WEST of 4th SITE
Amendment of Agreed Order
New FS pilot studies and an interim action

WAC 197-11-970 Determination of nonsignificance (DNS).

DETERMINATION OF NONSIGNIFICANCE

Description of proposal: Two long-term *pilot studies* will be performed prior to selecting a final cleanup action for the West of 4th site. One of the studies will be designed to determine the effectiveness of in situ chemical reduction (ISCR) and/or enhanced in situ bioremediation (ISB) in a portion of the site where groundwater is contaminated with chlorinated volatile organic compounds (CVOCs). The second study would focus on an area of where groundwater is contaminated with nickel and other toxic metals. Its purpose would be to determine the best manner of raising groundwater pH, and – like the other study – obtain information for better designing a full-scale cleanup action.

Work Plans for the two studies were submitted in April and June of this year. Their titles are:

- *Site Unit 1, In Situ Metals Immobilization Pilot Study Work Plan* (Draft; 4/17/17); and,
- *Site Unit 1, CVOC Pilot Study Work Plan* (Revised Draft; 6/14/17).

Both studies are expected to be completed over a period of 12-15 months.

An interim action will also be conducted prior to selecting a final West of 4th cleanup action. It will target another part of the site where soils and shallow groundwater are contaminated with CVOCs. In situ chemical oxidation (ISCO) will be applied by injecting oxidant (such as potassium permanganate) into contaminated vadose zone soils and shallow groundwater. A Work Plan for the interim action was submitted in July; its title is *Site Unit 2, Capital Industries Plant 4 Interim Action Work Plan* (Draft; 7/27/17). The action would be implemented over a timeframe similar to the Site Unit 1 studies.

NOTE: Under the current Model Toxics Control Act (MTCA) Agreed Order, the West of 4th PLPs (potentially liable persons) have been jointly conducting a Feasibility Study (FS). Before proposing a preferred cleanup action for the site, the PLPs now plan to conduct pilot studies to determine the effectiveness of certain cleanup technologies. They also intend to perform an interim action. Since the April 2014 Agreed Order did not anticipate these studies, the interim action, or the length of time they would take, the Order's Scope of Work and Schedule must be amended. Order amendment will precede finalization of the three Work Plans identified above, and the studies and action themselves.

Proponent: The West of 4th PLPs include:

- Art Brass Plating, Inc., at 5516 3rd Ave. S.
- Blaser Die Casting Co., at 5700 3rd Ave. S.

- Burlington Environmental, LLC (also known as "PSC" and "Stericycle;" property located at 734 S. Lucile St.).
- Capital Industries, Inc., at 5800 3rd Ave. S.

Location of proposal, including street address, if any: The West of 4th site is located in south Seattle, between 4th Ave. S. and the Duwamish Waterway. It extends, generally, from S. Lucile St. in the north to Slip 2 of the Waterway in the south. The two pilot studies will be located as follows:

- Site Unit 1, CVOC Pilot Study: on and near S. Fidalgo St., between East Marginal Way S. (to the east) and the Duwamish Waterway (approximately 350 feet to the west)
- Site Unit 1, In Situ Metals Immobilization Pilot Study: immediately north of the northeast corner of the 3rd Ave. S. and S. Findlay St. intersection

The Site Unit 2, Plant 4 Interim Action will be located west of the 4th Ave. S. and S. Fidalgo St. intersection, at the east end of the Capital Industries property.

Lead agency: Washington State Department of Ecology.

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030 (2)(c). This decision was made after review of three completed environmental checklists and other information on file with the lead agency. This information is available to the public on request.

In summary, the basis for Ecology's determination is as follows. Potential significant adverse impacts related to the pilot studies are limited to the following scenarios:

a) the Site Unit 1 CVOC Pilot Study is located on and near S. Fidalgo St., west of East Marginal Way S. During the work week, and during normal business hours for companies situated immediately north and south of Fidalgo St., this narrow road is heavily used by truckers, employees, and visitors to the companies. Although monitoring wells already exist in the study area, and are routinely accessed for monitoring purposes, the groundwater injections and added monitoring associated with the study could potentially pose significant adverse traffic impacts. Ecology has concluded such impacts are improbable, however, because the West of 4th PLPs will propose specific measures to reduce and/or control anticipated study-related transportation impacts when applying for the City's street use permit. The goal of these measures will be to minimally inconvenience drivers approaching and leaving businesses served by this stretch of S Fidalgo St. The measures are expected to include: notification and coordination between the study's fieldteam members and the affected businesses; scheduling of the most potentially disruptive fieldwork during days and hours when traffic in the area is expected to be lighter; and, as possible and needed, providing work-around lanes for vehicles accessing the area during well installation, injection, and monitoring events;

b) the Site Unit 1 CVOC Pilot Study is located about 300 feet east of the Duwamish Waterway. The groundwater injections associated with the study will affect groundwater geochemistry (result in enhanced reducing conditions). This may result in the mobilization of certain naturally-occurring metals, whose concentrations in groundwater may increase. The study has been designed so that these groundwater effects, and the movement of the injected reagents themselves, will be limited to short distances from the injection points. However, if the injected reagents, elevated metals concentrations, or higher-than-anticipated reducing conditions were present in groundwater discharging to the Waterway, this could potentially pose significant adverse surface water and/or sediment impacts. Ecology has concluded such impacts are improbable, however, because the project will include a number of monitoring points between the injection area and the riverbank, and a contingency plan will be implemented should monitoring indicate unexpected migration of undesirable groundwater chemistry or study-induced substances;

c) the reagent injections during the Site Unit 1 CVOC Pilot Study may temporarily increase methane concentrations in groundwater. As a result, it is possible that methane levels in soil gas (above the water table) may also increase. Emissions of soil gas containing methane to the atmosphere usually pose little concern, but contaminated soil gas beneath buildings in the area could potentially pose significant adverse health and/or safety impacts. Ecology has concluded such impacts are improbable, however, because the project will include a number of monitoring points in the study area and a contingency plan will be implemented should monitoring indicate that soil gas methane levels have, or could, become high enough under buildings to potentially cause adverse health and/or safety impacts;

d) the Site Unit 2 Plant 4 interim action is located about 70 feet west of the northwest corner of the intersection of South Fidalgo Street and 4th Avenue South, between S. Fidalgo and Mead Streets. The area targeted for oxidant injections is more than 1500 feet northeast of the Duwamish Waterway's Slip 2. The injections will affect groundwater geochemistry (result in oxidizing conditions). This may result in the mobilization of certain naturally-occurring metals, whose concentrations in groundwater may increase. The interim action will be designed to limit these temporary effects to groundwater quality to a short distance from the injection-area, far from the Waterway. Ecology has therefore concluded that adverse impacts to the Waterway are improbable;

e) the CVOC study in Site Unit 1 and the Site Unit 2 interim action will inject reagents below the ground surface. At Site Unit 1 the reagent will be delivered to a depth of 20 to 30 feet below ground surface. In Site Unit 2 oxidant will be injected into shallow depths below ground surface, and

may be delivered under pressure. With such shallow injections there is the potential for the injected solution or groundwater containing this solution to move upwards through preferential pathways (such as utility lines or unsealed boring locations) and discharge to the surface. This is referred to as "surfacing" (or "daylighting"). It is also possible that subsurface sewer or other liquid conveyance systems, if located in areas where injections are occurring and at depths as shallow as either the water table or the injection zone,[1] can intercept injected solution or groundwater containing this solution if the lines are leaky and not under positive pressure. In addition, other utilities, if located in areas where the injections are occurring and at depths as shallow as the injection zone or water table, can be damaged if contacted by the reagent (such as oxidants).

The Site Unit 1 and 2 Work Plans propose pre-injection geophysical surveys to locate and map utilities in the project area. The projects' Field Investigation Work Plans will also acknowledge surfacing and utility line-interception possibilities and address them in the injection and monitoring design. If, during injection monitoring, surfacing occurs or there are indications that it is likely to occur, injections will be halted until a modified injection flowrate and pressure is determined, or other corrective actions are taken to ensure that surfacing will not occur. The fieldteam will then implement measures to properly manage and dispose of any groundwater or reagent solution that inadvertently surfaces. For these reasons, Ecology has concluded that adverse impacts associated with surfacing and/or utility interception of, or contact with, the reagents are improbable.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted by October 31, 2017.

Responsible official: Raman Iyer

Position/title: Section Manager, Hazardous Waste Toxics Reduction Program

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Date: 09/25/17 Signature: 

[1] Mounding of the water table is common during injection events targeting shallow subsurface depths.