



THE QUINTET CONDOMINIUMS

6605-6645 W Burnside, Portland, OR 97210

ROOF ASSESSMENT

ISSUED BY

PONO BUILDING CONSULTANTS

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ISSUED TO

AUO OF THE QUINTET CONDOMINIUMS

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DATE SUBMITTED

August 22, 2022

PROJECT #

TQC-001

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SCOPE OF SERVICES

Site Visit On

July 13, 2022

Conducted By

Brad Schmautz, RRC, RRO, CARSS

Purpose of Field Investigation

PONO Building Consultants, LLC ("PONO") performed visual observations to assess the roofs. The purpose of the investigation was to determine weather/water resistance and general conditions of the:

- Steep slope tile roofs with low slope metal valleys
- Low slope EPDM, PVC single ply, and built-up (BUR) roofs
- Flashings, exterior joints, sealants, transitions between dissimilar materials
- General roofing components and related materials
- Gutters, downspouts, leader boxes, scuppers, and drains
- Eave/roof venting, ventilation terminations and provisions

PONO also inspected for any evidence of construction deficiencies (building components not installed in accordance with industry standard, building codes, manufacturer's guidelines) and any damages resulting from deficiencies or delayed maintenance. These observations were used to formulate general conclusions and develop preliminary repair recommendations.

PROJECT DESCRIPTION



| | |
|------------------|--|
| Property Type | Multifamily - Condominiums |
| Year Built | 1996 |
| No. of Buildings | 5 residential, 1 clubhouse |
| No. of Units | 206 |
| No. of Stories | 5 |
| Roof Type | Steep slope tile with low slope metal at valleys, low slope ballasted EPDM with river rock, low slope PVC single ply, low slope built-up (BUR) |
| Cladding Type | CMU block |
| Trim Type | Concrete |
| Window Type | Aluminum frame, vinyl frame |
| Deck Type | Concrete with coating |

SITE MAP



- Bldg. 1: 6605 W Burnside - The Sequoia Bldg. (45 units)
- Bldg. 2: 6625 W Burnside - The Dogwood Bldg. (40 units)
- Bldg. 3: 6685 W Burnside - The Cascade Bldg. (40 units)
- Bldg. 4: 6665 W Burnside - The Maplewood Bldg. (45 units)
- Bldg. 5: 6645 W Burnside - The Oak Pointe Bldg. (35 units)
- CH = Clubhouse: 6695 W Burnside

CONCLUSIONS & RECOMMENDATIONS

Conclusions

Below is a summary of PONO's findings. See the Observations section for further details and photo examples. Locations are listed if it is a unique situation only observed at one or two locations. All other issues are systemic throughout the property. Findings represent PONO's best judgment in consideration of the information available at the time of this report's preparation. PONO reserves the right to modify opinions if additional information becomes available.

The low slope EPDM roofs are in fair condition. EPDM is a durable synthetic rubber roofing membrane (ethylene propylene diene terpolymer) that typically lasts 20-30 years. Throughout the property, splash blocks are missing at the base of downspouts, allowing water to drain directly onto the lower roofs. Excess water on specific points of roofs can contribute to premature degradation of components. Gravel stops are also missing at many scuppers. This allows rocks to drain into the scuppers and leader boxes, blocking proper drainage. The other primary concern is omitted venting at joist bays. If the roof system is changed from EPDM to another system (i.e., single ply membrane), as PONO is recommending, ventilation or an insulation system will need to be added. Other systemic concerns that should be addressed as part of the targeted repairs/maintenance plan include lifting seams, failing sealant, and open penetrations.

Other concerns are isolated to a few buildings. At Bldgs. 1 and 2, debris from other construction projects were left on the roofs. This could damage the roofs or block proper drainage. At Bldgs. 2 and 5, components of the roof hatches are damaged. At Bldg. 4, areas of rock have been spread too thin, exposing the membrane to UV and increasing the likelihood of roof blow off at these areas. At Bldg. 5, a lead cap for a pipe flashing is missing. The low slope EPDM roofs are past their estimated remaining useful life but appear to still be generally performing as intended. PONO recommends proceeding with the planned phased replacement project and performing maintenance as needed until the roofs are replaced.

The low slope built-up roof (BUR) at the clubhouse is in poor condition. Areas of sheathing are decayed and evidence of previous holes (patches) in the membrane are present. There is premature granule loss on the modified cap sheet as well. Further review is needed to determine the cause of the granule loss. The estimated remaining useful life of this roof is 0 years. PONO recommends replacing this roof first. At the time of replacement, a new roof system with a vapor system on the roof deck and insulation that meets the code requirement of R-30 should be installed.

The steep slope tile roofs with low slope metal valleys are in fair condition and are nearing the end of their useful life. Throughout the property, tiles are cracked, damaged, and missing. Extra tiles are being stored on the roofs, which is not recommended. They should be stored in a safe place until used. At the low slope metal valleys between tile roofs, there are open seams and some areas of corrosion. PONO recommends cleaning the roofs and monitoring for damaged tiles on a regular schedule until the roofs are replaced. When damage on a tile exceeds 3", the tile should be removed and replaced. This maintenance plan should also include trimming trees back a minimum of 2' from roof edges to prevent excess debris and organic growth on the roofs.

The new low slope PVC single ply roofs at elevator, storage, and staircase roofs are in good condition. Regularly scheduled maintenance and cleaning should be performed at these roofs to help extend their useful life. The estimated remaining useful life of the roofs is 10+ years.

At walls adjacent to roofs, a few concerns were noted. First, surface mounted reglets and coping metal are sealant dependent at the CMU wall and should be regularly maintained to ensure they remain sealed. Second, louvers are missing on some exhaust vents. This could allow water, animal, or insect intrusion. All missing and damaged vent louvers should be replaced and sealed on the edges.

Recommendations

Due to concerns noted in this report, PONO recommends the following repairs. Planning for these activities should be done with a standardized repair scope and bid form, prepared by PONO, to issue to bidding contractors. A qualified, properly insured contractor should be retained to perform any of the recommended repairs.

- At the EPDM roofs, proceed with the planned phased replacement project. PONO recommends changing the roof system from EPDM to a single ply membrane. See PONO's Scope of Repair for further details. Until the roofs are replaced, perform targeted repairs as part of the maintenance plan:
 - Install splash blocks at base of downspouts draining onto lower roofs.
 - Install gravel stops to prevent blockages and ensure proper drainage.
 - Spread rocks evenly over areas and add rocks as needed to ensure proper coverage from UV.
 - Repair lifting and open seams in membrane per manufacturer's guidelines. All roofs should be thoroughly reviewed, and repairs made to all lifting and open seams.

- Replace missing lead cap at pipe flashing on Bldg. 5.
- Continue making repairs to failing sealant at pipe flashings and other penetrations as needed.
- Remove failing sealant at coping metal joint on Bldg. 1. Clean and prepare area. Install new sealant, ensure all open/loose seams in metal are properly sealed.
- At the tile roofs, perform targeted repairs as part of the maintenance plan until the roofs are replaced:
 - When performing repairs, use a drop cloth over low slope roofs to protect the roofs. At areas with debris present, carefully remove all nails from rocks to prevent possible damage to membrane. Also remove painting debris and towels left on roof of Bldg. 1.
 - Seal open seams at low slope metal valley roofs. When roofs are replaced, a different roof system should be discussed.
 - Clean areas of corrosion at low slope metal valley roofs. Apply protective coating to help extend useful life expectancy.
 - Remove extra tile being stored on roof and store in a safe place.
 - All tile with damage exceeding 3" should be removed and replaced with new tile.
 - Complete repair at rake edge of Bldg. 2. Ensure all tile is installed and properly secured.
- At the clubhouse, PONO recommends replacing the roof and changing from BUR system to a single ply membrane. Changing to this roof system should help with the higher interior moisture levels at this building and prevent the sheathing from decaying. This roof should be replaced first. See PONO's Scope of Repair for further details.
- Establish a maintenance plan that includes cleaning the roofs and trimming trees back a minimum 2' from roof edges on a regular schedule. Annual review of the EPDM roofs until they are replaced is recommended to monitor if their condition worsens. Order of roof replacement should be updated as needed based on information from these reviews.
- Repair roof access hatches. At Bldg. 2, the lifter shock and handle need to be repaired/replaced. At Bldg. 5, the handle needs to be repaired/replaced. Clean staining on ceiling lid from water intrusion at handle after repairs are completed.

BUILDING PHOTOS

Bldg. 1: 6605 W Burnside - The Sequoia Bldg.



Front elevation



Side elevation



Rear elevation



Side elevation

Bldg. 2: 6625 W Burnside - The Dogwood Bldg.



Front elevation



Side elevation



Rear elevation



Side elevation

Bldg. 3: 6685 W Burnside - The Cascade Bldg.



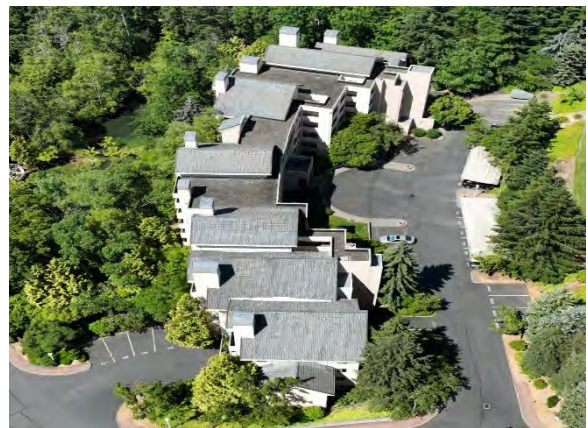
Front elevation



Side elevation



Rear elevation



Side elevation

Bldg. 4: 6665 W Burnside - The Maplewood Bldg.



Front elevation



Side elevation



Rear elevation

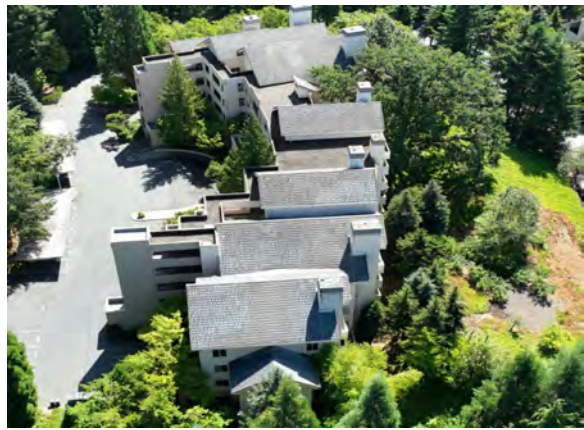


Side elevation

Bldg. 5: 6645 W Burnside - The Oak Pointe Bldg.



Front elevation



Side elevation



Rear elevation



Side elevation

Clubhouse: 6695 W Burnside



Front elevation



Side elevation



Rear elevation



Side elevation

GENERAL PHOTOS



1.1 Typical steep slope tile roof.



1.2 Typical underlayment used for tile roofs.



1.3 Typical anti-ponding metal properly lapped with underlayment at gutter edge of tile roofs.



1.4 Typical low slope metal valley at intersections of tile roofs.



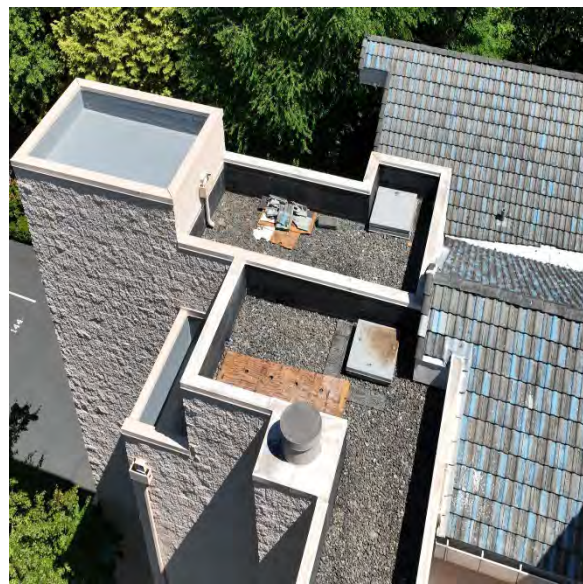
1.5 Typical low slope EPDM roof with ballast river rock.



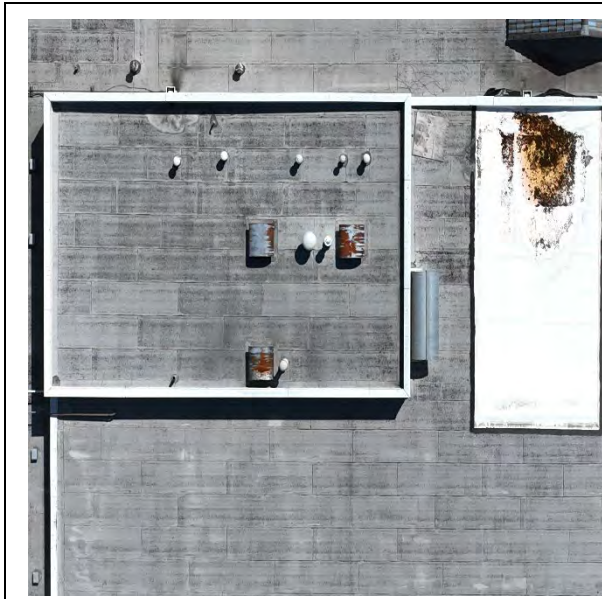
1.6 Typical EPDM wall flashing.



1.7 Typical new low slope PVC single ply roof above stairways.



1.8 Typical components of building, including CMU block walls, new PVC roofs, EPDM roofs, tile roofs, and coping metal on parapet walls.



1.9 Typical low slope BUR roof on clubhouse.



1.10 Typical downspout with splash block.

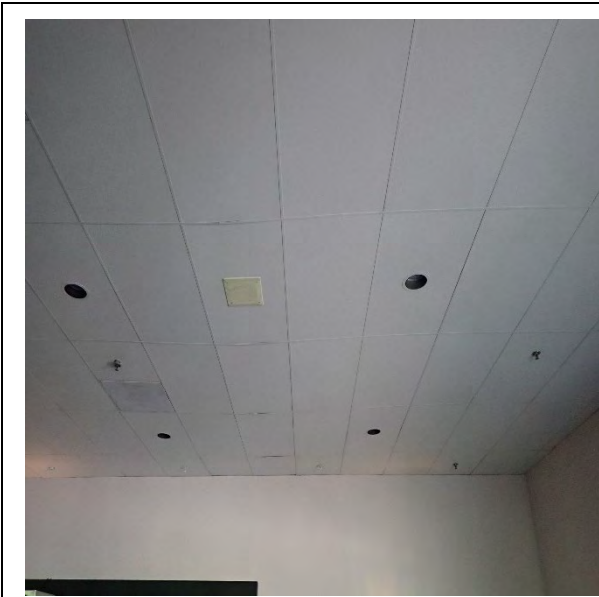
OBSERVATIONS



2.1A Roof sheathing is decayed. Note, previously patched holes.
Location: Clubhouse



2.1B Additional view of decayed roof sheathing with previously patched holes.



2.1C Interior view of drip ceiling sagging below damaged roof areas.



2.2 Granule loss is occurring on modified cap sheet sooner than typical. Further review is required to determine cause of premature granule loss.

Location: Clubhouse



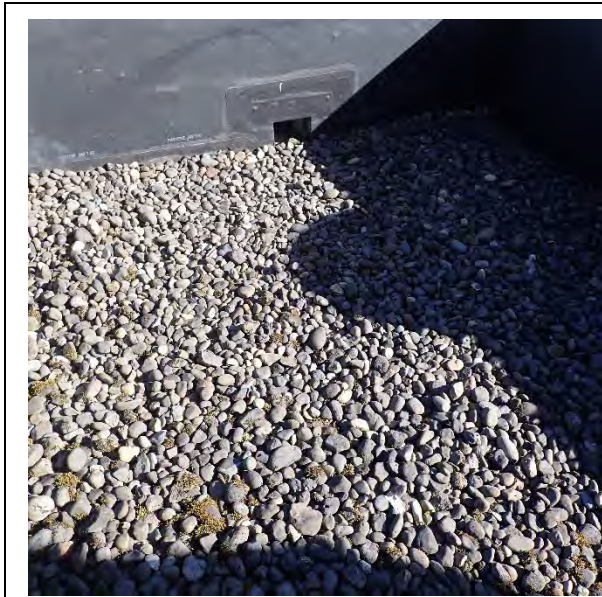
2.3 Tree extends over edge of roof. Vegetation should be trimmed back a minimum 2' from edge of roof.

Location: Systemic throughout property



2.4 Splash blocks are missing at base of downspouts on EPDM roofs.

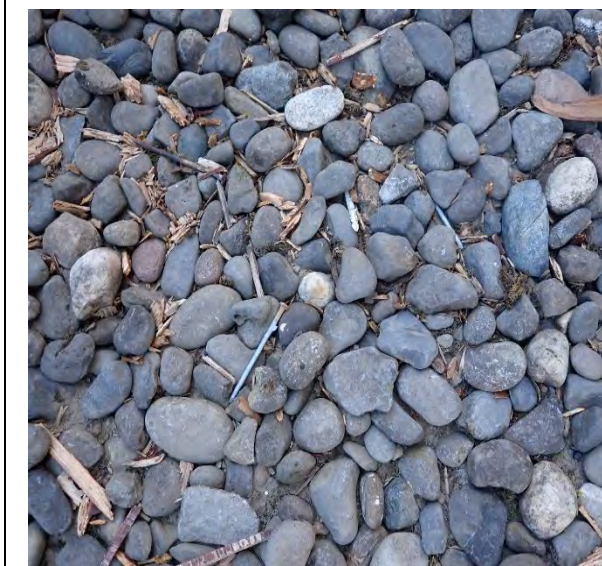
Location: Systemic throughout property



2.5 Gravel stops at scuppers are missing, allowing rocks to enter scupper and leader boxes and preventing proper drainage.
Location: Systemic throughout property



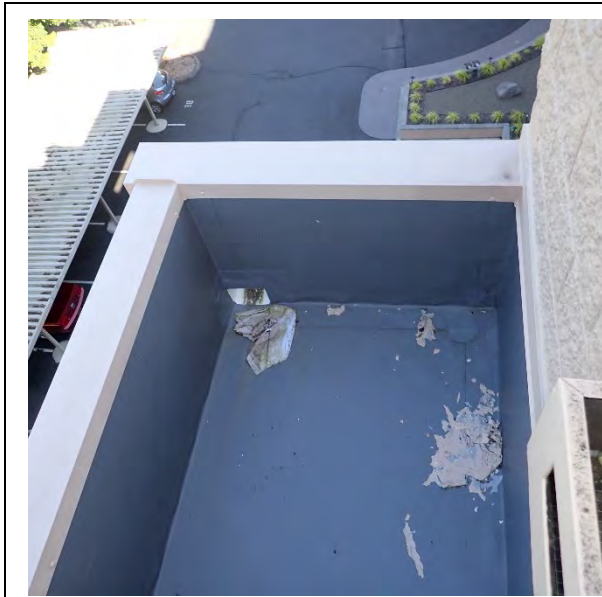
2.6 Gravel at EPDM roof is spread too thin, allowing the roof to be more exposed to UV and increasing the chance of the roof blow-off in these areas.
Location: Bldg. 4



2.7A Debris from previous tile roof repair present at gravel areas of the EPDM roof. Drop clothes and plywood should be laid down over low slope roofs when tile repairs are made to protect the membrane from damage.
Location: Bldg. 2



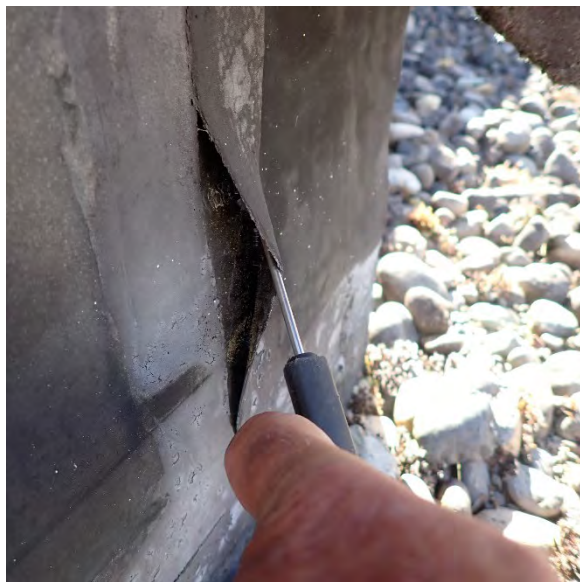
2.7B Additional example of debris from previous repairs present at EPDM roof.



2.8 Debris and towels from previous painting work left on roof. Note proximity of debris to scupper. This could block proper drainage.
Location: Bldg. 1



2.9A Seam at EPDM roof is lifting. All lifting or open seams should be repaired.
Location: Bldgs. 1, 3, 4



2.9B Additional example of lifting seam at EPDM roof.



2.10 Open seam present at low slope metal valley roofs between tile roofs. All lifting or open seams should be repaired.
Location: Bldg. 1



2.11 Low slope metal valley roof between tiles is corroded.
Location: Bldg. 1



2.12 Extra tiles are being stored on roof. Tiles should be removed and stored in safe location.
Location: Systemic throughout property



2.13A Lower corners of tiles are cracked and missing. Any tile with a crack over 3" should be replaced.
Location: Systemic throughout property



2.13B Closer view of damaged lower corner of tile.



2.14A Tile is missing at rake edge of roof.
Location: Bldg. 2



2.14B Additional view of missing tile at rake edge of roof.



2.15 Lead cap at for pipe flashing is missing, allowing possible water ingress.
Location: Bldg. 5



2.16A Pipe flashings on EPDM roofs have been previously repaired. Repairs to penetrations should be continued as needed until the roofs are replaced.
Location: Systemic throughout property



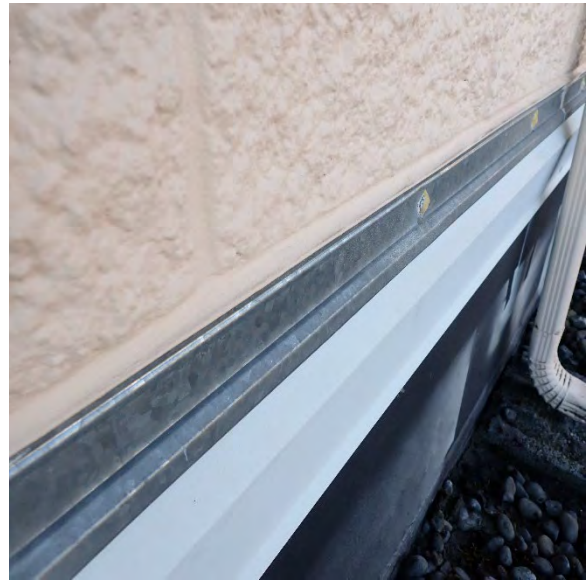
2.16B Additional example of previously repaired pipe flashing.







2.17 Sealant at coping metal joint is failing, and joint is lifting.
Location: Bldg. 1



2.18A Surface mounted reglet and coping metal are sealant dependent at CMU wall and should be regularly maintained to ensure they remain sealed.
Location: Systemic throughout property



2.18B Additional example of sealant dependent, surface mounted reglet and coping metal.

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| <p>2.19A Ventilation for joist bays below roof sheathing is omitted. This is a concern if the type of roof system is changed in the future. Location: Systemic throughout property</p> | <p>2.19B Additional example of omitted ventilation at joist bays.</p> |
|  |  |
| <p>2.20 Louver is missing at exhaust vent, allowing possible water, animal, or pest ingress. Location: Systemic throughout property</p> | <p>2.21 Lifter shock at roof hatch is damaged and should be repaired. Due to damage, this hatch drops quickly, so anyone performing repairs should proceed with caution. Location: Bldg. 2</p> |



2.22A Handle at roof hatch is damaged and corroded, allowing possible water ingress.
Location: Bldgs. 2 & 5



2.22B Additional example of damaged and corroded roof hatch handle.



2.22C Water staining present on underside of roof hatch due to water intrusion at damaged handle.