BEFORE THE HEARING EXAMINER
FOR THE CITY OF TACOMA

| | |
|---|---|
| In the Matter of the Appeal of:<br><br>350 TACOMA and SOUTH TACOMA NEIGHBORHOOD COUNCIL<br><br>From the April 21, 2023, Mitigated Determination of Nonsignificance and Critical Area Development Permit issued by the City of Tacoma. | No. HEX2023-011a and HEX2023-011b<br><br>File No. LU21-0125<br><br>**POSTHEARING BRIEF OF APPELLANTS 350 TACOMA AND SOUTH TACOMA NEIGHBORHOOD COUNCIL** |



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

## TABLE OF CONTENTS





*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

## TABLE OF AUTHORITIES

**Page(s)**

**State Cases**



**State Statutes**



**Regulations**





*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

## ARGUMENT

Appellants hereby incorporate by reference their prehearing brief, filed July 18, 2023, and opening statement. Day 1 at 0:20:07–0:28:40.[1] For all of the reasons previously articulated and set forth below, the record demonstrates that the MDNS is clearly erroneous.

## I. EXPERT WITNESS QUALIFICATIONS

During the five-day trial, Appellants introduced expert testimony by five expert witnesses, several of whom had expertise spanning multiple issue areas relevant to this appeal:

- **Dr. Michael McCarthy, Ph.D.,** is an atmospheric scientist with 20 years of experience in environmental consulting, and taught environmental analysis as an adjunct professor. Ex. A-17 at 1, 2. His areas of focus include analyzing near-road air pollution, air toxics, and greenhouse gases, quantifying and characterizing emissions, and health-risk assessments. *Id.* at 1. His experience also encompasses studying a data set of 20,000 high-cube warehouses, reviewing trip generation analysis for hundreds of warehouses across most major port cities in the United States, and building a warehouse data visualization tool. Day 2 at 0:09:23–0:11:14; Day 5 at 1:31:08–1:31:18, 1:51:35–1:52:16. He has performed services for federal, state, and local government agencies and Tribes, including in Washington, as well as international agencies, nonprofits, and private entities. Ex. A-17 at 6–11.

- **Dr. Elinor Fanning, Ph.D.,** has a Ph.D. in environmental health sciences and currently works as a regulatory toxicologist in Washington, where she evaluates the health hazards of toxic chemicals. Ex. A-52 at 1. She has over thirteen years of experience broadly assessing scientific evidence about how chemical exposures affect human health and how scientific evidence should inform governmental decisionmaking and regulatory processes. Day 2 at 4:11:50–4:12:18. She has particular expertise with respect to the health impacts of air pollutants produced by industrial facilities and vehicle emissions, including a doctoral thesis on health effects from benzene, experience assessing the public health impacts of gasoline emissions for a government agency, and over 5 years working in a leading research center on airborne particulate matter. *Id*. at 4:12:19–4:14:09; Ex. A-52 at 1, 2.

- **Dr. Priyanka deSouza, Ph.D.**, has a Ph.D. in urban planning, an M.Sc. in environmental change and management, an MBA, and an undergraduate degree in engineering with a minor in physics. Ex. A-45 at 1. She has worked as an environmental consultant to the UN and the World Health Organization and teaches environmental policy, including the

[1] Citations to hearing testimony are to the timestamps of the video of each day's testimony available at https://www.youtube.com/@hearingexaminer. The page numbers in citations to exhibits are to the PDF pagination.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

environmental impacts of warehouses, at the University of Colorado. *Id.* Her scholarship addresses health impacts on neighborhoods from the built environment, air pollution quantification and monitoring and associated health impacts, and high-cube warehousing, including warehouses' impacts on traffic density, collisions, and noise. *Id.* at 2–3; Ex. A-49; Day 2 at 5:44:28–5:45:58.

- **Sean Dixon** is the Executive Director of Puget Soundkeeper Alliance in Seattle, Washington where he works on Clean Water Act issues including stormwater, Superfund contamination in the Puget Sound, and other issues affecting wildlife, watersheds, and communities in Puget Sound. Day 1 at 2:07:00. Mr. Dixon has a JD, an LL.M in Climate Change Law, a Master of Environmental Management, and an undergraduate degree as a double major in marine biology and Earth sciences with a focus on oceanography. Ex. A-1 at 1. Mr. Dixon has over a decade of experience working in environmental conservation and marine preservation. He has worked as an attorney for Clean Ocean Action and Riverkeeper in New York City and was Chief of Staff at U.S. Environmental Protection Agency Region 1 (New England). *Id.* Mr. Dixon has also taught environmental law and policy, oceans and coastal law, and ocean resource management policy at multiple universities as an adjunct professor. Ex. A-1 at 2; Day 1 at 2:08:15. Mr. Dixon's research experience is in climate change impacts to fisheries, aquatic ecosystems, and wetlands, and the management of those resources. Day 1 at 2:06:10. Mr. Dixon's recent published scholarship focuses on 6PPD-quinone titled "Tire-driven stormwater toxicity and salmon mortality from 6PPD-quinone." Ex. A-1 at 2; Day 1 at 2:09:02.

- **Dr. Stephen Emerman, Ph.D.,** has a Ph.D. in Geophysics, an M.A. in Geophysics, and an undergraduate degree in mathematics. Ex. A-16 at 2. Dr. Emerman has nearly 40 years of professional experience in hydrology and geophysics education and engineering. Ex. A-1 at 1–2; Day 1 at 0:44:48–53. Before retiring from being a professor, Mr. Emerman gained extensive experience in higher education, with three postdoctoral appointments in mechanical and aerospace engineering. Day 1 at 0:43:35. He has professional experience as an engineer and scientist in soil physics, soil hydrology, ecology and systematics, and forest hydrology. Day 1 at 0:43:45–55. Dr. Emerman currently works as a consultant with clients who are concerned about the existing or potential impacts of large developmental projects, including mining, urban development, pipelines, timber harvesting, and groundwater pumping. Day 1 at 0:45:17; Ex. A-1 at 2–3. Dr. Emerman's vast scholarship addresses a variety of subjects that he consults in; some examples include groundwater contamination, streamflow data evaluation, evaluation of water quality studies, and conversion of stormwater to groundwater recharge. Ex. A-16 at 2–10.

## II. TRAFFIC AND TRANSPORTATION—INADEQUATE INFORMATION AND SIGNIFICANT IMPACTS

The record shows that the City's determination that the project will not have significant traffic and transportation impacts as mitigated is clearly erroneous. First, the project is likely to generate even higher levels of traffic than estimated in the MDNS, both because the Updated



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

Transportation Impact Analysis (TIA) fails to consider the site's likely use as a high-cube warehouse and because the calculation methodology in the Updated TIA understates the traffic impacts associated with the industrial park land use category. Second, the traffic mitigation conditions in the MDNS fail to reduce the project's traffic impacts to non-significance, even under the Updated TIA's estimated traffic levels.

The City's MDNS is based on the Updated TIA, which applied ITE's industrial park land use category and estimated that the project will generate 4,980 additional daily vehicle trips, including 1,411 daily truck trips. Ex. C-1 at 10 ¶ 52. The City deemed those traffic levels significant within the meaning of SEPA and used its substantive SEPA authority to impose conditions intended to mitigate those impacts.[2] But the record reflects that the project is reasonably likely to generate even higher levels of traffic.

Because the proposed facility's design is most consistent with high-cube warehouse uses and the Applicant's project documents routinely refer to the facility as warehousing, the City erred by failing to study and mitigate the traffic impacts of these non-speculative uses.

In contrast to traditional warehouses that store goods for long periods of time, high-cube warehouses[3] are designed to rapidly and efficiently distribute goods and are associated with e-commerce and logistics management.[4] High-cube warehouses are increasingly becoming

---

[2] *See* Ex. C-1 at 14–17; WAC 197-11-660(1)(b) ("Mitigation measures shall be related to specific, adverse environmental impacts"); *see also* Ex. C-27 at 2 (staff comments on the TIA).

[3] *See generally* Ex. B-23 (Revised); Ex. A-78 at 5; Day 2 at 0:19:58–0:22:43; Day 5 at 1:33:07–1:34:52. ITE's five high-cube warehouse categories include (154) transload and short-term storage, which Dr. McCarthy described as essentially local "redistribution" centers; (155) fulfillment center (sort), a "standard Amazon warehouse" and last-mile fulfillment center, from which goods are shipped directly to customers; (155) fulfillment center (non-sort), for fulfilling orders of large, bulky items such as furniture that don't get put into boxes for delivery to customers; (156) parcel hub, a FedEx or UPS-type mail sorting facility; and (157) cold storage warehouse, from which refrigerated or perishable products are distributed via trucks pulling refrigerated trailers.

[4] *See* Ex. A-78 at 3 ("The HCW market continues to evolve as individual tenants/owners



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

automated, reducing the number of workers needed to staff them. Ex. A-78 at 8, 29; Day 5 at 1:39:19–1:40:24.

Many features of the Applicant's plans submitted as part of the SEPA review (Ex. C-3) support the site's likely use as a high-cube warehouse, including as a fulfillment center (sort) or a parcel hub. Day 2 at 0:22:33–0:25:14. Totaling 2,475,000 square feet, the planned four-building complex fits within the trend Dr. McCarthy described of warehouses "getting much larger over time" from a typical size of approximately 100,000 square feet to a typical size of 250,000 square feet. Day 2 at 0:09:23–0:11:14. And each of the four buildings, as designed, will be over 200,000 square feet, consistent with the ITE manual's description of high-cube warehouses. Ex. B-23 (Revised) at 5, 7, 9, 11; Ex. A-78 at 3, 5. With 40-foot ceilings, it fits squarely within the height range described by ITE and confirmed by Dr. McCarthy's experience and can accommodate multiple levels of mezzanine.[5] The high number of dock doors, the building dimensions and cross-dock placement of the doors, and the ratio of square footage to dock doors are likewise consistent with high-cube warehouses, where the goal is rapid loading and unloading of goods. Day 5 at 1:31:18–1:32:44; Ex. A-78 at 7, 8. And the ratio of dock doors to trailer parking is consistent with fulfillment centers and parcel hubs. Day 2 at 0:24:25–0:25:09.[6]

---

implement different e-commerce business plans."); *id.* (noting that high-cube warehouses are also commonly called "distribution centers"); *id.* at 5 (defining fulfillment center as "storage and direct distribution of e-commerce product to end users"); *id*. at 9 (noting that fulfillment centers and cold storage warehouses are associated with "last-mile distribution needs").

[5] Day 2 at 0:25:14–0:25:53; Ex. B-23 (Revised) at 5, 7, 9, 11; Ex. A-78 at 8 (fulfillment centers are often as high as 40 feet in order to accommodate up to 3 levels of mezzanines); Day 5 at 1:28:51–1:31:08.

[6] When the Hearing Examiner asked Mr. Schramm whether the presence of docks on two sides means they will necessarily be used with receiving on one side and shipping on the other, Mr. Schramm responded, "in general, yes," and explained that cross-dock structure was generally a "purposeful" design choice intended to bring goods in on one side and have them shipped out on the other. Day 4 at 0:21:50–0:22:47.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

Dr. McCarthy's experience analyzing high-cube warehouses and familiarity with the industrial parks studied by ITE provides ample foundation for his expert opinion that the proposed Bridge Industrial site is optimized for use as a high-cube warehouse and more consistent with ITE's five high-cube warehouse land use categories than the industrial park category. Day 2 at 0:22:43–0:23:11; Day 5 at 1:46:09–1:48:58, 1:52:28–1:53:46. As Dr. McCarthy explained, there is presently a "huge demand" for high-cube warehouses; demand has increased in recent years in part due to pandemic-related supply chain issues. Day 2 at 0:09:23–0:11:14. He noted that this trend is particularly pronounced near ports, including Seattle-Tacoma, the third largest containerized port on the west coast. Day 2 at 0:09:23–0:11:14; *see also* Day 2 at 0:30:50–0:31:49 (explaining why the proposed site's location also supports classification as a high-cube warehouse). Mr. Schramm agreed that the site plans can accommodate high-cube warehouse uses. Day 3 at 5:58:10–5:58:57; Day 4 at 0:24:50–0:25:28.

ITE's industrial park category is a worse fit for the proposed site design. The industrial park category is unrelated to high-cube warehousing. Ex. B-23 (Revised) at 2 (land use categories related to industrial park category are "general light industrial" and "manufacturing"). Rather, industrial park is a "catch-all" category intended for facilities that are designed to cater to "a mix of uses" and therefore "don't fit evenly in one category." Day 2 at 0:28:00–0:28:20. But Bridge Industrial's project plans do not reflect a facility optimized for a mix of different manufacturing and light industrial uses. Day 2 at 0:29:38–0:30:50. Rather, the plans reflect a site designed for "the same use, a bunch of times"—namely, high-cube warehousing, designed for rapid loading and unloading of goods. *Id.*[7]

[7] No expert suggested that the site is designed for use as traditional, long-term warehousing, which is different from high-cube warehousing. Although the TIA and Updated TIA claimed that application of the industrial park category was "conservative" relative to general warehousing, Mr. Schramm explained that this was not because he thought general warehousing was a likely use, but rather, because it was another commonly used category that would yield lower trip generation values. Day 3 at 5:08:00–5:09:18; Day 4 at 0:36:32–0:37:25.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

Bridge Industrial's press release announcing its plans for the project site underscores the proposed project's consistency with high-cube warehouse uses.[8] It noted the number of "e-commerce, technology, and logistics users" flocking to the Pacific Northwest and touted the proposed facility as "ideal" for "meeting the ever-increasing demand for last-mile and next-day delivery"—paradigmatic functions of a high-cube warehouse. Ex. A-44.[9]

As Dr. McCarthy and Mr. Schramm both explained, three of the five high-cube warehouse categories would yield higher daily vehicle trips than estimated in the TIA. The projections for these high-cube warehouse categories that Mr. Schramm offered during the hearing are:

- (155) **Fulfillment center (sort)**: 15,939 additional daily vehicles (including 470 trucks and 15,469 passenger vehicles)
- (156) **Parcel hub**: 11,459 additional daily vehicles (including 1,436 trucks and 10,023 passenger vehicles)
- (157) **Cold storage warehouse**: 6,749 additional daily vehicles (including 1,856 trucks and 4,893 passenger vehicles)[10]

[8] Although at times Mr. Schramm seemed to indicate that his choice of the industrial park category rather than high-cube warehouse categories was based on his understanding of Bridge Industrial's intentions, when invited by the Hearing Examiner to confirm that the Applicant had no intention for the project to become a high-cube warehouse facility, Schramm declined to do so. Day 4 at 0:25:28–0:25:50.

[9] Mr. Gladney's declaration largely disclaiming the use of Bridge Industrial's industrial park properties as high-cube warehouses should be given no weight, as his testimony made clear that what he was counting as a fulfillment center (sort) or parcel hub bears no relation to ITE's criteria for these land use categories and that he is not familiar with Bridge facilities outside of Washington that the Applicant's own website says are currently used as Amazon warehouses. Day 5 at 1:06:48–1:07:51. He is not qualified to offer expert opinion on what land uses are consistent with the ITE manual, nor does he have sufficient personal knowledge to offer fact testimony on Bridge Industrial properties outside of Washington.

[10] Day 4 at 0:04:07–0:11:10; *see also* Ex. A-19 ("Vehicle Trips" tab).



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

In addition, all categories of high-cube warehouses are more likely to operate at night and on weekends—or even 24 hours a day, every day of the year—than an industrial park, and often have different peak traffic hours than other uses. Ex. A-78 at 9 ("Peak truck movement activity is often outside the peak commuting period on the adjacent street system. HCW operations are often 24 hours per day, every day of the year."); Day 2 at 0:19:11–0:19:58. And there is more pollution associated with truck traffic for cold storage warehouses because the trucks pull refrigerated trailer units, a source of air pollution separate from the trucks themselves. Day 2 at 0:19:58–0:22:43. Accordingly, to understand the significance of the project's likely traffic impacts, the City should have considered the impacts of the site's use as a high-cube warehouse. Day 2 at 0:13:00–0:14:05, 0:29:38–0:32:35, 0:40:30.

Even assuming the industrial park category were a good fit, the record reflects that traffic associated with an industrial park could be nearly double the 4,980 daily vehicle trips estimated in the Updated TIA. The initial TIA the Applicant submitted to the City seven months before the Updated TIA applied the average rate for ITE's industrial park category, rather than the regression fit equation. Day 4 at 0:44:40–0:45:16. Using regression fit, the initial TIA concluded the project was likely to generate 8,425 daily vehicle trips, including 1,425 truck trips. Ex. A-30 at 4, 22, 354. Mr. Schramm prepared the initial TIA, applying the same set of guidance about industrial park calculations in the ITE manual. Day 4 at 0:38:55–0:39:59. Nothing in the Updated TIA suggested that the previous TIA's estimates had been in error. Day 4 at 0:46. Rather, the Updated TIA explained that "This study has been updated based on comments received from the City of Tacoma dated August 20, 2021, in response to review of the initial TIA dated May 19, 2021." Ex. C-7 at 4. There is no evidence in the record that the City took issue with the application of the average rate. Day 4 at 0:46:41–0:48:07. At the hearing, Mr. Schramm testified that he switched methodologies because he was told by a colleague that the ITE manual requires application of the regression fit equation, rather than the average, for land use categories with



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

more than 20 studies.[11] But in fact, as he eventually conceded, the ITE manual makes clear that the regression fit equation is not the only appropriate calculation methodology.[12]

The record makes clear that application of the average rate would have been more appropriate than the regression fit equation for this project. First, the ITE manual states that one should "use caution" in applying the regression fit equation if the regression methodology would produce a trip generation value that is substantially below the value from applying the average.[13] For this project, applying the regression fit calculation methodology produced a trip generation value of 4,980 daily trips (equivalent to a rate of 2.01), which is substantially below the 8,341 daily trips that would be produced by applying the average rate (3.37). Day 2 at 0:36:40–0:36:45; *see also* Ex. A-19 (Industrial Park Log Method at cell 2H); Day 4 at 0:43:15–0:44:06.[14]

Second, the ITE manual also urges caution when applying the regression fit equation to a larger facility than the facilities studied by ITE. Ex. B-24 at 4 ("Caution should be used if extrapolating the data beyond the ranges provided"). And the proposed 2,475,000 square foot Bridge Industrial facility is larger than the largest industrial park studied by ITE.[15] As Dr. McCarthy explained and Mr. Schramm confirmed, the way a regression calculation works is that

---

[11] Day 3 at 5:43; Day 3 at 6:15; Day 4 at 0:37; Day 4 at 0:47.

[12] *See* Day 4 at 0:37 (conceding that regression analysis is "not the only way" to calculate trips for an industrial park using the ITE manual); Ex. B-24 at 3, 4.

[13] Ex. B-24 at 3 ("Within the data plots, there are several instances when the regression curve results in an equation with a large y-intercept. Use of the equation may produce an illogical trip-end estimate for independent variable values that are significantly less than the average-sized value. For such a case, use caution in applying data[.]"); Day 4 at 0:41:55–0:43:14 (discussing same).

[14] The trip generation calculations using the industrial park average rate in Dr. McCarthy's spreadsheet are slightly higher than in the initial TIA because the initial TIA assumed a slightly different square footage from the Updated TIA and Dr. McCarthy (2,500,000 square feet instead of 2,475,000). *Compare* A-19 ("Industrial Park Log Method" tab at cell 2J) *with* A-30 at 354.

[15] Ex. B-24 at 10; Day 2 at 0:15:19–0:17:16 (reading graph indicating that industrial parks studied by ITE ranged from approximately 200,000 square feet to 2.3 or 2.4 million square feet) (citing Ex. B-24 at 10).



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

the larger the facility, the lower the trip generation rate. Day 2 at 0:35:19–0:35:40; Day 3 at 6:01:40–6:02:06; Day 4 at 0:44:06–0:44:21.

Even assuming the Applicant's trip generation analysis were reliable, the MDNS would still fail to reduce the project's traffic impacts to nonsignificance. As Mr. Hansen confirmed, the MDNS does not prohibit the Applicant or its tenants from generating more than 4,980 additional daily vehicle trips (or more than 1,411 additional daily truck trips). Ex. C-1 at 14–16; Day 4 at 6:35:17–6:35:31; *cf.* Ex. A-32 at 2–5 (restrictive covenant imposing enforceable prohibition on use of property as fulfillment center (sort) or parcel hub high-cube warehouse, trip caps, and monitoring). The MDNS purports to preserve the City's ability to require additional mitigation for additional loss-of-service caused by traffic levels in excess of 4,980 daily trips, but only if the higher trip generation is caused by the site's use as a fulfillment center (sort) or parcel hub. Ex. C-1 at 14–16. If use as an industrial park generates closer to 8,341 daily trips as estimated in the initial TIA, the City will have no authority under the MDNS to require additional mitigation of those transportation impacts.[16] *See also infra* § III at 15 (failure to mitigate any air, health, or climate impacts of offsite vehicle traffic generated by project).

## III. AIR POLLUTION, HEALTH, AND CLIMATE—INADEQUATE INFORMATION AND SIGNIFICANT IMPACTS

The MDNS is clearly erroneous because the City failed to adequately analyze the project's air pollution and associated health harms and climate impacts, which the record shows are reasonably likely to be more than moderate.

The only air dispersion modeling in the record focused on a very small percentage of the project's total emissions: onsite emissions from trucks idling and gas heaters used on below-freezing days. The "overwhelming majority" of the project's emissions will come from vehicles

[16] In addition, the TIA did not analyze, and the MDNS therefore did not address, the likely increase in collisions associated with the project and associated increase in traffic. Day 2 at 5:49:31–5:50:20, Ex. A-49 at 6.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

traveling to and from the facility,[17] but TRC did not perform air dispersion modeling of pollutants from the project's offsite vehicles to determine what concentrations people at near-road receptors will be exposed to. TRC also excluded all offsite vehicle emissions occurring over the county line from its quantification of offsite vehicle emissions.

The project's air and associated health impacts warrant further study through an Environmental Impact Statement (EIS) and Health Impact Assessment (HIA). Diesel- and gasoline-powered vehicles emit a wide range of pollutants. Day 2 at 4:14:55–4:25:18. Because many of these pollutants have negative synergistic impacts when combined and because some populations are more sensitive to severe adverse health impacts from exposures than others, as Dr. Fanning explained, an analysis that only considers each pollutant in isolation cannot accurately predict the project's likely health impacts. Nor is that approach consistent with SEPA: SEPA requires consideration of cumulative impacts and of the "context and location of the proposed project." WAC 197-11-060(4)(e); WAC 197-11-330(3)(a); WAC 197-11-330(2). And SEPA regulations note that several "marginal" health impacts "when considered together may result in a significant adverse impact," and that where a project's impacts would be "severe," they can be deemed "significant" even if there is a low likelihood of those severe impacts occurring. WAC 197-11-794(2); WAC 197-11-330(3).

The record shows several residential areas, schools and childcare facilities, parks and outdoor sports facilities, and a hospital along the primary and secondary routes to and from the facility where populations of people who are especially sensitive to adverse health impacts from air pollution—including children; people with higher background exposures to air pollution, heavy traffic, and noise; and people with illnesses—are likely to be found.[18] As the MDNS

[17] Day 2 at 0:49:19–1:01:17 (99.8% of project's Diesel PM emissions happen offsite); Day 4 at 2:56:45–2:56:56 (Ms. Goff agreeing that the "overwhelming majority" of project emissions come from vehicles traveling to and from the site).

[18] Day 2 at 4:36:35–4:42:01, 5:01:56–5:04:06. Specifically, the Tacoma Map shows Bellarmine



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

acknowledged, "the site is located within an area of human health concerns, which warrants further analysis." Ex. C-1 at 4 ¶ 16. And the EPA recommended the City's SEPA analysis examine the project's impacts on nearby sensitive receptors. Ex. C-28 at 14–17. The City erred by failing to conduct an air and health analysis that assessed the context and location of the project's air emissions and their likely health impacts, including cumulative impacts.

Even based on the Applicant's own analyses, the evidence shows that the project's air and associated health impacts are likely to be more than moderate. Day 2 at 1:01:37–1:02:23, 5:24:30–5:26:17. As Ms. Goff explained, TRC's modeling shows that concentrations of Diesel PM and NOx at nearby receptors would be approximately 10% to 20% of acceptable source impact levels ("ASILs") just from onsite idling and gas heater emissions. Ex. C-13 at 25–30; Day 4 at 1:42:00–1:44:04. And TRC's calculations show that offsite vehicle emissions comprise the "overwhelming majority" of project emissions. Day 4 at 2:56:45–2:56:56. According to TRC's tables, emissions from vehicles offsite were 500 times higher than onsite emissions; 99.8% of the total project Diesel PM was from offsite vehicles.[19] As Dr. McCarthy explained, engineering calculations that extrapolate from the TRC's emissions calculations and modeling data demonstrate that modeling of the emissions from offsite vehicles would most likely show

---

Preparatory School, Henry Foss High School, and Allenmore Hospital (all in blue) and surrounding parks and playgrounds (in green) north of Union St. and SR-16; Oakland High School (in blue) to the west of Union St. south of SR-16 (near the word "Oakland" on the map); residential areas (in pale yellow and orange) southwest of Union and SR-16; and the South End Recreation Area (in green) below the project site, south of S. 56th St. Ex. B-32 (Revised) at 1; Day 2 at 5:04:07–5:08:11. For an easier-to-read version of the map featured on page 1 of Ex. B-32 (Revised), visit https://tmap.cityoftacoma.org/ and search for 5024 S Madison St. In Layer List, check only the "Land Use" box and "Land Use Designations" subcategory should be checked. In Basemap Gallery (the icon with four squares), select "Bing Hybrid" basemap.

[19] Ex. C-13 at 34 (Table A-1), 37–38 (Table A-4); Day 2 at 1:00:18–1:01:18 (explaining that Air Quality Study shows that 99.8% of Diesel PM is from offsite vehicles), 1:24:04–1:26:00 (explaining that emissions from vehicles offsite were 500 times higher than onsite emissions).



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

near-road concentrations of pollutants from offsite vehicles that exceed the ASILs. Day 2 at 1:19:02–1:21:34.

Furthermore, TRC's Air Quality Study underestimated the project's offsite vehicle emissions by excluding all emissions occurring past the county line and by relying on the overly low trip generation estimates in the Updated TIA.

There is no basis in law or in fact to exclude emissions occurring past the county line. The scope of environmental impacts that must be considered under SEPA is not restricted to only local impacts or impacts within the reviewing agency's jurisdiction. WAC 197-11-060(4)(b); *see also* WAC 197-11-330(3); RCW 43.21C.030(f). Rather than the highly speculative assumption that truck trips will not exceed the distance to the county line, SEPA analysis should be based on reliable data.[20] The local Metropolitan Planning Organization (MPO) gathers and publishes data on average truck trip lengths. Day 2 at 0:58:51–0:59:29. Applying the Puget Sound MPO's data on average truck trip lengths in the region instead of calculating emissions only to the county line increases the air pollution and GHGs from offsite vehicle emissions in TRC's Air Quality study by at least a factor of 2 for every pollutant. Ex. A-18 at 9–10; *compare* Ex. A-19 ("Offsite Vehicle Emissions" tab) *with* Ex. C-13 at 37–38 (Table A-4); *compare* Ex. A-19 ("GHG Emissions" tab) *with* Ex. C-13 at 39 (Table A-5).

[20] No weight should be given to Ms. Goff's unsupported opinion that it was "reasonable" to exclude emissions occurring past the county line, which she tied to her opinion that the additional vehicle trips estimated in the TIA are not truly attributable to the project because it is not a vehicle manufacturing facility. Day 4 at 2:18:49–2:20:11 (Goff testifying that this project will "absolutely not" cause there to be more cars or trucks in the state), 2:31:18–2:32:30 (Goff opining that it was "reasonable" to calculate emissions only to the county line instead of using regional truck trip length data). As she admitted, nothing in her background qualifies her to offer expert testimony on how building a warehouse will affect demand for, and the supply of, delivery vehicles. Day 4 at 3:03:23–3:05:38.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

Analysis of the offsite vehicle emissions associated with higher trip generation values further increases the emissions beyond what TRC estimated. *See* Ex. A-19 ("Offsite Vehicle Emissions" and "HCW ParcelHub Vehicle Emissions" tab).

The Applicant's *post-hoc* rationales for why the project's offsite vehicle impacts do not require further study are unpersuasive.[21] The Hearing Examiner should reject the Applicant's new arguments at the hearing that the Federal Highway Administration's interim NEPA guidance for highway expansion projects or Prevention of Significant Deterioration (PSD) increments embedded in the federal New Source Review program are appropriate thresholds to use for making a determination under SEPA as to whether the project's offsite vehicle emissions warrant review through an Environmental Impact Statement. TRC's Air Quality Study did not reference either framework, and there is no evidence that either standard informed the City's decision. *See* Ex. C-13; Ex. C-1. And the Applicant's new arguments are unpersuasive. There is no support in the SEPA statute, regulations, or case law for a bright-line rule that no project generating fewer than 140,000 additional daily vehicles at a single interchange or emitting less than 250 tons per year of a criteria pollutant will ever require an EIS to study the air, health, and climate impacts associated with vehicle emissions. It is also inconsistent with SEPA regulations that detail when it is appropriate to assume that other regulatory processes have already addressed a project's potentially significant impacts. *See* WAC 197-11-158. Here, it is undisputed that neither the highway guidelines nor the federal PSD increments was intended to address projects like the Applicant's.

---

[21] Ms. Corey's testimony—which broadly opined that all of the (unspecified) air and noise reports she reviewed were reliable, that all pollutant exposures were appropriately calculated and modeled, and that all standards applied were health protective—was so vague, unsupported, and conclusory that it is likely inadmissible and should be stricken from the record or at a minimum not be given any weight. Day 5 at 0:35:09–0:43:52; *see also*, *e.g.*, *Safeco Ins. Co. v. McGrath*, 63 Wn. App. 170, 177, 817 P.2d 861 (1991) (collecting cases demonstrating that it is "well established" that "conclusory" expert opinions "lacking an adequate foundation will not be admitted").



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

Given the project's substantial emissions, the City should have required an EIS involving air dispersion modeling of the project's offsite vehicle emissions and a robust HIA. Despite TRC's protestations that modeling mobile source emissions is difficult,[22] Ms. Goff agreed with Dr. McCarthy's testimony that such modeling is possible using a different module of the same air dispersion modeling computer program that TRC used to model some of the project's onsite emissions and that her firm had undoubtedly used that module before. Day 2 at 1:05:18–1:06:03; Day 4 at 2:57:01–2:57:37.

The MDNS did not characterize the project's climate impacts. But the record demonstrates that the project will also have more than a moderate impact on climate. By TRC's own estimates, the project will generate more than 24,000 tons of greenhouse gases (GHGs) per year. Ex. C-13 at 39. With slightly different assumptions, Dr. McCarthy's calculated GHGs increased by between 30% and 500%. Day 2 at 1:40:53–1:42:15. As Ms. Goff noted, individual facilities that emit more than 10,000 MT CO2e or 25,000 MT CO2e per year in direct GHG emissions are subject to state and federal reporting requirements. Day 4 at 1:28:35–1:31:00. There is no authority for Ms. Goff's suggestion that the appropriate way to determine the significance of the project's climate impacts under SEPA is to compare the project's GHG

[22] Ex. C-13 at 20 (stating that TRC did not model emissions from offsite mobile sources using AERMOD "due to the complexity of such analyses" and noting that "'hot-spot' analyses can provide insight as to whether large scale transportation projects may result in new NAAQS violations or worsen NAAQS violations, but are typically limited to projects with substantial new sources of transportation emissions, e.g., expressways with significant diesel traffic; highways and intersections for freight terminals; and large transportation terminals."); *id.* at 22 (identifying pollutants where total project emissions exceed the SQER but stating that "Modeling of offsite emissions were not included in this analysis since Ecology does not require health impact review analyses for mobile sources and methodologies for performing dispersion analyses of mobile sources (conformity and hot spot analyses) are complex and imprecise."); Day 4 at 1:53:35–2:00:30 (Goff arguing that the Federal Highway Administration's interim guidance memorandum on federal NEPA review of highway expansion projects was relevant because it "confirmed" her opinion about the limitations of mobile source modeling).



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

emissions to the entire state's GHG inventory; SEPA does not require a project to be one of the biggest climate polluters in the state to warrant evaluation through an EIS.

Finally, the City failed to reduce the project's air, health, and climate impacts to nonsignificance. The MDNS contains no conditions to reduce the air and climate pollution and associated health impacts from the project's offsite vehicle emissions. It did not require the Applicant to include in its tenant agreements any requirement for electric truck fleets or onsite equipment, or to install onsite EV chargers, nor require the installation of solar panels nor electric heat-pump hot water and heating. *Cf*. Ex. A-33 at 22–26; Ex. A-31 at 7. All these measures have been implemented at similar facilities, and any of them would have been consistent with the City's SEPA policies, including the "One Tacoma" Comprehensive Plan. Indeed, the MDNS quotes at length from the Comprehensive Plan's policy goals of reducing community and health impacts from air and climate pollution, which would have been furthered by the adoption of mitigation conditions. Ex. C-1 at 4–5, 8–9.

## IV. NOISE—INADEQUATE INFORMATION AND SIGNIFICANT IMPACTS

The City clearly erred by failing to impose any noise mitigation conditions, despite the SSA Acoustics noise study concluding that noise from trucks transit onsite at Building B would likely exceed nighttime legal limits and recommended installation of a noise barrier. Ex. C-11 at 14, 16. Furthermore, as Dr. deSouza demonstrated, truck transit at Building B will likely exceed nighttime limits for every warehousing category and exceed daytime limits if the site is used as a parcel hub under SSA's methodology of applying the average peak truck trip rate.[23] Dr. deSouza's analysis also showed that if truck trips exceed the average peak hour rate and are

[23] Ex. A-47 ("Noise Building B" tab, cells 42K and 42M, showing truck transit activities exceeding daytime hourly code limit for parcel hub using average peak rate, no matter how trucks are distributed between buildings); *id.* ("Noise Building B" tab, cells 50K–56K and 50M–56M, showing truck transit activities exceeding nighttime hourly code limit for all land use categories using average peak rate, no matter how trucks are distributed between buildings); Day 2 at 6:02:25–6:15:53.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

closer to the maximum observed peak hour rates reflected in the ITE manual, then noise from trucks onsite would exceed many more applicable legal limits, including at Building A.[24]

The project is likely to cause significant noise impacts. Day 2 at 6:12:15–6:12:29, 6:15:10–6:15:53. As the World Health Organization concluded after rigorous review of the scientific literature on the health impacts of noise, exposure to road noise above 53 dB causes adverse health impacts including cardiovascular disease, sleep disruption, cognitive impairment, adverse birth outcomes, and hearing impairment. Ex. A-50 at xvi, 11, 30–48; Day 2 at 5:54:27–5:57:40.[25]

The project will also cause even louder noise from the use of "deep dynamic compaction" to construct the foundation for Building A, a "unique" process that involves "using a crane to drop weight onto soils below." Ex. B-18 at 15. Landau Associates' study shows that this will generate received sound levels of 100 dbA at 50 feet away and 70–74 dB at receivers set back on nearby residential properties—a noise level that Mr. Warner described as like banging a book on the table—throughout each day for three months. *Id.*; Day 4 at 7:29:10–7:31:27. While these construction activities are exempted from noise laws, three months of loud, repeated banging

---

[24] *E.g.,* Ex. A-47 ("Noise Building A" tab at cells 51O, 51Q, 55O, 55Q, showing truck transit activities at Building A exceeding nighttime limits for warehousing and parcel hub uses); *id.* ("Noise Building B" tab at cell 217Q showing truck engine starts exceeding nighttime limits at Building B for warehousing use); *id.* (both tabs, showing truck idling activities exceeding applicable daytime and nighttime limits for many land uses at both buildings). Looking at the range of trip generation rates reflected in the ITE manual, including the maximum observed rates rather than just the average, is supported by the testimony of both Dr. McCarthy and Dr. deSouza. Day 2 at 0:12:16–0:13:00, 6:05:02–6:05:58.

[25] The Landau Associates opinion that the project's noise impacts from onsite trucks should be considered insignificant is based on a federal framework for analyzing noise from airport expansion projects and has not been adopted by Washington for the purpose of analyzing noise from warehouse or industrial park projects under SEPA. Day 5 at 0:28:33–0:28:58. Notably, Landau Associates did not claim that the project's deep dynamic compaction sounds would be deemed insignificant under the federal airport expansion guidelines and did not offer a persuasive rationale for why this complicated and inapplicable framework should be used to determine SEPA significance for some (but not all) of this project's noise impacts.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

easily qualifies as "more than moderate" within the meaning of SEPA. Landau Associates opined that these unique construction sounds should be considered insignificant under SEPA because they are "short-term," "temporary," and "would occur only during daytime hours." Ex. B-18 at 18. But these qualifiers bear no relation to SEPA standards, which explicitly require consideration of both long-term and short-term impacts and do not exclude daytime impacts. *See Preserve Our Islands v. Shorelines Hearings Bd.*, 133 Wn. App. 503, 540 (2006) (EIS conducted for project generating noise between 41 and 51 dBA during the day).

Finally, the City failed to study the noise impacts of vehicles traveling to and from the site. Both SSA Acoustics and Landau Associates excluded these activities from their analysis,[26] but Landau Associates noted that noise levels between the project site and Union St. and SR-16 are anticipated to increase by 1 to 2 dBA during peak hour periods. The fact that such noise from vehicles on public roads is exempt from state legal limits does not mean that they are categorically insignificant within the meaning of SEPA. Given SEPA's command to consider cumulative impacts and health impacts from noise and a project's cumulative impacts, the City clearly erred by failing to require an EIS to further assess the project's noise impacts or impose any noise mitigation conditions.

## V. ONSITE STORMWATER—INADEQUATE INFORMATION

The evidence presented at the hearing established that the Applicant will not treat stormwater at the level assumed by the MDNS and that the City failed to adequately analyze the project's stormwater impacts.

### A. The Applicant Will Not Treat 100% of Onsite Stormwater.

The MDNS recognizes that the project site is in the South Tacoma Groundwater Protection District (STGPD) and clearly states that "[a]ll stormwater on the site will be captured and treated prior to infiltration or discharge to the stream/wetland system." Ex. C-1 at 6 ¶ 21. Yet

[26] Ex. C-11 at 3–16; Ex. B-18 at 13; Day 5 at 0:23:46–0:23:55.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

Mr. Eldridge, the Applicant's stormwater engineer, testified that only 15 percent of the project's stormwater would receive treatment, while 85 percent of the stormwater will bypass treatment and go directly into the infiltration gallery. Day 1 at 1:33:50. In an attempt to minimize the significance of the discrepancy between what the Applicant asserted it will treat and what the MDNS requires, Mr. Perkins, one of the City's engineers, stated that the project will be required to comply with the 2021 Stormwater Management Manual (SWMM), which requires that a minimum of 91 percent of the total runoff volume must receive treatment from the stormwater system. Day 4 at 5:02:10–5:03:35. But although the MDNS separately references a requirement to comply with the stormwater manual and applicable regulations, Ex. C-1 at 5 ¶ 19, the assertion that the project would treat "all" stormwater is a specific, separate assumption built into the MDNS. In light of the disparity between what the MDNS assumes about the project's treatment of stormwater and what the Applicant's expert witness testified the Applicant intended to do, the MDNS is clearly erroneous. *King Cnty. v. Washington State Boundary Rev. Bd. for King Cnty.*, 122 Wn.2d 648, 664–65, 860 P.2d 1024 (1993) ("a reviewing court will overturn an agency's DNS when[,] '[a]lthough there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.'").[27]

B. Inadequate Information to Assess Feasibility of Compliance with Stormwater Management Manual

When Director Huffman issued the MDNS, he did not have adequate information to determine whether the project would have significant impacts on stormwater. Mr. Perkins

[27] Mr. Perkins opined that the MDNS' statement that "all stormwater will be treated" should be understood to mean only that the project would treat stormwater to the extent necessary to comply with the SWMM. Day 4 at 4:51:00–4:51:58. But this testimony is not relevant. The word "all" is unambiguous, and the record contains no evidence to suggest that Director Huffman, the SEPA responsible official who made the threshold determination at issue in this appeal, understood it to carry anything other than its ordinary meaning.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

testified that the Applicant's stormwater system design was only about half done when the Applicant submitted the plan for SEPA review. Day 4 at 5:16:24.

The Applicant's consultant Mr. Eldridge admitted that he performed no site-specific calibration or validation of the stormwater model. Day 3 at 0:49:30. While all parties agree that the Western Washington Hydrology Model (WWHM) is an appropriate tool to use, the parties disagree on whether the WWHM was properly used to evaluate the project. As Dr. Emerman explained, the Applicant should have used site-specific data to verify that the model provided accurate information about the proposed project's impacts. Day 1 at 0:57:14. Without having validated or calibrated the stormwater model, accounted for uncertainty in the input parameters, analyzed the pollutant profile of the stormwater that must be managed, or accounted for the correct volume and flow rate of stormwater that must be managed, the Applicant's stormwater analyses do not constitute a sufficient basis for concluding that compliance with the Stormwater Management Manual is feasible.

Based on his review of MDNS record documents, Dr. Emerman concluded that it is not clear that the stormwater site plan would even be workable if a more correct analysis was carried out. Day 1 at 0:49:55. Specifically, he noted that a correct analysis may show that the planned stormwater infiltration basins need to be bigger, but it is not obvious from the record documents that it is possible to make the basins bigger. Day 1 at 0:50:15. Additionally, Dr. Emerman noted that, while the design infiltration rate of 2.5 inches per hour may be possible, the record documents do not include any calculations or analysis of how the water treatment system will impact the ability to infiltrate at the design rate and ensure no backlog of stormwater. Day 1 at 1:17:15.

To comply with the SWMM properly, the Applicant must have an adequate knowledge base and complete an adequate analysis. Day 1 at 0:53:55. Dr. Emerman detailed how the Applicant's stormwater site plan lacked any consideration of climate change and how the



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

Applicant's consultants failed to conduct a sensitivity analysis and validation or calibration of the stormwater model. Day 1 at 0:57:14. A sensitivity analysis, he explained, should have determined the reasonable range of input parameters in designing infiltration basins and, if there was a wide variation, the Applicant should either work to reduce uncertainties or use the worst-case scenario as the design basis. Day 1 at 0:59:00. Because the Applicant failed to take these steps, Dr. Emerman stated that the Applicant and the City could not determine that compliance with the SWMM is feasible based on the information they have, as it is not clear that the project or basic elements of the design are feasible. Day 1 at 1:11:40.

For example, the Applicant's analyses do not account for uncertainty as to the magnitude of extreme storms due to climate change. Mr. Eldridge admitted that larger storm events than were accounted for could happen due to climate change, and that Respondents did not analyze how project climate change conditions would change the project's stormwater impacts. Day 1 at 1:05:20, 1:06:30, 1:23:43; Ex. A-5 at 4–8. The hearing testimony from the Applicant's and the City's witnesses about what might happen if the project's stormwater system failed were inconsistent and speculative.[28] And in any event, opinions offered at the hearing cannot change the fact that the City did not analyze the consequences of stormwater system failure prior to issuing the MDNS.

[28] *Compare* Day 3 at 0:54:10, 0:56:47, 1:03:25 (Mr. Eldridge suggesting that if the stormwater system failed and stormwater spilled out of the basins, water would pond in the parking lot but would be unlikely to spill into the critical areas and other undeveloped portions of the site) *and* Day 3 at 1:27:30 (Mr. Eldridge conceding that he did not know if stormwater overflow spilling into a critical area would be a problem) *with* Day 1 at 4:31:10 (Mr. Schepper testifying that there was no opportunity for water to pond in the parking lot because paved surfaces are all sloped so that water runs off).



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

## VI. AQUIFER AND MUNICIPAL WATER SUPPLY—INADEQUATE INFORMATION ABOUT DECREASED SUPPLY, INCREASED DEMAND, AND POTENTIAL FOR CONTAMINATION

The evidence at the hearing showed that the City and the Applicant failed to adequately assess the project's adverse environmental impacts on the South Tacoma Aquifer and how that will affect the municipal water supply in the long term, considering increasing demands on the aquifer as a source of municipal water due to climate change and population growth. While the City offered two witnesses from Tacoma Water, neither Mr. George nor Mr. Hallenberg was part of the SEPA review team for the project, and neither witness had done any analysis of the project's probable impacts on the aquifer or municipal water supply. Day 1 at 5:16:46, 5:18:14; Day 3 at 5:27:40. Mr. Hallenberg testified about Tacoma Water's compliance and monitoring programs but admitted that neither take place prior to project approval or construction. Day 3 at 5:28:26. SEPA requires an assessment of a project's probable significant impacts *before* project approval. Based on current information, the City cannot know whether the Applicant's admittedly incomplete plan to use infiltration basins and detention ponds will be adequate to mitigate the project's impacts on aquifer recharge and public water supplies.

### A. Decreased Aquifer Supply

The MDNS and the Critical Area Development Permit failed to evaluate the project's potentially significant impacts on aquifer recharge, as required by TMC 13.11.180(B). Indeed, while the aquifer recharge area is a critical area, *e.g.*, TMC 13.11.180(A), the permit fails to even mention the aquifer. The central question that the Applicant and the City have not answered—and must answer to determine whether the project will have significant impacts—is whether the development of the project site and the addition of impervious surfaces over the South Tacoma aquifer recharge area will affect the aquifer's recharge rate.

Mr. Schepper, the Applicant's hydrogeologic expert, acknowledged that climate change could put more demand on Tacoma's groundwater supply but asserted that the project would not



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

reduce recharge, despite having done no analysis of the aquifer recharge rate. Day 1 at 4:35:03; *see also* Day 1 at 4:33:07 (has not quantified volume of water that infiltrates on the project site in a typical year); Day 1 at 4:42:30 (has done no modeling or analysis of how addition of impermeable surfaces to the project site will affect the aquifer's recharge rate); Day 1 at 4:45:10 (did no calculations to determine long it would take for water from the larger aquifer complex to reach and recharge the South Tacoma Aquifer); Day 1 at 4:33:15 (did not do any quantitative analysis of infiltration at the site).

Moreover, Dr. Emerman testified that, in fact, not all water will be captured and conveyed into infiltration galleries and that the stormwater site plan's assumption that all rainfall will infiltrate is incorrect because of evaporation of water on the asphalt, concrete, and roofs, as well as ponding of water in the parking lots and the stormwater conveyance system. Day 1 at 1:23:00, 1:53:30; *see also* Day 1 at 4:31:30 (Schepper testifying that pavement may absorb water on hot, dry days).

The only evidence to the contrary is testimony that is not reflected in the hydrogeologic assessment or anywhere else in the record: specifically, Mr. Schepper's assertion that paving over the current lot with impervious surfaces will result in "quite a bit less" evaporation and that he expects an "at minimum equal to, if not greater" infiltration than allowed by current conditions. Day 1 at 4:28:30–04:29:07, 4:32:00–4:32:08. And Dr. Emerman disputed the Applicant's suggestion that its stormwater treatment system will improve current conditions, explaining that, in his extensive experience, he has never seen a development improve surface or groundwater quality. Day 1 at 1:29:00–01:30:40.

During the hearing, Appellants and the Applicant had experts opine on how the larger aquifer complex may operate, but the fact is that the Applicant did not conduct a quantitative analysis of aquifer recharge in the project area. Mr. Schepper admitted that he had done no modeling or analysis of how the addition of impermeable surfaces to the project site will affect



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

the aquifer's recharge rate. Day 1 at 4:42:30. While Mr. Schepper opined that a larger aquifer complex would recharge the South Tacoma Aquifer, he admitted that he did not do any calculations to determine how long it would take for water to reach and recharge the South Tacoma Aquifer. Day 1 at 4:45:10. As Dr. Emerman explained, the question of whether paving over the project area will impact aquifer recharge is not a simple question and was not addressed in the MDNS exhibits. Day 1 at 1:20:00. Dr. Emerman acknowledged that other connected aquifers may ultimately recharge the South Tacoma Aquifer but the rate at which that might occur is unknown and should have been analyzed. *Id*.

B. Increased Aquifer Demand

The record shows that climate change will increase Tacoma's reliance on groundwater for municipal water supply and that the City failed to study how paving over the aquifer will affect groundwater supply. The City's expert, Glen George, testified that Tacoma typically gets 90–95 percent of its water from Green River and 5–10 percent from in-town well sources but that the well system is an important secondary source of drinking water, supplying up to 50–60 percent of Tacoma's drinking water this summer. Day 1 at 5:00:17–5:00:33. Mr. George explained that in very dry years, like this year, when the river is stressed, Tacoma Water will turn on wells to keep water in the Green River for fish and other natural resources. Day 1 at 4:59:50.

As Mr. Dixon explained, climate change will increase drought and reduce the ability to withdraw water from the River without dipping below minimum flow levels and harming fish, and, as a result, the City will have to rely significantly more on groundwater for municipal water supply. Day 1 at 2:12:00–2:26:00; *see also* Day 1 at 5:14:00 (George agreeing that, because of the decreased output of the Green River system, Tacoma will have to rely a great deal more on its groundwater wells to provide drinking water). Tacoma Water's 2018 Integrated Resource Plan estimated that climate change will most probably decrease the output of the Green River system by up to 18 percent in future years. Day 1 at 5:01:42; Ex. A-7 at 24 ("The overall impact



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

[of climate change] to Tacoma Water's surface water supply system is expected to be on the order of 18 percent reduction.").

Despite the City's recognition of the increasing importance of groundwater wells to municipal water supply, the City conducted no assessment of the proposed project's impacts on the aquifer or nearby production wells. *See* Ex. C-10 at 159–61 (listing nearby wells without analyzing how the project could impact the wells' water quality). As Mr. Dixon opined, the project will likely make it harder for the city to rely on wellheads for water. Day 1 at 2:29:30.

The record shows that there were several available methods for assessing the project's likely impacts on groundwater taking climate change into consideration. Day 1 at 1:31:00 (Emerman describing some possible approaches to assessing climate change impacts); Day 1 at 5:10:28 (George discussing how Tacoma Water includes climate change as part of its planning and how, of the 60–70 climate change models out there, Tacoma chose the ten that best represent the Northwest). But the Applicant used none of them. *See* Day 1 at 1:23:43 (Eldridge admitting that stormwater site plan contains no analysis of projected climate change conditions).

C. Potential for Aquifer Contamination

The record demonstrates that the project will change how groundwater infiltrates into the aquifer, that those changes could lead to contamination of the aquifer, and that the City did not study these potentially serious consequences before issuing the MDNS. Mr. Schepper, Dr. Emerman, and Mr. Dixon all agree that the current undeveloped project site has widespread areas that allow water to infiltrate/percolate through the soil and enter the aquifer, but that once the undeveloped land is paved over with impervious surfaces, water will be directed into an infiltration gallery that is smaller than the overall site area. Day 1 at 4:27:30–4:27:56. Mr. Dixon testified that the infiltration basins may create new flow patterns that create the potential for contaminant resuspension when water is no longer slowly percolating through current soils but rather concentrated at the infiltration basins. Day 1 at 2:34:07. Similarly, Dr. Emerman stated



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

that the Applicant should have analyzed how existing contaminants are currently fixed in the soil, whether development activities (including localization of infiltration) will change soil chemistry and how contaminants move, and whether any mobilization of contaminants will be toward production wells. Day 1 at 1:26:00, 1:32:45.

The record also demonstrates that the Respondents failed to examine the pollutant profile of stormwater runoff, which is necessary to determine the appropriate stormwater treatment. Day 1 at 1:26:00.

## VII. SOIL MANAGEMENT PLAN—INADEQUATE INFORMATION ABOUT POTENTIAL FOR SUPERFUND CONTAMINANTS TO MOBILIZE IN GROUNDWATER

There is no evidence that Director Huffman reviewed the EPA-approved version of the Soil Management Plan (SMP) prior to signing the MDNS. The version of the SMP contained in the City's MDNS record was not approved by EPA and described a plan where not all contaminants will be contained. *See* Ex. C-12 at 12. But both versions of the SMP reflect a plan to mix contaminated soils containing lead above CERCLA cleanup levels with non-contaminated soils. Ex. C-12 at 20; Day 3 at 4:01:55 (Morin affirming that this will be the plan for any incidentally encountered contaminated soils). And nothing in the record reflects any quantification of the risks associated with this plan.

Moreover, the particular design of the detention ponds on the southern part of the site increases the risk of recontamination. As Mr. Eldridge noted, the detention ponds in the southern part of the site do not release stormwater to the ground; they release it into an overland flow consistent with pre-existing conditions. Day 3 at 0:22:45. However, if there is a rain event beyond the 50-year event, flow may come out of the detention ponds at a rate higher than current conditions. Day 3 at 1:20:30. Mr. Dixon testified that it is dangerous to leave contaminated soils in the wetland buffer because most of the site will be changed into impervious cover, and that will change how stormwater moves and flows over the site. Day 1 at 2:38:10. In closing the site,



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

EPA assumed conditions would not be changed, but because the site is graded toward the buffers and stream, if the proposed stormwater system fails, there is a real risk of overland flow going over the contaminants in a way that was not envisioned by the EPA in the Record of Decision prescribing the remedial action objections for contaminant clean-up on the Superfund site. *Id*. Mr. Dixon testified that maintaining the soil caps was the most important institutional control, and if the Applicant violated that institutional control, resuspension of contaminants and recontamination of the site could occur. Day 1 at 2:39:45.

## VIII. OFFSITE STORMWATER—INADEQUATE ANALYSIS AND SIGNIFICANT INDIRECT IMPACTS TO FISH FROM 6PPD-Q

The City failed to adequately assess the project's indirect impacts on fish (including listed species) and their habitat. It is undisputed that increased truck and passenger vehicle traffic from this project will contribute additional pollutants to the area's stormwater, including 6PPD-q, which is harmful to Coho salmon and steelhead trout. And the weight of the evidence demonstrates that this stormwater will carry 6PPD-q to receiving waters where salmonids swim and spawn, harming them.

The record makes clear that the City did not analyze the indirect impacts to fish downstream of the project site from offsite stormwater polluted with 6PPD-q. Mr. Dixon testified that projects of this size, in his experience, will worsen the area's stormwater quality and require a robust assessment of stormwater impacts and storm service area impacts around the project site itself. Day 1 at 2:46:35, 3:17:21, 3:17:40. But the City improperly limited its consideration of the project's adverse impacts to fish to impacts to onsite ESA-listed species—of which there are none—and impacts of onsite stormwater to species downstream. Day 1 at 5:51:45–5:51:54, 5:48:32; Ex. C-9 at 5, 7 (observing that this project "may have an effect on water quality within the watershed" but concluding that onsite stormwater treatment will "minimize downstream impacts" from onsite stormwater "to the Chambers Creek-Frontal Puget Sound watershed").



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

The record documents and hearing testimony make clear that the City did not consider the impact of changes to the pollutant profile in stormwater surrounding the project site to species downstream. Ex. C-9 at 7; Day 3 at 4:26:53–4:27:18 (Ms. Kluge testifying that the technical memorandum (Ex. C-33) she prepared did not consider Coho Salmon or steelhead in Flett or Chambers Creek); Day 3 at 4:34:38–4:35:20 (Ms. Kluge testifying she did not look at downstream impacts because she is "typically [] looking for impacts onsite"). Nothing in SEPA permits consideration of impacts solely on the four corners of the project site when assessing the significance of indirect environmental impacts. *See* WAC 197-11-060(4)(b) ("[i]n assessing the significance of an impact, a lead agency shall not limit its consideration of a proposal's impacts only to those aspects within its jurisdiction, including local or state boundaries."). Rather, it requires review of a project's "indirect" impacts as well. WAC 197-11-330(1)(b).

It is undisputed that the additional traffic resulting from the project will inevitably change the pollutant profile of the stormwater surrounding the project site, most importantly by increasing 6PPD-q from vehicle tires. Day 1 at 2:45:17–02:46:52, 3:20:37–3:21-42. As Mr. Dixon explained, tires deposit tire road wear particles and 6PPD-q film onto roads, which then wash off during rainstorms, move into the stormwater system, and flow downstream unless they are filtered out by a biofiltration system. Day 1 at 3:12:11–3:13:13. Mr. Dixon further explained that 6PPD-q that is not filtered out of stormwater by a biofiltration system will persist in the environment because tire road wear particles can flow downstream and in some cases wash up on creek beds or coat the sides of a rocky stream and remain, continuously leaching 6PPD-q and acting as a battery for toxicity in the future. Day 1 at 3:13:30–3:13:56. And it is undisputed that 6PPD-q is one of the most harmful toxic aquatic contaminants and harms salmonids by obstructing their blood brain barrier, inducing pre-spawn mortality, particularly in Coho salmon, and interfering with spawning. Day 1 at 2:59:27, 3:06:24, 3:07:03.



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

The weight of the evidence demonstrates that offsite stormwater polluted with 6PPD-q from the roadways surrounding the project site will reach fish in Flett and Chambers Creek, where Coho Salmon and steelhead trout are born and return to spawn. Day 1 at 2:53:15–2:53:37; Ex. A-10. As Mr. Dixon explained, water that lands anywhere in the Flett Creek Watershed, which contains the project site and surrounding roads, drains down to this watershed's receiving waters, including Flett and Chambers Creek approximately two miles south of the project site. Day 1 at 2:53:30, 2:59:27. Mr. Dixon further testified that any pollution-generating activities in this watershed—including emergency overflow, unanticipated sheet flow, or construction-based stormwater that was poorly managed or unmanaged—will carry polluted stormwater south and flow into the Flett Creek drainage system. Day 1 at 3:15:09–3:16:31; *see also* Ex. B-10 at 6 ("The [surface water drainage] channel continues off-site for 500 feet along Madison Street to approximately 150 feet north of South 56th Street, at which point the open channel enters a 72-inch storm drain[,]" and "about 15 million gallons leave the site," that "combined with other sources of surface water, discharge[] from the trunk storm drain to the Flett Creek storm basin approximately 1.4 miles south of the site. Approximately three miles farther down-stream, Flett Creek discharges into Chamber[s] Creek, which leads to Chambers Bay on Puget Sound.").

Mr. Dixon also testified that all the offsite stormwater flow around the project and any pollution-generating activities in that area will push pollutants, such as 6PPD-q, into the drainage system into the Flett Creek Holding Basins, where the polluted water will sit before eventually moving into Flett Creek. Day 1 at 3:15:45–3:16:08. As Mr. Dixon explained, what is currently known about 6PPD-q suggests that pipes and other means of stormwater conveyance would not prevent 6PPD-q from reaching the downstream reaches of Flett Creek because they do not have biofiltration. Day 1 at 3:19:15–3:19:28.[29] Mr. Dixon's testimony about the movement of 6PPD-q

[29] The City's testimony that there are no known Best Management Practices for 6PPD-q for the City to refer to (Day 3 at 4:31:14) is belied by evidence introduced by the Applicant. *See* Ex. B-30 at 45–57 (highlighting and ranking several BMPs for 6PPD-q).



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

thorough the Flett drainage system is bolstered by the evidence presented at the hearing, specifically that the "primary pathway of 6PPD-q transport is most likely via runoff from roads and parking areas to BMPs or through conveyance systems (storm drainpipes and catch basins) to surface waters[.]" Ex. B-30 at 2. *See also* Day 3 at 2:46:00-08.

Despite Respondents' attempts to cast doubt on the state of scientific knowledge about 6PPD-q, no evidence presented at the hearing rebutted Mr. Dixon's testimony that "without some organic media, 6PPD-q will persist in the environment," Day 1 at 3:12:47, 3:13:41, and pose a significant threat to salmonids that encounter it. Mr. Dixon's testimony that "even if [6PPD-on] water moves through [] wetlands, it's not interacting and getting forced through soils" and thus it is "not encountering anything organic" to grab onto also remains unaddressed. Day 1 at 3:19:16–3:20:29. No evidence presented explained whether the soil in the holding basins was sufficient to be the kind of vegetation or biomatter to absorb and filter out 6PPD-q; nor was any evidence presented an analysis of the volume and frequency of water that will course through the holding basins. In fact, Dr. Wright conceded that the City does not even know how long water stays inside the Flett Creek Holding Basin ponds. Day 3 at 2:22:00 (discussing the "residual time"). And while the science on 6PPD-q's environmental fate and half-life in water is still evolving, evidence presented suggested that 6PPD and 6PPD-q can live long on non-water surfaces. *See* Ex. B-30 at 8 ("[t]he estimated half-lives of 6PPD and 6PPD-q are 75 days in soil and 337 days, in sediment (meaning soils below water)[.]"); *see also id*. at 32 (citing Rauert, et al., 2022, "settled [tire wear particles] may be a *continuing* source of chemicals into the urban creek post storm") (emphasis added).

Moreover, SEPA regulations make clear that, given the potential severity of the harm to salmonids from this 6PPD-q associated with this project, if the City's analysis of the project's impacts to fish were affected by scientific uncertainty about how 6PPD-q travels through water, the appropriate response would have been to make clear in the SEPA analysis that substantial



*Earthjustice*
*810 Third Ave., Suite 610*
*Seattle, WA 98104*
*(206) 343-7340*

uncertainty exists and indicate the worst-case analysis of the project's impacts on fish and fish habitat. WAC 197-11-080(2), (3)(b). In this case, that conclusion is entirely absent from the record.

## CONCLUSION

For the foregoing reasons, the record demonstrates that the MDNS is clearly erroneous. The Hearing Examiner should reverse the MDNS and enjoin Respondents from taking further action until an EIS is completed.

DATED: August 28, 2023.

Respectfully submitted,

*s/ Molly Tack Hooper*
Molly Tack-Hooper
Noorulanne Jan
Earthjustice
810 Third Avenue, Suite 610
Seattle, WA 98104
(206) 343-7340 | Phone
mtackhooper@earthjustice.org
njan@earthjustice.org

*Attorneys for Appellants 350 Tacoma and South Tacoma Neighborhood Council*