SERA ARCHITECTURE URBAN DESIGN + PLANNING INTERIOR DESIGN

State of Oregon
Building Codes Division

November 22, 2022

Written testimony for 2021 ORSC Low Carbon Concrete Proposal

SERA Architects supports the code amendment proposal to establish limits for carbon emissions of concrete in the 2021 Oregon Residential Specialty Code and urges the Building Codes Division to approve the amendment. Concrete alone accounts for 7% of global carbon emissions, and concrete suppliers are able to make significant emission reductions without compromising performance, cost, or schedule. In a recent low-carbon concrete event hosted by the National Ready Mix Concrete Association held in Tigard, Oregon, concrete industry leaders emphasized the magnitude of opportunity for GWP reductions in concrete - while other material industries are striving to reduce emissions by a few percentage points, concrete can achieve upwards of 30% reductions today with current strategies. This potential could increase to 50-60% reductions with emerging technologies in the near future. Additionally, the concrete industry already has a wide-spread adoption of public disclosures with Environmental Product Declarations (EPD's), with over 2,400 mix designs in Oregon already reporting carbon emissions[1]. Establishing limitations on embodied emissions of concrete is one of the highest-impact strategies the design and construction industry has for achieving Oregon's climate goals to reduce emissions by 45% by 2035, and the concrete industry has consistently signaled that it is prepared to deliver significant reductions.

In June of 2021 the State of Oregon Building Codes Division set a precedent for using the building code to reduce the impact to the public from high-GWP building materials by approving an alternative compliance pathway in the Oregon Mechanical Specialty Code to encourage the use of low global-warming-potential refrigerants in building systems. The Division described this update "to be contemporary building code advancing the public safety and general welfare through timely evaluation and recognition of the latest advancements in construction techniques, energy efficiency, and emerging science and technology related to the built environment.[2]" With this precedent, the Building Codes Division has established that it is within the scope of the building code to safeguard the public from the environmental impacts of high-GWP building materials.

SERA Architects has been increasingly specifying low-carbon concrete on our projects for over one year. Through coordination with contractors and concrete suppliers, we have reduced the carbon impact of the concrete in our projects without adverse impacts. The proposed code amendment is in alignment with how we specify low-carbon concrete on our projects, and we do not anticipate negative impacts on projects if this code amendment is approved. The clear performance requirements and flexibility in compliance methods in this proposed amendment allow the greatest opportunity for concrete suppliers to meet and exceed the emissions limits on projects in ways that do not sacrifice other performance, cost, and schedule criteria. Upon

[1] https://buildingtransparency.org/ec3
[2] https://www.oregon.gov/bcd/codes-stand/Documents/sam-21-01-refrigerant-standards.pdf

approval, SERA Architects is prepared to ensure our contract documents meet the code requirements for GWP on applicable projects, and we fully support the expansion of these requirements into the Oregon Structural Specialty Code for commercial buildings in the future. Thank you for your consideration.

Elizabeth Lavelle,
Senior Associate, LEED AP Homes
Oregon License # ARI-11388

Clark Brockman,
Principal, AIA, LEED Fellow
Washington State License # 8005

Mark Perepelitza,
Principal, Director of Sustainability, LEED AP BD+C
License # 3775