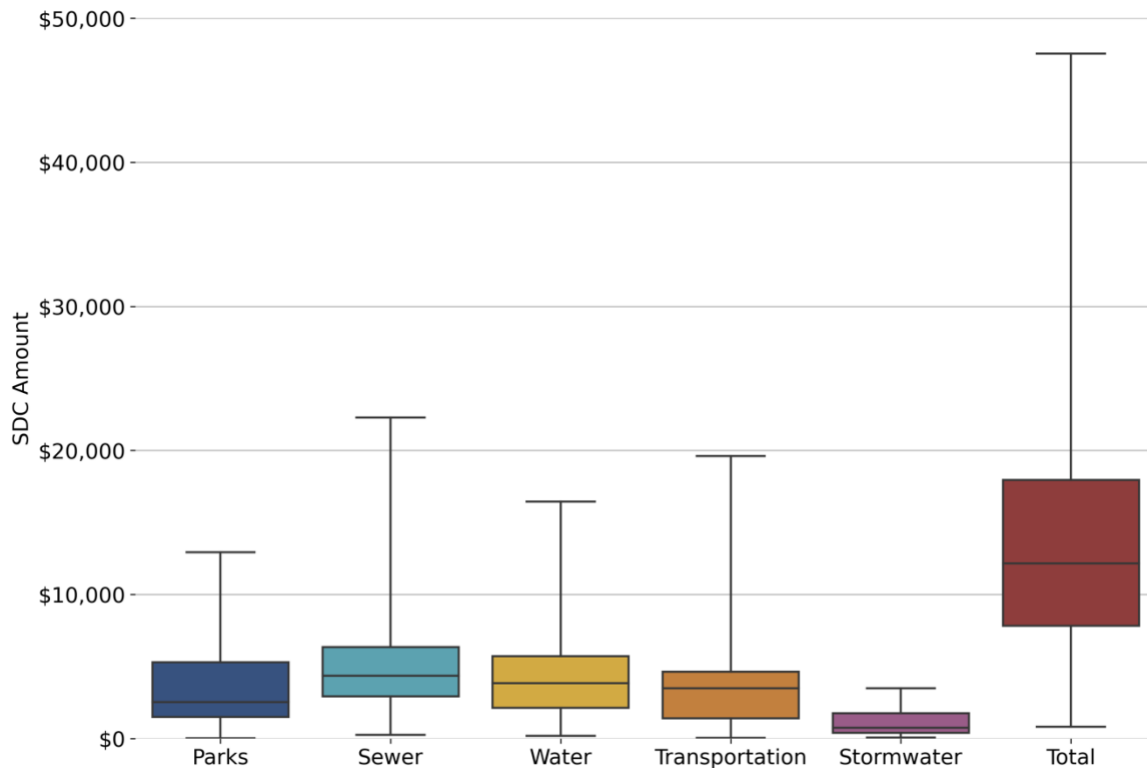


Exhibit 16 shows substantial variation in SDC amounts across all SDC types, with the greatest range for transportation and sewer SDCs. In total, the range is even more pronounced, from a low of \$819 (Lakeview) to a high of \$47,550 (Tigard).

⁶⁷ Home Builders Association of Metropolitan Portland, “System Development Charges,” <https://www.hbapdx.org/system-development-charges.html>

⁶⁸ Oregon Building Officials Association, “OBOA Standards Committee,” <https://www.oregonbuildingofficials.com/standards>. This figure excludes excise taxes, which are also listed in this data set.

Multifamily SDCs

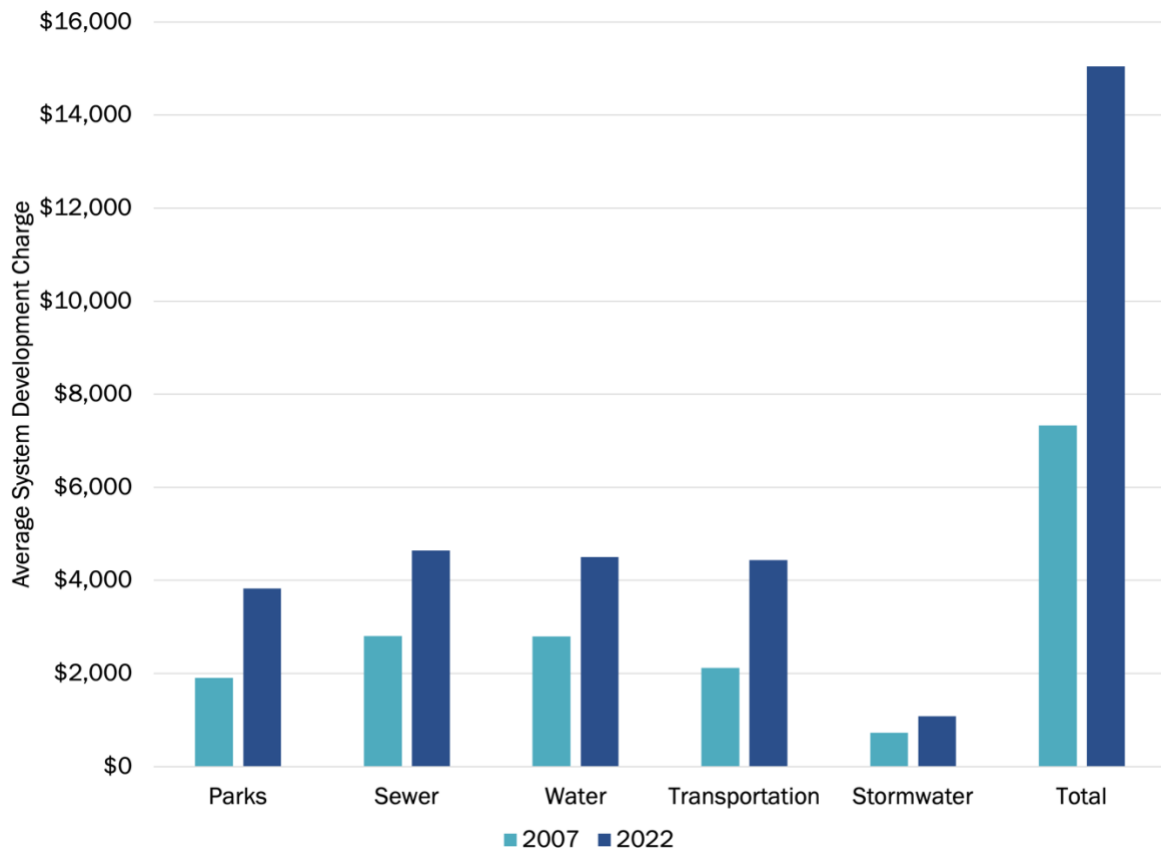
In OBOA’s 2018 survey data, the only readily available data that includes fees for example single-family detached and multifamily projects,⁶⁹ the ratio of the average multifamily SDC rate to the average single-family SDC rate is about 66 percent. The data shows there is a wide range of relationship between multifamily and single-family SDC rates.

3.1.2 Trends in System Development Charge Levels

Using the data on SDC fee levels by infrastructure system for 2007 and 2022 for the sample cities, Exhibit 17 shows fee level trends for each type of SDC.

Exhibit 17. Average SDC Levels by Infrastructure System for Surveyed Cities in Oregon, 2007 and 2022

Source: ECONorthwest and FCS GROUP using 2007 data from League of Oregon Cities* and 2022 data from FCS GROUP

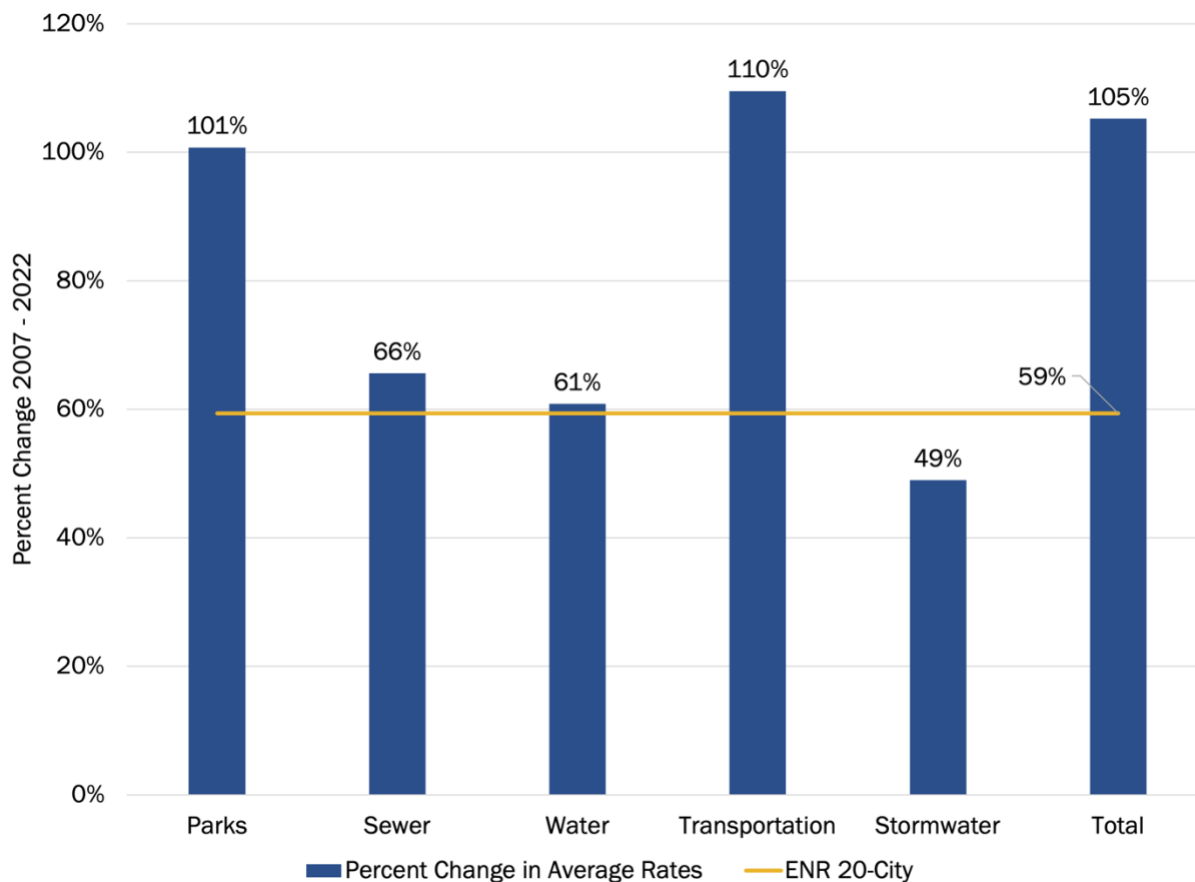


* Regional and district charges may not be consistently reported in the 2007 LOC data, which could result in an underestimate of average fees in that data.

⁶⁹ As noted above, while the 2020 data from the HBA of Metro Portland provides rates for multifamily, the data does not attempt to provide estimated SDCs for an example project and may not reflect all the adjustments that would apply to a given project. For example, water rates are listed for the same meter size as listed for single-family development, which is typically not the case.

Exhibit 18. Percent Change in SDC Levels by Infrastructure System for Surveyed Cities in Oregon Compared to Change in Construction Costs, 2007-2022

Source: ECONorthwest and FCS GROUP using 2007 data from League of Oregon Cities*, 2022 data from FCS GROUP, and Construction Cost Index data from Engineering News Record



* Regional and district charges may not be consistently reported in the 2007 LOC data, which could result in an underestimate of average fees in that data.

This shows that average SDC rates have increased across all infrastructure systems over the 15-year period. Most infrastructure systems have seen increases that have outpaced the increase in construction costs over the same period, in some cases by a substantial margin. As noted above, regional and district charges may not be consistently reported in the 2007 LOC data, which could exaggerate the magnitude of increases. On average, transportation and parks SDCs have increased most over the past 15 years, exceeding the increase in construction costs, water and sewer SDCs have roughly kept pace with construction costs, and stormwater SDCs have lagged behind construction costs. Appendix D provides tables containing the 2007 and 2022 data.

3.1.3 Comparison to National Data

A limited number of sources offer national data on impact fees. Duncan Associates’ 2019 National Impact Fee Survey covers a sample of jurisdictions from many states. The Turner Center report referenced previously includes impact fee data for a number of California jurisdictions, but it does not include observations from other states.

The Duncan Associates Survey acknowledges a variety of limitations, including difficulty parsing impact fees that are referred to by different names or may be combined with other

service fees, limited and non-random samples of which jurisdictions are included, and estimations of the cost of standard developer exactions for communities that use those in place of monetary impact fees. In addition, many impact fee surveys suffer from under-reporting of fees from regional service providers.⁷⁰ This appears to be an issue with the Turner Center data that makes it less appropriate to compare to Oregon data in the aggregate.

Beyond these limitations, it is difficult to draw useful comparative conclusions from national surveys because of differences in state statutes, terminology, and methodology constraints. As noted previously, Oregon's SDC law provides for water, wastewater, stormwater, transportation, and parks charges. Among neighboring states, while all authorize impact fees, there is variation in which systems are included:

- California authorizes the use of impact fees for any public facilities.⁷¹ Survey results for California public agencies appear to under-count regional water and wastewater fees.
- In Washington, impact fees are authorized for only transportation, parks, fire, and schools,⁷² while water, wastewater, and stormwater fees are authorized in a different statute⁷³ and are referred to general facilities charges. In surveys of impact fees, many Washington agencies report only their transportation, parks, fire, and schools impact fees, and exclude water, wastewater, and stormwater.
- Idaho also has two statutes. Impact fees⁷⁴ have been used historically for transportation and parks, although they are available for water, wastewater, and stormwater. Water and wastewater charges are typically charged under the authority provided in a separate statute.⁷⁵ These fees are generally less cumbersome to administer than “impact fees”, although a 2015 supreme court case⁷⁶ essentially prohibits the inclusion of future facilities costs in the charge calculation—a methodology constraint not present in Oregon (or Washington or California).

These challenges undermine the value of comparing Oregon to its neighboring states in terms of total impact fee amounts. In the 2019 Duncan Associates survey, for example, cities such as Olympia and Tumwater reported no water, wastewater, or stormwater “impact fees” when in fact they have robust general facilities charges. Olympia also has a park impact fee which was not included. The totals for the five Oregon-comparable services should be \$25,663.03 for Olympia and \$20,119.30 for Tumwater—not the \$4,830 and \$3,853 shown for each, respectively.

⁷⁰ Duncan Associates, “2019 National Impact Fee Survey,” August 18, 2019.

⁷¹ CGC 66000

⁷² RCW 82.02

⁷³ RCW 35.92.025

⁷⁴ Authorized in IC §§ 50-10

⁷⁵ IC §§ 67-82

⁷⁶ NIBCA v. City of Hayden

3.2 Key Factors Affecting SDC Rates

As illustrated in Section 3.1.1, SDC rates vary substantially across the state. As shown in Exhibit 19, these variations are the result of a multitude of factors including both internal decisions made by local governments and external factors that impact the relative costs of building infrastructure across the state and in different service delivery and infrastructure contexts. Internal factors include both infrastructure planning and funding decisions “upstream” of the SDC methodology that impact local governments’ total infrastructure investment needs and the portion of costs that may be eligible for SDC funding, as well as decisions specific to the development of the SDC methodology and final rate-setting. Key external factors include regional construction market conditions and local construction cost factors (e.g., soils or geotechnical requirements), service provider scale and efficiency (e.g., regional vs. individual service provider), and infrastructure-specific considerations.

Exhibit 19: Factors Affecting SDC Rates

Source: Galardi Rothstein Group, ECONorthwest



This section summarizes some of the key factors that lead to differences in SDC rates across Oregon. While each factor—and its potential impact on SDC rates—is discussed individually, the collective decisions and factors are ultimately reflected in the adopted SDC rates. For example, a community with a larger, more expensive transportation system capital plan may have a similar SDC than another community with a smaller capital plan if other funding sources (e.g., voter approved taxes) are used to fund a portion of the improvements. Similarly, the impacts of different individual SDC methodology decisions may be neutralized by other decisions upstream or downstream (i.e., at the time of rate-setting). Because survey data shows that there are significant variations in SDCs across the state, this section provides some insights into what may drive those differences.

3.2.1 Broad Infrastructure Planning and Funding Decisions

Infrastructure System Plans and Capital Project Needs

As discussed in Section 1.2.2, Oregon SDC statutes allow local governments to charge SDCs for five broad types of infrastructure: water, wastewater, stormwater, transportation, and parks.

Furthermore, local governments are required to prepare a capital improvement plan or comparable plan prior to the establishment of an SDC, assuming a forward-looking “improvement fee” is to be included.

Capital planning for all five SDC-eligible infrastructure systems generally involves preparation of broader system plans (e.g., master plans, public facilities plans, or transportation system plans) to determine future investment needs and priorities based on an in-depth technical evaluation and input from regulatory agencies and the local community.

Water, sewer, and stormwater master planning efforts are largely technical exercises, where state and federal permitting and other requirements drive the need for facility design, sizing, and quantity. While discretion is involved in selecting among different technologies, siting facilities, and prioritizing improvements for these systems, some decisions are beyond local control, due to the need for state and federal regulatory compliance. Local governments have some greater discretion in planning parks and transportation improvements and establishing service delivery standards consistent with community-defined goals around livability, equity, climate, and others.

Because the system plans generally set the stage for the SDC project list, decisions made as part of the broader system planning process can impact the size and cost of the project list as the service providers seek to comply with regulations and be responsive to community stakeholders engaged in the planning process. Even if only a portion of the project costs are allocated to SDCs, a larger, more expensive project list can increase SDC levels. Developer focus groups conducted as part of this study indicate a strong perception that differences in locally established service levels and project priorities for parks and transportation facilities drive differences in SDCs for these systems in particular.

Overall Infrastructure Funding Choices

As part of their financial planning process, service providers may make decisions to utilize other non-SDC funds upfront (i.e., before embarking on an SDC update) for a specific project or group of projects, which then reduces the list of potential projects that may end up on the SDC project list. For example, if there is support by the local community, a GO bond may be used to fund a recreation center or a group of high-profile transportation projects. Additionally, many transportation capital plans include projects on state highways that serve as local arterials through cities. Many cities decide to include only the “local” share of such project costs, intending to leverage the participation of the Oregon Department of Transportation in funding those projects. These up-front funding decisions may have a direct impact on SDCs if they result in reduced SDC-eligible costs.

3.2.2 SDC Methodology Factors

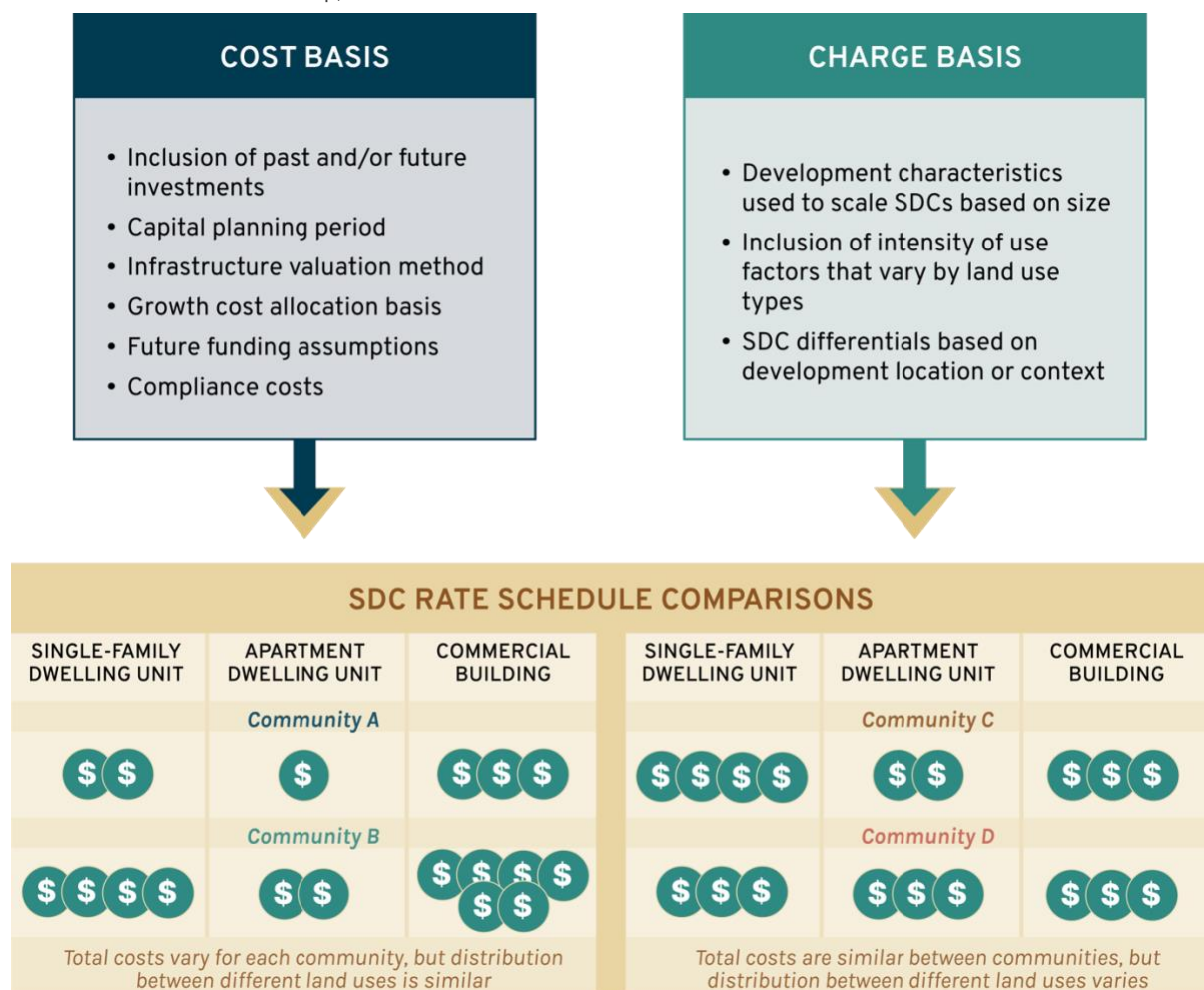
An SDC methodology has many individual components, and within the framework of Oregon SDC law, local governments have flexibility in selecting approaches to each methodology component to balance local objectives and data availability. Methodology component choices may be grouped in two primary areas: 1) decisions related to the total infrastructure costs to be

recovered from SDCs (the “cost basis”), and 2) decisions related to how the SDC costs will be allocated across different development types, sizes, and contexts (the “charge basis”).

As shown in Exhibit 2, cost basis decisions generally impact overall SDC levels. A community with a higher cost per unit of growth (as is the case with Community B) has higher SDCs across all development types, compared to Community A, which is assumed to have a lower cost basis. On the other hand, decisions related to the charge basis tend to impact relative fee levels within a given development type (e.g., residential or commercial) and across development types, locations, and contexts. In the example in Exhibit 2, Community C charges a lower cost per unit for multifamily relative to single-family, while Community D charges a uniform SDC for all homes of a given type.

Exhibit 20: Example of SDC Methodology Choices and their Impact on SDC Rates

Source: Galardi Rothstein Group, ECONorthwest



This section provides a high-level summary of individual methodology components, choices, and the general impacts of each choice. However, as mentioned previously, it is the collective decisions and factors that are ultimately reflected in the adopted SDC rates, and some individual component choices may be offset by other decisions within the methodology, as well as upstream and rate-setting decisions.

Cost basis

As mentioned previously, the “cost basis” is the total cost that the SDCs are intended to recover. Development of the cost basis involves a number of methodological decisions, beginning with selection of investments to include in the SDCs, the methods for placing a value on those investments, assumptions related to future funding sources, and basis for determining an equitable share of capacity costs for new development. Key decisions impacting the SDC cost basis are discussed below and their potential impact on overall SDC levels.

Selection of Investments to Include in SDC Cost Basis

Reimbursement, Improvement, or Combined SDC Methodology

As discussed in Section 1.2.2, an SDC methodology can include a reimbursement fee, an improvement fee, or a combination, so the first cost basis decision is whether to include existing or future system capital investments, or both. This is generally a technical decision based on whether existing facilities have capacity beyond existing development service demands (a requirement for a reimbursement fee) and whether that capacity is sufficient to satisfy future growth needs entirely, or if additional improvements are also required.

In many communities, the cost of existing facilities (per unit of service capacity) is lower than the cost of providing the same amount of capacity in the future due to greater availability of grant funding historically, new design standards which make construction of planned improvements more costly, cost inflation, and other factors. Therefore, SDCs based on a stand-alone reimbursement fee methodology are likely to be lower than SDCs that use stand-alone improvement or combined reimbursement and improvement fee methodologies.

Reducing the Size of the Improvement SDC Project List

Improvement SDCs may vary among communities due to upstream planning and funding decisions (as discussed in 3.2.1), but also internal decisions to reduce the SDC project list by including projects planned for a shorter time period or a more focused and prioritized list. As noted in *Oregon SDC Study: Summary of Service Providers* (Appendix A), some communities described using “funded” and “unfunded” project lists or working to narrow and prioritize a project list that would align with the maximum SDC amount the community was comfortable charging (often a fee level comparable with other SDCs in the region).⁷⁷

Assigning Costs or Values to Investments

Costs Estimates for Improvement Fees

The costs for planned projects used in the improvement fee calculation typically represent planning level estimates from system plans, brought current to the time SDCs are calculated and adopted based on a construction cost index. Future cost escalation (from the time the SDC is calculated to the time a project is constructed) is typically addressed through periodic updates to the project list or SDCs tied to a construction cost index, as allowed by statute. However, as noted in *Oregon SDC Study: Summary of Service Providers* (Appendix A), many

⁷⁷ It is worth noting that projects assumed to be “unfunded” will remain unfunded (which also has implications for SDC credits as discussed in 1.6.2) if not included on SDC project list or another funding source is identified.

communities indicate that their SDCs have not been indexed every year or at all since initially adopted, so variation in indexing practices is likely a factor in SDC differences.

Approach to Valuation of Existing Facilities for Reimbursement Fees

While the SDC statutes refer to “the value ... or the cost of the existing facilities”⁷⁸ in calculating a reimbursement fee, a specific valuation basis is not prescribed. In fact, there are a wide range of valuation approaches used in Oregon and across the country for SDC calculation purposes. For example, the American Water Works Association M1 Manual (Principles of Water Rates, Fees, and Charges) lists four common approaches for valuation of existing system facilities for calculation of SDCs: 1) original cost, 2) original cost less accumulated depreciation, 3) replacement cost new, 4) replacement cost new less depreciation.⁷⁹

Reimbursement fees based on original cost less depreciation tend to generate the lowest fees of the options (all things being equal), while replacement cost-based fees would tend to be higher. To the extent that local SDCs include a reimbursement component, the valuation method can impact the overall fee level and result in differences across communities.

Allocation of Costs to Growth (“Growth Share”)

The determination of the portion of costs that may equitably be allocated to growth through reimbursement and improvement SDCs is primarily a technical process that involves consideration of upstream planning targets and other technical information. As discussed in Section 1.5.1, the system plans establish facility design standards and service delivery targets for each system. These targets form the basis for how system capacity and existing and future user demands are measured, which then allows for existing system facility and future improvement costs to be allocated to growth.

While there are some methodological differences in how local governments approach allocation of costs to growth, the upstream planning decisions along with other technical considerations generally have a greater influence on the allocation of costs to growth and resulting variations in SDC fees. Nevertheless, a high-level summary of the technical process is provided along with potential differences in approaches, given the importance of this methodology component to development of the cost basis and because it lays the groundwork for understanding different “charge bases” (discussed later in this section).

System Capacity/Demand Measures

Measures of capacity and demand vary by infrastructure system. At a very high level, water systems must be able to deliver water to users under various demand conditions, so production and delivery facilities are generally designed based on peak water demands. Wastewater and stormwater facilities need to be able to collect and treat wastewater or stormwater discharges from users consistent with standards established by regulatory permits, so capacity and demand measures may relate to both user wastewater flows and strengths. Demand for parks is

⁷⁸ ORS 223.304(1)(a)(D)

⁷⁹ Principles of Water Rates, Fees, and Charges, Seventh Edition, American Water Works Association, Denver, CO, 2017, page 332.

measured by people, as potential users of parks and service targets generally relate to the desired quantity of facilities per capita and in some cases access measures (e.g., a neighborhood park located within a short walking distance). Transportation systems are designed to accommodate trips of all modes of travel (e.g., auto, bike, pedestrian, transit) generated by businesses and households throughout the week and at peak hours of travel.

Determining Growth Share of Existing Facility Costs

The service needs of existing users are estimated from various data sources and compared to the capacity of existing facilities under the same demand conditions. For example, water system production data can be used to estimate the peak demands of existing users, which is then compared to the peak hydraulic capacity of various facility types (e.g., production, storage, distribution) to determine if and how much capacity is available for growth. Similar processes are used for other infrastructure systems.

Existing facilities are generally assumed to first meet the service requirements of the existing users who have paid for their construction through contribution of user fees, taxes, and other mechanisms. Any capacity beyond existing user needs may then be allocated to growth through the reimbursement SDCs. If existing facility capacity is equal to or less than existing user service requirements, then there is no available capacity for purposes of developing a reimbursement fee, which means that growth needs will be met through future system improvements. Insufficient capacity for existing users also has implications for allocation of SDC project list costs (discussed below), as a portion of planned new capacity costs may remedy existing service deficiencies.

Existing system available capacity is generally evaluated system-wide or by major system function (e.g., water production, transmission, storage). Local approaches reflect system design and other considerations.

Project Cost Allocation for Improvement Fees

There are two conditions that need to be met for SDC project list costs to be eligible for improvement fee funding: 1) the improvement expands capacity, and 2) the capacity is needed to meet the service demands of future system users. Related to the first condition, the statutes clarify that improvements are considered capacity increasing if they provide new facilities (e.g., new pump stations, parks, roads, etc.) or if they increase the level of performance or service provided by existing facilities (e.g., new technologies that provide a higher level of water or wastewater treatment, park amenities that expand the number of users that may be served, etc.).

As mentioned previously, determining what portion of new capacity costs may equitably be allocated to future system users depends on the amount of capacity needed to meet their service demands (as determined by the service delivery targets and growth projections) and whether any of the new capacity costs are related to addressing existing users service needs (either by addressing existing system deficiencies or by replacing existing facility capacity serving existing users). Again, these are generally technical decisions that can be evaluated based on information developed as part of the system plans (upstream of the SDC methodology development). However, there may be some methodological variations to apportioning costs for dual purpose improvements which may influence improvement SDC fee level.

For example, if an 8" pipe that currently serves existing system users has to be replaced by a 12" pipe to accommodate the additional service demands of future users, the share of the cost for the 12" pipe that is attributable to growth could be based on the share of future flow from future users vs. existing users, the incremental cost of installing a 12" pipe vs. replacing an 8" pipe (if the pipe is nearing the end of its useful life anyway), or the cost of a new 8" pipe (the minimum pipe size that would be required to serve future development from a separate stand-alone pipe if the original pipe is still well within its useful life and would not require replacement within the planning period but for the need for additional capacity). These different approaches can result in different growth-attributable shares of project costs.

Assumptions Related to Other Funding Sources

Future Funding Assumptions for Improvement Fees

As discussed in 3.2.1, local governments generally exclude planned improvement costs earmarked for other known sources of funding (e.g., GO bonds). However, detailed information on other funding sources like grants or developer contributions may not be available years in advance of the planned project construction. Therefore, local jurisdictions may make assumptions about other potential funding sources based on past experience (which may vary across jurisdictions), or they may assume that SDCs will cover any local match that is required for grant funding. Reductions to the cost basis for other funding sources may lead to variations in SDCs, particularly if large, high-cost projects (e.g., major road improvements, aquatic centers, new water or wastewater treatment facilities, etc.) are assumed to be funded by non-SDC revenues.

Past Funding Sources for Reimbursement Fees

As mentioned in 1.2.2, reimbursement fees must consider gifts or grants from federal or state government or private persons (i.e., these are excluded from the SDC cost basis). Therefore, local governments whose existing facilities were funded with significant support from state or federal agencies or developers, may have relatively lower fee levels than those who have had to rely more heavily on local government sources.

Assumptions About Use and Costs of Debt Financing

Assumptions about long-term debt financing may also impact the SDC levels across jurisdictions. SDC revenue may be used for repayment of indebtedness;⁸⁰ therefore, some local governments include both financing and construction costs in the cost basis for the SDCs, while other may exclude debt-funded facilities from the SDCs altogether. In other cases, the reimbursement fee cost basis may be discounted for outstanding debt principal, or a future looking present value debt service credit may be incorporated into the SDC methodology.

Compliance Costs

SDC revenue may also be spent "on the costs of complying with the provisions of ORS 223.297 to 223.316, including the costs of developing system development charge methodologies and

⁸⁰ ORS 223.307

providing an annual accounting of system development charge expenditures.”⁸¹ This has generally been interpreted to mean that an estimate of these allowed expenditures can be added to the total cost basis of the SDC for calculation purposes.

Many local governments track a broader range of SDC administration costs, including the following which also relate to SDC compliance:

- SDC Fund management.
- Management of project lists (planning, engineering, legal).
- Developer credit calculations and tracking.

Compliance costs are another area where diverse approaches and assumptions lead to differences in overall SDC levels. The types of costs included vary from the most basic (costs associated with developing methodologies and the required annual accounting) to more comprehensive SDC processing and potentially other related costs.

Many local governments include compliance costs in the calculation of the SDC cost basis, and the compliance cost portion of the total SDC generally ranges from 1-5 percent. Other local governments exclude compliance costs from their SDC cost bases altogether. For those service providers who do not add these costs into the SDCs, revenue is either diverted from project costs or funding must come from non-SDC sources.

Charge Basis

Overview

Perhaps the largest and most visible source of methodological variation in SDCs is the choice of charge basis: the specific characteristic(s) of a development used to determine its proportionate impact on an infrastructure system in relationship to the system-specific capacity or demand measures discussed previously. Development size, type, or class (e.g., single family residential, middle housing, apartments, commercial, industrial), and location or context are all potential characteristics that may form the basis for charging SDCs, as summarized in Exhibit 21.

⁸¹ ORS 223.307(5)

Exhibit 21. Common SDC Charge Bases by Infrastructure System

Source: Galardi Rothstein Group and FCS GROUP

System	Capacity/Demand Measure	Development Size (Scaling Factors)	Development Type (Intensity of Use Factors)	Development Location Factors
Water	Average or peak water volumes	Water meter size, plumbing fixture units, building or dwelling area (square feet), lot size, class-specific characteristics*	Peak water demands or fire protection requirements	Infill vs. greenfield; base vs. upper pressure zones
Sewer	Wastewater flow volumes and pollutant loads	Water meter size, plumbing fixture units, building or dwelling area (square feet), class-specific characteristics*	Wastewater strength concentrations	Infill vs. greenfield
Stormwater	Stormwater quantity and quality	Impervious area, gross area (total lot size)	Water quality factors; run-off coefficients	Infill vs. greenfield
Transportation	Vehicle or person trips	Number of dwelling units, building or dwelling unit area (square feet), class-specific characteristics*	Trip rates and adjustment factors (e.g., trip length, pass-by trips)	Infill vs. greenfield; transit proximity
Parks	Persons or person hours	Number of dwelling units, building or dwelling unit area (square feet)	Persons per household; employees per square feet	Infill vs. greenfield

*Special characteristics specific to a particular land use type or class of service (e.g., number of school students, restaurant seats, vehicle fueling stations, car wash bays, etc.).

Oregon statutes do not prescribe charge bases, with a few exceptions noted in ORS 223.301.⁸² Instead, local governments may select approaches that balance data and administrative considerations, and policy objectives. Charge bases have evolved over time to include additional characteristics or factors that allow local governments to promote equity, economic efficiency, and affordability objectives while still maintaining a rate structure that ties fees to impacts. However, along with the greater complexity that results from inclusion of different charge basis factors, the need arises for greater transparency, education, and tools for estimating charges for specific developments.

While the charge basis does not, in theory, impact the total amount of revenue to be collected through SDCs (for any given cost basis) overall, it does impact fee levels and revenue recovery among different development types. Therefore, when comparing SDCs across communities for a particular development typography, different charge bases can result in substantially different SDCs.

Key decisions involved in selecting a charge basis are discussed below.

⁸² SDCs may not be charged based on the number of additional employees hired after a specific date without regard to new construction, new development, or new use of an existing structure by the employer or for increased use of a transportation facility that results from the production of marijuana on a property located in an exclusive farm use zone.

Characteristics Used to Scale SDCs Based on Development Size

Development size is an indicator of potential service demands or capacity needs, so an SDC charge basis includes one or more development characteristics used to estimate the potential scale of impact. The same scaling measures may apply uniformly across all development types, as in the case of water meter size or plumbing fixture units used for estimating water and wastewater demands, or the quantity of impervious area (used as an indicator of potential stormwater runoff).

In other cases, scaling measures may be specific to a type or class of development, where local or industry data establish a relationship between a size of a dwelling unit or building for commercial business, and estimated system demand (e.g., water demand, person trips, etc.). The wide range of development sizes makes the importance of scaling particularly acute for commercial and industrial customers. For example, a large, big box retail business would be expected to generate significantly more person trips than a small specialty retail store.

Scaling residential SDCs based on the size of the house (in square feet of living area or number of bedrooms) has become more common practice in the last decade. Scaled residential SDCs may be implemented for single family and multifamily development individually or applied uniformly to all residential development (regardless of the type of dwelling). A scaling structure can lead to significant differences in SDCs for different sizes of dwellings, as shown in the three examples in Exhibit 22. The first two examples are tiered approaches applicable to a specific type of dwelling (i.e., single family or multifamily). Example 1 tiers are based on the size of the dwelling in square feet (sq. ft.), while Example 2 tiers are based on the number of bedrooms in the dwelling.

Exhibit 22. Sample Scaled Residential Parks SDC Structures

Sources: Galardi Rothstein Group, using data from Tualatin Hills Parks and Recreation Department, 2021/22 SDC Fee Schedule, City of Bend Systems Development Charges July 1, 2022–June 30, 2023 (pg. 5), City of Eugene SDC Methodologies (Table 7)

Example	Agency and SDC Category	SDC
1.	Tualatin Hills Park and Recreation District Single-Family SDCs per Dwelling Unit (Districtwide)	
	Tiered (Square Feet Category) Basis	
	<1,500 sq. ft.	\$9,088
	1,500-2,500 sq. ft.	\$10,717
	2,501-3,500 sq. ft.	\$12,217
	>3,500 sq. ft.	\$13,075
2.	Bend Park and Recreation District Multifamily Parks SDCs per Dwelling Unit	
	Tiered (Bedroom Category) Basis	
	0 Bedroom	\$4,207
	1 Bedroom	\$4,636
	2 Bedroom	\$7,517
	3+ Bedroom	\$9,738
3.	City of Eugene Residential Sewer SDCs	
	Base SDC per Dwelling Unit	\$485.63
	Scaled SDC per sq. ft. Living Area	\$0.1177

Exhibit 22 also provides an example of an alternative scaling approach that is applicable to all residential housing (single and multifamily alike). Rather than charging a flat rate per dwelling unit within a defined tier, each additional square foot of living area is charged an additional fee on top of a base amount applied to each dwelling unit based on a regression analysis.

Intensity of Use Factors That Differentiate SDCs Based on Development Type

In addition to development size, the type of land use or class of service may be a factor in estimating system demand.

For residential development, dwelling type (e.g., single family, duplex, apartment) is a common charge basis, particularly for systems where demand for service is measured directly by people (like parks), as the average number of occupants generally differ and may be estimated for local areas based on readily available U.S. census data. Differences in the number of occupants also may drive differences in demand for other infrastructure systems such as water, wastewater, and transportation systems, where local utility billing data and national trip generation surveys show differences in average demands by dwelling type.

Single family and multifamily dwelling types are the most common factor for differentiating SDCs. However, as zoning regulations continue to evolve across the state to support a broader diversity of housing types and configurations, consideration is often given to pricing SDCs for smaller and more affordable dwelling types, based on estimated system demands and policy objectives. Examples of other dwelling types include:

- Accessory Dwelling Units (ADUs) – This practice of charging reduced SDCs for ADUs is theoretically consistent with data from a 2014 ADU survey conducted by the Oregon Department of Environmental Quality (DEQ). The DEQ survey found average occupancy of all ADUs was 1.45 persons per household, which is generally significantly lower than the average occupancy for a single-family home.
- Middle housing – As a result of House Bill 2001, cities with population over 25,000 must allow development of up to four dwelling units on properties previously restricted to single-family housing. As the density of housing increases, system demands per dwelling unit also tend to decrease (relative to single-family housing) due to lower average occupancy and smaller lot sizes which may reduce stormwater runoff and water use per unit.
- Other housing types – As with middle housing, consideration of specific demands per unit for manufactured housing, cottage cluster, and tiny homes may also be considered as more data becomes available to evaluate relative occupancy rates and system-specific demands.

As with dwelling type, the intensity of system use/demand may vary greatly across different nonresidential (commercial, industrial, and institutional) development types. Many communities charge different transportation SDCs per 1,000 sq. ft. of building area for dozens of different nonresidential development types, reflecting national data on trip generation. For example, surveys indicate that an average convenience market generates significantly more trips per 1,000 sq. ft. of building size than a small specialty retail store. Similarly, some

communities differentiate water and wastewater SDCs for different classes of nonresidential development based on volume or wastewater strength factors. For example, a restaurant generally is assumed to demand more water/discharge more wastewater volume (and pollutant loads) per 1,000 sq. ft., compared to an office building.

For parks, intensity of use considerations impact both the allocation of growth-related costs between residential and commercial development and the SDC per 1,000 sq. ft. for different nonresidential development types. On average, a resident is assumed to have a higher potential park use than a business employee based on some limited survey data and theoretical estimates that take into account the hours per week available for park use. The number of employees per 1,000 sq. ft. of building area also differs among nonresidential development classes, which further forms the basis for charging SDCs in many communities.

Other intensity of use factors that may help establish different SDCs by type of development include seasonal variations in water use (i.e., peak water demands), stormwater quality, and transportation trip characteristics (like trip length and pass-by trip adjustments).

SDC Differentials Based on Development Location or Context

Development location is often considered in three contexts: 1) infill vs. greenfield areas, 2) areas requiring specialized facilities (e.g., upper water pressure zones that require storage and pumping facilities), and 3) development context (considerations around density, mixed use developments and proximity to transit may impact service demands). Location-based overlay SDCs are relatively common in greenfield areas (e.g., City of Hillsboro) or in areas of major redevelopment (e.g., City of Portland Transportation SDCs). Accessibility to public transit—as in the case of transit corridors—may have a measurable impact on the cost of providing transportation system infrastructure in urban settings, so may be reflected in the SDC charge basis and lead to significant fee levels across jurisdictions.

3.2.3 Rate-Setting: Implementing a Reduced SDC

In addition to methodological and cost differences, some local governments choose to implement SDCs at levels lower than the calculated amounts. Implementing an SDC that is less than what is calculated in the methodology is an approach that is technically and legally simple, however, it sets up a situation where the SDCs are lower than required to fund the growth-related costs. Choosing a lower SDC requires no findings or justification, though many local governments will articulate a basis for the charges in the implementing resolution.

Implementing a lower SDC typically takes one of two forms. The simple form is implementation of the SDC at the desired level (i.e., some percentage of the calculated SDC). The more nuanced form is a multi-year phase-in schedule that may (or may not) terminate at the calculated SDC. This approach provides an initial concession to developers that may have planned projects in the pipeline.

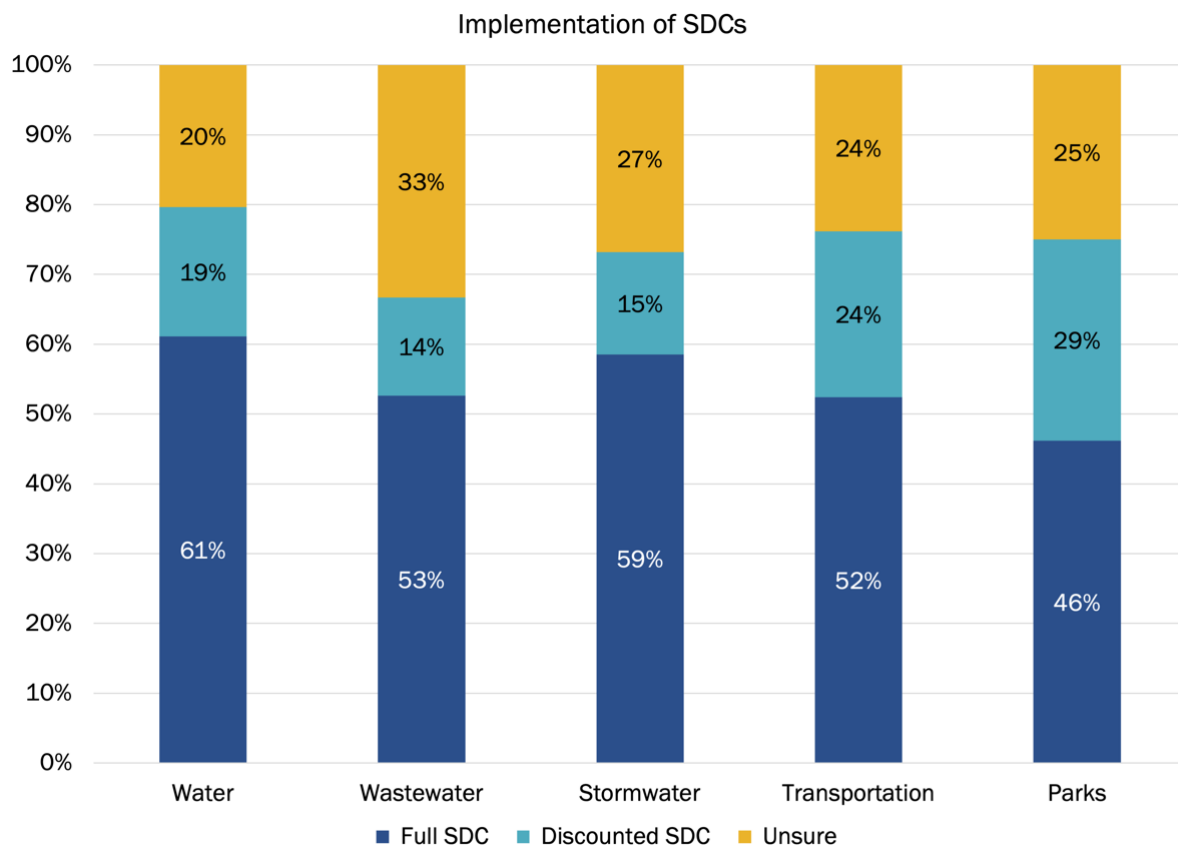
This is reflected in the *Oregon SDC Study: Summary of Service Providers* (Appendix A). Many communities noted charging less than the full amount justified in their methodology, generally because of local elected officials' desire to remain competitive for development relative to other

nearby communities, or because of concerns about the impact on housing costs and affordability. Other communities noted using phase-in periods when a change in methodology would lead to a notably higher rate. (As noted above, other jurisdictions adjust their SDC-eligible project list to achieve a lower cost basis and lower SDC rate instead.)

The LOC recently added questions on this subject to its annual SDC survey, asking whether the city adopted an SDC that was less than what was calculated in the methodology for each infrastructure system. As shown in Exhibit 23, a majority of cities report implementing the full SDC for most infrastructure systems, but 14% reported discounting a wastewater SDC, and 29% reported implementing a discounted parks SDC.⁸³

Exhibit 23. SDC Discounting Among Survey Respondents

Source: FCS GROUP and ECONorthwest using data from League of Oregon Cities, System Development Charges Survey Report (February 2020)



⁸³ FCS GROUP analysis of data from League of Oregon Cities, System Development Charges Survey Report (February 2020). The possible responses were “yes,” “no,” and “unsure.”

3.2.4 Underlying Cost Drivers

Cost of Capital Improvements

Regional Cost Differences

While national and even international factors impact the costs of material and supplies, regional cost differences may impact infrastructure costs and SDC levels across the state. Regional cost factors may include the following:

- Rural areas may have less access to labor and supplies, particularly during busy construction periods, which may drive-up project costs. This is particularly acute in areas where limitations in affordable workforce housing further limit the pool of local contractors.
- Land values vary significantly.
- Differences in geology impact costs of grading and excavation.

The rising cost of labor has created upward pressure on project costs for all types of projects throughout the state. However, Central and Eastern Oregon seem to be impacted disproportionately because of a shortage of local contractors. This shortage limits the number of bids received for a project, and the limited number bidding contractors increases the pricing power of those who do bid.

Infrastructure-Specific Cost Drivers

Different kinds of infrastructure projects incur different kinds of costs, and different kinds of costs are subject to different market forces. Cost factors by infrastructure system include:

- Pipe is a major cost driver of water, wastewater, and stormwater projects, and the cost of pipe has risen dramatically in recent years.⁸⁴
- Land is a significant cost factor for many park and transportation infrastructure projects, and land values in many areas have risen comparatively more than construction cost indices in some years.⁸⁵

Beyond the costs of materials and land, infrastructure systems may be impacted by varying types of regulatory requirements that result in more costly facility designs (e.g., seismic resiliency standards and water and wastewater treatment requirements).

⁸⁴ According to data reported by the Bureau of Labor Statistics the producer price index for plastic construction products (primarily, PVC pipe) increased almost 30 percent in 2021 (January to December).

⁸⁵ For example, in 2017, data from the Washington County Assessor's office (within the Tualatin Hills Park and Recreation District) showed an increase in vacant land value of 19.54 percent, compared to the ENR CCI increase of 2.15 percent. Similarly, data from Deschutes County Assessor's Office showed an increase in land values of 18.06 percent over the 12-month period ending December 2021, which was significantly higher than the ENR 20-city CCI of 7.36 percent.

For water SDCs, securing new and expanded sources of supply are a significant cost component in most SDC project lists. Available water sources vary significantly across the state and the cost of developing new sources vary based on the type, location, and other factors.

Cost Escalation and Timing of Indexing Rates

As described in Section 2.1.2, construction costs have escalated rapidly in the past two years as measured by the ENR Construction Cost Index (both the 20-city average and Seattle indices). Many local governments use one of these indices to adjust their SDCs each year in accordance with statute. However, these increases may not yet be incorporated into the SDCs shown in Appendix D, as many cities adjust SDCs annually, but the timing of updates and the timeframes used to calculate the index vary.

Service Delivery Structure

SDC variations across the state may reflect differences in service delivery due to economies of scale for different types of service providers. The cost of producing a gallon of water or treating a gallon of wastewater may be less for large regional utilities compared to single-utility service providers.

Part 4: SDCs and Housing Costs

Primary Contributors: ECONorthwest

4.1 Overview

Part 4 of the report focuses on the relationship between SDCs and housing costs, including:

- How and to what extent SDC costs are passed on to housing consumers, and which other entities absorb those costs (“**SDC cost incidence**”).
- How **SDC costs compare to other costs of housing development**, including land, labor, and materials for construction, permitting, and development review costs, carrying and financing costs, cost of building on-site infrastructure (where applicable), etc., and how this varies for different types of market-rate housing.
- How and to what extent **SDC costs affect overall housing costs** and the **housing options** delivered by the private market, including **differential impacts** for housing at different sizes and price points.
- How SDC cost incidence varies for **market-rate and affordable housing** development.

The findings in Part 4 draw on a combination of published literature (both theoretical and empirical studies); case studies of housing development under varying SDC rate structures; analysis of a range of hypothetical housing developments across different market conditions to show how SDCs impact housing types differently; and interviews with housing developers and homebuilders with experience building housing across Oregon, including single-family homebuilders and multifamily developers working in different market niches, and developers of affordable housing.

4.1.1 How SDCs Affect Development Outcomes: Overview

SDCs affect development outcomes in two primary ways:

- SDCs fund infrastructure that is needed to support growth, which can add value to development, or make development possible in newly developing areas or areas without sufficient infrastructure.
- SDCs are a cost imposed on development, which increases the cost of building new housing.

Both factors can influence housing costs and housing production. Section 2.2 addressed the value and benefits of SDCs to development. Sections 4.2 to 4.5 address SDCs as a cost that impacts housing development.

4.2 SDCs as a Cost in Housing Development: Conceptual Framework

4.2.1 Introduction

Who Pays? An Introduction to Cost Incidence

SDCs are one cost among many that developers typically pay as part of building housing. Like the other costs of housing development (e.g., land, construction labor and materials, design fees, financing costs, etc.), these costs are typically paid by developers initially and factored into their financial decisions. Although developers initially pay SDCs, they can recoup at least a part of the cost by passing on the cost to others involved in the housing development process or transactions. Thus, it is important to ask not only who pays SDCs, but who ultimately incurs the cost. This economic concept is referred to as **cost incidence**. Cost incidence describes who ultimately incurs the cost, which can be split among parties, or incurred entirely by one party.

Housing Development 101

Understanding cost incidence in housing markets requires an understanding of housing development. Market-rate housing development is a business, and, like other businesses, must generate a financial return to operate. Generally, market-rate development will not occur unless the expected revenues from the project exceed the expected costs by a sufficient margin to create financial returns for developers, lenders, and investors that justify the risk of their investment. Developers must identify sites and development products that they expect to be financially feasible.

SDCs are one of many costs that developers take into consideration when determining whether a project is feasible, which is part of a broader decision-making process that considers density, location, design, and market conditions along with development costs. SDCs are one of many jurisdictional policies and practices that affect development costs, including: speed and complexity of permitting; zoning regulations; and other direct costs such as permit fees and construction excise taxes. Developers often have an estimate of their SDC costs prior to securing land and financing, but the accuracy of this estimate can vary with the timing of the land purchase, the complexity of the development, and how much SDC rates change during the pre-development period. Developers need to weigh SDCs and other cost inputs against the sales prices or rents they are expecting to achieve on each project. Because SDCs costs are outside the developers' control, they must make choices about other aspects of the development to bring total costs and prices or rents into alignment.

For affordable housing developers, whose revenues are constrained to keep rents or sales prices affordable at specific income levels, and who are often (though not always) nonprofit organizations, SDCs are also one cost among many that must be covered either by the project's limited revenues or by other sources to cover any funding gaps. As with market-rate development, affordable housing developers must find ways to balance their costs against their

combined revenues and subsidies, but their options are more limited. When costs are too high, they may modify the project to reduce costs, seek out additional sources of subsidy (though these are often competitive and higher per-unit costs can make projects less likely to receive the funding they need to move forward), or, in limited cases, adjust the targeted affordability levels to the extent that the funding sources allow.

4.2.2 Economic Theory on Cost Incidence of SDCs

Economic theory on impact fees suggests that impact fees “shift the burden of financing new infrastructure from the community at large to the owners of developable land, developers, or buyers of new homes.”⁸⁶ Landowners may receive lower offers for their land, developers and their investors may receive lower financial returns, and/or homebuyers and renters would either pay more for housing or receive lower-quality housing.

How additional costs or taxes are distributed among buyers and sellers depends on each party’s relative sensitivity to prices. Economic theory suggests the party with fewer alternatives is less sensitive to change in price and would bear a greater portion of costs (absorb more of the costs) when additional costs are incurred. For example, the incidence is higher for consumers on tobacco and gas purchases when taxes increase because they have few substitutes (choices), while the producers bear less of the increased costs because they can find new customers and markets.^{87, 88}

Similarly, the theoretical impacts of SDCs can be understood in terms of alternatives and price sensitivity. Whether and by how much developers can pass on the cost of SDCs depends on market contexts.

- Because land’s location is fixed, **landowners** have few alternatives other than waiting for new offers from developers or policy changes that would improve the value of the land. The cost incidence for landowners depends on the availability of other developable land within the same market and how much SDCs vary between comparable pieces of developable land. If developers have factored SDCs into their land budgets (the price they are willing to pay for land) before they acquire a property, it will constrain the price landowners are able to obtain for their land. So, landowners who sell at a lower price than similar locations with lower SDCs, are bearing some of the cost. Alternatively, they may choose not to sell.
- **Homebuyers and renters** are generally tied to a given regional housing market and sometimes to a specific submarket within the region based on employment, ties to family members or a school district, or other factors.

⁸⁶ Forrest E. Huffman, Arthur Nelson, Marc Smith, and Michael A. Stegman. 1988. “Who Bears the Burden of Development Impact Fees?” *Journal of American Planning Association*, 54(1): 49-55.

⁸⁷ William N. Evans, Jeane S. Ringle, and Diana Stech. (1999). “Tobacco Taxes and Public Policy to Discourage Smoking.” *Tax Policy and the Economy* 13, 1-56.

⁸⁸ Joseph J. Doyle and Krislert Samphantharak. (2008). “\$2.00 Gas! Studying the effects of a gas tax moratorium.” *Journal of Public Economic* 92, 869-884.

- In tighter housing markets (or “sellers’ markets”⁸⁹), homebuyers and renters have fewer housing options; theory suggests they would bear a greater share of costs when there is strong competition for limited housing units. For example, in exclusive or highly desirable communities within a metropolitan area, studies show that the strength of the competition would allow developers to pass on more of the added costs.⁹⁰
- In communities with many similar options for new housing, the cost incidence is expected to be lower for homebuyers because they have many choices within a reasonable distance. Studies show this pattern in communities around a dense metropolitan area where households would be willing to consider housing in multiple nearby cities.⁹¹
- **Investors, lenders, and developers** are unlikely to absorb SDCs by accepting lower returns except in very usual circumstances or when SDC costs increase unexpectedly during development and cannot be passed on to others. Investors and lenders usually have other options to invest in across multiple markets and will avoid areas that generate lower risk-adjusted returns. Studies show that **developers** are less likely to absorb added costs in lightly regulated, fast-growing cities where they can quickly adjust their business strategies to target different housing markets.⁹² However, developers are less likely to pass on the cost in more competitive markets with many developers and few development opportunities. When they are not able to achieve the expected prices or rents and financial returns fall below the expected rates, the developers absorb some of the cost of SDCs (as well as all a share of the other costs).

4.2.3 How SDCs Affect Development Decisions

Overview

Developers may balance costs and revenues in a variety of ways to adjust to the cost of SDCs, as described below. Which of these options are viable and which are most likely depends on timing, market conditions, and other factors, as summarized below. (As a reminder, this discussion focuses on how the cost of SDCs affects development decisions, while Section 2.2 discusses ways that the infrastructure funded by SDCs affects development.)

Exhibit 24. Summary of Potential Developer Actions to Cover the Cost of SDCs

Source: ECONorthwest

Developer Action	Limitations and Consequences
Seeking lower-cost land to build on or negotiating a lower	If SDCs are known early in the development process so that a developer can negotiate for a lower land price, and if there are many options for developable land, the cost incidence is likely to be greater for the

⁸⁹ Market where there are very few options for new housing relative to strong preferences and ability to pay for them.

⁹⁰ Huffman, Nelson, Smith, and Stegman.

⁹¹ Richard K. Green, Stephen Malpezzi, and Stephen K. Mayo. 2005. “Metropolitan-Specific Estimates of the Price Elasticity of Supply of Housing, and Their Sources.” *American Economic Review*, 95(2): 334-339.

⁹² Green, Malpezzi, and Mayo.

Developer Action	Limitations and Consequences
price with the landowner	landowners who would accept a lower price. Other landowners may not accept a lower price, choosing to hold off on selling their land, and absorbing some of the influence of higher SDCs through the delay. If land is already acquired or cannot be negotiated further, a lower land price is no longer an option. ⁹³
Seeking efficiencies on design and construction to lower cost	If SDCs are known before the housing design and finishes are determined or finalized, developers may choose to build smaller units, limit some aesthetic features or amenities, or use lower-cost building materials or processes (which could increase operating or maintenance costs over time). However, cost-saving decisions need to be balanced with households' demand for quality.
Adjusting unit size, finishes, and/or amenities to command higher sales prices or rents	Alternatively, developers can build larger units (for single-family homes), use higher quality products, or add amenities to justify higher prices and rents that can cover the cost of added features along with the cost of higher SDCs. The cost-saving approach could marginally increase the housing supply for lower-income households, while the quality-enhancing approach could marginally increase the housing supply for higher-income households.
Raising the asking prices or rents	<p>In both cases that change the value proposition, the cost incidence would fall, at least in part, on housing consumers, through lower value for their money or less availability of lower-cost housing options.</p> <p>Raising the asking price or rent for the finished housing without changing the design or features—which passes costs more directly to housing consumers—is a viable option only if there is sufficient demand among buyers and renters of newly constructed housing, compared to supply that lower-cost options are not readily available.</p>
Lowering expectations for financial returns	<p>Because developers and investors will typically not pursue a development project if expected financial returns do not meet a particular threshold that justifies the risk of the investment, there are limited situations where SDCs will translate to lower return expectations. This is particularly true for investors and lenders who operate nationally—if one area offers lower risk-adjusted returns than other market areas, they will tend to place funds in areas that offer higher returns relative to their risks. However, SDCs can impact financial returns for market-rate housing development when they are significantly different than initial expectations.</p> <p>Most developers allow for some contingency funds to absorb unexpected cost increases because there is uncertainty in development and costs and revenues are often different from what is projected. However, once development is underway, developers have fewer options for adjustments to bring revenues and costs in line. Thus, when costs (including SDCs)</p>

⁹³ Understanding cost incidence of SDCs within a land transaction is complicated by various business models and landownerships that exist. A vertically integrated developer that is also a long-term landowner would bear a greater portion of SDCs (at least within the context of land transactions) since SDCs would not be incurred until well after land acquisition. Business models that specialize in taking undeveloped land and making them “ready for development” by obtaining regulatory approvals (e.g., for new uses and lot divisions) could incur a relatively smaller cost incidence even in a market with many buildable lands because their “development-ready” lands offer more valuable and rare opportunities for developers.

Developer Action	Limitations and Consequences
	<p>unexpectedly increase during a project, developers must absorb those costs or make adjustments elsewhere if they still can.</p> <p>If unexpected cost increases are attributable to a policy choice by a public agency or local government, it can erode trust in that public agency, impact the feasibility of subsequent phases of development, and in some cases make developers less likely to build in that jurisdiction in the future.</p>
<p>Delaying or abandoning the development</p>	<p>If developers are not able to balance the costs and revenues, the development may not move forward, or may be put on hold. If higher SDCs result in less or slower housing production, pushing up the overall price of housing due to a supply/demand imbalance, its undesirable impact would be shared among all prospective buyers and renters of housing, new or existing, while existing homeowners would benefit from the higher housing prices.</p>

Findings From Developer Interviews

As captured in Appendix B, developers described a range of responses to SDC costs:

- Developers can rarely move a project forward that doesn't meet investor and lender return expectations. If SDCs contribute to making a project financially infeasible, the project will not be able to attract funding to move forward to construction. (See additional discussion in Section 4.4.)
- Developers tend to specialize in certain types and forms of housing, and report that they primarily respond to the market when choosing what to build. SDCs are rarely a major factor in determining what housing type a given developer will build (e.g., single-family vs. multifamily) or what market segment they will target (e.g., entry-level vs. luxury homes). However, developers may adjust their offering at the margins in response to SDCs, such as by building somewhat larger or smaller homes. Over time, if certain housing types or products become easier to build (e.g., middle housing being authorized in many new areas) and/or more financially viable (e.g., increasing demand for walkable infill development), developers may adjust their business models to respond; SDCs can contribute to (or inhibit) those trends, but they are unlikely to be the sole reason for them.
- Land developers noted that SDCs are factored into homebuilders' pro forma calculations when they purchase lots to build on, which means they can affect the price/value of finished lots. However, some other developers noted that they tend to build on land they have owned for many years, and SDC costs do not factor into the land value or price.
- Many developers and builders report that SDCs are one of several factors when considering where to build. (Others, which can outweigh the importance of SDCs, include market conditions, land costs, and permitting speed/staff responsiveness.) When SDC costs are out of line with market conditions (i.e., achievable rents or sales prices are too low to allow developers to recoup the cost of SDCs), developers may look elsewhere. If there are other options in the area with lower SDC costs and comparable market conditions and land costs, developers may choose those areas instead. However, when

there are few good alternatives, developing somewhere else isn't an option. In this situation, developers must find other ways to make development pencil or not pursue development at all.

- Most developers noted that the market determines what prices/rents are possible, but several gave examples where high SDCs caused them to push the upper limits of what the market would accept to achieve feasibility.
- Developers budget for SDCs and may plan for escalation to some extent and/or carry a contingency for increases, but dramatic and unexpected changes to SDCs, or lack of clarity about SDC rates up front, can mean money taken from other parts of the project or more total costs to cover.
- Because rents are fixed based on income for affordable (income-qualified, rent-restricted) housing development, costs are generally factored into funding applications to the extent they are known early. Affordable housing developers were more likely to rely on cost-savings and value engineering to balance SDC costs after funding is secured.

4.3 SDC Costs in Context: SDCs as a Share of Development Costs

SDCs are one cost among many that developers typically pay as part of building housing (e.g., land, construction labor and materials, design fees, financing costs, etc.). While most development costs (e.g., raw materials, financing, and specialized labor) are determined by a regional, national, or international markets, SDCs are determined at a local level through a governmental process, and they do not necessarily track other development costs.

To understand what portion of development costs SDCs comprise, ECONorthwest considered several different types of information:

- National data on costs to develop single-family and multifamily housing, including impact fees as one component of costs (Section 4.3.1)
- Oregon SDC rate data (from Section 3.1.1) compared to typical market-rate housing development costs in the state, accounting for variation by housing type and variation in other cost factors across several market areas in the state (Section 4.3.2)
- Data on SDCs and total development costs for example affordable housing developments in Oregon (Section 4.3.3)

4.3.1 National Data on Impact Fees Relative to Housing Costs

The National Association of Home Builders (NAHB) Construction Costs Surveys offer a national summary of impact fees and other development costs for single-family housing. NAHB collected construction cost data from builders since 1998 to understand the trends in various cost components of single-family housing. The breakdown of costs includes finished lot cost, total construction cost, financing cost, overhead and general expenses, marketing cost, and sales commission. Impact fees are itemized as one component of the costs, specifically a component of total construction cost. Impact fees were separated from other development fees, such as building permit fees and water and sewer fees and inspection costs.

The NAHB survey data shows that impact fees alone are a very small portion of total costs for single-family housing at the national level, **0.88 percent** of total costs.⁹⁴ Water and sewer fees and inspection costs are about as large. Impact fees as a share of total costs ranged between 0.41 percent and 0.96 percent in past surveys. The average impact fee in 2019 was 1.30 percent of construction costs (which do not include other development costs) and 0.80 percent of average sales price (which includes all development costs and developers' profit margin).

These findings, however, are underestimates of typical SDC share of total costs for three reasons.

⁹⁴ Carmel, Ford. Cost of Constructing a Home. NAHB Economics and Housing Policy Group. January 2, 2020.

1. The national average amount for impact fees reported in the NAHB survey may not be representative of a true national average. In addition to general issues related to sampling variability with a nonrandom sample, the sample in the NAHB survey would have included communities with and without impact fees. Thus, the calculated estimate is likely weighted downward by many observations of communities without impact fees. In contrast, the average numbers cited elsewhere in this report are averages only of places that charge impact fees.
2. It is unclear which impact fees are included in the self-reported SDC amounts. Some water and sewer impact fees may have been classified by respondents as water and sewer fees and inspection costs (a separate line item in the listed costs), some of which may capture water and sewer impact fees.
3. The estimate for SDC share of total costs is low because the reported average finished area of the home is 2,594 sq. ft., resulting in relatively high total costs. Impact fees would likely account for a larger share of the prices and costs for smaller units, which tend to have lower construction costs on a per-unit basis.

Another survey by NAHB and the National Multifamily Housing County (NMHC) in 2022 contains information on impact fees for multifamily projects. Fees charged when building construction is authorized, which include impact fees and other fees (e.g., building permit fees), accounted for about **4.4 percent** of total costs across all multifamily properties, on average.⁹⁵ Therefore, the impact fee share of total development costs is no greater than 4.4 percent, on average, though no data is available to disaggregate these costs further to identify the share specifically from impact fees. In addition, like the NAHB single-family data, the data behind this national average likely includes projects from communities both with and without impact fees and may be lower as a result.

The two surveys provide reference points on impact fee share of development costs across the U.S., but their limitations make them less useful to understand SDCs as a share of housing development costs in Oregon.

4.3.2 SDCs and Development Costs in Oregon

Data Sources

SDC levels, other development costs, and housing prices vary by housing type and region. There is no centralized data set that allows us to calculate SDCs as a percentage of development costs across a representative sample of completed market-rate housing development projects across Oregon. As a result, to understand the variation in SDC share of total development costs, ECONorthwest compared various SDC amounts to typical development costs across a range of housing types and a range of market conditions in different parts of Oregon.

⁹⁵ Emrath, Paul and Caitlin Sugrue Walter. Regulation: 40.6 Percent of the Cost of Multifamily Development. NAHB and NMHC. June 8, 2022.

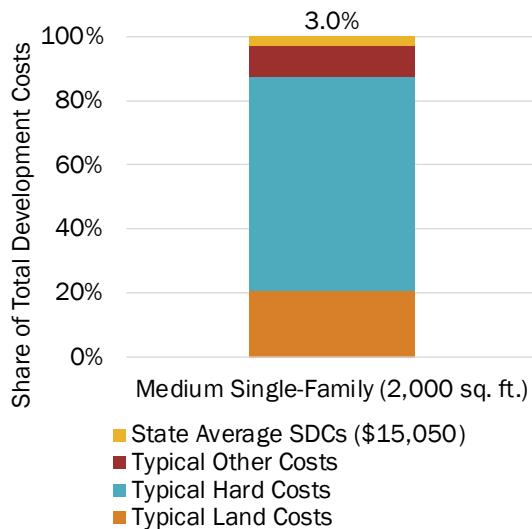
- **SDC costs** for single-family detached housing referenced in this section are based on the 2022 data collected by FCS GROUP discussed in Section 1.4.1. The average SDC in the data was about \$15,050. As described in Section 1.4.1, the estimated typical SDCs for multifamily units are roughly 66 percent of the single-family SDC amount. Due to insufficient data for townhouses, ECONorthwest estimated typical SDCs for townhouses at 90 percent of the single-family SDC amount, based on a review of several examples and the consultant team’s professional experience.
- **Construction costs** are based on interviews with housing developers primarily operating in the Portland Metro region and reflect differences based on housing type and unit sizes. They are adjusted for each market area using national publications that provide regional cost indices.⁹⁶
- **Land costs** are based on research of recent land transactions in each market area.

SDCs as a Share of Costs for a Typical Single-Family Dwelling in Oregon

ECONorthwest’s analysis suggests that the average SDC rate for single-family housing in Oregon (roughly \$15,050 according to the 2022 data by FCS GROUP) would make up about **3.0 percent** of the total development costs of a typical, newly built, medium-sized single-family dwelling in a moderate-cost region in the state (e.g., the mid-Willamette Valley) as shown in Exhibit 25.⁹⁷

Exhibit 25. Components of Development Costs of Medium Single-Family Dwelling in a Moderate-Cost Area

Source: ECONorthwest



Variation in SDC Share of Costs by Housing Type

This section focuses on how SDCs costs would vary as a percentage of total development costs for a variety of housing types, using SDC and cost assumptions that approximate statewide

⁹⁶ RSMeans City Cost Index and the 2022 National Building Cost Manual, 46th Edition

⁹⁷ The example “Medium Single-Family Dwelling” assumes a 2,000 square-foot (sq. ft.) unit, a two-car garage, density of 6.7 units per acre, and development costs of \$479,000 per unit, excluding the SDC amount.

averages. However, costs and specific SDC rates vary by city, and the findings below do not represent all communities.

To demonstrate how the SDC share of total development costs can vary across housing types, ECONorthwest evaluated six different example housing types that are found commonly across much of the state, as shown in Exhibit 26. These housing types illustrate the directional pattern of the relationship between SDCs and other development costs. ECONorthwest approximated typical construction and land costs for these housing types in different parts of the state. Among the housing types included in this analysis, the cost to build each unit tends to be lower for densely built housing types that require less land per unit and tend to have smaller unit sizes.⁹⁸ More detail on the example housing types and their typical development costs across markets are available in Appendix E.

Exhibit 26. Evaluated Example Housing Types

Source: ECONorthwest

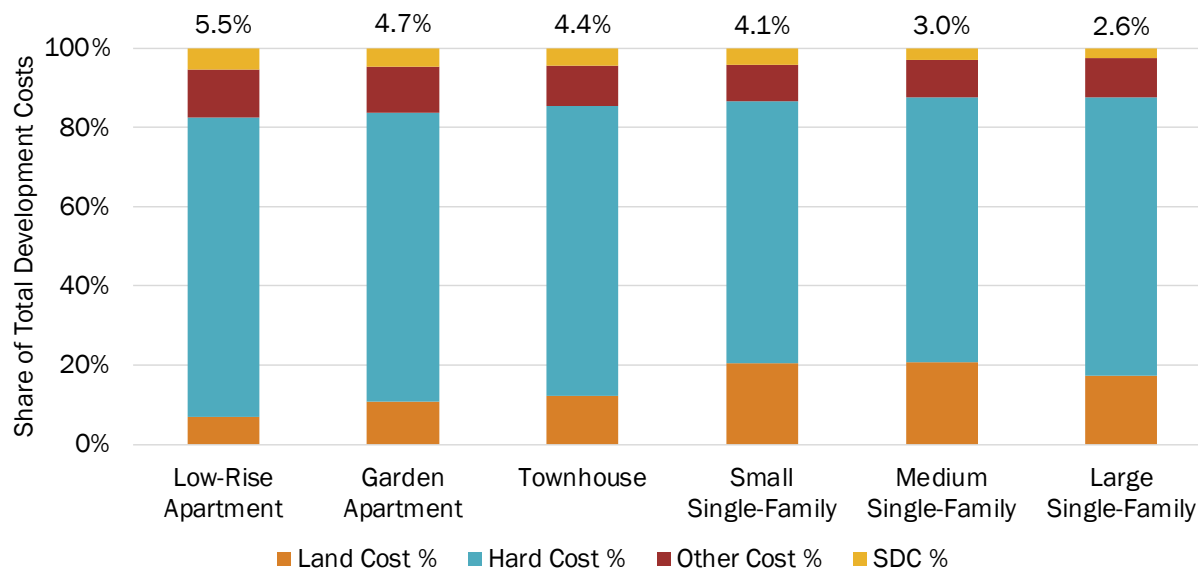
Example Housing Type	Building Height (Floors)	Density (Units per Acre)	Average Unit Size (Square Feet)	Parking
Low-Rise Apartment	3	55.0	738	1.0 Stalls per Unit (surface parking)
Garden Apartment	3	30.0	811	1.5 Stalls per Unit (surface parking)
Townhouse	2	18.2	1,500	Single-Car Garage
Small Single-Family	2	9.1	1,550	Single-Car Garage
Medium Single-Family	2	6.7	2,000	Two-Car Garage
Large Single-Family	2	6.7	2,650	Two-Car Garage

Exhibit 27 shows the share of total development costs that a given SDC amount could make up across housing types of different densities. Even with the adjustments to assumed SDC rates to reflect typical differences between single family, multifamily, and townhouse SDCs, **SDCs make up a greater portion of total development costs for housing types with lower per-unit construction costs when they are applied per unit.** For example, for the Low-Rise Apartment housing type—the highest density housing type in Exhibit 27—a \$9,933 per unit SDC would make up about 5.5 percent of the total development cost. For the Large Single-Family housing type—the lowest density example—a \$15,050 per unit SDC would make up only about 2.6 percent of the total development cost. Thus, SDCs make up a greater portion of more densely built housing types included in the analysis.

⁹⁸ This pattern does not apply to high-rise multifamily construction in which higher-density multifamily housing can have higher per-unit costs than lower-density multifamily housing due to higher construction costs associated with materials used for high-rise buildings.

Exhibit 27. Components of Development Costs in a Moderate-Cost Area, by Housing Type

Source: ECONorthwest



Notes: Assumes \$15,050 per unit SDC for single-family, \$13,545 per unit for townhouse, and \$9,933 per unit for apartments.

Variation in SDC Amounts in the Same Market

This section addresses how SDCs as a share of total development costs can vary for the same housing type and in the same market when SDCs vary between communities.

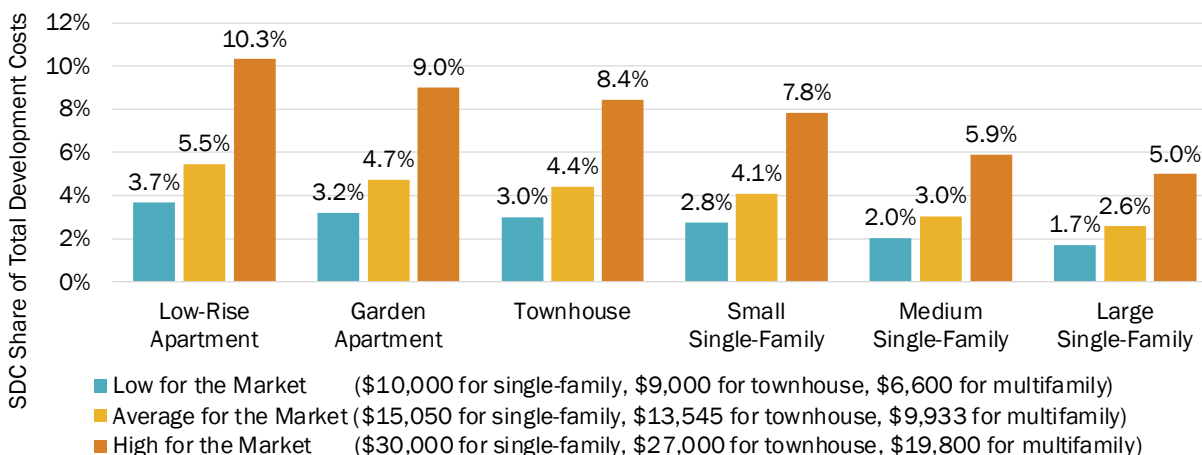
A geographic region can share similar market conditions, construction costs, and typical land costs, but different developments could be subject to different SDC rates when there are multiple jurisdictions in the same market or when a given jurisdiction differentiates rates geographically. For example, a city in a moderate-cost area could have an SDC amount close to the state average (\$15,050 per single-family unit), but another city in the same area could have an SDC amount that is much lower or higher (e.g., as low as \$10,000 or as high as \$30,000 per single-family unit, given the observed variation in the FCS GROUP data⁹⁹).

Exhibit 28 illustrates the impact of these variations on the SDC share of total development costs. **The variation in SDC rates across cities within the same general market area means the SDC share of total development costs can also vary widely.** In the example shown in Exhibit 28, the variation can be between 1.7 percent and 5.0 percent for a Large Single-Family housing type and between 3.7 percent and 10.3 percent for a Low-Rise Apartment housing type.

⁹⁹ These SDC amounts are based on the 2022 survey results by FCS GROUP, after further segmenting the data into different market context areas.

Exhibit 28. SDC Share of Development Costs in a Moderate-Cost Area, By Housing Type, By SDC Amount

Source: ECONorthwest



This illustrative example also shows that the difference in SDC rates has a more pronounced effect on lower-cost housing types. For example, for the Large Single-Family housing type, SDC share of development costs could be 5.0 percent with a high SDC and 2.6 percent with a low SDC. In contrast, for the Low-Rise Apartment housing type, SDCs could be between 3.7 percent and 10.3 percent of development costs.

Variation in SDC Structure

This section explores the importance of SDC structure. Specifically, it compares SDCs that are applied per unit (adjusted by housing type) to SDCs that are scaled by unit size, as discussed in “Characteristics Used to Scale SDCs Based on Development Size” on page 56.

Many SDC rates are applied on a per-unit basis, and their structure partly drives the variations across housing types. When SDCs are applied per-unit, SDCs make up a smaller portion of total costs for housing types with larger unit sizes and higher development costs.

In contrast, applying SDCs per square foot of building area can remove the relationship between density and the share of costs that SDCs make up. (More on the scaling structure is discussed in Section 1.5.3) Exhibit 29 shows that if SDCs were applied linearly per square foot,¹⁰⁰ it would produce a lower variation in SDC share of costs. Across the housing types, SDCs as a share of development costs could range between 2.3 percent and 3.4 percent with a linear per-square-foot SDC rate.

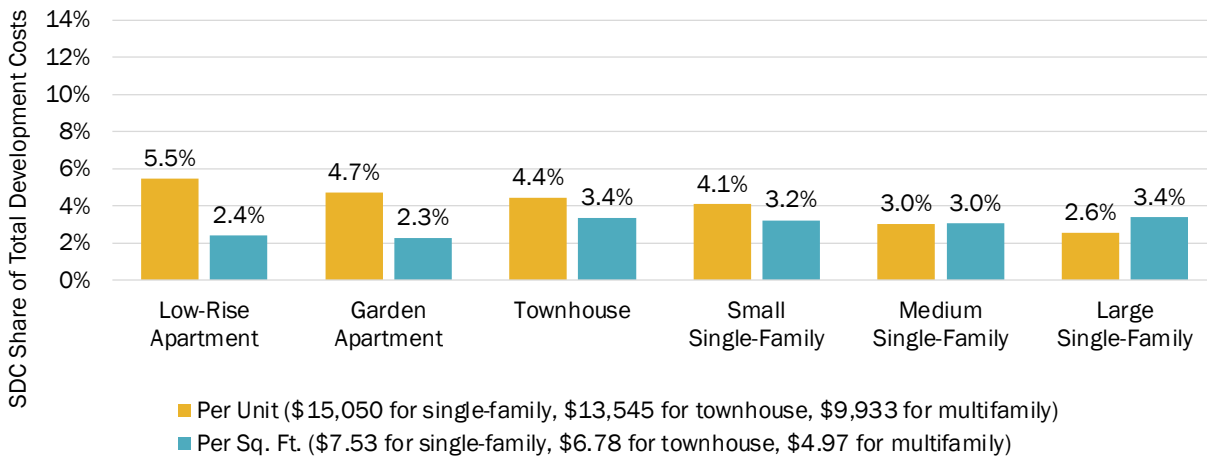
The per-square-foot SDC rate in Exhibit 29 is selected for illustrative purposes and is calculated by dividing the \$15,050 per unit fee by 2,000 sq. ft. unit size of the Medium Single-Family housing type. The rate for Townhouse is 90 percent of the rate for single-family. The rate for Low-Rise Apartment and Garden Apartment is 66 percent of the rate for single-family.

¹⁰⁰ It is unlikely that all SDCs would be appropriate to scale in this way, but it is presented here to illustrate the general point about the impact of scaling by unit size compared to fixed per-unit rates.

When SDCs are scaled to unit size, the SDC share of development costs is more consistent across housing types. Compared to SDCs that are applied per unit, scaled SDCs result in lower SDC share of development costs for lower-cost housing types with smaller units. This shows that the variation in SDC share of total development costs can depend on not only the housing type but also the SDC structure.

Exhibit 29. Comparison of SDC Structures and SDC Share of Development Costs in a Moderate-Cost Area, By Housing Type

Source: ECONorthwest



Variation by Market Context

This section explores how SDC share of development costs can vary between market areas, which have different SDC amounts and different development costs.

To illustrate the variation in SDC share of development costs across the state, ECONorthwest estimated typical development costs in seven parts of the state and compared them to a typical SDC amount in each region. The seven market context areas generalized market and cost conditions based on geography, market factors, and development cost factors. They are broad categories that reflect typical housing prices and construction costs across the cities that fall within each geographic region. The values used for each geographic market are not intended to represent a specific city, and average housing prices and costs vary by city. Rather, the values are representations of likely values observed across many parts of the geographic market. The market context areas are:

1. **Willamette Valley:** Larger cities along Interstate 5, with some similar housing options within a local housing market. Does not include cities in the Portland Metro area.
2. **Small Cities:** Smaller cities along Interstate 5 or remotely located in eastern Oregon. Relatively stagnant growth, lower demand, and lower land costs are observed in comparison to other market context areas.
3. **Coast:** Coastal cities with many vacation rentals and second homes.
4. **Metro Low:** Suburban cities and neighborhoods in the Portland Metro area with moderate demand for new housing and limited production of new housing.

5. **Metro Mid:** Suburban cities and neighborhoods in the Portland Metro area with relatively strong demand for new housing and, sometimes, large tracts of planned developments.
6. **Metro High:** More exclusive neighborhoods in the Portland Metro area with higher prices and relatively few options for new housing.
7. **Cascades:** Cities east of the Willamette Valley that experienced a strong level of housing demand and production in recent years.

For this section of the report, the findings from the analysis of the seven market context areas are summarized into three market types that typify the lower, middle, and upper points of the analyzed markets. A full analysis for all market areas is available in Appendix E. The three market types presented in this section are:

- **Low-Cost Market** that typifies small cities in eastern Oregon with relatively stagnant growth, lower housing demand, and lower land costs in comparison to other markets.
- **Moderate-Cost Market** that typifies large cities along Interstate 5 and south of the Portland Metro area.
- **High-Cost Market** that typifies a subset of suburban cities in the Portland Metro area with strong demand for new housing.

Exhibit 30 shows the typical SDC amounts estimated for each market and for different housing categories.¹⁰¹ The townhouse SDCs are assumed to be 90 percent of the single-family SDCs, consistent with analysis above. The multifamily SDCs are assumed to be 66 percent of the single-family SDCs, consistent with analysis above.

Exhibit 30. Selected SDC Rates for Analyzed Markets

Source: ECONorthwest

	Low-Cost Market	Moderate-Cost Market	High-Cost Market
Single-Family SDC	\$8,600	\$15,050	\$48,800
Townhouse SDC (90%)	\$7,740	\$13,545	\$43,920
Multifamily SDC (66%)	\$5,676	\$9,933	\$32,208

Exhibit 31 illustrates the findings from analysis. Given the estimated SDCs and other development costs, the analysis shows **the variation in SDC share of total development costs can also depend on the market.**

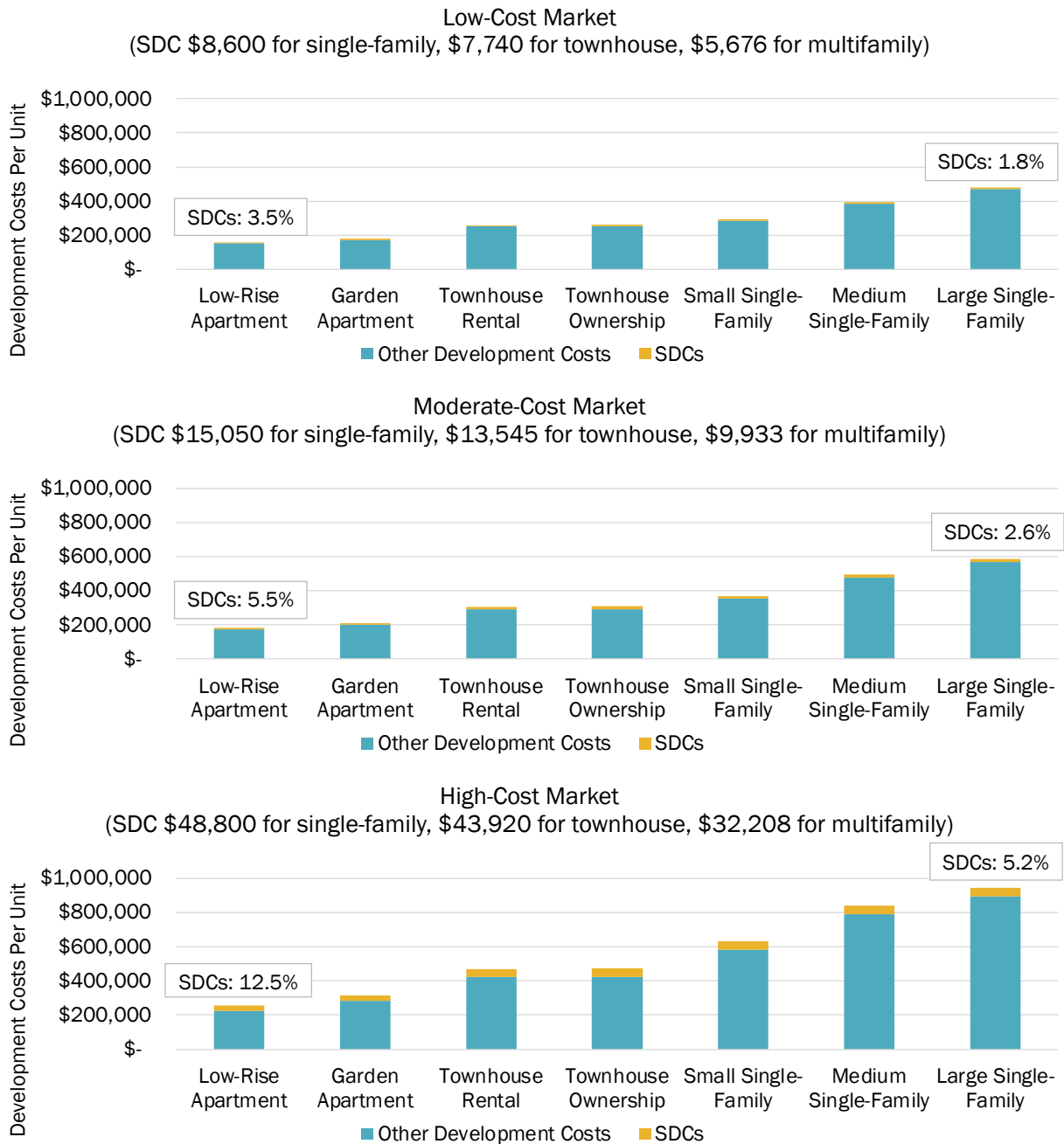
- SDCs could make up between **1.8** percent of single-family development costs to **3.5** percent of multifamily development costs in Low-Cost Market.
- SDCs could make up between **2.6** percent of single-family development costs to **5.5** percent of multifamily development costs in Moderate-Cost Market.

¹⁰¹ The typical SDC amounts in Low-Cost and High-Cost Markets are rounded numbers of the average of reported SDC amounts in the 2022 survey of SDCs by FCS GROUP for cities that typify the market contexts described. The statewide average is used as the typical SDC amount for the Moderate-Cost Market, consistent with all analysis and charts in this section.

- SDCs could make up between 5.2 percent of single-family development costs to 12.5 percent of multifamily development costs in High-Cost Market.

Exhibit 31. SDC Share of Development Costs Across Housing Types and Markets

Source: ECONorthwest



4.3.3 SDCs as a Share of Affordable Housing Development Costs

Case Study: SDCs Paid by Affordable Housing Development in Hillsboro

ECONorthwest summarized the amount that affordable housing developments in the City of Hillsboro have paid in SDCs over the past 10 years in a memorandum to the City of Hillsboro as

part of their consideration of SDC exemptions.¹⁰² The City does not offer SDC exemptions today, nor do Washington County or Clean Water Services (CWS), which also charge SDCs for projects in Hillsboro.

Exhibit 32: SDCs for Recent Affordable Housing Developments in Hillsboro

Source: ECONorthwest summary based on data provided by the City of Hillsboro; OHCS¹⁰³¹⁰⁴

	Willow Creek Crossing	Orchards at Orenco II	Orchards at Orenco III	Alma Gardens	Nueva Esperanza	Total
Year Funded	2018	2015	2017	2013	2022	
Units	120	58	52	45	150	425
Parks SDC (City of Hillsboro)	\$644,410	\$258,158	\$267,748	\$175,950	\$958,800	\$2,305,066
Water SDCs (City of Hillsboro)	\$0	\$54,430	\$55,350	\$45,380	\$88,280	\$243,440
Sewer & Stormwater SDCs (CWS)	\$663,084	\$289,282	\$283,104	\$212,150	\$912,750	\$2,360,370
TDT (Washington County)	\$663,960	\$304,906	\$281,580	\$94,365	\$944,400	\$2,289,211
SDC total	\$1,971,454	\$906,776	\$887,782	\$527,845	\$2,904,230	\$7,198,087
Total SDCs per Unit	\$16,429	\$15,634	\$17,073	\$11,730	\$19,362	\$16,937
Total Development Costs	\$31,523,563	\$13,547,334	\$14,860,640	\$9,273,520	\$53,954,156	\$123,159,213
SDCs as a % of Total Development Costs	6.3%	6.7%	6.0%	5.7%	5.4%	5.8%

In total, over \$7 million of affordable housing funding has gone towards SDCs over the past 10 years for projects within the City of Hillsboro alone. This represents **nearly 6% of the total development costs** on average.

Note that these example projects are located outside the South Hillsboro area, which has additional area-specific SDCs. Apartment projects located in South Hillsboro, including affordable housing development, are subject to over \$17,800 in additional SDCs (as of 2022).¹⁰⁵

¹⁰² ECONorthwest, “Progress Report of Hillsboro Affordable Housing Tools and Evaluation of Additional Tools,” prepared for the City of Hillsboro, April 12, 2022.

¹⁰³ <https://www.oregon.gov/ohcs/development/Documents/applicants-recipients/4-percent-lihtc-affordable-housing.pdf>

¹⁰⁴ <https://www.oregon.gov/ohcs/development/Documents/applicants-recipients/LIHTC-Statewide-List.pdf>

¹⁰⁵ City of Hillsboro, “Citywide Fees and Charges,” August 2022, page 44-45. Rate assumes property is not part of the Local Improvement District (LID) for the area, which applies some infrastructure costs in the form of an LID assessment rather than a supplemental SDC.

Using Nueva Esperanza as an example, since it is currently under construction, the total SDC cost if it had been located in South Hillsboro would have been over \$5.5 million, or over \$37,000 per unit—close to 10% of the total costs (even after accounting for the increase in total costs due to higher SDCs).

4.4 Impact of SDCs on Financial Feasibility of Market-Rate Residential Development

4.4.1 Testing Impacts Across the State

Approach

To understand the financial impact SDCs can have on development feasibility and the relationship between SDCs and development outcomes, ECONorthwest constructed pro forma models that are sensitive to change in input costs. A more detailed methodology is included in Appendix E.

The key measure of development financial feasibility used to demonstrate the marginal impact of SDCs is **expected returns** of for-profit developers of market-rate housing. (Impacts of SDCs on affordable housing developers are addressed in Section 5.2.2.) If a change in SDCs results in a decrease in the expected returns, developments are less likely to occur.

Although there are many methods to calculate and measure investor returns, the metric selected for this study is internal rate of return (IRR). IRR is a commonly used financial metric in the real estate industry to estimate the profitability of real estate investments. Although expected IRR can vary based on the type of development, location, market contexts, and investor-specific considerations, it is typically between 15 percent and 25 percent. Therefore, a one percentage point change in IRR may be within a margin of error and not impact development decisions, but a change of five percentage points is likely to have an impact.

As noted above, the impact of SDCs on housing can vary across geographic markets and housing types in Oregon. To isolate the potential impact of SDCs on housing development feasibility, ECONorthwest used a pro forma analysis that reflects market and cost differences across the state, using seven market context areas discussed in Section 4.3.2, beginning on page 76. The analysis measured the marginal impact of higher vs. lower SDC amounts on financial feasibility, based on the sensitivity of developers' expected returns to changes in SDCs. (More detail on the analysis is discussed in Appendix E.)

Findings

Although specific site or economic conditions will influence development outcomes for any given development, the analysis suggests some generalizable takeaways.

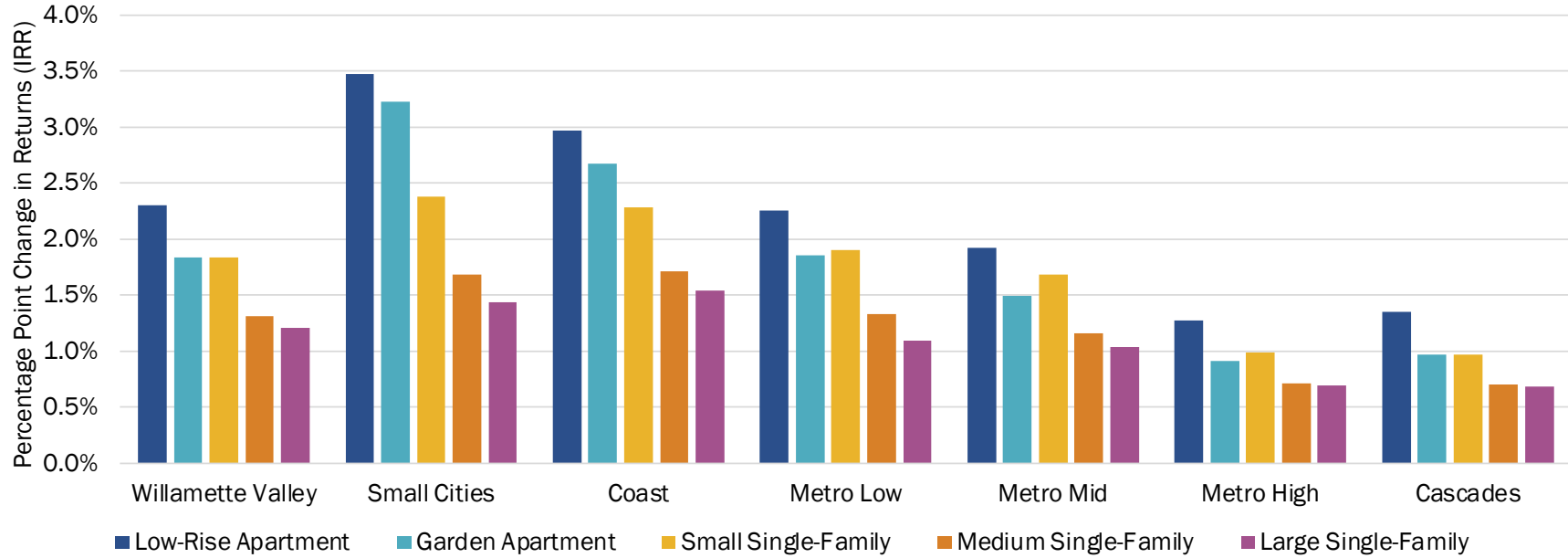
- The marginal impact of SDCs on development feasibility is greater for lower-cost and higher-density housing developments. Because SDCs often make up a greater portion of total development costs in a housing development that is less costly to build on a per-unit basis, a fixed change in SDCs has a greater marginal impact on lower-cost (and higher-density) housing types. This relationship is generally true across markets. For example:

- A \$10,000 change in fee would have a greater marginal impact on the financial feasibility of Small Single-Family housing than on Large Single-Family housing (see Exhibit 33).
- A \$6,600 change in fee would have a greater marginal impact on the financial feasibility of Low-Rise Apartment housing than on Garden Apartment housing (see Exhibit 33).
- Similarly, the marginal impact of SDCs is greater in markets where it is less costly to build. Because a fixed SDC amount makes up a greater portion of total development costs in markets with lower land costs, a change in SDCs has a greater marginal impact on the types of housing markets can deliver in markets with lower costs for land and construction.
 - For example, a \$10,000 change in fee for a single-family unit would have a greater marginal impact on financial feasibility in a small city outside a metropolitan area than inside a metropolitan area where land and housing prices are relatively expensive (see Exhibit 34).

A key limitation of the results shown in Exhibit 33 and Exhibit 34 is the simplifying assumption that SDCs could vary by the same amount across all market context areas. While the assumption is useful for demonstrating the directional relationship between SDCs and development feasibility, it does not account for the fact that SDCs vary widely across markets. For simplicity, the analysis uses a constant amount of change in SDCs across all market areas.

Exhibit 33. Marginal Impact of Change in SDCs on Development Feasibility by Housing Type and Market Context Area

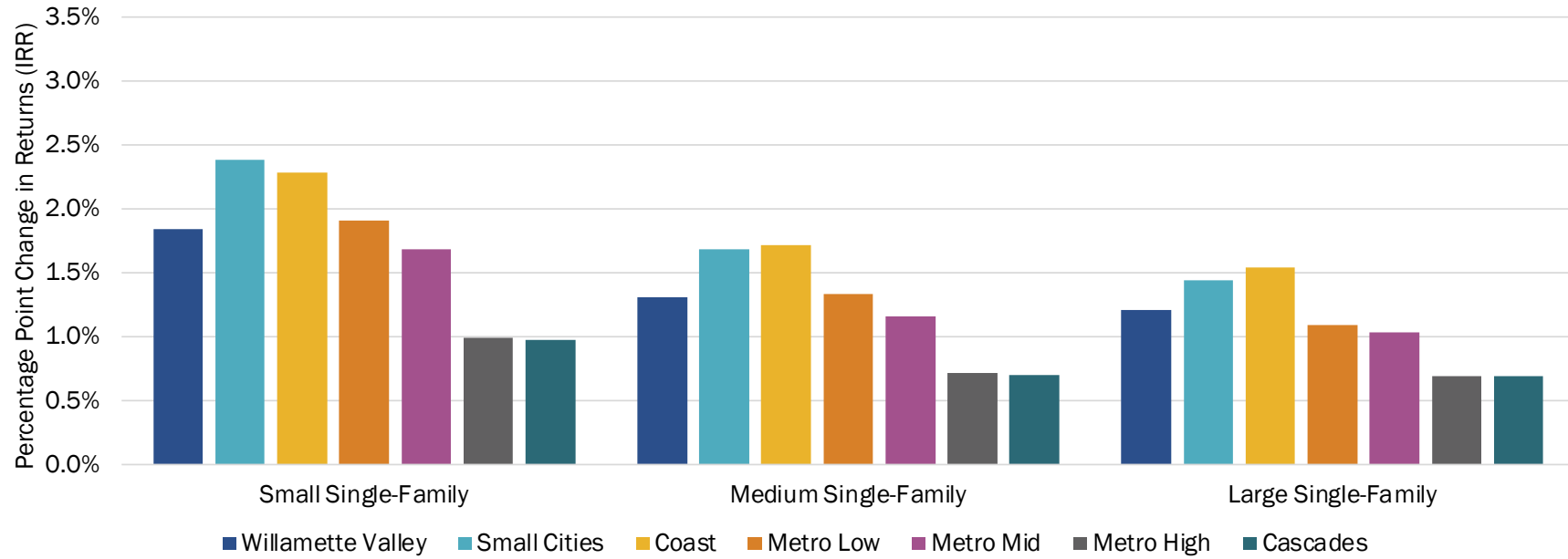
Source: ECONorthwest



Note: A \$10,000 change is modeled for single-family housing types. A \$6,600 change is modeled for apartment housing types. Section 1.4.1 explains multifamily SDCs are about 66 percent of single-family SDCs, on average.

Exhibit 34. Marginal Impact of \$10,000 Change in SDCs on Single-Family Development Feasibility by Unit Size and Market Context Area

Source: ECONorthwest



4.4.2 Findings from Developer Interviews

The patterns noted above are generally consistent with findings from developer interviews.

- In some cases, SDCs are enough to make a project infeasible, especially for very cost sensitive housing types. Entry-level homes are cost-sensitive, including middle housing. Attached product can sometimes cost more to build than a single-family home and often sells for less relative to a detached house. Multifamily can also be affected by high SDCs if they are disproportionate to other costs.
- When SDCs are low compared to other costs, they have little impact on development feasibility.
- SDCs are not typically an important factor for high end housing types, such as custom homes, because they represent a small portion of the cost, and high-income/wealthy buyers tend not to be cost-sensitive.

4.5 Relationship Between SDCs and Home Prices

This section summarizes various sources of data and research regarding the relationship between SDCs and home prices, including peer reviewed literature, Oregon-specific case studies, and data on home prices compared to SDCs in communities across the state.

4.5.1 Evidence from Empirical Literature

Overview and Limitations

The effect of impact fees on various housing market outcomes has been analyzed empirically in numerous studies within the context of specific cities and states in the U.S. However, findings from the empirical research should be interpreted carefully for a few reasons:

- Although the empirical research utilized commonly used statistical models to understand the relationship between impact fees and cost incidence, they failed to establish a definitive causal relationship. Observed changes in prices or housing production in places with impact fees could be due to the impact fees increasing housing costs or other reasons, including reduced production of new entry-level homes, lower overall housing production, a higher level of amenities and services in places with higher SDCs, a greater willingness to impose high impact fees in places with strong housing markets, or other factors. Thus, the results of the studies mentioned are interpreted as correlations rather than definitively establishing causal relationships.
- None of the studies were conducted in Oregon, which has a unique growth management planning system that affects housing markets. While some places included in the research could resemble a city in Oregon, there is no generalizable takeaway from the empirical studies that would be applicable across Oregon.
- There are many variations in the outcome variables of the empirical research. While all studies on housing prices looked at the prices for newly constructed, single-family units, some also included the data for existing units or multifamily units. Other studies looked instead at land prices, which could be differentiated as either undeveloped (vacant) land or developed land. The applicability of each research's findings depends on the data that is used.

Summary of Studies, Approach, and Findings

Exhibit 35 is a summary of key information presented in academic research that studied the relationship between impact fees and the housing market. A more detailed summary is available in Appendix F. The 15 summarized studies provide a snapshot of the existing range of research that exists, but they are not a comprehensive list of impact fee studies. The key takeaways are:

- Most studies measured the relationship between impact fees and housing prices (for new homes only or for all homes in an area). These studies consistently found higher home prices in areas with impact fees. The differential in housing prices ranged from 25% to 300% of the value of the impact fee.
- A few studies analyzed the relationship between impact fees and land prices. While the economic theory discussed in Section 4.2.2 suggests that land prices should be lower in areas with impact fees, studies were mixed on this point.
- A few studies analyzed the relationship between impact fees and housing production. Most of these observed a negative relationship—higher impact fees were associated with less housing production—although one found the opposite.
- More recent studies that attempted to distinguish the effects of different types of impact fees found that not all impact fees have the same effect.
- There are no studies that measured the potential effect of removing impact fees, providing no direct evidence to suggest taking away existing impact fees could reduce housing prices.

Exhibit 35. Summary of Empirical Studies on Impact Fees

Source: ECONorthwest

Author(s) (Publication Year)	Observed Relationship to Housing Prices	Observed Relationship to Housing Production	Observed Relationship to Land Values
Delaney and Smith (1989)	(+)	N/A	N/A
Singell and Lillydahl (1990)	(+)	N/A	N/A
Skaburskis and Qadeer (1992)	N/A	N/A	(+)
Dresch and Sheffrin (1997)	(+)	N/A	N/A
Skidmore and Peddle (1998)	N/A	(-)	N/A
Baden and Coursey (1999)	(+)	N/A	N/A
Mayer and Somerville (2000)	N/A	(-)	N/A
Mathur, Waddell, and Blanco (2004)	(+)	N/A	N/A
Ihlanfeldt and Shaughnessy (2004)	(+)	N/A	(-)
Evans-Cowley, Forget, and Rutherford (2005)	N/A	N/A	(+)
Burge and Ihlanfeldt (2006)	N/A	(+)	N/A
Mathur (2013)	(+)	N/A	N/A
Burge (2014)	N/A	N/A	(-)
Bae, Kwon, Coutts, Park, and Feiock (2015)	N/A	N/A	(+)

Key: (+) = Positive correlation between impact fees and the variable in question; (-) = Negative correlation between impact fees and the variable in question. N/A = variable not addressed in study in question.

While none of the studies can clearly establish causality, some authors assert that the observed relationship between impact fees and housing prices primarily reflects the value of the infrastructure funded by the impact fees: that the higher prices of new housing reflect the desirability of the newly built infrastructure, rather than the cost of it. They posit that the added cost of impact fees can be counterbalanced by the positive effect they have on infrastructure services.^{106, 107} The added benefits are reflected in higher housing values through an economic concept called “capitalization.”^{108, 109} Thus, according to the view of capitalization theory, the higher housing prices of dwellings with SDCs reflect a properly functioning economic market in which the long-term benefits of impact fees are measured in today’s market prices.

Other studies focus more on costs being passed on to housing consumers, either directly or indirectly.

4.5.2 Oregon Case Studies and Data

To evaluate whether the relationship observed consistently in the literature—showing higher housing prices in areas with impact fees—holds in Oregon, ECONorthwest analyzed available statewide data (at a simplified level) and more detailed data from two case studies. The first case study compared trends in housing prices to trends in SDC fees in one community. The second case study compared housing prices in similar areas but with different SDC rates. These analyses are current and Oregon-specific, but they do not control for all variables that could affect housing prices and they cannot establish causation.

SDC Rates vs. Average Housing Values by Community

ECONorthwest compared single-family SDC rates from the 2022 SDC rate data collected by FCS GROUP to June 2022 single-family housing values from Zillow. The simplified approach did not include other variables that could relate to SDC rates and/or housing values, such as population, population growth rate, infrastructure quality, access to jobs or amenities, buildable land supply, political attitudes towards growth, and other development costs. Moreover, the housing value data includes all single-family units, so the data do not specifically identify a relationship between SDCs and prices of *new* housing.

Exhibit 36 shows that higher SDCs tend to be associated with higher average housing values. The relationship has a moderate correlation (R-squared of 0.3309), without controlling for other variables. The observed correlation does not indicate causality. The relationship could reflect

¹⁰⁶ Arthur C. Nelson and Mitch Moody. 2003. *Paying for Prosperity: Impact Fees and Job Growth*. Brookings Institution Center on Urban and Metropolitan Policy.

¹⁰⁷ Vicki Been. 2004. “Impact Fees and Housing Affordability.” *Cityscape: A Journal of Policy Development and Research*, 8(1): 139.

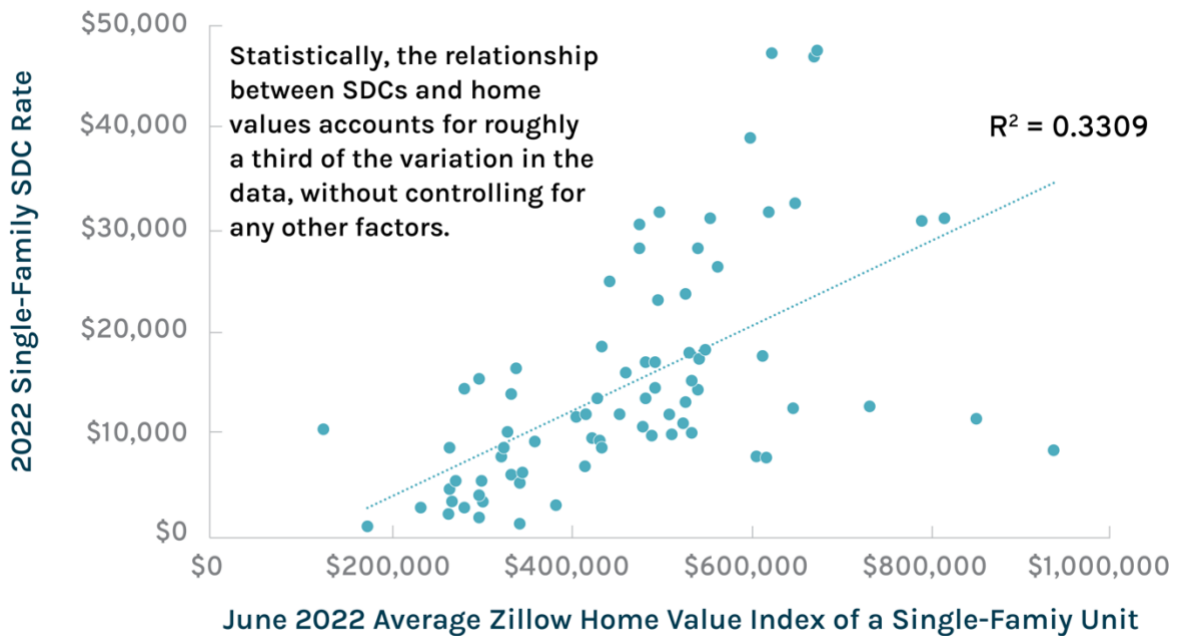
¹⁰⁸ John Yinger. 1998. “The Incidence of Development Fees and Special Assessments.” *National Tax Journal*, 51(1): 23-41.

¹⁰⁹ Jennifer S. Evans-Cowley and Larry L. Lawhon. 2003. “The Effects of Impact Fees on the Price of Housing and Land: A Literature Review.” *Journal of Planning Literature*, 17: 351-359.

the impact of SDCs on housing development costs and development feasibility. It could also reflect (a) a greater willingness to impose higher SDCs in areas with higher housing prices and stronger housing markets, (b) higher infrastructure quality driving both higher SDCs and higher housing values, or (c) other factors at play that happen to be related to both SDCs and housing prices. The relationship appears to be stronger in areas with low and moderate housing values, and weaker in areas with high home values—there is a much greater range of SDC rates in communities with average housing values above roughly \$600,000 compared to the range for communities with lower housing values.

Exhibit 36. SDCs and Estimated Housing Values in Selected Oregon Cities

Source: ECONorthwest using data from FCS GROUP and Zillow Home Value Index (ZHVI) of Single-Family Units



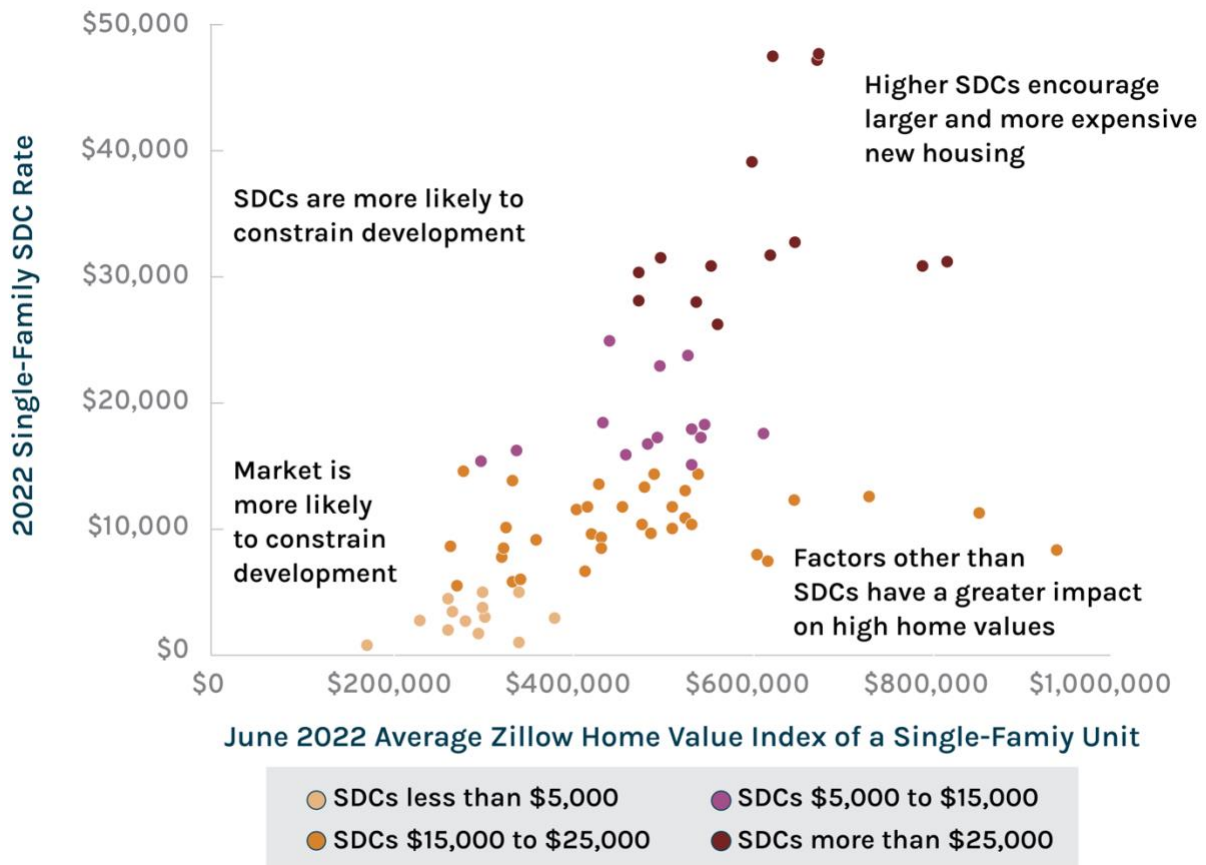
The data comparing SDC rates and housing values in Oregon also suggests implications for how SDCs may affect housing development. ECONorthwest’s analyses in Section 4.4 and developer input suggest that SDCs may have different impacts for communities that fall on different parts of this chart. As illustrated in Exhibit 37:

- Communities with below-average home values and average to above-average SDC rates could see greater impacts of SDCs on development potential. There appear to be only a few communities among the sample set where this could be a concern.
- Communities with above-average home values and above-average SDCs may not be limiting development overall, but may be exacerbating challenges for lower-cost housing, particularly in places where SDCs are the highest. These areas could also potentially see a greater share of SDC costs passed through to homebuyers given the strength of the market demand.

- In communities with above-average home values and below-average SDCs, SDCs are probably not a major factor driving home values, and lower SDCs may not translate to lower home prices.
- In communities with below-average home values and below-average SDCs, SDCs may not be enough to substantially impact development feasibility, and market conditions may make development challenging with or without SDCs.

Exhibit 37. SDCs and Estimated Housing Value in Oregon Cities, By SDC Level

Source: ECONorthwest using data from FCS GROUP and Zillow Home Value Index (ZHVI) of Single-Family Units



Case Study: Trends in SDCs and Sales Prices in Bend, Oregon

To observe the potential relationship between SDCs and sales prices in Bend, Oregon, ECONorthwest compiled data from various sources. Data from 2005 to 2019 comes from previous work by Oregon’s Office of Economic Analysis to compare Bend’s Parks SDC rate and total SDCs to typical prices of new construction units. ECONorthwest updated the data for more recent years.

As shown in Exhibit 38, the total SDC in FY 2022 is about 220 percent higher than the level in FY 2005. During the same time, housing prices increased by about 190 percent.

However, and more importantly, the rate of change is different. The total SDC increased every year, but it increased faster before FY 2010 and after FY 2018. In contrast, the median housing

price in Bend is more cyclical and experiences greater swings. It increased at an even greater pace than SDCs in FY 2006 and FY 2007, dipped for almost six years, recovered for seven years, and then experienced a very large increase since FY 2020. The comparison shows housing prices are more volatile and likely to be influenced by many other factors beyond SDCs.

Exhibit 38. Percent Change in Single-Family SDCs and Median Housing Price in Bend, Oregon, Since Fiscal Year 2005

Source: ECONorthwest using data from Oregon Office of Economic Analysis, Central Oregon Association of Realtors, City of Bend

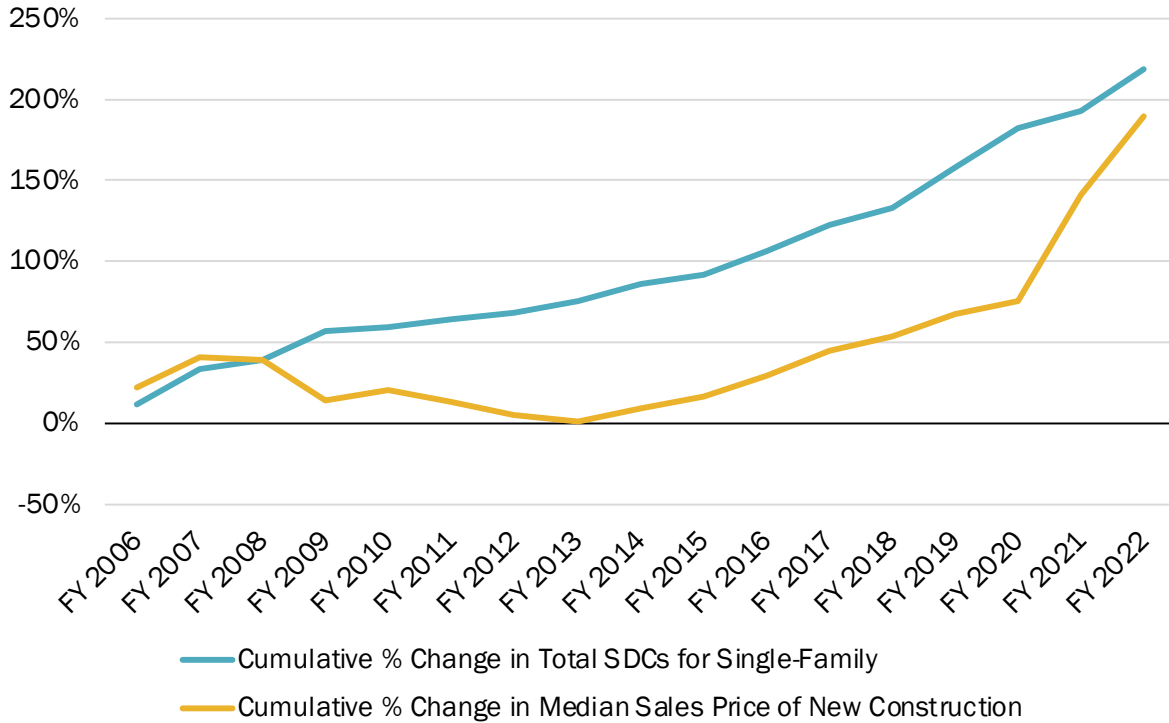
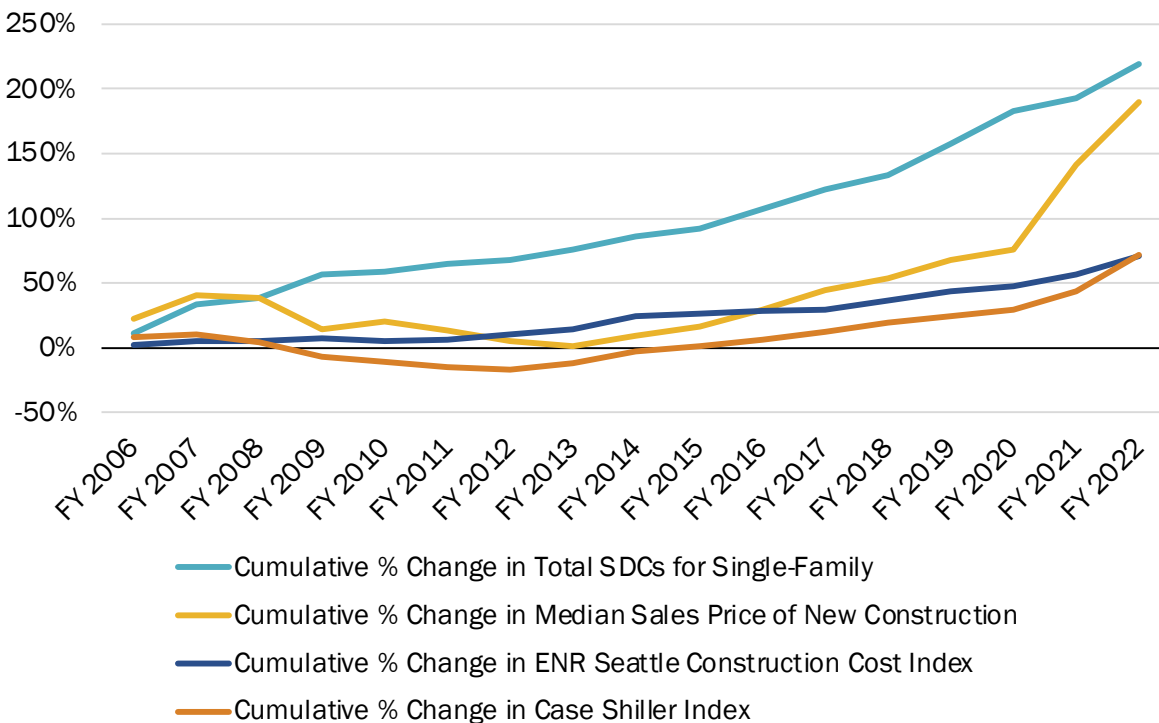


Exhibit 39. Percent Change in Bend Single-Family SDCs, Bend Median Housing Price, ENR Construction Cost Index, and Case-Shiller Index Since Fiscal Year 2005

Source: ECONorthwest using data from Oregon Office of Economic Analysis, Central Oregon Association of Realtors, City of Bend, Engineering New-Record, Federal Reserve Bank of St. Louis



Bend’s SDCs and median sales prices are more likely to be driven by regional or national factors. Exhibit 39 shows Engineering News-Record (ENR) Construction Cost Index for Seattle¹¹⁰ has a closer trend to Bend’s SDCs than the median sales price does; the SDCs and the ENR Seattle Construction Cost Index move steadily upward without falling. It also shows that the Case Shiller Index, a national benchmark for single-family housing prices, has a closer trend to the median sales price than the SDCs do; the median sales price and the Case Shiller Index fall from FY 2008 to FY 2012 before starting to recover.

The correlation coefficient between SDCs and median sales prices in Bend is 0.82. In contrast, the correlation coefficient between SDCs and the ENR Seattle Construction Cost Index (CCI) is 0.98 (likely due to use of ENR CCI data for 20-cities to index SDC rates), and the correlation coefficient between Bend new construction home prices and the Case Shiller Index is 0.96. This suggests that within a given jurisdiction, home price trends are affected much more by broad housing market trends than by changes in SDC rates.

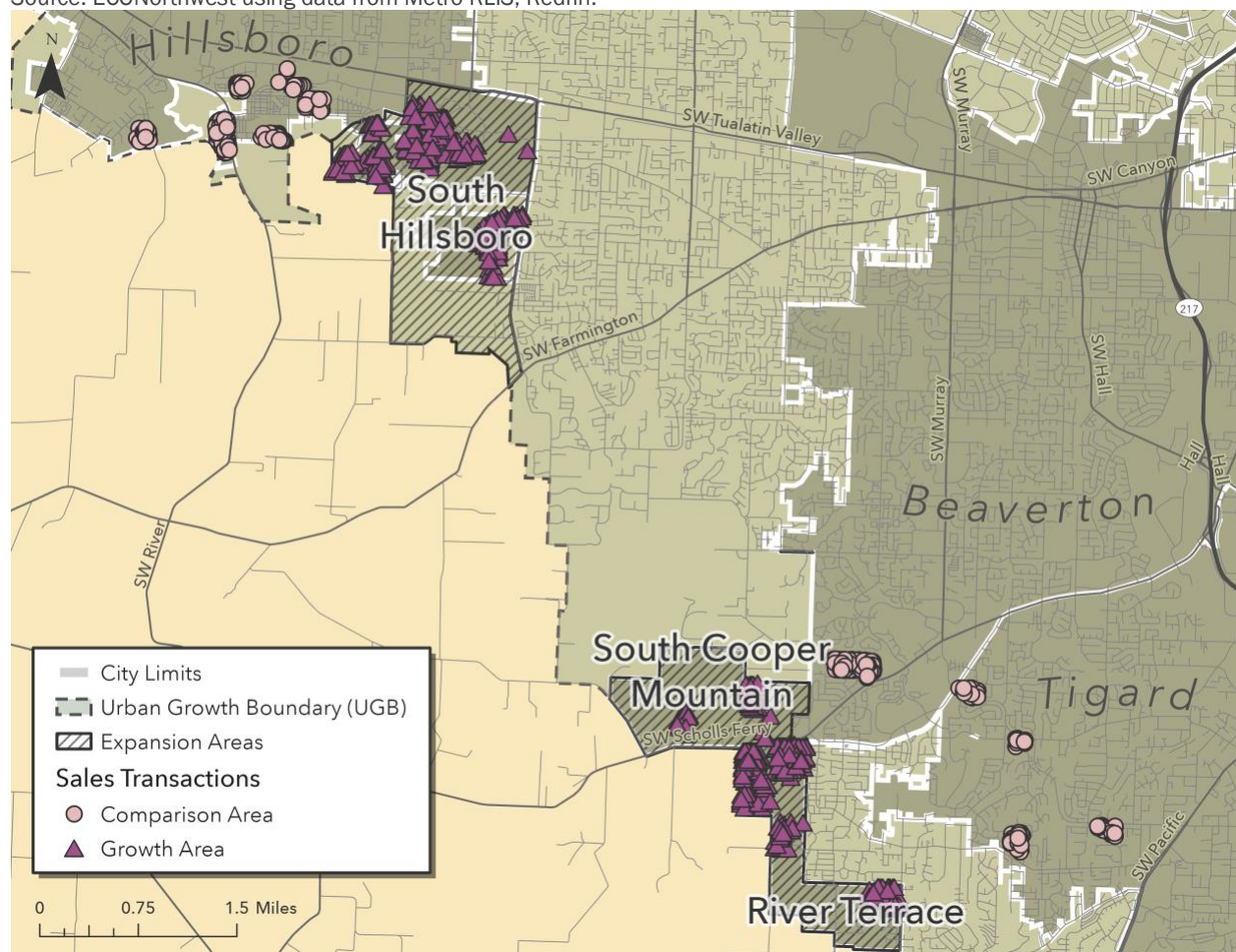
¹¹⁰ Seattle is the closest city to Oregon in the markets tracked by ENR.

Case Study: SDCs vs. Home Prices in Planned Developments in Oregon

ECONorthwest identified several recent developments in Washington County that provide an opportunity to examine an example of the relationship between SDCs and housing prices at a more granular level. Each development faced different SDC costs, but all compete within the same subregional housing market. This analysis considered three areas that were recently brought into the Portland Metro urban growth boundary (UGB): South Cooper Mountain in the City of Beaverton, South Hillsboro in the City of Hillsboro, and River Terrace in the City of Tigard. Within these areas, ECONorthwest collected data on sales transactions for newly built homes and SDC rates to analyze whether there is a relationship between the SDC rates and home prices. ECONorthwest also considered development in adjacent subdivisions that were not part of these growth areas but were in one of the three jurisdictions and the same subregional housing market. These “comparison” developments were built in a similar span of time to the development in the growth areas, which allows for a statistical analysis of the impact of SDC on development outcomes within a similar set of market conditions. Exhibit 40 shows the locations of the three study areas and the analyzed properties. Appendix G includes more detail on the three areas.

Exhibit 40. Washington County Urban Growth Areas and Housing Observations

Source: ECONorthwest using data from Metro RLIS, Redfin.



Each of the urban growth areas has both standard citywide SDCs and supplemental area-specific SDCs to support new infrastructure development needed for each growth area. Additionally, developments in all three jurisdictions are subject to SDCs for sanitary sewer and stormwater imposed by Clean Water Services (CWS) and SDCs for transportation imposed by Washington County. Exhibit 41 summarizes the SDCs applied to single-family construction in South Cooper Mountain, South Hillsboro, and River Terrace ("growth areas") and the standard citywide rates applicable to adjacent developments that are not part of the growth area. Appendix G includes more detail on the SDCs.

Exhibit 41. System Development Charges for Detached Single-Family Housing, 2021

Source: ECONorthwest using data from City of Beaverton, City of Hillsboro, City of Tigard, and Washington County.

	Beaverton		Hillsboro		Tigard	
	Standard	South Cooper Mountain	Standard	South Hillsboro	Standard	River Terrace
Total SDCs	\$37,940	\$46,767	\$33,905	\$53,030	\$43,809	\$47,640
Difference from standard SDCs for Growth Areas	--	+23%	--	+56%	--	+9%

As shown in Exhibit 41, Hillsboro’s standard citywide SDCs are the lowest among the three studied areas (about \$34,000), but its supplemental SDCs are the largest (about \$19,000). In contrast, Tigard has the highest standard citywide charges (about \$44,000), but it has the lowest supplemental SDCs (about \$4,000). Note that the supplemental SDCs were largely used to distribute costs for area-specific facilities such as collector roads and local parks among property owners within the growth area. Developers who made the improvements generally received SDC credits for at least a share of those costs.

Using the data from sales transactions for new homes in these areas and the information on SDC rates, ECONorthwest constructed a linear regression model to test for a relationship between SDC rates and housing prices after controlling for other factors such as year built, year sold, home size, and lot size that are available in the sales transaction data or the tax lot data. (See Appendix G for methodology.)

The regression model showed that SDC rates are positively correlated with housing prices — that is to say, that higher housing prices were observed in places with higher SDCs — after controlling for building size, lot size, number of bedrooms and bathrooms, year built, and year sold. The model suggests that the observed difference in housing prices is greater than the difference in SDCs. Every \$10,000 in SDCs was associated with about \$7 greater per-square-foot price of newly built housing — about \$16,800 for a 2,400-square-foot single-family unit. This is illustrated graphically in Exhibit 42 for different SDC amounts. For example, when comparing a 2,400-square-foot single-family unit with SDCs that total \$35,000 to an identical unit with SDCs that total \$45,000, the \$10,000 difference in SDCs is associated with \$16,800 greater housing price.

Exhibit 42. Estimated Sale Prices of a Typical 2,400-Square-Foot Single-Family Housing Unit Associated with Varying SDC Levels

Source: ECONorthwest



There are several important limitations to keep in mind with this finding:

- A linear model was applied, but many of the underlying factors affecting price likely have nonlinear effects on housing prices. For example, an additional 100 square feet of living area is more valuable for a small home than a large one. More complex (but still imperfect) models attempt to capture more of this nonlinearity.
- Actual SDC rates paid for each unit are not known; instead, ECONorthwest estimated the likely SDC amounts associated with each unit based on the jurisdiction, whether it

was within a growth area with supplemental SDCs or not, and the year the home was built.¹¹¹

- As noted previously, a positive correlation does not mean that higher SDCs **cause** higher home prices. There are several other possible explanations for this relationship, which are discussed below.
- Many of the factors that influence home prices are not captured in the available data (e.g., finish quality and design, neighborhood features, views, etc.). If these factors are also correlated with SDCs, the model would be over-estimating the relevance of SDCs by capturing the influence of some of these factors instead. An alternative regression model that compared home prices in the expansion areas to those in the comparison areas (without controlling for differences in SDCs) showed a positive relationship between home prices and location in an expansion area, with a similar level of statistical reliability as the SDC model. (See Appendix G for details.) Developer interviews also suggest this could be a factor, as discussed below.

While this case study does not show why SDCs correlate with higher housing prices, the additional price effect beyond the amount of the SDCs themselves observed in this analysis could support the interpretation that higher SDCs can increase costs beyond the direct cost of the SDC itself. Financing costs are one possible explanation for this type of pattern, as discussed in Section 5.1.3.

Findings From Developer Interviews

Interviews with developers involved in one or more of these areas suggest that some growth areas needed more expensive amenities—from home features to streetscape materials and green space design—to appeal to buyers and capture much of the demand for housing in this part of the region at the higher prices that make development feasible. Adding value to the home with these amenities offsets higher development costs due to SDCs and other infrastructure/land development costs and may have contributed to a price premium beyond direct SDC costs.

Developers were also heavily involved in creating the infrastructure funding plans for each of the growth areas. This allowed them to influence the supplemental SDC rates (to some extent) and to anticipate in advance of development what the total SDC costs might be. Because the amount of new infrastructure needed often makes land development in a new growth area expensive, developers may have known early on that housing in these areas would need to command some premium compared to other areas with lower infrastructure needs. This would suggest that the total amount of infrastructure needed along with the need to capture substantial demand from higher-income households may have driven a difference in housing prices.

¹¹¹ SDCs paid at time of development were estimated by adjusting FY 2021 rates to the year before the unit was completed, using the *Engineering News-Record's* Construction Cost Index for Seattle. This index is the method each of these Washington County jurisdictions uses to adjust their SDC rates each year.

Part 5: SDC Administrative Policy Implications

Primary Contributors: Galardi Rothstein Group, ECONorthwest

5.1 Timing of SDC Assessment and Collection

5.1.1 Requirements and Current Practices

Issues related to timing include both the timing of the initial fee determination or assessment and collection of payment. In some cases, fee assessment and collection occur at the same time; however, collection policies may provide for deferral of payment to a later point in the development process or financing the SDCs over a period of time.

Statutory Requirements

As part of the definition of an SDC, ORS 223.299(4)(a) provides that SDCs must be “assessed or collected at the time of increased usage of a capital improvement or issuance of a development permit, building permit or connection to the capital improvement.” This provision implies ten distinct options for the timing of the assessment and collection of SDCs, as shown in Exhibit 43. Taken together, the statutes provide a high degree of flexibility for local governments to choose the timing for assessing and collecting SDCs.

Exhibit 43. Timing Options, Earliest to Latest

Source: FCS GROUP, based on ORS 223.299(4)(a)

Option	Assess	Collect
1	Issuance of development permit	Issuance of development permit
2	Issuance of development permit	Issuance of building permit
3	Issuance of building permit	Issuance of building permit
4	Issuance of development permit	Connection to the capital improvement
5	Issuance of building permit	Connection to the capital improvement
6	Connection to the capital improvement	Connection to the capital improvement
7	Issuance of development permit	Increased usage of a capital improvement
8	Issuance of building permit	Increased usage of a capital improvement
9	Connection to the capital improvement	Increased usage of a capital improvement
10	Increased usage of a capital improvement	Increased usage of a capital improvement

Notes: Reference to “increased usage of a capital improvement” is assumed to occur at occupancy.

Oregon Revised Statutes 223.208 also authorizes (but does not compel) local governments to provide financing of SDCs under the provisions of the Bancroft Bonding Act. These provisions allow local governments to provide loan-like financing of SDCs. Provider financing programs vary in terms of the type of development eligible, maximum financing term, interest rates charged, and program application fees and other requirements.

Survey Responses and Testimony

As part of its most recent survey on SDCs, LOC asked its members to provide information on any policies or practices related to “timing or payment accommodations.” Exhibit 44 summarizes cities’ responses.

Exhibit 44. Sample SDC Payment Timing Policies and Practices

Source: FCS GROUP, based on League of Oregon Cities, System Development Charges Survey Report (February 2020), pages 119-128.

City	SDC Payment Policy
Cornelius	SDC payments “delayed until a later date, such as the time of occupancy.”
Forest Grove	“Payments delayed have been for non-profit housing developments to allow the project to occur. Delayed payments are due prior to the issuance of certificate of occupancy.”
Lafayette	“Allowed a payment plan for SDCs as required by statute.”
Madras	“We will allow deferrals on payments up to 9 months or Certificate of Occupancy (whichever comes first).”
Medford	SDC payments “delayed until a later date, such as the time of occupancy.” A payment plan (“called bancrofting”) is also available.
Milwaukie	“Bancroft financing over a ten-year period or less.”
Newport	“Installment plan is an option to allow payment to be financed over time.”
Pendleton	SDC payments “delayed until a later date, such as the time of occupancy.”
Redmond	“Delaying collection of SDCs to occupancy” is available in enterprise zones.
Sherwood	SDCs can be deferred to occupancy if the transportation and/or parks SDC is greater than \$50,000.
Veneta	SDC payments “delayed until a later date, such as the time of occupancy” for affordable housing.
West Linn	SDCs can be financed under the provisions of the Bancroft Bonding Act.
Wilsonville	SDC payments “delayed until a later date, such as the time of occupancy.”
Winston	SDCs can be financed over ten years with semi-annual payments.

In some cases, payment accommodations vary based on the type of development (for example, multifamily and affordable housing).

5.1.2 Timing Implications for Service Providers

Much of the written testimony provided on House Bill 3040 responds specifically to the proposed amendments that related to the timing of SDC payments. Many service providers raised concerns about an increase in administrative costs and increased risk of nonpayment. Some testimony points to particular concerns around the potential for deferring SDCs until time of sale rather than certificate of occupancy, because local governments are not involved in the sale transaction. (See Appendix H for a summary of relevant testimony.)

Focus groups echoed this. As noted in *Oregon SDC Study: Summary of Service Providers* (Appendix A), the effort (and cost) required to collect SDCs varies with the public agency’s leverage at different points in the development process. For most public agencies, their moment of maximum leverage is when building permits are issued. If full payment of SDCs is a requirement for obtaining building permits, the public agency need not worry about enforcing payment, because developers are unlikely to begin work before building permits have been issued. While development is required to obtain a certificate of occupancy when the building is constructed prior to its use, some service providers expressed concern that the public agency’s leverage is greatly reduced at this stage, out of concern that some developers may forego the certificate of occupancy in order to avoid the fee. Other service providers noted that they make scheduling a final inspection contingent on the SDCs being paid, which has avoided these issues.

Some service providers are also concerned about the timing of revenues relative to the need for expenditures. In many cases, infrastructure needs to be constructed and land acquired in advance of when service to new development will be required. Delay in collection of SDC payments to later in the process may impact service levels or require other upfront funding sources. Focus groups with service providers suggest that the importance of timing of SDC collection varies among service providers. Some types of projects (e.g., park land acquisition in a new urban growth area) are highly sensitive to timing. Some agencies use SDC revenues to pay a portion of debt service on prior capital improvements and expend revenue quickly after it comes in. Others collect revenue for several years prior to funding projects and are less impacted by collecting funds later. Several service providers noted that the uncertainty inherent in SDC collections means that they cannot rely too heavily on revenue they have not yet collected, regardless of when the fees are collected during the development process.

Public agencies can also maximize interest earnings (to be used for future project costs) and minimize additional administrative costs by collecting SDCs early in the process.

5.1.3 Timing Implications for Developers

When a developer must pay SDCs can impact financial feasibility because SDCs add costs before the value of the development is fully realized. The earlier that SDCs are paid, the longer the developer must “carry” the costs. The total cost of SDCs to developers includes not only the SDC amount but also the added interest payments associated with it if it needs to be financed over the construction period.

The size of the “carrying cost” of SDCs depends on loan terms and the duration of the development. For a construction loan, which is taken out prior to the construction of the project and paid back, refinanced, or converted to a long-term (“permanent”) loan after construction is completed, interest rates are typically higher than they are for permanent loans on completed buildings, because there is less collateral to secure a loan.

The carrying cost can be calculated as the compounded interest rate on a loan. Although the carrying costs can vary based on specific project or developer characteristics and financing opportunities, typical rates range from 8-10 percent and the construction loan can last for 1 to 3 years. For example, if a construction loan has an annual interest rate of 8 percent and the loan is borrowed for 2 years of construction period, the monthly compounded interest cost is 16.64 percent of the SDC amount. If the entire SDC amount is financed, the total cost of SDCs to the developer would be 116.64 percent of the SDC amount. The interest cost would rise to 21.00 percent if the annual interest rate is 10 percent (for 2 years), and it would rise to 25.97 percent if the loan period is 3 years (at an 8 percent interest rate).

A delayed or deferred payment of SDCs would reduce the carrying costs and reduce the total cost of housing development at the margin. The likely impact is greater for projects that take longer to build and greater for developers that are less creditworthy and would borrow at a higher interest rate.

For developers who opt to pay SDCs from working capital rather than adding them to the construction loan, developer interviews suggest that there is still an opportunity cost associated with tying up the developer's available funds. Some suggested that this up-front cost means less money available to pay for other pre-development and early construction costs that can accelerate project delivery.

While many developers pointed to timing of SDC payment as a factor that impacts their developments, others expressed indifference at when the cost is paid and whether it is financed, given that the construction loan is generally capped at a fixed percentage of total project costs, and the same amount will need to be financed either way.

5.2 SDC Exemptions and Waivers

5.2.1 Requirements and Current Practices

SDCs may be exempted for certain developments or redevelopment in cases where system impact is deemed negligible (in some cases of redevelopment or for specific development types). Exemptions or waivers may also be provided because of local policy objectives.

Exemptions Based on Negligible Impact

Redevelopment is generally exempt from SDCs unless the new use is estimated to place greater demand on the infrastructure system. System-specific exemptions may include:

- Parks – hospice or other end of life care facilities
- Water and sewer – ADUs that do not require an additional water meter

Exemptions or Waivers Based on Policy Objectives

Waivers (permanent or temporary) and exemptions have also been implemented by some local governments for developments like childcare facilities, ADUs, and economic development projects that are in enterprise zones or meet a target level of new job creation. Some communities also offer exemptions or waivers for affordable housing development, which are discussed in greater detail below.

Affordable Housing Exemptions or Waivers¹¹²

There are differing views on the validity of SDC waivers or exemptions for any purpose that is unrelated to a reduced demand for system capacity. Some experts are of the opinion that it is inconsistent with ratemaking principles to grant SDC adjustments or exemptions for reasons that are not cost-based. Others point to modern rate-making principles that integrate affordability and equity considerations.¹¹³ Oregon’s SDC Act does not explicitly address exemptions for affordable housing (or for any other class of development), as it says little about how SDCs should be calculated for specific developments (see Section 1.2.2). Other parts of state statute make clear that jurisdictions may offer whole or partial SDC waivers in exchange

¹¹² Most communities that do not charge SDCs for affordable housing describe this as an “SDC Exemption”. Some make a distinction between “waivers” given on a case-by-case basis and “exemptions” that are set in policy. Others use these terms interchangeably. Throughout this document, when referring to programs that do not collect SDCs from affordable housing, both terms are used to mean policy-based exclusions that are applied consistently to all qualifying projects, unless a budgetary limit is set.

¹¹³ See for example, “Affordability and Equity Considerations for Rate-Setting” (Eric Rothstein, Stacey Isaac Berahzer, Joe Crea, and Michael Matichich for *Journal AWWA*, September 2021) which argues that water, wastewater, and stormwater service providers have a social responsibility to ensure universal, affordable access to services, as part of their rate-setting framework.

for local affordability requirements,¹¹⁴ but some experts recommend that agencies should “backfill” any foregone SDC revenue with resources external to the SDC fund to ensure the agency can complete necessary infrastructure projects and avoid compromising equitable share protection for other SDC payers.

Most service providers that offer SDC exemptions/waivers for affordable housing limit it to regulated/income-restricted affordable housing. Some cities and service providers have set a cap on the amount of waivers (number of units or dollar amount) they will issue for a given time period. (Section 5.2.2 describes specific example policies and their results.)

In communities that have not implemented affordable housing exemptions/waivers, staff sometimes expressed concerns about monitoring and enforcement over time. Many raised questions about where replacement funding would come from. In some cases, revenue from construction excise taxes is used to offset affordable housing exemptions.

5.2.2 Impacts on Affordable Housing Development

Overview

The benefits of SDC exemptions for affordable housing development are clear. For regulated affordable housing projects, reducing development costs by granting SDC exemptions means that less funding from state, federal, or local sources is needed to make the development financially feasible. SDC exemptions or reductions can also help projects score better for competitive funding opportunities that prioritize developments with lower costs per unit. The specific impacts and benefits vary somewhat depending on the funding sources themselves, as summarized below.¹¹⁵

- **Low Income Housing Tax Credit (LIHTC) projects:** SDCs are included as an eligible cost in calculating tax credit equity for a given project, which means that waiving SDCs reduces development costs but also reduces the amount of equity available to the project to some extent. (Tax credit equity typically covers roughly 30-70 percent of project costs depending on the specific tax credit program, with the balance coming from loans or gap financing.) While exemptions are still beneficial, and interviews with affordable housing developers suggest that they can make a difference in making projects work, only a portion of the savings translates into reduced need for gap financing or debt. However, some LIHTC funding that is awarded competitively includes a scoring system

¹¹⁴ ORS 197.309 indicates that SDCs may be waived for qualifying affordable multi-family housing and lists such waivers as one of several “incentives” that jurisdictions must choose among if they impose local affordable housing set-aside requirements (“inclusionary zoning”).

¹¹⁵ ECONorthwest, “Progress Report of Hillsboro Affordable Housing Tools and Evaluation of Additional Tools,” prepared for the City of Hillsboro, April 12, 2022.

related to a project's cost-effectiveness relative to similar projects, so reducing or eliminating SDC costs can help achieve a higher score by reducing the cost per unit.¹¹⁶

- **Other competitive state funding sources:** Many state funding programs for affordable housing have limits on the amount of funding per unit and projects needing less subsidy per unit are scored higher.¹¹⁷ For these projects, all cost reductions are helpful and benefit the project on a dollar-for-dollar basis.
- **Small projects and other funding sources:** Smaller affordable projects that may have many smaller funding sources tend to be more sensitive to development cost per unit because of the difficulty of securing funding. This can include affordable middle housing development, some affordable homeownership projects, and other small, innovative projects. For these projects, the primary concern is closing the gap between project costs and what the affordable units will generate in revenue, and waiving SDCs can offer a substantial benefit.

In addition, sometimes SDC exemptions for affordable housing units can incent developers who primarily build market-rate housing to build some units at a defined price point or income affordability level to qualify for the exemption. However, the case studies below suggest that these units may not remain affordable over the long-term to the same extent they generally do with more traditional affordable housing development.

Case Studies: Impacts of SDC Exemption Programs

Bend Exemptions for Affordable Housing

About the Program

Since December 2017, the City of Bend has offered SDC exemptions to all rental and for-sale housing affordable to households making 80 percent or less of AMI through a deed restriction.¹¹⁸ The City's Affordable Housing Advisory Committee has the authority to approve exemptions on City water, sewer, and transportation SDCs, and can also recommend exemptions for parks SDCs levied by the Bend Park and Recreation District. Upon approval, the exemptions are structured as a forgivable loan at 3 percent annual interest, with no payments due as long as the property remains affordable for at least five years. If the affordability restrictions are removed within five years of the project's completion, the SDCs become payable, with interest, by the original applicant.¹¹⁹

¹¹⁶ <https://www.oregon.gov/ohcs/development/Documents/nofa/2022/LIHTC9-NOFA-2022-5-v1.1.pdf>

¹¹⁷ Examples include the LIFT program (<https://www.oregon.gov/ohcs/development/Documents/nofa/2022/2022-2-LIFT-Rental-NOFA.pdf>) and the General Housing Account Program (<https://www.oregon.gov/ohcs/development/Documents/nofa/2021/VETS-21/2021-Vets-NOFA.pdf>).

¹¹⁸ Prior to December 2017, the City Council granted SDC exemption requests on a case-by-case basis.

¹¹⁹ City of Bend, [Municipal Code Chapter 12.10.120](#).

Program Impacts

Between 2016 and 2021, Bend granted exemptions on 577 units of affordable housing, for a total value of \$5.2 million (Exhibit 45). Nearly all of these exemptions have been granted to nonprofit developers of affordable housing.

Exhibit 45. City of Bend Affordable Housing SDC Exemptions, 2016–2021

Source: ECONorthwest, using data provided by City of Bend

Housing Type	Units	City SDCs Exempted	Parks SDCs Exempted
Single-Family	140	\$1,112,517	\$205,628
Multifamily	407	\$3,731,480	\$2,017,896
Other (incl. shelters)	30	\$383,670	\$165,520
Total	577	\$5,227,666	\$2,389,044

For the few projects by market-rate developers in Bend that have been granted SDC exemptions, the program achieved only short-term affordability. One example is Revere Avenue Renaissance, a 12-unit development of five market-rate townhomes, one affordable townhome, and six one-bedroom rental apartments affordable at 60 percent of AMI. The seven affordable units were granted SDC exemptions worth \$100,000 by the Bend City Council in 2015; the project also received \$358,000 toward construction costs from the City's Affordable Housing Fund.¹²⁰ Three years after completion, the affordable townhome and rental units were sold at market rate (\$1.75 million) as an investment property.¹²¹ Given City policies, the property owner would most likely have been required to repay both the SDCs and Affordable Housing Funds with interest at that time.

Portland Exemptions for Affordable Homeownership

About the Program

The City of Portland offers SDC exemptions for affordable rental and for-sale housing through several different programs. Exemptions are available for affordable rental units as part of the City's Inclusionary Housing policy, which applies to developments with 20 or more units.¹²² Another program grants exemptions for rental housing affordable at 60 percent of median family income for developments not subject to Inclusionary Housing requirements. Portland also offers SDC exemptions for affordable homeownership, linked to City's Home Ownership Limited Tax Exemption (HOLTE) program. The focus here is on the homeownership SDC exemption because its link to a tax abatement program means that there is more data available regarding its usage and to consider its potential as an incentive for market-rate developers to build affordable homes.

For-sale homes qualify for the exemptions on water, sanitary sewer, transportation, and parks SDCs if they are new construction, have at least three bedrooms, and have a sale price no more

¹²⁰ City of Bend, "[Request for Proposals for System Development Charge Exemptions: Program Year 2015.](#)"

¹²¹ https://www.zillow.com/homedetails/135-NW-Revere-Ave-Bend-OR-97703/250781754_zpid/

¹²² In Portland's Central City, the SDC exemptions apply to all residential units when the Inclusionary Housing requirements are met.

than \$430,000.¹²³ Exemptions are applied at the time of permitting, before construction begins, but must be verified when the house is sold. Qualifying buyers for affordable units must have an income no greater than 100 percent of median family income, adjusted for household size. If a project that applied for SDC exemptions is sold above the price cap, or to a non-qualifying buyer, the SDCs must be paid, with interest and fees.

Program Impacts

The City does not publish data on SDC exemptions granted for homeownership, but the impact of these exemptions can be approximated based on data from the HOLTE program, which has the same income and sale requirements.¹²⁴ In practice, all HOLTE-eligible properties also receive SDC exemptions. In the most recent City report on HOLTE from fiscal year 2017–2018, 59 eligible properties sold within the 2017 price limit of \$350,000 or the 2018 limit of \$375,000 (Exhibit 46). The largest share—almost half—of qualifying buyers earned between 50 and 80 percent of the area median income (Exhibit 47).

Exhibit 46. Average Sale Price of HOLTE-Qualified Homes, 2017–2018

Source: ECONorthwest, using data from City of Portland

Geographic Area	Total Units	Average Sales Price	Units (For-Profit Builders)	Average Sales Price (For-Profit Builders)
North Portland	1	\$349,950	1	\$349,950
Northeast Portland	11	\$357,625	2	\$362,500
Southeast Portland	47	\$316,295	26	\$335,679
Southwest Portland	-	-	-	-
Total	59	\$324,571	29	\$338,021

Exhibit 47. Area Median Income for HOLTE-Qualified Buyers, 2017–2018

Source: ECONorthwest, using data from City of Portland

Homes Sold	Total	0–30% AMI	31–50% AMI	51–80% AMI	81–100% AMI	101–120% AMI	>120% AMI
Number of Units	59	3	6	27	12	10	1
Percentage of Total Units	100%	5%	10%	46%	20%	17%	2%

By 2018, there were more than 1,200 active HOLTE properties in Portland, though not all properties approved for exemptions during permitting were sold as affordable homes. Between 2016 and 2018, the number of properties using HOLTE and SDC exemptions was less than the City’s annual cap.¹²⁵

¹²³ Projects located within City-designated transit corridors qualify with two bedrooms. See: <https://www.portland.gov/phb/holte/property-eligibility#toc-two-bedroom-eligibility-areas>

¹²⁴ HOLTE is a 10-year tax abatement program. The City limits approvals to 100 units per year.

¹²⁵ City of Portland, “[State of Housing 2020](#),” December 2020.

There are a number of examples of homes built by market-rate developers under the HOLTE program, some of which have offered a lower price to qualifying buyers than to other buyers, passing on the SDC savings directly.¹²⁶ This was also noted in developer focus groups.

¹²⁶ Based on a review of recent sales transactions where the HOLTE program is mentioned in the listing.

5.3 SDC Credits

5.3.1 Statutory Requirements

As discussed in Section 1.2.2, the Oregon SDC statutes require local governments to provide credits for “qualified public improvements” (QPIs). The required credit is only for the improvement fee charged for the type of improvement being constructed. Furthermore, for onsite QPIs¹²⁷, the required credit is only for the portion of cost that exceeds the local government’s minimum standard facility size or capacity needed to serve the particular development project or property.”¹²⁸

The statutes provide flexibility to local governments to provide greater credits by providing credit beyond the improvement fees that would have otherwise been imposed, allowing for the transferability of credits, or providing credits for a capital improvement not identified in the SDC capital project list.

5.3.2 Credit Implications for Service Providers

Credit policies differ across providers in terms of project eligibility, creditable costs, and transferability. Service providers indicate that credits provide important incentives to construct needed infrastructure, particularly in green field areas. Furthermore, developers may be able to construct projects at lower costs than would be incurred by the local government. Local credit policies reflect the need to balance infrastructure needs and project flexibility with revenue sufficiency and capital project prioritization.

As discussed previously, some jurisdictions enact SDCs that are based on a fiscally-constrained project list in order to keep the fee levels lower than they otherwise would be. Limiting credits to projects on the adopted SDC project list may provide local governments with greater control over the timing and prioritization of projects. The greatest risk to capital improvement project control may result from extension of credits to projects that are not on a fiscally-constrained project list, as there would be no disincentive to developers to build these projects. Foregoing SDC revenue in exchange for a developer-constructed facility that is not included in the SDC means that less funding for projects that are on the project list and may be higher priority.

For determination of the creditable amount, the statute differentiates between onsite and offsite improvements, where the required credit for improvements on or contiguous to the development property (onsite improvements) are limited to the portion of costs that exceed “the local government’s minimum standard facility size or capacity needed to serve the particular

¹²⁷ Improvements that are located in whole or in part, on or contiguous to property that is the subject of development approval.

¹²⁸ ORS 223.304(5)

development project or property.”¹²⁹ This differentiation has potential implications for development of the SDC project list and calculation of the SDC cost basis. If certain project types (e.g., local streets and water utility mains sized for local needs or minimum standards only) are assumed to be funded directly by developers without eligibility for SDC credits, then they are excluded from the SDC calculations.

In cases where calculated credits do not fully compensate a developer for all eligible QPI costs, the statutes provide for application of credits “against improvement fees that accrue in subsequent phases of the original development project.” In some cases, local governments will also allow developers to transfer credits to other developments or developers. However, expansion of a credit program may require additional administrative costs owing to the need to track projects and reimbursements over time and across developers.

5.3.3 Credit Implications for Developers

Like SDCs, infrastructure constructed as a condition of development approval is a cost to developers that needs to be factored into calculations to determine project feasibility. To the extent that the required infrastructure exceeds the capacity needed to serve the development, SDC credits provide a mechanism to reimburse the developer for this additional cost.

SDC policies vary across local governments, and the level of specificity in published SDC and credit policy information also varies, which may make it difficult for developers to have a clear estimate up-front of the total cost burden. This is particularly the case when (as the statute requires) credits are limited to the improvement fees levied on the new development, given the complexities of some charge bases.

In conversations with developers, many noted the importance of SDC credits, and several identified concerns or opportunities for improvement in how they are administered, as summarized below (see Appendix B for details):

- Several developers expressed frustration with the lack of certainty regarding SDC credits, often due to lack of clarity about what share of costs are attributable to excess capacity.
- Carrying costs can erode the value of the credits because the developer is paying for infrastructure up front and has to pay interest on those costs.
 - In some cases, jurisdictions require developers to pay SDCs up front even if they are building infrastructure that will qualify for credits, and then reimburse or refund the credit eligible share at the end. This particularly increases carrying costs.

¹²⁹ ORS 223.304 (5)(a)

- Some noted that allowing SDC credits to be transferred to future development on other sites makes them more valuable and can allow developers to take on larger infrastructure projects.

5.4 Program Information and Transparency

5.4.1 Statutory Requirements

As discussed previously, prior to 2021, statutory requirements related to annual SDC program accounting and information sharing were limited to annual revenue and expenditure accounting and making the methodology available to interested parties 60 days in advance of a public hearing. With respect to annual reporting, the specific requirements are as follows:

The local government shall provide an annual accounting, to be completed by January 1 of each year, for system development charges showing the total amount of system development charge revenues collected for each system and the projects that were funded in the previous fiscal year. The local government shall include in the annual accounting: (a) A list of the amount spent on each project funded, in whole or in part, with system development charge revenues; and (b) The amount of revenue collected by the local government from system development charges and attributed to the costs of complying with the provisions of ORS 223.297 to 223.316.

With the passage of House Bill 3040 in 2021, public agencies must now meet the additional informational requirements codified in ORS 223.316. Specifically, any local government that imposes one or more SDCs must publish on its website or by alternate accessible means (free of charge), the following information:

- The current system development charge fee rates for each type of development.
- Details of the methodology used to determine the fee rates.
- A list of capital improvement projects that will receive funding from system development charge fee revenue.
- Contact information for a local official responsible for answering questions about system development charges.¹³⁰

Even before the most recent changes to the statutes, many local governments made significant efforts to make information related to SDCs readily available and understandable. Service providers use a wide variety of tools and practices, and the cost and level of effort required to manage these programs similarly varies. Some local governments have dedicated staff that manage one or more aspects of the SDC program, while others need to rely more heavily on outside consultants.

As with other elements of the SDC program, a local government must balance the administrative requirements and costs associated with the development of educational tools

¹³⁰ ORS 223.316

and transparency measures—which may impact SDC fee levels by increasing program compliance costs—with the desire for enhanced public understanding and transparency.

5.4.2 Common Practices and Local Jurisdiction Perspectives

In considering program transparency best practices, it is important to consider points in the process where information is developed and how that information may be shared most efficiently and effectively to different audiences.

Methodology Development and Adoption

Service providers note that developing a SDC methodology is a significant undertaking. This is particularly true for agencies that desire a high level of stakeholder engagement in the process. Some providers indicate involvement of a standing or ad hoc committee in the development of the SDC methodology and project list. Involvement of stakeholders in the process helps some communities to evaluate the various methodological options to reflect local policy objectives and priorities. A number of service providers noted the importance of stakeholder engagement in the development of the SDC project list, to ensure investment in infrastructure is equitably distributed across the service area.

As discussed previously, the statute has had a long-standing requirement that an SDC methodology must be made available to interested parties at least 60 days in advance of the first public hearing. Most service providers typically go beyond this requirement by making methodology reports available more broadly on public websites and in public buildings (e.g., city hall or public library). Furthermore, because methodology reports are generally technical documents, many jurisdictions provide summary information in the form of fact sheets, frequently asked questions, and presentation graphics, in an effort to make the information more accessible to the general public.

While the general public may best be served by information at a summary level in order to understand the context of SDCs in infrastructure funding, it is critical that those paying the fees have a more in-depth understanding of the basis for the charges, and be able to estimate the impact that the fees and other program policies will have on their development project. In this case, best practices include providing detailed fee schedules and administrative policies and procedure documents, and “SDC calculators” that help more accurately estimate SDC charges based on specific development characteristics.¹³¹

¹³¹ For example, see City of Gresham fee calculate (<https://greshamoregon.gov/SDC-Calculator/#/>) that allows a developer to enter data about a development project directly on the city’s webpage and then see the calculated charges. The City of Corvallis (<https://www.corvallisoregon.gov/ds/page/permit-fees>) offers a similar tool.

Ongoing Reporting and Information Sharing

SDC Schedules

Once the SDC methodology and project list have been adopted, fee levels may change over time due to application of inflationary indices, phase-in plans, or changes to project list costs. Updated SDC schedules need to be readily available on the website through one or more mechanisms such as a comprehensive agency-wide fee schedule, dedicated SDC portion of the website, or on individual infrastructure department pages.

Project Lists

Project lists should be reviewed and updated periodically (e.g., in conjunction with capital improvement plan updating) and any modifications documented. The SDC statutes allow for the project list to be updated at any time, and formal notification of changes is only required if the SDC is to be increased. It is not uncommon for changes to be made to the project list without a need to increase the SDC (as in the case of replacing a lower priority project with a higher priority project of similar cost). While not required by statute, some local governments will formally adopt the new project list by resolution to increase transparency and facilitate internal tracking.

Annual Accounting

The level of information included in annual SDC accounting varies across jurisdictions. Generally, total annual SDC revenue is tracked and readily available by infrastructure system. In some cases, revenues by SDC component (reimbursement, improvement, and compliance) are accounted for individually, as each has different limitations on eligible expenditures.¹³²

Service providers participating in focus groups indicate some reporting challenges with the level of detail available for project expenses. While reporting of annual project expenses is generally straightforward, projects that span multiple years are more complicated to report and track due to differences in internal project numbers used for identifying a project as it moves from SDC project list to the capital budget and then finally to a fixed asset.

Though not required by statute, some service providers prepare annual accounting reports and send them to interested stakeholders.

¹³² Reimbursement fee revenue may be spent on any capital cost associated with the system for which it was collected, while improvement fee revenue is limited to SDC-eligible costs on the project list, and compliance-related expenditures must be accounted for separately.

5.4.3 Implications for Development and Developer Perspectives

SDC Rate Information and SDC Estimates for Specific Developments

As described in the developer focus group summary in Appendix B, many developers highlighted the importance of knowing how much the SDCs would be in advance. Several developers noted issues with major changes to SDCs during the pre-development and development period. Some set money aside specifically to address fee increases, but there are fewer options to adjust to cost-increases that occur later in the development process. Certainty on SDCs is particularly important for affordable housing development. When SDC costs increase unexpectedly, it can be very hard to find additional funding or cost-savings in other areas at the last minute when funding amounts have been set in advance.

Multifamily developers also highlighted challenges with estimating SDCs early in the development process because they can vary depending on the unit configurations (e.g., number of bedrooms and bathrooms) and site layout (e.g., impervious surface), which may not be known until late in the process. Developers who build middle housing (e.g., duplexes, triplexes, fourplexes, townhouses, and cottage clusters) also noted that many jurisdictions do not have separate rates for middle housing. It can be difficult to determine which rates should apply to a middle housing development when housing type definitions are not clearly listed in published rate or methodology documents.

Part 6: Conclusions

Impact fees originated after World War II and have existed in Oregon since the 1970s. Their use has expanded over time as other sources of funding for infrastructure have become more limited and the cost of infrastructure has grown. They now provide a critical source of local funding for capital improvements.

At the same time, housing and other development costs have also risen, and the state faces a housing affordability crisis. SDCs increase the cost of housing development. In this context, the legislature asked for a comprehensive review of Oregon’s historical and current policy and practice for implementing system development charges, with a particular focus on their interaction with housing affordability.

6.1.1 SDCs in Practice

Oregon’s SDC laws—first enacted in 1991—are intended to provide a uniform framework for the imposition SDCs that is equitable and provides funding for construction of capital improvements needed to support growth. SDCs provide a tool for local governments to maintain levels of service without adding to user fees or levying additional voter-approved taxes.

Oregon SDC statutes provide flexibility for local governments to select methodological approaches and adopt charging practices to conform with local policy objectives. Within the range of accepted practices, methodological choices may impact the overall costs attributed to new development and relative SDCs for different development types. SDC survey data shows that fee levels vary widely across the state. Differences in fee levels across jurisdictions reflect local capital project costs and funding choices (e.g., use of voter approved taxes or user fees to fund a portion of growth-related projects), methodological choices, and policy-based reductions to calculated SDCs to meet local competitiveness and affordability goals.

Input from service providers suggests that many local governments exercise discretion in setting SDC rates to address concerns from the development community about hindering development. Jurisdictions with stronger housing markets may be able to charge higher SDCs without inhibiting development, while those with less robust housing markets may be more inclined to keep fees low. Some communities also expressed ambivalence towards growth that led to a willingness to impose higher SDCs than neighboring communities, though most jurisdictions noted that local elected officials want to see that their fees are in line with those in comparable communities.

Average SDCs for each infrastructure type have increased between 2007 and 2022. Fees have increased the most for parks and transportation SDCs. Metropolitan areas have seen larger increases than more rural areas. Despite this growth in fees, local government officials indicate

that fee levels are not keeping pace with infrastructure construction costs given recent inflation levels.

As with the SDC rate-setting methodology, local governments have discretion in how they establish policies and practices for SDC program administration. Specifically, policies and practices vary across jurisdictions with regards to the timing of SDC determination and collection, exemptions and credit structure, and program reporting. Specific policies and practices may impact both the administrative costs incurred by the local government and the total costs borne by payors of SDCs.

Flexibility to establish rates, policies, and practices locally allows for many different approaches so service providers can determine what works best for their needs but increases the need for clear information for developers about the rates, their basis, and how they are administered. Housing consumers and the general public typically have little or no visibility into how SDCs are factoring into their housing costs, or how they are benefitting their community through infrastructure investments, despite the fact that nearly all service providers report providing at least some information about SDCs online.

6.1.2 Impacts on Housing

All of these factors—SDC rates, the infrastructure they fund, and how SDCs are administered—impact housing development. Many studies have found a positive association between impact fees and home prices, but the reasons behind this relationship are less clear. The SDC fees themselves increase the cost to build new housing, while the infrastructure they fund can help make development possible or make a community more desirable to live in. Both can contribute to higher housing prices. And although developers typically pay SDCs in an accounting sense, both economic theory and developer input suggest that they absorb little of the cost of SDCs themselves. Instead, costs are generally borne by a mix of housing consumers (directly through higher prices/rents or indirectly through impacts to the amount and type/quality of housing supplied), and, in some cases, landowners.

Estimates for Oregon show that SDCs can account for anywhere from just under 2 percent to nearly 13 percent of total development costs depending on the SDC amount, other development cost factors, and housing type/size. In addition, given the interest rates that developers typically pay on construction loans (8 percent or more in many cases), the carrying cost of SDCs during construction can increase their total cost to the development by 10 percent to 25 percent on top of the cost of the SDC itself. The need to pay the SDC up front can also be challenging for some developers because it increases risk and reduces their ability to pay for other early development costs. Jurisdictions may or may not need the revenue right away, but they have expressed concerns regarding their ability to collect SDCs after initial permits have been issued and the need for additional administrative effort to ensure compliance.

SDCs disproportionately impact lower-cost forms of housing, including entry-level homes and smaller housing units, making it harder to build these types of housing. This can reduce opportunities for economic integration in new neighborhoods and reduce the supply of housing

affordable to moderate-income households. This is particularly true when fees are more constant across housing types and do not vary with unit size. Emerging approaches that account for lower system impacts that may be associated with smaller housing units (e.g., scaling rates by unit size) can mitigate these impacts with no overall reduction to revenue.

For higher-cost forms of housing, there is less impact to financial feasibility of development, but a greater share of the cost of SDCs may be passed on to buyers and renters, particularly in areas with few options for new housing and households who can afford a small increase in their housing costs.

At the same time, many studies document a relationship between factors like proximity to parks and real estate value, though the value of the infrastructure to developers and future residents depends on what the SDC revenue is used for and how closely it is tied to the locations of new development. While a more direct link from the source of the revenue to the location of the investment can create more tangible benefits, some service providers expressed concern about the need to make equitable investments across a community, not only in new growth areas.

SDCs also impact affordable housing development, increasing the amount of state, federal, or local funding needed to make development possible at affordable rents or sales prices, and reducing the number of affordable units that can be produced with the limited available resources. Some jurisdictions have adopted policies to exempt affordable housing from some or all SDCs, which affordable housing developers in those communities have identified as a substantial benefit. Exemptions for regulated affordable housing can benefit affordable housing development, but they reduce revenue for the service providers and result in a greater reliance on other funding sources to provide needed infrastructure. The experience of some of communities shows that a full exemption from SDCs can incent market-rate developers to build lower-cost housing, though deeper affordability tied to income-qualification may not last over the long-term.

In sum, SDCs provide a crucial source of funding to improve infrastructure to meet the needs of growth, especially given limitations on other funding sources and the rapidly increasing cost of capital projects. SDCs can help balance the cost of meeting infrastructure needs between existing residents/users and newcomers based on the conditions in each community. At the same time, a heavy reliance on SDCs increases the cost to produce new housing, with particular impacts to lower-cost housing options and income-restricted affordable housing development. A growing number of jurisdictions and service providers have implemented or are exploring ways to modify their methodologies, policies, or administrative practices to reduce impacts to development of affordable and lower-cost housing types while maintaining their ability to fund critical infrastructure projects. Adjustments that balance these needs could help support housing production and affordability for low and moderate-income households with limited impacts to overall SDC revenues or service levels.

Acronyms and Glossary

Acronyms

ADUs – Accessory Dwelling Units

ARRA – American Recovery and Reinvestment Act

CAA – Clean Air Act 1970

CWA – Clean Water Act of 1972

CBO – Congressional Budget Office

CCI – Construction Cost Index

CPI – Consumer Price Index

ENR – Engineering News Record

ERUs - Equivalent Residential Units

FHA – Federal Housing Association

GO bonds – General Obligation bonds

HBA – Homebuilders Association

HOLTE – Home Ownership Limited Tax Exemption Program

LOC – League of Oregon Cities

LIHTC – Low Income Housing Tax Credit

NAHB – National Association of Home Builders

NMHC – National Multifamily Housing County

OBOA – Oregon Building Officials Association

OMB – Office of Management and Budget

ORS – Oregon Revised Statutes

Glossary

Adjudicative Exactions – exactions specific to an individual parcels determined through a property-specific decision process

Affordable Housing – income and/or rent-restricted housing that is affordable to households earning a certain income level

Area Median Income (AMI) – also known as Median Family Income (MFI), this is an estimate of the median income for a given metropolitan area adjusted by household size, produced annually by the U.S. Housing and Urban Development (HUD) as the basis for affordable housing projects' income limits, rent limits, and loans.

Assessed Value – the taxable value of a property

Asset – facility or structure that is part of the infrastructure system

Capacity – the amount of demand that an infrastructure system or facility can accommodate

Capital Improvements – major improvements to public facilities (excluding routine maintenance), including water supply, treatment, and distribution; wastewater collection, transmission, treatment, and disposal; drainage and flood control, transportation; and/or parks and recreation (see ORS 223.299 for the statutory definition)

Carrying Costs – costs of owning a property, including property taxes and interest financing costs

Certificate of Occupancy – a document verifying that all inspections have been completed for a new building and that the structure meets the applicable codes

Charge Basis – how SDC costs will be allocated across different development types, sizes, and contexts

Compliance Costs – the costs of complying with SDC statutes, including the costs of developing SDC methodologies and providing an annual accounting of SDC expenditures, and potentially other costs related to SDC administration

Cost Basis – the pool of eligible infrastructure costs to be recovered from the SDC

Cost Incidence – which party or parties ultimately incur a given cost

Depreciation – reduction in value of an asset or structure over time

Equity (financial) – ownership investment in real estate; the difference between the value of an asset and the debt on the asset

Equity (distributional) – fairness and justice in how costs and benefits are allocated

Essential Nexus – a concept established by the U.S. Supreme Court in *Nollan v. California Coastal Commission*¹³³ as a test for the validity of an exaction: whatever is being required (exacted) as a condition of development approval must be clearly and closely related to the impact of the proposed development

Exaction – a requirement the local government for proposed development to provide some form of contribution or payment as compensation for impacts of the development on infrastructure systems or public goods

Excess Capacity – a share of the capacity of an infrastructure facility that exceeds the needs of a given development

Financial Feasibility – a determination of whether a project’s value or revenues will justify the costs to construct it, given the expected level of risk

Fixture Units – a unit of measure of plumbing (water or wastewater) demand, calculated based on the plumbing code

Hard Costs – construction labor and material costs

Impact Fees – legislative monetary exactions adopted by a governing body and applied consistently to development applications

Improvement Fee – an SDC fee for costs associated with capital improvements to be constructed

Infrastructure Systems Plans – master plans or public facility plans for a given infrastructure system (e.g., parks master plans, transportation system plans, water or wastewater system master plans, or stormwater master plans)

Internal Rate of Return (IRR) – a commonly used financial metric in the real estate industry to estimate the profitability of real estate investments as discount rate measured in percentage points

Level of Service (LOS) – a way of defining the quality or amount of service provided by a given infrastructure system or facility

Local Jurisdictions – cities, counties, or special districts

Local Option Levies – a special voter-approved property tax levy outside the limitations on permanent property tax rates under Oregon’s property tax system

¹³³ Nollan v. California Coastal Commission, 483 U.S. 825, 837 (1987)

Market Context Area – generalized geographies capturing differences across the state in housing market factors and development cost factors

Market-Rate Development/Housing – housing in which prices or rents are (or can be) based on market demand and willingness to pay rather than meeting a defined level of affordability

Measure 5 – an Oregon ballot measure from the early 1990s that introduced property tax rate limits and cut tax rates

Measure 50 – an Oregon ballot measure from the late 1990s that cut taxes, introduced assessed value growth limits, and replaced most tax levies with permanent tax rates

Middle Housing – duplexes, triplexes, quadplexes, townhouses, and cottage clusters

Monetary Exactions – requirements by local governments that developers pay money as a condition of development approval

Multifamily Residence/Dwelling – a property with multiple dwelling units on a common lot, excluding middle housing (the dwelling units may be occupied by families or nonfamily households)

Nominal Dollars – dollar value based on the year of expenditure, unadjusted for inflation

Original Cost – the cost of building a facility at the time it was built

Pro Forma – a financial model that estimates the feasibility of a new real estate development based on the building's financial performance

Qualified Public Improvements (QPIs) – according to ORS 223.304(4): “Qualified public improvements are improvements required as a condition of development approval, identified in the SDC capital project list, and either: a) Not located on or contiguous to property that is the subject of development approval; or b) Located in whole or in part on or contiguous to property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.”

Ratemaking Principles – not defined in statute, but generally considered to include establishing fee levels consistent with the costs of providing the service and recovering costs from system users in proportion to their use or impact; however, modern interpretations argue that water, wastewater, and stormwater service providers have a social responsibility to ensure universal, affordable access to services as part of their rate-setting framework

Rate-setting – methodology and policy decisions associated with establishing an SDC rate and fee structure

Real Market Value – an estimate of the market value of a property in an arms-length sales transaction

Reimbursement Fee – a fee for costs associated with capital improvements already constructed, or under construction when the fee is established, for which the local government determines that capacity exists¹³⁴

Replacement Cost – the cost to replace an existing asset with a similar asset at current construction costs

Rough Proportionality – a concept established by the U.S. Supreme Court in *Dolan v. City of Tigard*¹³⁵ as a test for the validity of an exaction: the amount of the exaction must be roughly proportionate to the magnitude of the impact that the exaction is intended to address

Scaling Factors – development characteristics that relate to potential system impact used to set SDC rate structures to account for those differences in impacts

Service Providers – local jurisdictions (cities, counties, or special districts) that build and operate water, wastewater, stormwater, transportation, or parks systems

Single-Family Residence/Dwelling – a single detached dwelling unit on its own lot (the dwelling unit may be occupied by a family or a nonfamily household)

Soft Costs – development costs excluding the direct cost of construction, such as design and engineering, project management, financing, permits, and fee costs

Special Districts – a form of local government that provides specific public services

System Development Charges (SDCs) – impact fees established and administered consistent with Oregon’s SDC Act

SDC Act – State statute (ORS 223.297 to 223.316) that regulates SDCs, first passed in 1989

SDC Credits – credits against SDC fees for construction of a qualified public improvement

SDC-eligible Projects – capacity-increasing projects that are included in an infrastructure system plan project list

SDC Methodology – documentation of an SDC calculation in compliance with the SDC Act

SDC Exemptions or Waivers – policies to not to charge a certain type or category of development an SDC. Most communities that do not charge SDCs for affordable housing describe this as an “SDC Exemption”. Some make a distinction between “waivers” given on a case-by-case basis and “exemptions” that are set in policy. Others use these terms interchangeably. Throughout this document, when referring to programs that do not collect

¹³⁴ ORS 223.299(3)

¹³⁵ *Dolan v. City of Tigard*, 512 U.S. 374 (1994)

SDCs from affordable housing, both terms are used to mean policy-based exclusions that are applied consistently to all qualifying projects, unless a budgetary limit is set.

Tax Levies – taxes established to provide a specific amount of tax revenue

Total Development Costs – the full cost of a development project, including construction labor and material, land costs, and “soft costs” such as design and engineering, project management, financing, permits, and fees

Townhouse – units that share common walls with each unit on an individual lot or parcel

Trip Ends – the beginning (origin) or end (destination) of a one-way trip

User Fees – fees local governments charge for the use or ongoing availability of government services like parks, streets, public safety, and others

Water Resources – According to the Congressional Budget Office, water resources include “water containment systems (dams, levees, reservoirs, and watersheds) and sources of freshwater”¹³⁶

Water Utilities – According to the Congressional Budget Office, water utilities include “supply systems for distributing potable water as well as wastewater and sewage treatment systems and plants”¹³⁷

Working Capital – the available financial resources that a company can readily use to pay near-term costs

¹³⁶ Congressional Budget Office, “Public Spending on Transportation and Water Infrastructure, 1956 to 2014,” March 2015, page 3.

¹³⁷ *Ibid.*, page 3.

Appendices

Appendix A. Summary of Input from Service Providers

Contributors: ECONorthwest, Galardi Rothstein Group, FCS Group

ECONorthwest, along with consultants from the FCS Group and the Galardi Rothstein Group, conducted seven focus groups for large cities and small cities, special districts, parks providers, and the Portland Bureaus. The focus groups are important for understanding the varying perspectives on the importance of SDCs for infrastructure funding, factors driving SDC setting, timing of collection, and considerations related to measures to reduce the impact of SDCs on housing.

Questions Asked

Below is the set of questions used to help guide the focus groups.

1. **Role of SDCs in Funding Infrastructure:** How important are SDCs to your jurisdiction/district?
2. **SDC Rate Increases vs Cost Escalation:** Are you indexing your SDCs based on changes in construction costs or other measures? Has that been enough for them to keep up with increases in actual project costs over time?
3. **Actual Rates and Factors Influencing Rate Setting:** Is your organization currently charging the maximum that your methodology supports? If not, why not? What are some of the top factors that influenced your organization's most recent SDC setting decisions?
4. **Equity Considerations:** How and to what extent did equity considerations factor into your rate-setting decisions? If it did, how did you address equity in the rate-setting process and in evaluating equitable outcomes?
5. **Strategies to reduce impacts of SDCs on housing:** Some communities and districts are considering measures to reduce the impact of SDCs housing affordability. Does your organization currently have any affordable housing measures in place? If so, how are they working? If not, what concerns do you have about implementing them?
6. **Timing:** How does the timing of SDC collection compare to when you need to build facilities? To what extent does the specific timing within the development process (e.g., certificate of occupancy vs. building permit) affect your organization's ability to build facilities when they are needed? Do you have other concerns related to the timing of when SDCs are paid?
7. **Transparency Requirements:** As you may know, HB 3040 also included a requirement to make information about SDCs including rates, methodology, and the project list available to the public via a website (unless the jurisdiction/district does not have a website). Has addressing this requirement been a challenge? Does your jurisdiction/district have any additional tools to provide information to the public regarding SDCs?

8. **Questions for us / other thoughts** (*if time permits*): Do you have questions for OHCS or the consultant team about the study? Are there other things you are concerned about related to SDC requirements?

Jurisdictions that Attended

Cities			
Wilsonville	Newport	Eugene	Bend
Lebanon	Tigard	Albany	Forest Grove
Redmond	Wilsonville	Medford	Beaverton
Hillsboro	Redmond	Springfield	Falls City
Lake Oswego	Newberg	Tualatin	Sherwood
Sisters	Gladstone	Klamath Falls	Vale
Cornelius	North Bend	McMinnville	Ashland
Warrenton	Cannon Beach	Oregon City	Millersburg
Sherwood	Stayton	Banks	Banks
Hood River	Philomath	Pendleton	Independence
The Dalles			
Special Districts and Counties			
Tualatin Valley Water District	Roseburg Urban Sanitary Authority	Clean Water Services	Washington County
Twin Rocks Sanitary District	Canby Utility	Sunrise Water Authority	Oak Lodge Water Services
Metropolitan Wastewater Management Commission	Washington County	Rockwood Water People's Utility District	Harbor Sanitary District
Clackamas County	Jackson County Roads	Rogue Valley Sewer Services	Housing Authority of Clackamas County

Clackamas Water Environment Services	Hood River County	West Slope Water District	Eugene Water & Electric Board
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Parks and Recreation Districts

Willamalane Park and Recreation District	North Clackamas Parks and Recreation District	Hood River Valley Parks & Recreation District	Willsonville Parks and Recreation
Tualatin Hills Park & Recreation District	Bend Park and Rec District	City of Albany Parks & Recreation	Clackamas County Parks
Crook County Park & Rec District - Prineville, OR	Portland Parks & Recreation	Metro Parks and Nature	Oregon Recreation & Park Assoc
Clackamas County	Lane County Parks	Sunset Empire Park & Recreation District	Northern Wasco County Parks and Recreation District
Corvallis Parks and Recreation Department	Medford Parks & Recreation		

Summary of Stakeholder Feedback and Themes

The balance of this memorandum summarizes feedback from the focus groups by topic and theme. Paraphrased statements from attendees are shown in *italics*. Where relevant, the type of service provider making the statement in question is indicated in brackets (e.g., *[small city]*).

Themes

Stakeholder Feedback

Role of SDCs in Funding Infrastructure

Critical funding source for infrastructure in communities experiencing growth

- Some jurisdictions would not be able to make land available for development within the UGB without SDCs to extend infrastructure
- Some Metro jurisdictions use specific SDCs or higher rates in high-growth areas
 - In many new growth areas, service providers have evaluated how the areas needed to be served from a parks and recreation standpoint and added area specific supplemental SDCs. This method has been successful, as developers see the market value in parks and recreation facilities.
- Several small cities noted they had not experienced a lot of growth occurring and little SDC revenue, but more recently there have been more developments that have brought in more SDCs and there's more need for capacity-increasing projects to support growth.
- Some in larger cities feel there is a disconnect between for-profit developers and jurisdictions when developers want to reduce or waive the SDCs jurisdictions rely on to help pay for infrastructure investments that facilitate housing development

SDCs prevent over-reliance on user fees and rates to cover cost of new capacity

- Public utilities rely on political/public support for raising capital (unlike investor-owned utilities). SDCs are key to messaging that growth is paying for growth, and rate increases are for meeting other capital and operating needs.
- Some believe user fees should only be used for maintenance and operations of existing facilities, as cities do not want to burden existing users with helping to pay for new development (through an increase in user fees)
- Would need to replace revenue with large rate increases, new fees (transportation), and GO bonds (parks). Equity issues from redistribution of growth-related costs

Critical for funding large infrastructure like major sewer interceptor, water and sewer plants

- A number of water/sewer service providers noted the importance of SDCs in helping pay for major projects, that may not have happened without them. While not the sole source, they often contributed a meaningful amount or helped pay debt service.

Themes

Stakeholder Feedback

SDC credits for improvements built by developers are an important component of SDC expenditures in some communities

- For larger developments and greenfields, credits play an important role, especially in larger cities.
 - Jurisdictions have seen a number of capacity expanding infrastructure projects being built by developers then getting SDC credits
 - Some report not charging parks SDCs in expansion areas because developers typically opt to build the park and get credits instead. Will also issue transportation credits for oversized facilities. This is less common outside of expansion areas.
- SDC credits sometimes provide cost savings when developers build infrastructure.
 - Jurisdictions or providers (particularly parks districts) have worked more with developers to deliver infrastructure need for their developments at better rates with economies of scale, and then receive SDC credits

Revenues can be limited in places with slow growth

- Communities experiencing mostly infill may get less SDC revenue
 - *Most development consists of tear-down/rebuilds and no SDCs are collected because usually get credit for previous development.*
 - *Would love to rely on SDCs for capital improvements but landlocked - little expansion room, no empty land in town, only comes from infill or teardown and build more housing.*

There are other funding options beyond SDCs and rates, but they are limited

- Tax limitations in Oregon have had particularly acute impact on parks and transportation funding
 - Areas with enterprise zones and Urban Renewal districts further limit revenue
- Urban renewal more and more relied on to fill gaps, capturing revenue from other districts
- Some jurisdictions use general fund allocations or special property tax levies to supplement SDCs
 - Larger cities have supplemented SDCs with discretionary allocations from the General Fund, but very limitedly
 - One county has a voter-approved tax they levy to help pay for county road projects on major arterials
- One community with a tourism-based economy adopted a prepared food tax.
- A few communities have implemented utility fees for transportation and parks to pay for maintenance and improvements.

Themes

Stakeholder Feedback

	<ul style="list-style-type: none">○ But for parks, this now gets stretched to cover things like ROW and greenways in addition to the parks● State and federal funds are more limited now than in the past● It can be a struggle to fund parks and transportation projects the most, because they often do not collect user fees like water, sewer, and stormwater
SDCs are key to leveraging other funds	<ul style="list-style-type: none">● Parks providers noted they often leverage SDCs as grant matching dollars to close gaps and have few other sources available as a local match. Many jurisdictions also noted using SDCs as local match for transportation projects.
SDC revenue is volatile year to year, and varies as a share of capital funding	<ul style="list-style-type: none">● Portion of infrastructure funding from SDCs varies from year-to-year due to various factors including the rate of growth and the type of improvements being constructed.
Lack of funding for operations and maintenance can limit use of SDCs	<ul style="list-style-type: none">● SDCs cannot be used for maintenance or operations of existing facilities● Hard to justify building more facilities when struggling to fund existing facilities<ul style="list-style-type: none">○ Some jurisdictions do not feel like it is feasible to expand without an adequate and stable source of revenue for maintenance and operation.
Some small cities do not charge SDCs at all	<ul style="list-style-type: none">● Reasons why small cities are not collecting SDCs:<ul style="list-style-type: none">○ Little development (which requires less infrastructure development)○ Political concerns○ Developers required to install infrastructure○ Voter approval required by local policy in some communities

Themes

Stakeholder Feedback

Methodology Choices and Cost Allocation

Infill and denser developments are sometimes, but not always, less costly to serve

- New density requirements create capacity issues with infill development, such that it may be more expensive to serve due to the need to upsize existing infrastructure in a developed area
 - Waiving or reducing SDCs for higher density housing can be problematic since those housing types are more reliant on parks
- Infill may have lower transportation impacts, so some jurisdictions offer discounts for denser developments or to areas with better access to transit or that are more walkable

Infill areas may need a different approach

- Some jurisdictions are changing approach to fund upgrades to existing facilities that expand capacity and may also replace existing aging infrastructure
 - Areas experiencing more infill development than greenfield development may need a different way of defining LOS and growth capacity – specifically, improvements that increase capacity through more efficient use of existing facilities versus building new facilities

Some service providers have implemented or are working on a tiered approach for residential SDCs based on unit size

- Tiered fees are typically based on local data showing reduced household size, trips, or other measures of impact.
 - Some researched how occupancy changes by square footage, showing there was less impact when fewer people lived in a unit.
- Others are considering making this shift, or in the process of working on it.

Many expressed concerns about a “one size can fit most” approach

- Service providers value local discretion in SDC methodology and policy
 - Some felt that the nuance of affordability and quality of life people get from infrastructure investments is best dealt with at the local level

Themes

Stakeholder Feedback

Cost Recovery

Many are not charging the maximum amount supported by methodology

- Many communities made policy choices to charge less than the full SDC determined by methodology and project list
 - Some policy makers are hesitant to levy the maximum amount the methodology would support to stay competitive or support affordable housing development
 - Decision-makers often want to see how proposed rates compare to other jurisdictions in an effort to not be the highest.
- Some small cities in particular have avoided setting SDCs rates at the maximum their methodology supports in order to remain competitive
 - *Needed to stay below "closest neighbor of similar size"*
 - *More important not to create disincentives to development, remain competitive with other similar communities*
- Some adjust project lists rather than reducing rates from max to keep rates lower
 - Use of funded and unfunded project lists, or SDC project lists established based on viable SDC rate
 - *Not all projects made it onto funded list. Created kind of a target max SDC that they would charge, prioritized project to that amount.*
- Some phase in rate increases over multiple years to avoid making big jumps
 - Large increases sometimes prompted phase-in periods

Other cities and service providers charge the full amount or have made bigger increases

- Some communities have a policy inclination that growth should pay for itself and charge max rates.
- Others have caught up more recently (after keeping rates artificially low for many years), and come to recognize a greater/urgent need for infrastructure upgrades

Themes

Stakeholder Feedback

Most (but not all) service providers index rates

- Many use Engineering News Record (ENR) Construction Cost Index (CCI), either the 20-City average or the City of Seattle index, but the timeframes vary and this can change the outcome.
- Parks providers often also account for changes in land costs
- A few do not index rates.
 - *Some only increase rates when they believe there's a viable justification*
 - *Calculate every year – effectively renew methodology every year, no cost escalator. Not that much work – have staff capacity [in a large city] to do it in house.*

SDCs not keeping pace with rising costs due to a variety of factors

- Inconsistent indexing
- Some felt that available indices are not representative of local variations in costs (e.g., Seattle ENR not representative of Portland construction market)
- Methodology for indexing can create lag.
 - *Even when rates are indexed year-to-year, they don't appear to keep up because indexes tend lag on their own*
- Some infrastructure systems can lag more than others
 - *Index numbers for land cost (for parks) are based on assessed values rather than market values, so they continue to fall behind on top of the existing lag*
 - *Transportation costs have the hardest time keeping up with construction cost escalations*
 - *Park districts are experiencing the same cost increases as developers, but are not able to recoup any costs*
- Many (though not all) are seeing actual costs rise faster than their index
 - *Not keeping up with cost of materials. Index only includes cost of construction (not land), falling further behind.*

Methodology updates are a substantial undertaking

- Methodologies and project lists are not updated regularly
 - *Takes 5-10 years to update SDC. Hard to keep system plans fresh- spend increment on updating master plans, CIP, and methodology [small city]*
 - *Methodology updates every 10 years [large city]*

With SDC escalation rates falling behind

- Districts haven't been able to move capital projects forward due to stagnant SDCs (against costs)
 - *Have had to make some reductions to projects with costs increasing*

Themes

Stakeholder Feedback

costs, some service providers can fund less

- *It is becoming more common for sudden projects to come up, but funding hasn't been allocated for them*
- *Falling behind on ability to expand capacity because of cost escalations of past 5 years or more. Far exceed ability to update methodology to keep pace. [small city]*

Equity and Affordability Considerations

Varying perspectives on what the relevant equity issues are for SDCs

- Some felt SDCs should only consider impact, not ability to pay (particularly in the context of affordable housing waivers)
 - *SDC is based on the impact - equity is more about reflecting differences in impacts*
- Some felt the key equity consideration is putting costs on development vs. existing users
 - *There's substantial concern around over-burdening existing users/long-term residents if user-fees are increased*
- Some emphasized supporting affordable housing regardless of impact
 - *Backfilling to support regulated affordable housing with guaranteed longevity. Very much an equity and need for affordable housing conversation, understanding that market won't deliver it.*
- Some focused on reflecting differences in impact for different housing types and larger vs. smaller homes
 - *Recognize equity piece related unit size*
- Some focused on equitable expenditures of SDC revenue / provision of facilities
 - *Access to walkable parks is an important element of the equity conversation*
 - *Equity considerations on allocation side, how to decide what gets funded. Major factor in deciding where to spend the revenue*
 - *Understanding who benefits from the investments is more important than where the money comes from (true equity impact is at the backend, when investments are made)*
- Some focused on equity in the process
 - *Existing residents often hold historic influence in investment decisions, so residents who might be disproportionately affected by reducing or eliminating SDCs might not be at the table.*
 - *Some communities use standing or ad hoc committees to help in the SDC-setting process*

Themes

Stakeholder Feedback

Increase in interest in / use of affordable housing waivers

- Several cities and service providers have waiver policies in place for regulated affordable housing and more jurisdictions reported considering waivers.
- But concerns about administration and enforcement for affordable housing waivers were raised
 - In communities that have not implemented affordable housing waivers, staff sometimes expressed concerns about monitoring and enforcement over time:
 - How to guarantee that rents stay low?
 - What happens if owner changes rents? If rents do change to market-rate, is there a way to get SDC payment?
 - Major administrative tracking concerns
- Most service providers that offer SDC waivers for affordable housing limit it to regulated / income-restricted affordable housing.
 - Some use a deed restriction that requires them to pay back the SDCs if the property does not remain affordable
 - Some noted waivers have increased admin costs because they must review for eligibility, other said it was minimal.

Concerns about implications of foregone revenue from eliminating or reducing SDCs for affordable housing

- Some do not feel it is fair (or, in some cases, legal) to waive fees for affordable housing
 - *SDCs are charged based on infrastructure needs, and affordable housing still creates an impact on infrastructure*
- Some cities and service providers have set a cap on the amount of waivers they will issue.
- Many raised questions about where replacement funding would come from.
 - *When SDCs are waived on certain projects, the revenue will need to come from other sources so projects can be built*
 - *User fees or general funds may be used to backfill whatever SDCs are waived*
 - *Want to know that if SDCs are reduced or eliminated, how can they ensure investments are made in lower income areas?*
 - *If there was a policy to waive, would have to be a policy to backfill - that money has to come from somewhere. What do you backfill it with is the question, not whether to backfill*
 - *Concerned that State will require SDCs be waived or reduced for certain types of development projects. If this becomes the case, state funding should be provided to help backfill.*

Themes

Stakeholder Feedback

Timing

Most jurisdictions collect SDCs at building permit issuance, but some offer flexibility

- Jurisdictions offering deferral to certificate of occupancy (C of O) often do so selectively, but each jurisdiction is different in their approach and criteria.
 - Water SDCs are sometimes linked to meter placement, which typically occurs about 3/4 of the way through finishing the house, before C of O, but after BP (usually). Have leverage because the meter needs to be installed. Several indicated they won't install the meter if SDCs haven't been paid.

Concerns about administering deferrals

- Administratively, it's easiest for jurisdictions to collect at building permit.
 - Easier to collect SDCs with Building Permit when applicant is already paying permit fee - more efficient
 - When fees are not collected all at once, funding streams become disconnected and project execution can become uncertain
- At Certificate of Occupancy, service providers still have some leverage, though there were differing opinions about this.
 - Some said certificate of occupancy is fine, since there's still a lever the jurisdiction has control over.
 - Some cities expressed that once permits are issued, they can't hold up C of O for any unmet conditions or unpaid fees
 - *pretty common opinion from building officials- if don't get fee up front, no hammer to collect any more.*
 - *permitting system wouldn't allow carrying a balance - can't call for inspection.*
- Many service providers are concerned about nonpayment and being in a difficult position with deferral to C of O. For example:
 - *If ready for final inspection, ready to close and move in, and SDC payment holds it up, would look like City holding up final inspection. Creates perception issue.*
- Single-family development can be more challenging for deferrals.
 - *SF permits all come in individually. Would have to monitor and track every unit individually.*

Themes

Stakeholder Feedback

- *For a subdivision phased in over time can deferral create delays in implementing improvements.*
- Collecting at time of sale is especially concerning
 - *Rental properties are not sold, there's no trigger in place to collect SDCs*
 - *Large scale planned development that might be built out over several years with piecemeal sales, might not allow for SDCs to be collected in a timely manner*
 - *Since cities are not involved in the sale of a property, there may be no trigger in place for collection (years down the road) and fees may never get paid*
 - *Concerned about level of effort and staff time to track and make sure it happens.*
 - *City has no connection to sale, no involvement. Unless appropriately recorded - have to rely on someone else to trigger it, no guarantee it will show up.*

Most service providers are not affected by a small delay in receiving funds, but there are a few cases where timing is more important

- Most service providers are not utilizing SDC revenues for projects within the same year and would generally not be greatly affected by a 6- or 12-month delay in collections. Projects are usually planned out several years through the CIP with current revenues funding projects in later years.
- For new parks in master planned areas, timing of SDC collection is important, especially for land acquisition, since this needs to occur prior to development. Timing for developing the park land is less critical - having parks and playgrounds before first homes come up isn't necessarily as important. However, others felt that people expect park and rec facilities when they move in.
- In some cases, utility impacts are immediate (e.g., water use during construction)
- Some service providers use SDCs to pay debt service on previously built projects, and expend it in the year it is received.

Transparency

Basic ORS requirements are not a problem for most agencies

- Most provide some info online, but amount and type vary
 - Methodologies, project lists, fee schedules posted on website
 - Funding can be tracked in budgets, CIP and annual reports
- Some charge small administrative charges to recover a portion of the compliance requirements and include a part of master planning costs on the project list

Themes

Stakeholder Feedback

Additional simpler explanations of SDCs are common

- Cities that only post their methodology online without providing more user-friendly materials for community members to navigate the methodology can create confusion and tie up staff time with fielding questions
- Many communities have at least a brief explanation online
- Larger agencies have staff dedicated to SDC program, so can provide more tools, such as
 - Dedicated webpage
 - SDC calculators
 - Transportation SDC video
 - Historical SDC tracking and comparisons
 - FAQs
 - Mail CIP reports to citizens
 - Training of front counter staff key to communication/understanding
 - Public info campaign for projects that are funded with SDCs - want people to see how being used
- Some smaller service providers noted that simple explainers from the state that explain what SDCs are would be helpful

Providing information on SDC expenditures is more complex

- Would have been concerned if had to clearly show what SDC are paying for specifically
 - *Gets complicated when multiple revenue sources are applied due to mix of project components (growth and maintenance)*
 - Small communities report it would be difficult to track at a subsystem (neighborhood) level
 - *There is a lack of tracking where new dwelling units are being constructed relative to where funding is being spent.*

Appendix B. Summary of Input from Developers

Contributors: ECONorthwest

ECONorthwest conducted seven interviews and focus groups with market rate and affordable housing developers and home builders to gather insights on how SDCs affected developers' choices and development outcomes.

Discussion Topics

While the interviews and focus groups varied depending on the developers' experience and expertise, the range of topics addressed in these conversations included:

1. How do SDCs affect your development decisions? Can you give examples of times when SDCs affected and or all of the following:
 - Land negotiations
 - Walking away from a potential project
 - Changing what you would build / target price point
2. How does the impact of SDCs on housing vary across different geographic areas?
3. What are the implications of the timing of when SDCs are due within the development process?
4. How important are the following factors related to SDCs:
 - amount of the SDC relative to the strength of the local housing market;
 - amount of the SDC compared to other similar communities;
 - how the SDCs are used, and being able to see clear value from the SDCs; and
 - certainty about how much the final SDC cost will be.
5. Are there jurisdictions that you think are good models to look to for mitigating impacts of SDCs on housing?

Companies Represented

Metropolitan Land Group	Killian Pacific	Seven Peaks Homes
Polygon Northwest / Taylor Morrison	Stoel Rives, LLP	Stonebridge Homes
Pacific Crest Real Estate	Hearthstone Homes	Venture Properties
CDC Management	Cornerstone Community Housing	Hayden Homes
Hi-Valley Development	NW Housing Alternatives	Goodwell Construction
Arbor South		
Columbia Gorge Capital		

Summary of Stakeholder Feedback and Themes

Themes and stakeholder feedback from the interviews and focus groups are summarized on the following pages by topic.

Do SDCs Affect Development Decisions?

SDCs are part of underwriting and decision-making, as one of many costs that developers consider

- Most developers, report that SDCs are included as a line item in the proforma as a development cost. Some identified SDCs as a **major** cost category, along with land costs, hard costs, and off-site improvements.
 - *Moves the needle for cost of housing across the board, combined with everything else.*
 - *Not only SDCs. One of the biggest costs though.*
 - *Have decided not to do maybe \$20m of work because of how SDCs skewed proforma.*

How SDCs Can Affect Feasibility of Projects

In some cases, SDCs are enough to make a project infeasible, especially for very cost sensitive housing types

- Entry-level homes are often cost-sensitive because of the need to keep sale prices down.
 - *Worked for a homebuilder that did entry-level homes for first-time buyers and it was a burden.*
 - *SDCs are \$35-36k on an entry-level house. Sale price needs to be about another \$45k just to break even.*
 - *Try to build a home and SDC fees are almost \$30k before building permits. Would have to build something that nobody can afford. (Small coastal community)*
 - *If just barely pencils and rates go up, they walk away if it's entry-level. In the middle adjust up or down, at bottom it's go/no-go.*
- Middle housing (attached product) tends to be cost-sensitive because it can cost more to build than a single-family home and sells for less relative to a single-family dwelling, but SDCs are not proportionately lower.
 - *Jurisdictions often have just a multifamily and single-family rate so middle housing doesn't get the same discount as you would for larger multifamily. Some rates differentiate based on square footage, but those often don't have a substantial discount and other SDCs don't vary in the same way so rates don't change that much.*
 - *Had a half-acre of land on hold in [medium-sized mid-Willamette Valley city], waiting for HB 2001, but when they got the estimate back for SDCs for the 12-unit project it was about \$200,000*

(just for building SDCs). Doesn't include utility costs. Means 20% of unit costs going to soft costs outside of architecture & engineering. Considering bailing on it.

- *It's a hard sell to propose middle housing when single family performs better. SDCs make up a larger percentage of the sale price for middle housing so they perform even worse.*
- Multifamily can also be affected by high SDCs when rents won't cover the costs
 - *SDC fees (plus other local fees, including building permit) made it prohibitive to underwrite project. Were about \$40k per unit, and those areas had been more like \$20-30k historically. If the fees for that area were lower, it would still have been questionable, but would have helped.*
 - *24-unit project in [medium-sized mid-Willamette Valley city]. If it costs more than about \$15k per unit, it gets tough. Now getting closer to \$20k per unit.*
 - *12-unit project in [small city]. Did some napkin math, got SDC numbers from City up front and said wouldn't work period. Didn't bother refining project. With SDCs in normal range would have been tight anyway.*

Lower SDCs aren't always enough to make an infeasible project feasible

- When projects don't work, it's often about more than just SDCs—construction costs and market conditions are big drivers.
 - *If it doesn't pencil out, there are probably multiple drivers, not just SDCs*
 - *Construction costs have gone up from around \$200/sf. Now coming in around \$250/sf. Not SDC related, just market right now.*
 - *Deal-killer now is supply, labor, construction costs. SDCs have become a smaller factor.*
 - *If a community doesn't have reliable growth, reliable rents won't get near it*
- Lower-cost housing types tend to face obstacles beyond SDCs.
 - *ADUs are super expensive to build per SF basis and the return on them doesn't align*
 - *For middle housing, you're putting a product on a site that would otherwise have a single-family home on it. Lenders always compare to what else could be built there. Have to justify that it performs better than single-family dwelling, but middle housing often doesn't. Attached product depending on market particulars can cost 20% more to build than a single-family home (more complex to build) and dramatically undersells relative to a single-family dwelling (30-50% of a sf dwelling).*
 - *Larger homes often perform better than smaller ones. Incentive is to build the largest marketable product on the lot.*

Themes

Stakeholder Feedback

Where SDCs are low relative to other costs, they have little impact on projects

- When a jurisdiction's fees are low, they may not be a source of concern.
 - SDCs [for duplexes in a small coastal city] *were about \$6,000 per unit, that amount just doesn't move needle too much because rent growth in area is so high and the SDCs were low. Not significant relative to overall budget cost*
- Residential adaptive reuse projects can have low SDCs compared to new construction
 - *Adaptive reuse of a former senior care center that was 70 rooms, which resulted in a reduced fixture count (ended up with about 56 units after completed). Resulted in less than 50k in SDCs on that project, less than 1k per unit.*
- SDCs are not typically an important factor for high end housing types, such as custom homes.
 - *SDCs are just one other fee on a several-million-dollar house, just a small component. Not that important to their business model.*
 - *Property owner typically pays the SDC for custom homes.*
 - *The bigger the home, the less impactful the SDCs are on the construction of the unit*
 - *For a second home or custom home it is what it is - nonissue.*
 - *If high end subdivision and there's enough price elasticity it's part of the cost of doing business.*

How SDCs Can Affect the Type or Scale of Housing Developers Build

In many cases, SDCs are not a factor in determining what a given developer will build.

- Developers tend to specialize in certain types and forms of housing.
 - *Try to build relatively the same types of plans. Pretty standard finish, build all Earth Advantage houses. Everyone wants granite counter tops.*
 - *Always build multifamily, not single-family or townhomes.*
 - *Strictly infill builder, 99% in [one large jurisdiction].*
 - *Custom homebuilder, mostly higher-end.*
 - *Target to 80-120% AMI projects with mission-centric landowners because land is the largest frontload on the cost. Often work with legacy employers. No lease-up, stabilized at occupancy, saves money.*

- Product is usually based on what aligns with the market. Many wouldn't change what they build just because of SDCs. This is particularly true for multifamily, given that SDCs are often not known up front.
 - *Trying to get the right combination of unit sizes for the market and pricing. Designing and building to what works for the market and sense of place and what city wants it to look like. Then come up with final product. SDCs aren't last calculated but not first either.*
 - *When underwriting a project, if we know a market, know what finishes make sense for the market - that goes into the hard cost budget. We let the general contractor know what finishes we're targeting. When we run the proforma if all doesn't pencil out it just doesn't work.*
 - *Wouldn't change from entry-level to market because of SDCs, would deliver what's best for the market regardless of SDCs.*
 - *There are a lot more components than SDCs that go into deciding the form of multifamily.*

Sometimes developers will adjust unit size in response to SDCs and other costs.

- SDCs combined with high land costs sometimes push developers to build bigger, more expensive homes to cover the costs. This is particularly true for single-family homes where SDCs are more predictable in advance.
 - *If can't make [SDC exemption program] work could be 1700 sf house to get to higher sales price that makes the numbers work. Currently building 3 houses in a neighborhood that's nicer, know they won't be under price cap [for SDC exemption]. Had to build 1800 sf house to justify higher sales price and afford SDCs. End up building bigger more expensive house to cover the cost.*
 - *SDCs aren't really stopping things in [large Metro-area city] - pushing houses to be larger and more expensive.*
- Other developers may build smaller units to cut costs while keeping pricing aligned with the market.
 - *One area had lots of expensive requirements and high fees. Can only charge so much for a house, still have to the price house to be competitive. Think those units might be smaller, higher cost for those features. Typically get a smaller lot, maybe a smaller house but it's new.*
 - *Will change product offering, shrink product to what people will be able to pay. But will the market accept that?*
 - *Have seen house sizes reduced to counter-act increasing costs*

Themes

Stakeholder Feedback

Sometimes when the difference in SDCs is based on product type or scale is substantial, developers will choose the option with the substantially lower SDCs

- *For lower sales price, go for a smaller house. Might have to build a 1300 sf house.*
- In some instances, if SDCs are waived for homes that sell to income-qualified buyer (below 120% AMI), market-rate developers will build a lower-cost home to qualify.
 - *When working with the SDC waiver program, homes are priced at \$430k to qualified buyer, \$475k to nonqualified buyer. If SDC-qualified buyer, get the discount. Sold 3 to SDC-qualified buyer, 2 to nonqualified. Like to sell at lower price point, but a wash either way.*
- When SDCs are much lower for small units, this can have a big impact on some projects.
 - *Were able to take advantage of building cottage homes, reduced SDC fees. City figured that cluster code allowed them to put 4 units on one lot, and were only going to get one SDC if put a larger home there, justified that still covering the impact of one larger home. Could build up to 4 units, 1 SDC divided by 4. Were able to do 4 for-sale units, hadn't been an option before. Small fee for hook-up, but not the full \$35-40k.*

Other times, when SDC differences are minor, they are not enough to change the unit size or other features.

- Scaled SDCs that do not vary substantially have less impact on what will get built.
 - *In [one medium-sized mid-Willamette Valley city], City was reviewing parks fees as well as transportation and water fees. Had asked them to think about a tiered study, because of HB 2001 regulations. There was a push by Council to ask staff to do it. Took about 18 months to come back with recommendation, tiered. It's a little different from [other tiered approaches]. Based on Census data - average square footage that are being permitted. Reduced amount on smaller square footage, increased on larger. But doesn't get to where you need to be - not aggressive enough to make it work. When look at fixed cost of what it takes - land, building costs, SDCs, won't be able to get cost down enough to meet area median income.*

How SDCs Affect Housing Prices & Rents

The market determines what prices/rents are possible, but SDCs can influence whether developers need to

- In a supply-constrained environment when other costs are inflexible, builders may try to push sales prices to recoup at least some of the costs.
 - *If there's lack of supply of land and SDCs are fixed and costs are pretty fixed, have to sell the house for more - there's not much else that can move. Seems like demand is strong enough relative to supply that builders feel like they can push the market*

Themes

Stakeholder Feedback

push the upper limits or not

- *Cost typically goes down to buyer on for-sale products, which causes the buyer's buying power to go down. If house was supposed to be \$350k and city fees were \$60k per home, that does get passed on. Maybe have to increase to \$375k.*
- Multifamily developers generally indicated they have limited ability to push rents, unless rents are already increasing anyway.
 - *Can't raise rents just to raise rents*
 - *Unsure if will need to increase rents - don't want to be uncompetitive in pricing. Could lead to longer lease up, might not hit the numbers.*
 - *Trying to get numbers down to make it work with market rents.*
 - *Fees increased for parks district during development. Pandemic helped because rents went through the roof - allowed them to pass through the costs. Otherwise probably would have been on pause until rents went up.*

How SDCs Can Affect Land Prices & Negotiations

SDCs affect land negotiations and what developers are willing to pay in some cases

- SDCs are one of the factors that impact what landowners and land developers can sell finished lots for, as part of the builder's overall proforma
 - *Trying to keep SDCs down generally speaking - keeps land values higher as a seller of land*
 - *Developers come back on the land, that's where the haggling is. But in a supply-constrained development, their business requires land, so maybe they can push on subs or see what else can give.*
 - *If one jurisdiction charging \$30k, another is charging \$75k that goes into the formula. Either try to pay less for land or know that will have to sell homes for more.*
 - *For any deal that works, they have successfully addressed the impact fees as part of purchase price (for the land)*
- There are times where a seller's expectation on the price of land and high SDC costs have kept projects from moving forward because seller won't take a lower price. This can be particularly true when land costs are already low and there is limited room to absorb SDC costs by lowering the land price.

Themes

Stakeholder Feedback

- *Expectation from seller that land would sell for similar price of recently sold parcel next door (parcel next-door zoned for single-family units, whereas this one required attached housing, no single family). This particular city had higher SDCs relative to neighboring jurisdictions (new growth area), so could only offer about 35% of what the seller was looking for. SDCs were baked into the proposed purchase price and so if they could have come to a deal, the SDCs would have been pushed onto the landowner because they couldn't be baked into the attached product.*
- *SDCs were a factor in not being able to come to an agreement on land price*
- *Have passed on projects in [large Metro-area city], and properties that are still for sale where couldn't make the numbers work. Some land people just won't sell if they're not going to make enough.*
- *Could pay SDCs but landowner needs to take less money - tried to negotiate, but would've been \$100k on a \$300k property.*

Other times, land prices or negotiations do not play a role

- Some developers build on land that has been held for a long time, and land price negotiations aren't a factor
 - *Already own everything they will develop, not in an acquisitions mode to develop projects*
- Some developers are strictly infill builders, so they do not do any large land acquisitions
 - *Not much land acquisition negotiation, mostly buying older homes and demo or keep and add to it*

How SDCs Can Affect Where Development Occurs

SDCs can make developers choose one area over another in some instances

- Many developers and builders report that land costs and SDCs are differentials when considering what adjacent jurisdiction to build in. When SDC costs are out of line with market conditions, developers may look elsewhere
 - *In some communities SDCs have been part of decision - don't look at [one jurisdiction] because of some of the SDCs there.*
 - *Particularly an issue in older cities that have a lot of infrastructure costs that need to be funded. May pay \$500k in SDCs and still have to replace utility lines.*
 - *Won't build in [certain small towns] - too expensive. Build in places that have more reasonable SDC fees.*

- If there are other options in the area with lower SDC costs and comparable market conditions and land costs, developers may choose those areas instead
 - *If SDC fees are \$30k less somewhere (but markets are similar) will just go somewhere else. For market-rate apartments almost the same. If can only do a certain number of deals, would choose the lower-cost one (all else equal)*
 - *There are markets where rents or sales prices are similar - closer to urban usually higher, lower further out. Similar housing markets, similar drive to core. Even with state income tax differences, it was similar. There are markets where could get similar pricing with lower fees*
 - Others said SDCs would generally not be enough for them to choose a different community to build in.
 - *Nearby communities are smaller, don't have diversified economies. Generally wouldn't consider building there. SDC difference would have to be a lot.*
 - *Not so concerned about that [comparison to other jurisdictions]. All have different priorities, respect that.*
 - *Affects willingness to build in a given community, but not the only factor.*
-
- In some instances, developers and builders said there were other costs that were more important factors than SDCs, including permitting speed, ease of communicating with and getting clarity from staff, and zoning regulations.
 - *If paying more in SDCs could equate to permit speed and consistency/more predictable way then that might make a difference. Build SDCs into proforma and they are predictable, but the permitting speed is more of an unknown.*
 - *Very different permitting and SDC experience [between two small towns]. In one, permitting is great, super fast: 5 weeks from plans to permits issued. Can call directly, very responsive. But a lot of coastal cities have issues with retaining staff for city departments - people move on to bigger communities after a few years. Hard to get timely responses to any questions - planning, land use, permitting, or clear info from Public Works.*
 - *One new growth area had a whole other level of requirements on single-family home developers - specific architectural design guidelines, sustainability requirements that all put a burden on the developer. And municipal fees were high.*

Other jurisdiction-specific factors can have a bigger impact than SDCs on where developers want to build.

- *When you get better service overall, it feels like city is working with you, but in other communities it feels like they don't care if your project happens. It makes a difference. Time savings from a more streamlined process can make up for some of the SDC cost.*
-
- Ability to charge high SDCs varies by size of community and market demand
- Many developers noted that small towns are more sensitive to SDC costs.
 - *Should ideally be some sensitivity that smaller communities won't be able to absorb big SDC fees. More impact in smaller communities. Maybe can pass along in larger communities - maybe a little more expensive than wanted it to be. Almost like gas prices.*
 - *Smaller fees can make a big difference in a small town.*
 - *Less room for error, less variability in cost in emerging markets. Any cost increases would put more strain on the project. Less flexibility to maneuver.*
 - *In other parts of the state [outside the Portland region], price points are lower that you can sell homes for. Jurisdictions have a harder time raising SDCs, haven't seen them as aggressive as they are in Portland region. Market is softer. Not pushing as hard on the amenity side as Portland metro jurisdictions - that keeps costs down.*
 - Affluent and high-demand, supply-constrained communities may be able to charge higher SDCs.
 - *Small affluent jurisdiction in Portland Metro region, strong market, strong school system. SDCs are considerably higher than other jurisdictions. Higher SDCs tend to correlate with communities that are more difficult to work in and more affluent communities.*
 - *An area with higher income might be able to afford a higher SDC package than a [medium-sized mid-Willamette Valley city].*
 - *Portland metro jurisdictions know that developers have less options, think they can pay more.*
 - *[SDCs for one greenfield development project in the Portland metro region] were highly negotiated with City and 3 primary developers. They had kind of a line in the sand on how high they could go. Knew what product mix they were anticipating. They intended to have some executive housing - street of dreams, job proximity, golf course proximity. Were banking on being able to charge a premium for new community with parks, schools, amenities. Had come up with a mix of products that would allow them to absorb some cost.*

Whether Developers & Investors Accept Lower Returns When SDCs Are Higher

Developers can rarely move a project forward that doesn't meet investor and lender return expectations just because SDCs are higher, but sometimes project-specific circumstances can mean the developer absorbs a portion of the cost.

- Pro forma needs to work before moving forward (noted above). Lenders and investors have their requirements / expectations.
 - *Work the proforma backwards. Think they can get X in rent for the units. If they build this many units with those rents, what is NOI [net operating income]. Have to make 6.5% return on investment or won't loan on it - if can't hit that they walk away. If developer puts \$1m in, they want to make sure they are getting a return on that.*
 - *Buyers [of finished lots] generally build a proforma on all the costs of building a home for sale, look at what their margins need to be - usually deal with national homebuilders. They look at what SDCs are going to be.*
- Very rarely, for a major development, investors may intentionally accept lower returns in some phases if later phases will make up for the lower returns.
 - *Did an apartment complex in [a master planned area]. Fees were a burden on the project. Developer was tied into the equity investors in the overall development. They were asked by the equity partner to do the deal with lower returns to be the first in. Couldn't negotiate on land to make it lower, couldn't raise rents, so took lower returns on the investment. Didn't meet company requirements, but equity partner needed the master plan to get up and going to get homebuilders to sign contracts. Would not have done that deal otherwise. Was kind of a loss leader.*
- Developers that hold projects long-term in areas with strong market conditions may be able to pay more up front and still achieve returns over the longer-term.
 - *Depends on who's building the project — 20 year hold vs. 5-year hold and sell to institutional equity. Different metrics. Longer view can afford to amortize costs over a longer basis.*
- Once budgets and financing are locked in, changes to SDCs or other fees can affect financial returns based on how much contingency is needed
 - *Build in escalation into municipal fees. Sometimes they don't go up and it's a win. Other times they go up more, and do the best they can.*

How SDCs Can Affect Affordable Housing Developments

SDCs have to be covered by the combination of rents (limited based on incomes) and other sources of funds that help make the project feasible.

- When SDC costs are known early, they can be incorporated into funding applications.
 - *Have to know costs early and with precision before you get your funding, especially if not using a conventional lender.*
 - *When applied for funding had about \$80k plugged in for SDCs after conversation with Public Works - rough math.*
- For Low Income Housing Tax Credit (LIHTC) projects, the tax credit equity covers a share of the SDC costs when financing closes (project completion), but not all.
 - *4% LIHTC - getting about 36 cents back on the dollar - some offset for basis eligible costs. Get about 1/3rd of it back. Doesn't make you whole but helps a little.*

SDC waivers can make a substantial difference to affordable housing developments, but they can also introduce complexity.

- Waived SDCs or exemptions can help close funding gaps.
 - *Had a site for affordable housing development. Original developer couldn't make it work because infrastructure costs were so expensive, including Parks portion of the site. City was trying to come up with an alternative. Reduced # of affordable units, but the only reason they could make it work was because SDC fees were waived or reduced for affordable units.*
 - *Saved almost 900k in SDCs on a 140-unit project. Huge savings.*
- Requirements from the jurisdictions for qualifying projects can be challenging to meet.
 - *City wants to see a 99-year cash flow projection and you're agreeing to a 99 year affordability covenant that runs with the land. City wants to be in top lien position – they were negotiating with OHCS and the permanent lender for position. Some lenders are flexible, others would walk away before giving up first lien position. The end result is good but the mechanics are problem. Probably cost another \$50k in lawyer fees.*

Certainty on SDCs is particularly important for affordable housing development.

- When SDC costs increase unexpectedly, it can be very hard to find additional funding or cost-savings in other areas at the last minute when funding amounts have been set in advance.
 - *On one project, spent about 3 months with architects and engineers to try to get an SDC fee estimate. No one at the City was willing to have back of napkin conversation. Needed to be ready to issue building permits to calculate the SDC fee. Had SDC fee calculator online, but those are always wrong,*

Themes

Stakeholder Feedback

often by a lot, even if you get an engineer involved. Staff was difficult to get ahold of - had a line in the proforma from a conversation a year and a half ago where someone gave a rough guess, which ended up being \$150k short. Had to take it out of the building. Then a week from closing got a note from Public Works that said they needed another permit that was another \$5k that they hadn't planned on. Can't weather those types of surprise costs today. Had to make hard decisions - playground equipment cost cut, landscaping, and site amenities cut. When get close to closing and have been doing everything to keep construction scope in place things are down to very fine margins. At one point almost had to eliminate a floor to make the budget work.

How SDCs Timing of Payment Can Affect Development

Paying SDCs at building permit increases financing costs and impacts availability of capital

- When SDCs are financed on a construction loan, the developer has to carry interest on that cost throughout the whole development process, so it increases the overall cost of SDCs.
 - *Often pay out of construction loan. Would be nice not to have to add hundreds of thousands to construction loan on day 1, especially with interest rates rising. Have to carry SDC fee debt.*
 - *\$40k in SDCs could become \$50k with construction interest.*
 - *If include with bank loan on the very front end, might take 6 months to completion plus time to sell, could be 9 months interest.*
 - *Payment at final inspection - a big cost-saver. Pay a set amount on any payment of fees. Savings there is very beneficial. Essentially lowers the cost of the SDC. Have to make fee payment before they'll send an inspector out.*
- Developers of multifamily projects may have higher carrying costs due to longer development periods.
 - *Should be due at certificate of occupancy instead of permit, especially if 100+ unit multifamily or large industrial project - it's a lot to carry for the development. An 8% construction loan for 24 months on \$600k SDC fee = \$48k in interest. [market-rate multifamily developer]*
 - *It's just cash flow - when money is coming in. Typically don't get a construction loan until have the building permit. To get the building permit have to pay the SDC. Can be 2 years before delivering the product. If can offset for a few years it helps with cash flow. [market-rate multifamily developer]*

Themes

Stakeholder Feedback

- *Not cheap to service debt on something that large that early in a project. [affordable multifamily developer]*
 - Paying SDCs before construction takes away from the resources available to pay for pre-construction work and early stages such as site preparation.
 - *If use cash on hand, if its \$35k per house, could be \$700k in SDCs - reduces working capital to build more units.*
 - *Allows putting that money to other parts of the project, e.g. early buy-outs for construction, getting sitework done early - allows getting started on construction before construction loan is in place. First draw is typically like \$2m. Instead of paying those fees can get construction started.*
 - *Developers are putting in a lot more cash up front, loans are decreasing (e.g. 60%) so might be just equity contribution before construction loan kicks in. Would rather put up-front costs to something more tangible.*

- Not all developers agree that deferring to Certificate of Occupancy is helpful
 - Some developers are indifferent to when they pay the SDC cost, since they have to pay it eventually.
 - *If it's a \$100m project and will have \$60m construction loan, nothing says SDC fees have to go in construction loan. Financing same amount either way.*
 - *Deferrals haven't made sense - just delaying the inevitable. Have to pay either way.*

- Some developers expressed a desire to defer SDCs past Certificate of Occupancy
 - Some builders noted that paying at time of sale would be preferable
 - *If tie to occupancy - what happens if a small builder is over budget and don't have the funds, can't get final, can't pay the city. Could be a mess. At transfer of title, have the funds to pay it off.*
 - *For build to sell, payable at closing, or at least at C of O so not paying interest on the SDC*
 - For rental, some suggested delaying or financing for longer
 - *Having SDCs payable upon stabilization for rental - equity bump when property is built and stabilized. Could be a lien that gets attached to the property to pay once stabilized.*

- Timing of payment vs. timing of impact matters to some developers
 - Some developers feel that paying later is more appropriate based on when SDCs are used or when impacts occur
 - *Cost for essentially nothing - they're designed to offset impacts to systems but impact doesn't start until there's a buyer*

Themes

Stakeholder Feedback

- *Jurisdictions (especially large ones) don't need those dollars for a long time*
- *Think should be later - at occupancy. Should be tied to when the impact starts.*

How Important Certainty/Predictability in SDC Costs is to Developers

Many developers highlighted the importance of knowing how much the SDCs would be in advance.

- Several developers noted issues with major changes to SDCs during the pre-development and development period. Some set money aside specifically to address fee increases, but there are fewer options to adjust to cost-increases that occur later in the development process.
 - *Update fees in April / May, check in with cities on whether and how much they're going up. Occasionally there can be significant changes. But none have ever caused backing out of a deal, just reforecast and reallocating costs. Also carry a municipal fee contingency - pull from that. Try to avoid using soft-cost contingency.*
 - *Relied on numbers from city that accounted for SDC credit. When had final approvals to HUD and couldn't change it got a letter that they ran out of credits. Had baked SDCs into proforma for construction loan for HUD. Immediate hit to contingency before starting.*
- Estimating fees is typically more challenging for multifamily development.
 - *Typically find out SDCs later in the process on the multifamily side. When you have your unit mix, then you have the parking ratio, then figure out impervious surface, trying to make it fit and make numbers work at the same time. Can be 6-12 months into project before you know that, and you can't get a great estimate of SDCs before that.*
 - *Certainty is important to developers - timing, amount, etc. [multifamily developer]*

How Important the Usage of SDCs is to Developers

Many developers see value in the infrastructure that SDCs fund.

- Parks and lack of traffic congestion were identified as factors that particularly offer benefits for housing demand, which supports development.
 - *Parks are necessary, great amenity for dense urban projects*

Themes

Stakeholder Feedback

- *Developers like parks, trees, open spaces. If they can see that a community is proactively spending in a beneficial way, it would be a more beneficial offering for housing. If people can see that have the amenities and open space, services, lack of traffic congestion, they will make their decision.*
- *Projects need to be done. They're necessary. But existing residents aren't paying today's prices for the infrastructure they have.*
- Some developers noted the importance of funding needed infrastructure to allow development to move forward.
 - *The biggest benefit of SDCs in Oregon is that they provide a mechanism so jurisdictions can't place moratoriums on development. In other parts of the Country, if they don't have infrastructure and don't have SDCs in place, you end up with moratoriums and can't get things built.*

Developers like to know that SDCs are being put to good use generally, and many would like more transparency about how funds are being used.

- Many placed value on accountability and transparency generally.
 - *Important to see the benefit. Any taxpayer or investor wants to see where their money is going. Goes to government accountability.*
 - *Don't look at what they get for each penny, but do look at governance quality, SDCs are part of that. How much crumbling infrastructure, will there be population flight because tax burden too high or services are poor. Look for great long-term governance.*
 - *Care about overall business environment. What is city charging and how is it being used.*
- Some would like to see a more direct and tangible connection between the SDCs paid and the projects they build.
 - *People should know where the dollars are working for them, and may be more willing to pay if they're presented with a project list of where the money will be spent. The area where the money is generated should see the investment.*
- Some pointed out that the way SDCs are used varies between infill and suburban contexts, and that suburban projects can be more visible.
 - *Don't build in [suburban Portland region community], but hear from other builders that they feel like they're getting value for their parks SDCs - they use the funds. [Urban jurisdiction] can't go out and build new parks, they use funds mostly to increase parks capacity (e.g. converting grass field to turf with lights to increase how much of the time it can be used). In more suburban jurisdictions you can see them using the funds.*

- *In [urban jurisdiction] you rarely see something close that's a direct impact funded by SDCs. Mostly larger capital projects (e.g. major roads). Wish they would put up signs saying "this was paid by X".*
 - Some developers expressed concern that projects included in SDCs may not get built.
 - *Park fees are challenging because they vary so widely. Sometimes they encompass projects that are unlikely to get built but inflate the fees. No requirement that what they put in the plans actually gets built.*
 - *Have experienced where collecting SDCs for parks but not being used because couldn't afford to maintain them, do the construction, etc.*
 - *Looking at a small community - high parks SDC but talking about decommissioning parks. Where are fees going?*
 - Some expressed particular concerns about paying for administrative costs.
 - *In informal conversations some have had with city staff, staff say a lot of the SDCs go to admin costs for things like benefits and personnel*
 - *Are the admin charges really proportional to the service/mechanics received?*
-
- SDC credit policy is as important to some developers as the SDC rate.
- Developers generally like being able to get SDC credits for building needed infrastructure.
 - *Love it when can take advantage - it's a win / win. Jurisdiction gets infrastructure built at lower cost than if they had to build it. Not money directly coming out of their coffers. Developer gets localized benefit rather than SDCs going to a project that might be across town. Helps if a needed improvement might not be proportional to the project.*
 - Some noted that the credit-eligible portion of infrastructure improvement costs can be more ambiguous than the SDC fee itself.
 - *If projects are on-site or contiguous, only get credit for excess capacity - lots of negotiations on what that means. Often developer gets negotiated down a lot. More clarity on what that means would be helpful.*
 - *City is judge, jury and executioner. They decide how credits work, what's oversizing, etc. Could sue in theory, but not going to do that. Devil is in the details. Time is money, want to get project done.*
 - *Having to put in a park within a certain distance - city may require that but not getting credit for putting in those parks.*

- Some said financing cost reduces the value of the credits, particularly if developers are required to pay SDCs and be reimbursed for credit-eligible portion of improvements.
 - *Had an experience where developer was building infrastructure that will earn them credits, but at the same time as the project. Had to pay SDCs and then reimburse at the end – city wanted the money for free, still wanted to charge interest to defer the SDCs.*
 - *Deferred because getting credit for significant off-site improvements. Instead of paying fees and then City paying the developer back, defer and reconcile at the end.*
 - *People sometimes think it's 1:1, but builder has to finance it, carrying costs can erode the value of the credit.*
- Some noted that provisions allowing transfer of SDC credits are helpful so that developers can get the full benefit of the credit.
 - *Have successfully received credits and sold to other developers.*
- *[One large city] made SDC credits not transferrable to other projects, imposed limits geographically. Think that's a mistake. That would further incentivize developers to take on larger improvements and could monetize by selling credits.*

Appendix C. Key Oregon SDC Court Cases

Contributors: Galardi Rothstein Group, FCS Group

The cases listed in this section are not an exhaustive list of Oregon case law, however, they highlight and provide clarity on some key issues associated with implementing an SDC program in Oregon.

Key Case: Home Builders Association (HBA) of Metropolitan Portland v. Tualatin Hills PRD

The Portland HBA brought suit against Tualatin Hills Park and Recreation District (District), essentially claiming that the park SDCs the District adopted constituted an illegal “taking.” The Oregon Court of Appeals ruled with the District in 2003 that its SDC met applicable tests of constitutionality as a quasi-legislative exaction. In its ruling, the Court reviewed the District’s methodology and stated the following:

Plaintiffs (HBA) do not suggest that the SDC is unrelated to the resolution’s stated objective of providing parks and recreational facilities, nor do they provide any argument, analysis, or information indicating that the amount of the fees that the resolution imposes is, as a matter of law, unreasonable or arbitrary. Such arguments would not be successful.

The Court further stated that “The SDC methodology here meets the ‘reasonable relationship’ standard. That being the case, it also meets, a fortiori, the Due Process ‘rational basis’ test.” The effect of this ruling was to clarify and affirm that a reasonable approach to proportionality would generally be upheld.

Key Case: Portland Metropolitan Association of Realtors, et al v. City of Portland, Multnomah County Circuit Court Case No. 15CV19696

The plaintiffs in this case brought suit against the City of Portland after adoption of a new (2015) park SDC methodology. The Portland Metropolitan Association of Realtors argued a number of points, with one found to have merit. In its project list, the city grouped planned projects into categories and noted the total category cost and SDC eligibility. In its ruling, the Court stated the following:

The sheer number of projects aggregated, and the loose descriptions do not provide sufficient evidence to demonstrate to the detail contemplated by the statutes.

The Court remanded the supporting project list to the city “for greater specificity in the costs, timing and percentage of costs eligible for SDCs for capital improvements needed to increase capacity.” This ruling provided additional clarity as to the level of detail required in an SDC project list, as delineated in ORS 223.309.

Another key outcome of the decision was upholding the city's methodology to change the level of service from a traditional acres of park land per 1000 people to current investment per person. As noted by the Court:

The level of service becomes the current investment per person in park land and improvements. What exists has been acquired for the use and benefit of the current population. With every new person added, the investment becomes diluted. Capital improvements return the investment to the existing level of service per person. In that sense, there is equilibrium, and the starting point remains static.

Key Case: Home Builders Association of Lane County, an Oregon Non-Profit Corporation, and Home Builders Construction Company, an Oregon Corporation v. City of Springfield, a Municipal Corporation and Metropolitan Wastewater Management Commission, Lane County Circuit Court Case No. 16-04-15534 and 16-04-15996

In June 2005, the Circuit Court of Lane County upheld a wastewater SDC methodology adopted by the Metropolitan Wastewater Management Commission of Eugene Springfield (MWMC) that was challenged by the Home Builders Association of Lane County. The methodology and project list were challenged on a variety of technical as well as procedural issues. Ultimately, the circuit court ruling upheld MWMC's SDC methodology and project list. Key issues highlighted in the decision included:

1. SDC statute requires that the SDC methodology provide a framework for imposition of SDCs but does not mandate a particular type of methodology.
2. In consideration of what determines an equitable and proportionate share of costs allocated to growth, the standard of review is substantial evidence and reliance on expert opinions and recommendations constitutes substantial evidence.

The SDC statute simply directs that the allocation of fees is done equitably and proportionately – concepts that are not rooted in any legal test but are dependent wholly upon the facts of a given situation. Given the purely factual nature of this assignment of error, it will be reviewed by this court under the substantial evidence standard (i.e., whether a reasonable person could accept the finding as adequate to support a conclusion)

3. Establishment of an SDC is not a land use decision and the statute does not require projects to be included in a land use plan prior to their inclusion on the SDC project list requirement by ORS 223.309.

Key Case: HBA of Metropolitan Portland v. City of West Linn (2003, 2006)

This matter first came to the Clackamas County Circuit Court as a Writ of Review, and the Court ruled that only one of their claims had merit. The City of West Linn was found to have included open space in its park inventory which did not qualify as parks and recreation facilities. The effect of the larger inventory was to increase the existing level of service provided by the city, and the resulting SDC. In 2003, the Court remanded the matter back to the city, which removed nonqualifying open space and recalculated the fee. The HBA appealed. In 2006, the Court of Appeals of the State of Oregon sided with the city, acknowledging that the city had fixed the only meritorious issue.

Key Case: COBA v. City of Redmond, Deschutes County Circuit Court Case No. 02-CV-0528 ST

The Central Oregon Builders Association (COBA) brought suit against the City of Redmond, claiming that the city had improperly modified its transportation SDC methodology because the City did not provide a 90-day notice to interested parties, as specified in ORS 223.304(6) and (7). In the judgment, the Court found that eliminating pass-by trips from the calculation was in fact a methodology change and that the City “did not provide notice to COBA at least 90 days prior to the first public hearing conducted to consider the transportation SDC as required.”

The suit and the resulting 2004 judgment served to elevate the importance of the noticing requirements in ORS 223.304.

Appendix D. SDC Fees by Jurisdiction, 2007 and 2022

Contributors: FCS Group, Galardi Rothstein Group, ECONorthwest

Exhibit 48: SDC Rates by Jurisdiction and Infrastructure System, 2007

Source: FCS GROUP based on data from League of Oregon Cities, *System Development Charges Survey Report* (February 2020)

City	Parks	Sewer	Water	Transportation	Stormwater	Total
Aurora	\$2,205	\$2,032	\$4,153	\$2,095	\$159	\$10,644
Banks			\$2,103	\$3,020		\$5,123
Beaverton		\$2,700	\$3,144	\$3,020	\$900	\$9,764
Bend		\$1,973	\$3,385	\$4,217		\$9,575
Boardman		\$1,189	\$1,392			\$2,581
Brownsville		\$5,160	\$2,093		\$1,968	\$9,221
Cannon Beach		\$1,448	\$1,407		\$815	\$3,670
Carlton	\$1,794	\$5,062	\$2,892		\$1,029	\$10,777
Cave Junction		\$2,985	\$2,150			\$5,135
Central Point	\$2,944		\$1,255	\$4,033	\$410	\$8,642
Columbia City	\$1,438	\$1,561	\$4,127	\$4,399	\$250	\$11,775
Cornelius	\$2,143	\$1,000	\$1,032	\$3,020	\$500	\$7,695
Corvallis	\$4,746	\$3,028	\$1,008	\$2,046	\$148	\$10,976
Cottage Grove	\$234	\$692	\$775	\$776	\$1,255	\$3,732
Creswell	\$1,539	\$4,520	\$5,026	\$597		\$11,682
Culver		\$4,148			\$1,750	\$5,898
Dayton	\$100	\$1,265	\$3,633	\$1,126		\$6,124
Detroit			\$7,943			\$7,943
Donald		\$2,250	\$2,250			\$4,500
Drain						\$0
Dufur		\$950	\$1,215			\$2,165
Eugene	\$2,624	\$508	\$2,276	\$1,582	\$493	\$7,483
Florence		\$3,354	\$2,838	\$692	\$1,636	\$8,520
Garibaldi	\$1,000	\$2,001	\$2,262	\$3,145	\$2,475	\$10,883
Gladstone		\$216	\$1,448	\$1,171		\$2,835
Glendale						\$0
Grants Pass	\$2,552	\$2,463	\$2,366	\$5,656	\$412	\$13,449
Gresham	\$3,185	\$4,923	\$4,043	\$2,748	\$802	\$15,701
Halsey		\$523	\$646		\$1,060	\$2,229
Hermiston		\$678	\$1,404			\$2,082
Hood River		\$1,408	\$2,585	\$705		\$4,698
Jefferson		\$7,960	\$1,206			\$9,166
Junction City	\$1,090	\$6,669	\$1,100	\$1,116		\$9,975
Klamath Falls	\$898	\$1,955	\$2,533			\$5,386
Lakeside		\$1,827				\$1,827

City	Parks	Sewer	Water	Transportation	Stormwater	Total
Lakeview	\$25	\$578	\$177	\$39		\$819
Lincoln City	\$1,528	\$4,725	\$2,263	\$531	\$25	\$9,072
Lowell	\$889	\$1,187	\$6,268	\$618	\$400	\$9,362
Madras	\$1,780	\$3,000	\$838	\$2,303	\$210	\$8,131
Manzanita			\$3,700			\$3,700
Maupin						\$0
Milton-Freewater	\$525	\$930	\$870			\$2,325
Monmouth	\$1,484	\$2,753	\$1,413	\$394	\$247	\$6,291
Mosier	\$1,495	\$3,759	\$4,499			\$9,753
Nehalem			\$2,367			\$2,367
Newberg	\$1,471	\$1,469	\$3,533	\$2,388	\$258	\$9,119
North Plains	\$4,941		\$5,791	\$3,513		\$14,245
Oakland		\$2,995	\$2,933			\$5,928
Ontario						\$0
Pendleton				\$1,050		\$1,050
Philomath	\$684	\$5,719	\$6,228	\$3,488	\$1,080	\$17,199
Port Orford		\$3,568	\$6,412			\$9,980
Portland	\$3,053	\$2,995	\$2,496	\$1,883	\$585	\$11,012
Prineville		\$4,089	\$2,477	\$2,801		\$9,367
Redmond	\$834	\$2,105	\$2,092	\$2,877		\$7,908
Riddle		\$3,000	\$1,827			\$4,827
Sandy	\$2,000	\$1,834	\$1,525	\$1,943		\$7,302
Scotts Mills			\$7,843			\$7,843
Seaside	\$325	\$675	\$2,873	\$444		\$4,317
Silverton	\$1,205	\$4,392	\$3,987	\$3,705	\$1,375	\$14,664
Stayton	\$2,254	\$3,528	\$2,670	\$2,512		\$10,964
Tangent	\$875	\$3,285		\$354	\$124	\$4,638
The Dalles		\$1,789	\$2,317			\$4,106
Tigard	\$4,812		\$2,041	\$3,020		\$9,873
Turner	\$850	\$5,000	\$2,400	\$400		\$8,650
Umatilla		\$743	\$1,029			\$1,772
Veneta	\$3,197	\$3,250	\$1,937	\$1,694	\$142	\$10,220
Waldport	\$379	\$3,037	\$2,505			\$5,921
West Linn	\$8,029	\$2,539	\$6,698	\$4,721	\$439	\$22,426
Westfir		\$5,318	\$3,225			\$8,543
Wilsonville	\$2,451	\$4,068	\$4,345	\$3,082	\$482	\$14,428
Winston	\$150	\$1,913		\$589		\$2,652
Wood Village		\$6,688	\$1,877			\$8,565
Woodburn	\$1,448	\$2,977	\$2,024	\$3,286	\$275	\$10,010
Yachats		\$4,650	\$3,003			\$7,653
Yamhill	\$3,023	\$1,697	\$3,295	\$300		\$8,315

Exhibit 49: SDC Rates by Jurisdiction and Infrastructure System, 2022

Source: FCS GROUP based on data from jurisdictions, with contributions from Galardi Rothstein Group and ECONorthwest

City	Parks	Sewer	Water	Transportation	Stormwater	Total
Aurora	\$2,205	\$2,032	\$5,543	\$2,740	\$160	\$12,680
Banks	\$2,535	\$6,625	\$4,999	\$17,920	\$585	\$32,664
Beaverton	\$11,787	\$6,625	\$9,354	\$9,998	\$1,252	\$39,016
Bend	\$9,544	\$5,667	\$6,355	\$9,269		\$30,835
Boardman		\$1,783	\$2,087			\$3,870
Brownsville		\$5,160	\$2,093		\$1,968	\$9,221
Cannon Beach	\$1,116	\$4,849	\$2,034		\$424	\$8,423
Carlton	\$2,142	\$8,832	\$8,740	\$4,210	\$2,295	\$26,219
Cave Junction		\$2,985	\$2,150			\$5,135
Central Point	\$2,445	\$3,142	\$3,267	\$2,326	\$514	\$11,695
Columbia City	\$2,019	\$5,764	\$4,292	\$4,575	\$388	\$17,038
Cornelius	\$4,471	\$5,732	\$9,449	\$9,998	\$1,910	\$31,560
Corvallis	\$7,755	\$4,963	\$1,573	\$3,357	\$226	\$17,874
Cottage Grove	\$2,476	\$996	\$4,938	\$2,166	\$904	\$11,481
Creswell	\$3,439	\$6,898	\$2,405	\$3,749	\$295	\$16,786
Culver		\$4,088			\$1,750	\$5,838
Dayton	\$100	\$7,564	\$4,242	\$1,125		\$13,031
Detroit	\$506		\$6,187		\$1,977	\$8,670
Donald	\$1,509	\$22,275	\$2,835	\$3,031	\$806	\$30,456
Drain		\$1,619	1650			\$3,269
Dufur		\$5,000	\$5,000			\$10,000
Eugene	\$5,424	\$2,553	\$2,276	\$3,489	\$733	\$14,475
Florence		\$5,507	\$4,396	\$1,063	\$2,527	\$13,493
Garibaldi	\$816	\$2,755	\$1,980	\$1,650	\$2,000	\$9,201
Gladstone	\$9,027	\$6,495	\$9,040		\$3,477	\$28,039
Glendale			\$2,040			\$2,040
Grants Pass	\$941	\$3,869	\$2,863	\$1,204	\$710	\$9,586
Gresham	\$4,694	\$7,055	\$5,305	\$4,589	\$1,344	\$22,987
Halsey		\$641	\$783		\$1,416	\$2,840
Hermiston	\$450	\$251	\$294	\$99		\$1,094
Hood River	\$5,064	\$1,056	\$1,786	\$3,703	\$756	\$12,365
Jefferson	\$4,262	\$3,971	\$4,979	\$75	\$105	\$13,392
Junction City	\$2,044	\$9,083	\$1,100	\$1,052		\$13,279
Klamath Falls	\$1,748	\$6,691	\$3,304	\$3,590		\$15,333
Lakeside		\$2,274	\$5,477			\$7,751
Lakeview	\$25	\$578	\$177	\$39		\$819
Lincoln City	\$2,446	\$4,475	\$2,423	\$850	\$75	\$10,269
Lowell	\$1,032	\$1,689	\$4,575	\$696	\$673	\$8,665
Madras	\$2,200	\$6,063	\$1,591	\$4,315	\$259	\$14,427
Manzanita	\$60	\$4,258	\$6,900		\$174	\$11,392
Maupin	\$500	\$3,000	\$1,000			\$4,500
Milton-Freewater	\$525	\$1,125	\$1,050			\$2,700

City	Parks	Sewer	Water	Transportation	Stormwater	Total
Monmouth	\$2,142	\$3,542	\$1,819	\$4,020	\$447	\$11,970
Mosier	\$1,495	\$4,104	\$3,866	\$4,154	\$1,499	\$15,118
Nehalem		\$4,258	\$3,235			\$7,493
Newberg	\$8,432	\$7,984	\$6,444	\$7,618	\$438	\$30,916
North Plains	\$8,823	\$6,625	\$11,615	\$19,621	\$585	\$47,269
Oakland		\$3,795	\$2,933			\$6,728
Ontario		\$481	\$975	\$1,288		\$2,744
Pendleton				\$1,775		\$1,775
Philomath	\$5,150	\$6,846	\$8,855	\$5,396	\$1,801	\$28,048
Port Orford		\$4,962	\$8,919			\$13,881
Portland	\$10,927	\$8,299	\$5,548	\$5,694	\$1,251	\$31,719
Prineville	\$3,600	\$2,629	\$5,141	\$4,848		\$16,218
Redmond	\$5,818	\$4,669	\$2,992	\$4,678		\$18,157
Riddle		\$3,000	\$2,327			\$5,327
Sandy	\$3,717	\$5,480	\$3,841	\$4,317		\$17,354
Scotts Mills			\$7,843			\$7,843
Seaside	\$1,699	\$4,882	\$2,873	\$444		\$9,898
Silverton	\$6,240	\$4,653	\$8,285	\$3,760	\$877	\$23,815
Stayton	\$3,478	\$2,697	\$3,620	\$2,927	\$3,216	\$15,938
Tangent	\$3,239	\$6,996		\$1,315	\$127	\$11,677
The Dalles		\$1,789	\$2,317	\$1,500	\$342	\$5,948
Tigard	\$11,225	\$6,625	\$10,853	\$18,206	\$641	\$47,550
Turner	\$1,969	\$3,094	\$3,682	\$2,122		\$10,867
Umatilla		\$1,858	\$1,544			\$3,402
Veneta	\$5,949	\$6,903	\$7,895	\$3,994	\$224	\$24,966
Waldport	\$648	\$4,448	\$4,590			\$9,686
West Linn	\$12,943	\$4,243	\$10,576	\$1,964	\$1,479	\$31,205
Westfir		\$5,298	\$3,225			\$8,523
Wilsonville	\$6,969	\$6,289	\$16,455	\$15,264	\$2,112	\$47,089
Winston	\$150	\$3,874		\$1,194		\$5,218
Wood Village	\$3,119	\$3,565	\$3,819			\$10,503
Woodburn	\$4,188	\$2,977	\$3,944	\$6,988	\$330	\$18,427
Yachats		\$7,648	\$4,939		\$1,642	\$14,229
Yamhill	\$3,348	\$3,867	\$6,496	\$2,136	\$1,781	\$17,628

Appendix E. Pro Forma Model Methodology

Contributors: ECONorthwest

ECONorthwest used a pro forma analysis to analyze SDC share of total development costs and the impacts of SDCs on the financial feasibility of new developments. This work typically involves researching market data based on past transactions, gathering inputs from the local development community, and understanding zoning and other regulatory requirements. A more robust research of input data helps build a more accurate model of development feasibility within local contexts.

However, many simplifying assumptions are made to develop a consistent approach that can capture different economic conditions across Oregon. The assumptions result in a few development examples called prototypes whose exact physical and financial characteristics are unlikely to be observed in all markets. Instead, the prototypes serve as representative examples of the categories of housing developments that are possible in Oregon. Analyzing the difference in model results generates key findings that are applicable across all housing types, beyond the few specific ones modeled through the prototypes.

It is not easy to create a single model for a statewide study that involves many varieties of housing markets. There are many geographic markets, and within each are markets for housing types. Some markets resemble each other, but unique circumstances of some markets are difficult to generalize or summarize with other markets. Although many variations and combinations of geographic markets and housing types are possible, seven geographic markets and seven housing types are selected for analysis.

To test the effects of different levels and structures of SDCs across housing markets and types, ECONorthwest used a pro forma analysis, which is a financial model that estimates the feasibility of a new real estate development based on the building's financial performance. Real estate professionals regularly use pro forma analysis to model the revenues and costs of potential developments, evaluate their returns, and understand sources of funding needed for a project to move forward. For the purposes of this study, pro forma analysis is an economic model that can demonstrate the impact of SDCs on potential business decisions that housing developers could face.

Geographic Markets

ECONorthwest modeled seven geographic categories of housing markets in Oregon. They are broad categories that reflect typical housing prices and construction costs across the cities that fall within each geographic region. The market context areas are:

1. **Willamette Valley:** Larger cities along Interstate 5, with some similar housing options within a local housing market. Does not include cities in the Portland Metro area.

2. **Small Cities:** Smaller cities along Interstate 5 or remotely located in eastern Oregon. Relatively stagnant growth, lower demand, and lower land costs are observed in comparison to other market context areas.
3. **Coast:** Coastal cities with many vacation rentals and second homes.
4. **Metro Low:** Suburban cities and neighborhoods in the Portland Metro area with moderate demand for new housing and limited production of new housing.
5. **Metro Mid:** Suburban cities and neighborhoods in the Portland Metro area with relatively strong demand for new housing and, sometimes, large tracts of planned developments.
6. **Metro High:** More exclusive neighborhoods in the Portland Metro area with higher prices and relatively few options for new housing.
7. **Cascades:** Cities east of the Willamette Valley that experienced a strong level of housing demand and production in recent years.

The values used for each geographic market are not intended to represent a specific city, and average housing prices and costs vary by city. Rather, the values are representations of likely values observed across many parts of the geographic market. Moreover, specific economic conditions in some cities or neighborhoods could mean that they resemble the market conditions of a geographic market category that is outside the geographic location. Therefore, the presented data should be interpreted as data “commonly observed in a city like cities in X market.”

ECONorthwest defined the geographic markets based both on their geography and on economic factors including relative size of market for new housing, competitiveness or tightness of housing market, substitutability of new housing, and price of vacant parcels that could be developed with new housing. Market size is related to the population of a city or a few adjacent cities where a potential homebuyer or renter could consider relocating to. Substitutability is related to the presence (and production) of similar alternatives for new housing within a market, as previously described in the review of academic literature. Exhibit 50 and Exhibit 51 summarize the factors and the markets.

The evaluation of factors that defined the geographic markets were based on a relative comparison of cities within Oregon. While some cities are producing more housing than others, housing production across the state generally does not match the demand for them and contributes to the lack of housing affordability.

Exhibit 50. Characteristics of Geographic Markets in Oregon

Source: ECONorthwest

	Willamette Valley	Small Cities	Coast	Metro Low	Metro Mid	Metro High	Cascades
Market Size	Large	Small	Small	Medium	Large	Small	Medium
Competitiveness (Demand)	Moderate	Low	Moderate	Moderate	High	Very High	High
Substitutability (Production)	Moderate	Low	Low	Low	High	Low	Moderate
Land Price	Moderate	Low	Low	Moderate	Moderate	High	High

Exhibit 51. Comparison of Competitiveness and Substitutability in Oregon's Geographic Markets

Source: ECONorthwest



Housing Types

ECONorthwest modeled seven housing types: two scales of a three-story apartment building, two townhouses, and three different sizes of detached single-family units. These housing types are based on new housing types that are likely to occur in all or most of the geographic markets. They do not include taller apartments because they are unlikely to be built in less populated cities, and they do not include single-family dwellings on larger lots because they are unlikely to be built in urban areas where buildable land is scarcer.

Physical Assumptions by Housing Type

The following is a more detailed description of the prototypes, and a summary is provided in Exhibit 52.

- Low-Rise Apartment is a three-story building with 55 units on an acre. Landscape covers 20% of the lot. The average leasable unit size is 738 sq. ft. It has 55 surface parking stalls.
- Garden Apartment is a three-story building with 120 units on four acres. Landscape covers 42% of the lot. The average leasable unit size is 811 sq. ft. It has 180 surface parking stalls.
- Townhouse prototypes are 1,500-sq.-ft. units with 2,400 sq. ft. of site area per unit. They are two-story structures with a one-car garage for each unit. One prototype is a rental unit, and the other is an ownership unit.

- Small Single-Family is a 1,550-sq.-ft. unit on a lot measuring 4,800 sq. ft. It has a one-car garage.
- Medium Single-Family is a 2,000-sq.-ft. unit on a lot measuring 6,500 sq. ft. It has a two-car garage.
- Large Single-Family is a 2,650-sq.-ft. unit on a lot measuring 6,500 sq. ft. It has a two-car garage and a higher finish quality.

Exhibit 52. Summary of Physical Features of Prototypes

Source: ECONorthwest

Example Housing Type	Building Height (Floors)	Density (Units per Acre)	Average Unit Size (Square Feet)	Parking
Low-Rise Apartment	3	55.0	738	1.0 Stalls per Unit (surface parking)
Garden Apartment	3	30.0	811	1.5 Stalls per Unit (surface parking)
Townhouse	2	18.2	1,500	Single-Car Garage
Small Single-Family	2	9.1	1,550	Single-Car Garage
Medium Single-Family	2	6.7	2,000	Two-Car Garage
Large Single-Family	2	6.7	2,650	Two-Car Garage

Two scales of apartments—**Low-Rise Apartment** and **Garden Apartment**—are included to demonstrate how the impact of SDCs on development feasibility vary by residential density. The review of academic literature revealed that developers of apartments are unlikely to increase unit sizes to spread out the fixed cost of SDCs that are applied per unit. The notion is tested with two housing types that have the same land cost and building height but a different unit mix, residential density, and parking ratio. The average unit size in Low-Rise Apartment is smaller, but it has more units than Garden Apartment. Low-Rise Apartment allows for 1.0 parking stall per unit, whereas Garden Apartment allows for 1.5 parking stalls per unit.

Two versions of townhouses demonstrate the relationship between SDCs and tenure. The two modeled buildings have the same physical form (thus the same development costs), but their tenure is different (i.e., **Townhouse Rental** and **Townhouse Ownership**).

Three different sizes of detached single-family units demonstrate how the impact of SDCs vary with unit size and lot size. All are ownership units. **Medium Single-Family** serves as a reference point. **Small Single-Family** has a smaller unit size and lot size. Because it has a higher residential density, it is effectively the same test as the test for apartments. **Large Single-Family** has a large unit size on the same lot (thus no change in residential density). It tests the assertion made in the review of academic literature that spreading SDCs over a larger unit size is preferred because it reduces cost per square foot.

Financial Assumptions by Housing Type

Exhibit 53 summarizes the total development costs for each geographic market and housing type used in the model (rounded to the nearest thousand). Total development costs include construction labor and material (called “hard costs”), land costs, and “soft costs” such as design and engineering, project management, financing, permits, and fees. They do not include SDCs

or profit margins (investor returns) since those are key variable inputs and outputs of the analysis. Land costs are based on recent transactions of small, vacant lots recorded on Redfin. Cost indices from RSMMeans and 2022 National Building Cost Manual¹³⁸ are used to differentiate the construction costs across markets. Within each market, the construction costs of all prototypes are based the same kitchen, bathroom, and bedroom costs per square foot of building area; garage cost; surface parking cost; parking ratio; driveway cost; and landscape cost.

Exhibit 53. Total Development Cost Per Unit, Excluding SDCs

Source: ECONorthwest

	Willamette Valley	Small Cities	Coast	Metro Low	Metro Mid	Metro High	Cascades
Low-Rise Apartment	\$172,000	\$155,000	\$170,000	\$191,000	\$199,000	\$226,000	\$200,000
Garden Apartment	\$200,000	\$175,000	\$194,000	\$219,000	\$233,000	\$283,000	\$255,000
Townhouse Rental	\$293,000	\$253,000	\$282,000	\$317,000	\$341,000	\$424,000	\$384,000
Townhouse Ownership	\$293,000	\$253,000	\$282,000	\$317,000	\$341,000	\$424,000	\$384,000
Small Single-Family	\$353,000	\$385,000	\$325,000	\$371,000	\$419,000	\$583,000	\$544,000
Medium Single-Family	\$479,000	\$387,000	\$442,000	\$503,000	\$568,000	\$791,000	\$737,000
Large Single-Family	\$570,000	\$474,000	\$535,000	\$607,000	\$672,000	\$895,000	\$826,000

Typical SDCs in each market used in the analysis are summarized in Exhibit 54. The single-family SDCs are determined by calculating the average SDC rate in the 2022 SDC rate data collected by FCS GROUP. Townhouse SDCs are 90 percent of single-family SDCs. Multifamily SDCs are 66 percent of single-family SDCs.

Exhibit 54. Typical SDCs

Source: ECONorthwest, FCS GROUP

	Willamette Valley	Small Cities	Coast	Metro Low	Metro Mid	Metro High	Cascades
Low-Rise Apartment	\$13,002	\$5,676	\$6,930	\$16,500	\$29,304	\$32,208	\$12,144
Garden Apartment	\$13,002	\$5,676	\$6,930	\$16,500	\$29,304	\$32,208	\$12,144
Townhouse Rental	\$17,730	\$7,740	\$9,450	\$22,500	\$39,960	\$43,920	\$16,560
Townhouse Ownership	\$17,730	\$7,740	\$9,450	\$22,500	\$39,960	\$43,920	\$16,560

¹³⁸ Moselle, Ben. 2022 National Building Cost Manual. 46th Edition. Carlsbad, CA: Craftsman Book Company, 2022.

	Willamette Valley	Small Cities	Coast	Metro Low	Metro Mid	Metro High	Cascades
Small Single-Family	\$19,700	\$8,600	\$10,500	\$25,000	\$44,400	\$48,800	\$18,400
Medium Single-Family	\$19,700	\$8,600	\$10,500	\$25,000	\$44,400	\$48,800	\$18,400
Large Single-Family	\$19,700	\$8,600	\$10,500	\$25,000	\$44,400	\$48,800	\$18,400

To reflect the realities of each housing market, the model uses different prices, rents, and costs for each market and prototype. ECONorthwest collected price and rent data as well as some data on the physical dimensions of the prototypes from CoStar and Redfin using representative samples of recently built and transacted housing. Exhibit 55 summarizes the monthly rents (rounded to nearest ten) and sales prices (rounded to nearest thousand) for each geographic market and housing type used in the model. A consistent vacancy rate and operating expense ratio (as a percentage of rent) are used for rental prototypes.

Exhibit 55. Market Rents and Prices

Source: ECONorthwest

	Willamette Valley	Small Cities	Coast	Metro Low	Metro Mid	Metro High	Cascades
Low-Rise Apartment	\$1,500	\$1,030	\$1,110	\$1,660	\$1,770	\$2,040	\$1,900
Garden Apartment	\$1,570	\$1,090	\$1,170	\$1,770	\$1,870	\$2,180	\$1,980
Townhouse Rental	\$2,090	\$1,610	\$1,860	\$2,760	\$2,780	\$3,500	\$2,900
Townhouse Ownership	\$384,000	\$278,000	\$390,000	\$389,000	\$512,000	\$675,000	\$558,000
Small Single-Family	\$448,000	\$334,000	\$454,000	\$488,000	\$641,000	\$854,000	\$675,000
Medium Single-Family	\$558,000	\$418,000	\$612,000	\$597,000	\$742,000	\$1.04 million	\$831,000
Large Single-Family	\$727,000	\$524,000	\$797,000	\$678,000	\$897,000	\$1.35 million	\$1.09 million

Full Results for SDC Share of Total Development Costs

Section 4.3.2 presented the variation in SDC share of development costs across the state for three markets with different levels of development costs. The three markets are a shorter list of seven market context areas that were analyzed for this report. Exhibit 56 compares the typical development costs and per-unit SDC amounts in the seven markets.

For each market context area, ECONorthwest calculated an average of single-family SDC rates reported in the 2022 LOC survey by FCS GROUP. The townhouse SDC rates are 90 percent of the single-family SDC rates. The multifamily SDC rates are 66 percent of the single-family SDC rates.

Exhibit 57 shows the SDC share of development costs. Depending on the housing type and the market, the SDC share of development costs can range from 1.8 percent to 12.8 percent in Oregon.

Exhibit 56. SDCs and Other Development Costs, By Market Context Area and Housing Type

Source: ECONorthwest

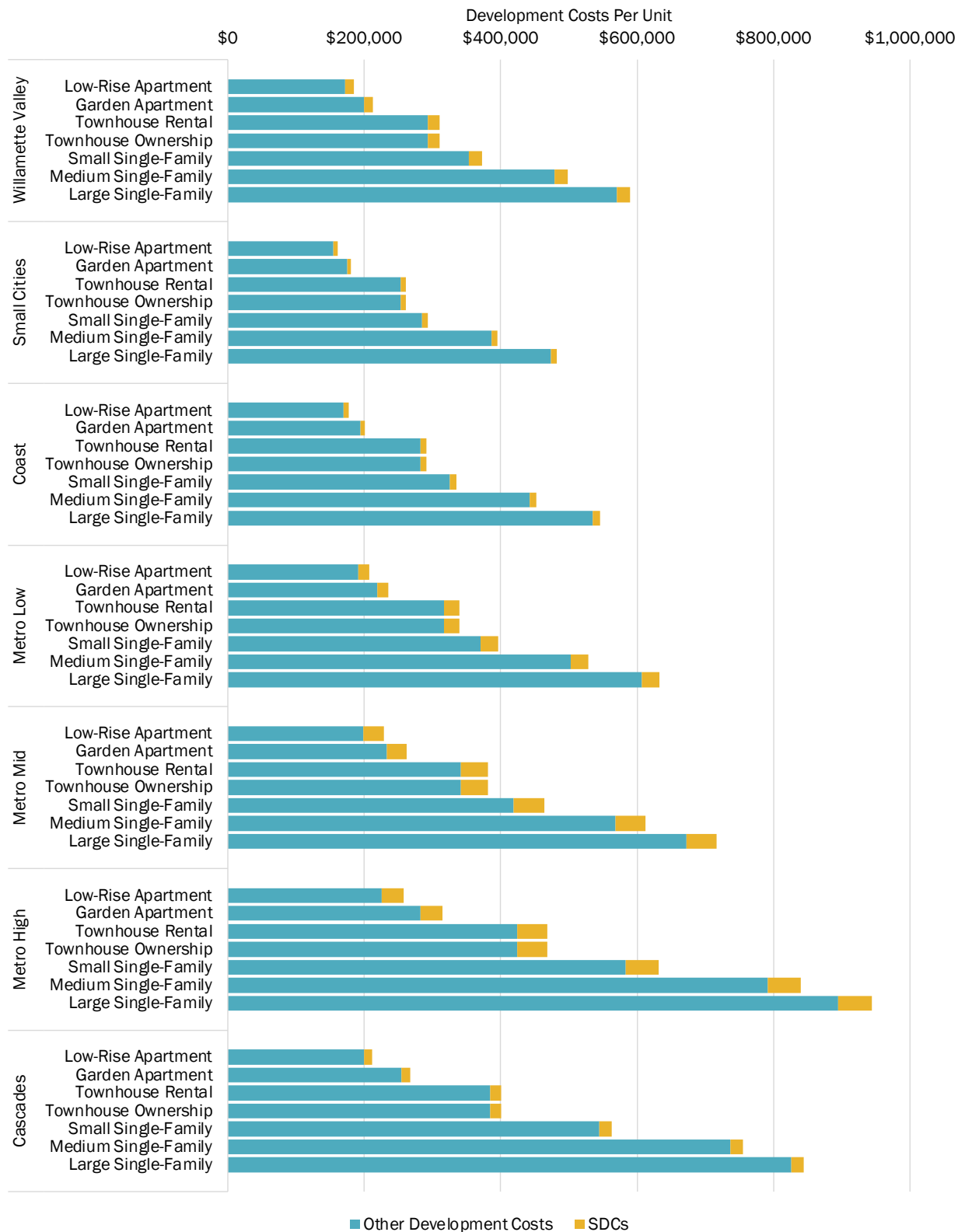
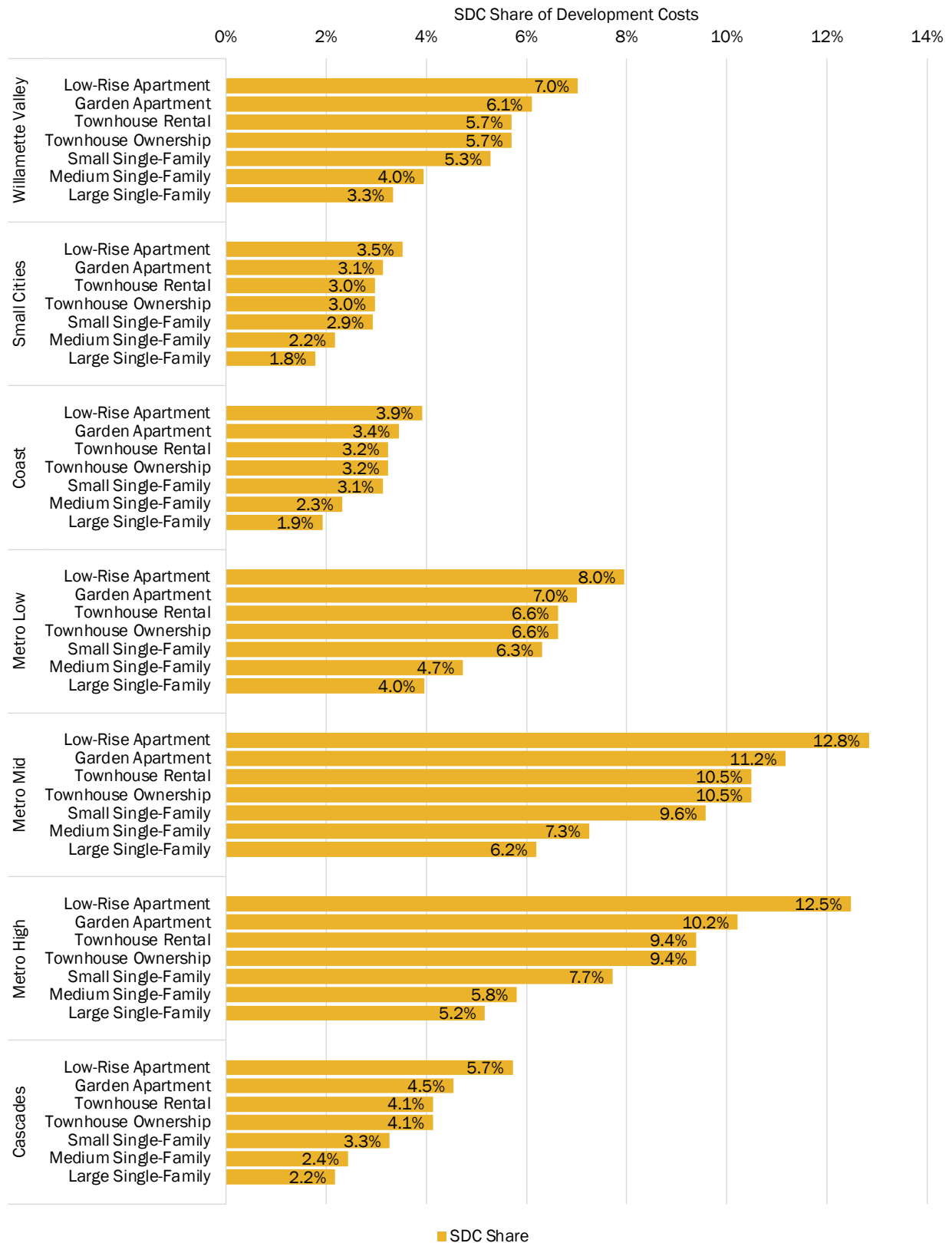


Exhibit 57. SDCs Share of Total Development Costs, By Market Context Area and Housing Type

Source: ECONorthwest



Key Assumptions for Feasibility Evaluation

The key output of the pro forma model is investor returns, and how they change with the amount or structure of SDCs. Although there are many methods to calculate and measure investor returns, the metric selected for this study is internal rate of return (IRR). IRR is a commonly used financial metric in the real estate industry to estimate the profitability of real estate investments. It is a form of discount rate and measured in percentage points. The feasibility analysis includes a cash flow model with expenses and sales related to housing construction occurring at different points in time. A 3 percent annual escalation is assumed for costs, rents, and prices. A two percent annual escalation for operating expenses. All units are assumed to be fully occupied at the end of the analysis period.

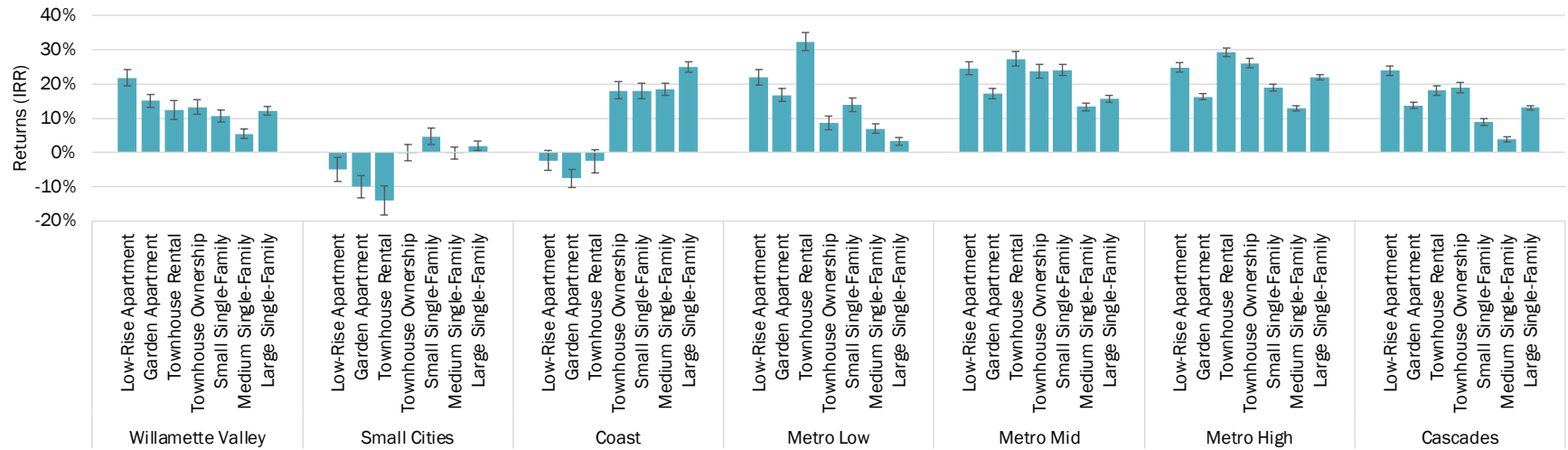
To estimate the impact of SDCs on development feasibility, ECONorthwest estimated the change in IRR resulting from fixed changes in SDC amounts. The amounts are \$10,000 for single-family, \$9,000 for townhouse, and \$6,600 for multifamily across all markets. More specifically, ECONorthwest measured the percentage point change in IRR when the modeled per-unit SDC amount for a single-family unit is reduced from \$15,050 to \$5,050 or increased from \$15,050 to \$25,050, and when then SDC amount for townhouse and multifamily units are adjusted accordingly.

Exhibit 58 illustrates the results of the feasibility calculations. The sizes of the bars indicate the IRR with a \$15,050 SDC per single-family unit, a \$13,545 SDC per townhouse unit, and \$9,933 SDC per multifamily unit. The error bars indicate the difference in IRR from the specified change in SDC amount, all else equal. The absolute change in IRR, or about half of the size of the error bars, is the estimates represented in Exhibit 33 and Exhibit 34 (Section 4.4.1).

The wide range of the IRR estimates are partly due to the simplifying assumptions made to develop a consistent approach that can capture different economic conditions across Oregon. Realistically, the types and specific characteristics of housing units that market-rate developers would pursue differ by geographic markets and site-specific conditions. Moreover, the \$15,050 baseline for the single-family SDC amount and the \$10,000 change are also simplifying assumptions designed to produce analytical results rather than predict market activity.

Exhibit 58. Feasibility Analysis Results

Source: ECONorthwest



Appendix F. Literature Review

Contributors: ECONorthwest

ECONorthwest reviewed the following list of peer-reviewed and published academic literature for this report.

- Baden, Brett M., and Don L. Coursey. *An Examination of the Effects of Impact Fees on Chicago's Suburbs*. University of Chicago, Irving B. Harris Graduate School of Public Policy Studies, 1999.
- Burge, Gregory. "The Capitalization Effects of School, Residential, and Commercial Impact Fees on Undeveloped Land Values." *Regional Science and Urban Economics* 44 (2014): 1-13.
- Burge, Gregory, and Keith Ihlanfeldt. "Impact fees and single-family home construction." *Journal of Urban Economics* 60, no. 2 (2006): 284-306.
- Coutts, Christopher, Sang-Seok Bae, Sung-Wook Kwon, Sang-Chul Park, and Richard Feiock. "Development Impact Fees: A Vehicle or Restraint for Land Development?." *Journal of Local Self-Government* (2015): 1047-1065.
- Delaney, Charles J., and Marc T. Smith. "Impact Fees and the Price of New Housing: An Empirical Study." *Real Estate Economics* 17, no. 1 (1989): 41-54.
- Dresch, Marla, and Steven M. Sheffrin. *Who Pays for Development Fees and Exactions?*. Public Policy Instit. Of CA, 1997.
- Evans-Cowley, Jennifer S., Fred A. Forgey, and Ronald C. Rutherford. "The Effect of Development Impact Fees on Land Values." *Growth and Change* 36, no. 1 (2005): 100-112.
- Ihlanfeldt, Keith R., and Timothy M. Shaughnessy. "An Empirical Investigation of the Effects of Impact Fees on Housing and Land Markets." *Regional Science and Urban Economics* 34, no. 6 (2004): 639-661.
- Lawhon, Larry L. "Overcoming Potential Exclusivity Associated With Impact Fees: Loveland, Colorado's 30-Year Experience in Development Impact Fees." *Journal of Architectural and Planning Research* (2015): 217-233.
- Mathur, Shishir. "Do All Impact Fees Affect Housing Prices the Same?." *Journal of Planning Education and Research* 33, no. 4 (2013): 442-455.
- Mathur, Shishir, Paul Waddell, and Hilda Blanco. "The Effect of Impact Fees on the Price of New Single-family Housing." *Urban Studies* 41, no. 7 (2004): 1303-1312.

Mayer, Christopher J., and C. Tsurriel Somerville. "Land Use Regulation and New Construction." *Regional Science and Urban Economics* 30, no. 6 (2000): 639-662.

Singell, Larry D., and Jane H. Lillydahl. "An Empirical Examination of the Effect of Impact Fees on the Housing Market." *Land Economics* 66, no. 1 (1990): 82-92.

Skaburskis, Andrejs, and Mohammad Qadeer. "An Empirical Estimation of the Price Effects of Development Impact Fees." *Urban Studies* 29, no. 5 (1992): 653-667.

Skidmore, Mark, and Michael Peddle. "Do Development Impact Fees Reduce the Rate of Residential Development?." *Growth and Change* 29, no. 4 (1998): 383-400.

Exhibit 59 is a summary of ECONorthwest's review of the literature.

Exhibit 59. Summary of Empirical Studies on Impact Fees

Source: ECONorthwest

Author(s) (Publication Year)	Data Year	Location	Context	Outcome Variable and Methodology	Results
Delaney and Smith (1989)	1971 to 1982	Dunedin, FL	Coastal city near Tampa	Housing price (new single-family) in Dunedin compared to three other cities in the same county before and after fee adoption	Increase in housing prices was greater than in nearby cities with no or minimal impact fees. Suggests the total cost of fee is passed on to new homebuyers.
Singell and Lillydahl (1990)	1983 to 1985	Loveland, CO	Fast economic growth during 1970s. Impact fee in adopted in 1984	Housing price (new and existing units) before and after fee adoption	New housing prices were higher by 3 times the fee for new housing and 6 times the fee for existing housing.
Dresch and Sheffrin (1997)	1992 to 1996	Contra Costa County, CA	Declining economic conditions, particularly in eastern county	Housing price (new and existing units) across the county leveraging within- county variation in fee amount	Impact fee is associated with higher housing prices—by 25% of fee in eastern county and 188% of fee in western county.
Baden and Coursey (1999)	1995 to 1997	8 suburb cities near Chicago, IL	Fast economic growth during 1980s	Housing price (new and existing units) in suburban cities. Impact fee amounts vary across the cities	Price of new housing is higher by 70- 120% of the impact fee.
Mathur, Waddell, and Blanco (2004)	1991 to 2000	King County, WA	Period of rapid economic growth. Cities with impact fees grew from 2 in 1994 to 14 in 2000	Housing price (new single-family) in cities with different fee amounts, controlling for year sold and other factors	166% of the fee amount is reflected in prices of new units.
Mathur (2013)	1991 to 2000	King County, WA	Period of rapid economic growth. Cities with impact fees grew from 2 in 1994 to 14 in 2000	Housing price (single- family), correlation with impact fees	Impact fee is positively correlated with single-family housing prices.

Author(s) (Publication Year)	Data Year	Location	Context	Outcome Variable and Methodology	Results
Skidmore and Peddle (1998)	1977 to 1992	DuPage County, IL	Fast growing suburb of Chicago	New residential construction (single- family and multifamily), comparing cities with and without impact fees	Impact fee is correlated with 25% reduction in residential development.
Mayer and Somerville (2000)	1985 to 1996	44 U.S. metro areas	Urban cities across U.S.	New residential construction (single- family), correlation with presence of impact fees	Up to 45% less construction starts observed in metro areas with more regulations.
Burge and Ihlanfeldt (2006)	1993 to 2003	FL (statewide)	Nearly two-thirds of Florida's counties have impact fees.	New residential construction, correlation with presence of impact fees in a given year	Impact fee for public services (excluding water and sewer) is correlated with increase in residential construction.
Skaburskis and Qadeer (1992)	1977 to 1986	Toronto	City's growth period varied during the study period.	Land price of vacant subdivision lots, correlation with impact fees	Impact fee is associated with higher land prices for vacant subdivision lots by 120% of the fee.
Ihlanfeldt and Shaughnessy (2004)	1985 to 2000	Dade County, FL	Impact fee since 1989	Undeveloped land price (new and existing units), correlation with impact fees	Housing prices are higher by 160% of the fee. Land prices are lower by 100% of the fee.
Evans-Cowley, Forget, and Rutherford (2005)	1997	Texas (43 cities in Austin, Dallas, Fort Worth, and Houston metro areas)	Cities of various sizes in Texas that have impact fees	Land price (Vacant and developed lots), correlation with impact fees, controlling for population growth among other factors	1.3% higher lot values for each \$1,000 of impact fees.
Burge (2014)	1994 to 2009	FL (statewide)	Impact fees for different kinds of infrastructure	Value of developable land parcels, correlation with impact fees	School impact fee is negatively correlated with value of residentially zoned land and positively correlated with commercially zoned. Water and sewer impact fee is negatively correlated with residentially zoned land value.

Author(s) (Publication Year)	Data Year	Location	Context	Outcome Variable and Methodology	Results
Bae, Kwon, Coutts, Park, and Feiock (2015)	1998 to 2007	FL (statewide)	Nearly two-thirds of Florida's counties have impact fees	Value of developable land parcels, correlation with impact fees	Impact fee is positively correlated with value of developable land parcels.
Lawhon (2015)	1960 to 2010	Loveland, CO	Period of rapid population growth	Number of rental units per nonwhite resident and annual MFI over time in Loveland and nearby towns	Impact fee is not significantly correlated with either outcome variable.

Appendix G. Case Study Methodology

Contributors: ECONorthwest

ECONorthwest identified several recent developments in Washington County that provide an opportunity to examine an example of the relationship between SDCs and housing prices within Oregon. Each development faced different SDC costs, but all compete within the same subregional housing market. ECONorthwest considered three areas that were recently brought into the Portland Metro urban growth boundary (UGB): South Cooper Mountain in the City of Beaverton, South Hillsboro in the City of Hillsboro, and River Terrace in the City of Tigard.

Study Areas

South Cooper Mountain is a 544-acre area that was brought into the UGB in 2011 and became part of Beaverton in 2013. The area sits at the far southwest edge of the city, along the border with Tigard. The community plan for South Cooper Mountain includes a mix of high-density, medium-density, and low-density residential areas to create a walkable, bikeable, and family-friendly neighborhood with a variety of housing options.

South Hillsboro includes 1,400 acres of farms, open space, and developed land at the southeastern edge of Hillsboro, along the border with Aloha. This area was brought into the regional UGB over several years, with the largest piece—1,062 acres—added in 2011. The South Hillsboro Community Plan approved in 2015 creates a new town center along Tualatin Valley Highway and a smaller village center, both with high-density housing, commercial, and retail spaces. The rest of the plan area includes a mix of apartments, townhomes, and lower-density housing and a network of open spaces linked by a trail system.

River Terrace is a 490-acre area just south of South Cooper Mountain that was added to the UGB in 2002 and 2011 and incorporated into the City of Tigard in 2014. The community plan for River Terrace envisions a primarily medium-density neighborhood of about 2,300 homes with one commercial core and a network of open spaces and parks.

SDCs in the Study Areas

Exhibit 60 summarizes the SDCs applied to single-family construction in South Cooper Mountain, South Hillsboro, and River Terrace (“growth areas”) and the standard citywide rates applicable to adjacent developments that are not part of the growth area.¹³⁹

Exhibit 60. System Development Charges for Detached Single-Family Housing, 2021

Source: City of Beaverton, City of Hillsboro, City of Tigard, and Washington County.

	Beaverton		Hillsboro		Tigard	
	Standard	Growth Area	Standard	Growth Area	Standard	Growth Area
Clean Water Services and County SDCs						
Sewer*	\$6,085		\$6,085		\$6,085	
Stormwater*	\$1,252		\$585		\$585	
Transportation**	\$9,623		\$9,623		\$9,623	
City-Specific SDCs						
Parks	\$11,787***		\$6,577	\$12,177	\$10,345	\$10,903
Transportation	-	\$8,826	-	\$13,523	\$7,076	\$10,348
Water	\$9,193		\$11,035		\$10,095	
Total	\$37,940	\$46,767 (+23%)	\$33,905	\$53,030 (+56%)	\$43,809	\$47,640 (+9%)

* Connection charges for Clean Water Services

** Transportation Development Tax for Washington County

*** Parks SDC from Tualatin Hills Park and Recreation District (THPRD)

Regression Model

ECONorthwest employed a linear regression model to analyze the relationship between SDCs and housing prices within the Portland metro area housing market, specifically in three cities in Washington County with recent urban growth areas. The data in the model are based on transaction data of home sales in each of the urban growth areas and in nearby neighborhoods with similar housing and access to transportation and retail amenities.

ECONorthwest created a dataset using property transaction data from Redfin. ECONorthwest analyzed sales transactions between January 2017, when the new construction in urban growth areas appeared on the market, and February 2022. This dataset included 1,519 unique properties in Washington County. ECONorthwest filtered the data to include only detached single-family units. Each observation was categorized as either within an urban growth area or in a comparison area. Each property was assigned an estimated total SDC amount based on the total SDC rates of each jurisdiction and the supplemental SDCs for units in urban growth areas.

¹³⁹ Beaverton, Hillsboro, and Tigard adjust their SDCs annually using the Seattle Construction Cost Index — an inflation index — published by Engineering News-Record. Each city uses the data from a different month to set their updated fees. This table records fees at the start of the fiscal year in July 2021.

ECONorthwest adjusted the SDC rates to one year prior to construction to approximate rates at the time of permitting, using the *Engineering News Record's* Construction Cost Index for Seattle.¹⁴⁰ Finally, parcel sizes were joined from the Metro RLIS database and outliers were filtered out, for a total of 974 observations. The distribution of these observations by location is summarized in Exhibit 61.

Exhibit 61. Distribution of Observations in the Dataset by Location

Source: ECONorthwest, Redfin

Development Area	
Growth Area	689
Comparison Area	285
Total	974
City	
Beaverton	172
Hillsboro	467
Tigard	335
Total	974

ECONorthwest created three regression models to understand the relationship between aspects of development costs, location, amenities, and housing prices. Exhibit 62 summarizes the results of these analyses. The first model tested the per dollar relationship between SDCs and the price per square foot of a detached single-family unit. The results of this model indicate that for every dollar of SDCs, all else being equal, the price per square foot of a unit is higher by \$0.0007. In other words, \$10,000 in SDCs is related to about \$7 higher housing price per square foot. A second model tested the impact of location inside an urban growth area on housing prices. The results of this regression indicate that units inside urban growth areas sold for \$14.69 per square foot more than units outside of these growth areas, all else being equal. ECONorthwest also tested the effects of SDCs within each city. These city-specific analyses generally supported the findings of the first two models: Higher SDCs correlate with higher prices per square foot and prices per square foot are generally higher inside urban growth areas. However, the results are not reported in Exhibit 62 because there were not enough observations in the dataset for all the results of the third model to be statistically significant.

The regression models were able to explain about 74.4 to 75.4 percent of the variance in the dependent variable. In addition to the positive correlation between total SDCs and price per square foot, ECONorthwest also observed positive correlations between price per square foot and newer houses and a negative correlation with total square footage. This negative correlation is expected, the total development costs can be spread out across a greater unit size. While this linear model does capture some important relationships, it does not account for nonlinear phenomena such as construction costs, or the economies of scale that a developer might achieve when building a planned development.

¹⁴⁰ This index is the method by which the City of Beaverton, the City of Hillsboro, and the City of Tigard adjust their SDC rates each year.

Exhibit 62. Summary of Linear Regression Results

Source: ECONorthwest

	Model 1	Model 2
	Coefficient (p-value)	
Total SDCs (dollars)	0.0007 (0.000)	-
Year Sold	13.7188 (0.000)	13.6446 (0.000)
Square Feet	-0.0470 (0.000)	-0.0480 (0.000)
Lot Size (square feet)	0.0096 (0.000)	0.0101 (0.000)
Number of Bedrooms	-5.329 (0.000)	-4.697 (0.000)
Number of Bathrooms	0.0456 (0.983)	0.557 (0.789)
Growth Area Development	-	14.6935 (0.000)
R ²	0.744	0.754

To help interpret the results of the regression models, ECONorthwest created a prototypical house with features frequently observed across all three cities. Exhibit 63 summarizes the features of this prototype. ECONorthwest applied the results of the primary regression model to this prototype to understand the relationship between SDCs of different amounts and a standardized detached home.

Exhibit 63. Housing Prototype Characteristics

Source: ECONorthwest

Feature	Value
Square Feet	2,400
Year Sold	2022
Year Built	2022
Beds	4
Baths	2.5
Lot Size (sq. ft)	4,500

Model 1 predicts that a \$10,000 difference in SDCs for this prototypical single-family unit would be associated with a \$16,800 higher sale price. Model 2 predicts that being in a growth area would be associated with roughly a \$35,260 higher sale price for this example home.

Appendix H. Testimony on HB 3040 Related to Timing of SDC Payment

Contributors: Galardi Rothstein Group

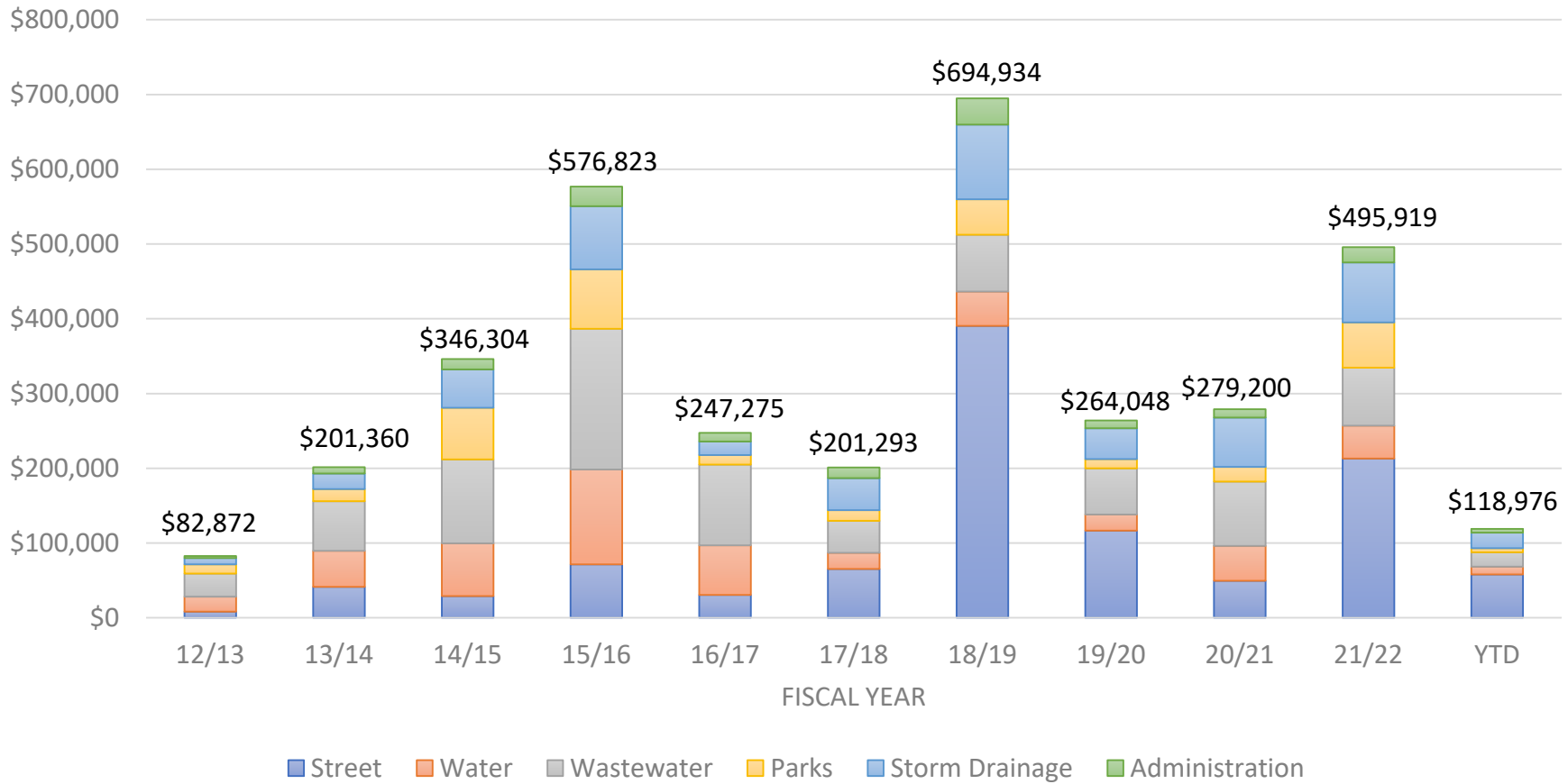
Exhibit 64. Testimony on House Bill 3040 Related to Timing of SDC Payments

Source: Summarized by ECONorthwest

File	Author	Testimony
16223	Unknown	Deferrals are an option for the local government.
16313	City of Wilsonville	Local governments should not be forced to defer SDCs or provide financing to developers.
16477	Multiple local governments	“Interest savings from delaying a SDC payment are minimal.”
16483	City of Cave Junction	“Deferring SDC charges would raise our administrative costs because we do not have the resources or capacity to track when a sale happens and then follow through with the SDC collection process. Where is the consequence if a new owner homeowner doesn’t pay the SDC charges? This bill puts the burden unfairly on the city.”
16512	City of Irrigon	“It should be up to each local jurisdiction if they want to defer collection . . . Deferring for a time after closing . . . shows that the state is in cooperation and working with developers and big businesses, not buyers or local governments.”
16567	Tualatin Hills PRD	Required deferrals would “come at a substantial cost and risk to local government.”
16571	City of Springfield	Required deferrals would “unnecessarily limit our ability to determine the timing of SDCs.”
16588	City of Gresham	Required deferrals “would create additional administrative burden” for the City.
16608	Special Districts Association of Oregon	Required deferrals would impose costs on local governments with no guarantee of savings for homebuyers.
16650	City of Hillsboro	Required deferrals would increase administrative burden.
16659	City of Portland	Local governments should continue to have the flexibility to determine the timing of SDC payments.
16664	Multnomah County	“Requiring that SDCs be assessed when a certificate of occupancy is issued or at the point of sale would make it difficult, if not impossible, for local governments to ensure collections from non-paying developers. Furthermore, this bill does not require that developers pass on cost savings to homebuyers or reduce housing prices.”
16690	Jim Brewer (affiliated with multiple cities)	Proposed deferral provisions are poorly worded and would have unintended consequences.
16694	City of Independence	“Changing the collection date will result in small savings on interest for developers and increase costs for local governments.”
16777	Metropolitan Wastewater Management Commission	Required deferrals would increase costs for ratepayers.
16819	Oregon Association of Clean Water Agencies	Required deferrals would increase costs for ratepayers.

File	Author	Testimony
16964	Unknown	“Changing the collection date will result in small savings on interest for developers and increase costs for local governments.”
17156	City of Prineville	Required deferrals would “not be effective in achieving the overarching goal of supporting affordable housing.”
17195	City of Sherwood	Required deferrals would impose costs on local governments with no guarantee of savings for homebuyers.
17208	City of Eugene	“Local governments are not involved in private property transactions and this requirement would result in an excessive burden on local governments to track real estate transactions to ensure that the public fees, which a project owes, are paid. Additionally, it is unclear how payment deferral for commercial and industrial developments assists with affordable housing.”
17407	Oregon Building Officials Association	“Tying SDC payment to ‘time of sale’ would create additional administration and local government involvement in a part of the process the local government has thus far been removed from, create a dramatic loss of efficacy because the local government would need to audit unsold properties continually until they sold and their associated SDC payments were verified, and place the local government in the ‘no-win’ position to create additional enforcement, potentially against the new homeowner, if the fees were not paid upon sale.”
17423	Metropolitan Mayors’ Consortium	Proposed provisions preempt local authority.
17430	American Planning Association Oregon Chapter	Deferral of SDCs should be at the discretion of the local government.
17433	Washington County	Required deferrals would “leave the County with a significantly higher administrative burden.”

City of Newport System Development Charge Revenues



Tentative Planning Commission Work Program

(Scheduling and timing of agenda items is subject to change)



July 11, 2022

Work Session

- Potential Code Revisions for Short-Term Rental Work Group Consideration
- Working Draft of Camping Ordinance Being Developed for the City Council

July 25, 2022

Regular Session

- Public Hearing File No. 2-Z-22 - 1-CP-22 South Beach Commercial - Industrial Amendments

August 8, 2022

Work Session

- Final Scope of Work for TGM Funded City Center Revitalization Project
- Review Updates from Hearing #1 to South Beach Commercial - Industrial Amendments
- Review Updated Camping Ordinance (non-land use)

August 22, 2022

Work Session

- Housing Study - Residential Land Needs Recommendation
- Review Final Draft of Yaquina Head Traffic Study

August 22, 2022

Regular Session

- Public Hearing #2 File No. 2-Z-22 - 1-CP-22 South Beach Commercial - Industrial Amendments
- Initiate Legislative Amendments to Adopt Yaquina Head Traffic Study

September 12, 2022

Work Session

- Housing Study – Overview of the Constructability Assessment
- Yaquina Bay Estuary Management Plan - Needs and Gap Assessment

September 26, 2022

Work Session

- Discuss Priorities for Special Parking Area Code Changes
- Camping Related Land Use Amendments (Council hearing on other camping changes 10/3)

October 10, 2022

Work Session

- Identify Candidates for City Center Revitalization Project Stakeholder/Advisory Committees
- Final Recommendation from STR Work Group

October 10, 2022

Regular Session

- Public Hearing on File 2-CP-22 to Adopt Yaquina Head Traffic Study

October 24, 2022

Regular Session

- File 3-NCU-22 Request by NW Natural for Electrical Equipment at the LNG Plant
- Review of Draft Oregon Housing and Community Services Draft SDC Study (Informational)

November 14, 2022

Joint Council / Commission Work Session on Housing Study

November 14, 2022

Regular Session

- File 2-CUP-22-A Appeal of a Denial to Allow a Real Estate Office in the C-2 Zone District
- File 3-CUP-22 Application by Salem First Baptist Church for Remodel of Ernest Block House
- Initiate Legislative Process to Adopt the Housing Capacity Analysis Piece of Housing Study

Tentative Planning Commission Work Program

(Scheduling and timing of agenda items is subject to change)



November 28, 2022 Work Session

- Presentation by Carl Carl Nodzinski, GIS Specialist, Interactive Web Based Zoning Map
- Review of Camping Related Land Use Amendments (Follow-up from 9/26/22 WS)

November 28, 2022 Regular Session

- File 2-CUP-22-A Final Order and Findings on Appeal of CUP Denial of Real Estate Office in C-2
- File 3-CUP-22 Final Order and Findings for Remodel of the Ernest Bloch House
- Initiate Legislative Amendment Process for Camping Related Land Use Amendments

December 12, 2022 Work Session

- Review Draft Amendments to Special Parking Area Regulations (Follow-up to 9/26/22 WS)
- Review of South Beach Transportation Overlay Zone Trip Budget (req. by Ord. #2045)

December 12, 2022 Regular Session

- Public Hearing on Draft Ordinance No. 2202 – STR Work Group Recommendations
- Tentative Date for Public Hearing on South Beach Church Annexation Proposal
- Initiate Legislative Amendment Process for Special Parking Area Amendments

December 26, 2022 (Cancelled)

January 9, 2023 Work Session

- Placeholder for Work Session on Draft Ord. No. 2202 – Considering Feedback from 12/12/23
- Placeholder to Review County Changes to Boston Timber Opportunities UGB Land Swap

January 9, 2023 Regular Session

- Annual Organizational Meeting
- Public Hearing on Housing Capacity Analysis Portion of Housing Study

January 23, 2023 Work Session

- Review Draft Housing Production Strategy Component of Housing Study

January 23, 2023 Regular Session

- Public Hearing on Camping Related Land Use Amendments
- Placeholder for Hearing No. 2 on Draft Ord. No. 2202 – STR Work Group Recommendations

February 13, 2023 Work Session

- Review Options for Updating the City's Erosion Control and Stormwater Mgmt Standards
- Update on Status of South Beach Island Annexation Process
- FY 23/24 Goal Setting Session

February 13, 2023 Regular Session

- Public Hearing on Special Parking Area Amendments

February 27, 2023 Work Session

- Placeholder for Review of Amendments Related to Yaquina Bay Estuary Plan Update
- Placeholder for City Center Revitalization Project Update (Consultant to be hired by 1/23)

February 27, 2023 Regular Session

- TBD