STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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April 20, 2016

Ms. Sarah Gregory
Regency Centers/Columbia Cascade Plaza, LLC.
One Independent Drive, Suite 114
Jacksonville, FL 32202

Re: Opinion pursuant to WAC 173-340-515(5) on Remedial Action for the following Hazardous Waste Site:

- **Name:** Classic Cleaners Everett
- **Address:** 7601 Evergreen Way B4, Everett, WA 98203
- **Facility/Site No.:** 1382746
- **VCP No.:** NW 2745
- **Cleanup Site ID No.:** 4690

Dear Ms. Gregory:

Thank you for submitting documents regarding your proposed remedial action for the Classic Cleaners Everett (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following releases at the Site:

- Tetrachloroethene (PCE) in soil and ground water.
- Naphthalene, chloroform and 1,1,1 trichloroethane in ground water

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person

from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your proposed remedial actions:

1. Apex Companies, LLC. *Data Gap Site Investigation – Classic Cleaners – Cascade Plaza*, February 3, 2016.

2. Apex Companies, LLC. *Site Investigation Report – Classic Cleaners – Cascade Plaza*, July 21, 2015.

3. Apex Companies, LLC. *Site Investigation Work Plan – Classic Cleaners – Cascade Plaza*, August 12, 2014.

4. Apex Companies, LLC. *Progress Report – Classic Cleaners – Cascade Plaza*, June 9, 2014

5. Whitman Environmental Sciences, *Additional Phase II Site Investigation, Former Classic Cleaners Tenant Space*, dated January 21, 2003.

6. Whitman Environmental Sciences, *Floor Drain and Sewer Information, Former Classic Cleaners Tenant Space*, dated November 7, 2002.

7. Whitman Environmental Sciences, *Response to Ecology VCP Questions, Former Classic Cleaners Tenant Space*, dated August 5, 2002.

8. Whitman Environmental Sciences, *Groundwater Monitoring Results – August 2000, Classic Cleaners*, dated August 11, 2000.

9. Whitman Environmental Sciences, *Groundwater Monitoring Results – March 2000, Classic Cleaners*, dated April 25, 2000.

10. Whitman Environmental Sciences, *Classic Cleaners Tenant Space Inspection, Cascade Plaza Shopping Center*, dated January 21, 2000.

11. Whitman Environmental Sciences, *Groundwater Monitoring Results – December 1999, Classic Cleaners*, dated January 17, 2000.

12. Whitman Environmental Sciences, *Groundwater Monitoring Results – August 1999, Classic Cleaners*, dated September 13, 1999.

13. Whitman Environmental Sciences, *Phase II Site Investigation, Classic Cleaners*, dated May 26, 1999.

14. ATC Associates, *Subsurface Investigation, Cascade Plaza Shopping Center*, dated June 20, 1997.

15. ATC Associates, *Phase I Environmental Site Assessment for Metropolitan Life Real Estate Investments of Cascade Plaza Shopping Center*, dated May 19, 1997.

The reports listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at 425.649.7235 or sending an e-mail to nwro_public_request@ecy.wa.gov.

The Site is more particularly described in Enclosure A to this letter, which includes a detailed Site diagram. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the release(s) at the Site, Ecology has determined:**

- As noted in the February 2016 *Data Gap Site Investigation*, a minimum of four consecutive quarters of ground water monitoring data needs to be collected to demonstrate compliance with MTCA. However, the wells need to be appropriately placed to demonstrate that ground water is in compliance with MTCA throughout the Site, including in the source area. Ecology recommends installation of a permanent monitoring well in the source area for further characterization of the Site.

- Once Site characterization is complete, the ground water monitoring data collected to date from the existing wells will be useful for determining an appropriate cleanup action for the Site and to demonstrate that the lateral extent of contamination is bounded by monitoring wells that are in compliance with cleanup standards. The standard point of compliance for ground water is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth which could potentially be

affected. It may be appropriate to set conditional points of compliance, however, that cannot be determined until Site characterization is complete.

- The additional soil boring near historical boring HB-4 is appropriately sited to assess the area where previous exceedances of the MTCA Method A cleanup level for PCE in ground water were identified. Collecting soil samples at this location will provide useful information regarding the extent of PCE contamination in what appears to be the source area. Soil samples should be collected to the depth necessary to determine the vertical extent of contamination.

- The proposed soil vapor points are sited in locations where previous soil gas sampling concentrations of PCE were greatest which is appropriate for assessing vapor intrusion risks. The proposed simultaneous ambient indoor air and soil vapor sampling is appropriate for further assessing potential indoor air impacts.

- Attached as Enclosure A is a Remedial Investigation/Feasibility Study outline to further guide you in preparing this document.

This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. **This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.**

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at 425.649.7097 or e-mail at diane.escobedo@ecy.wa.gov.

Sincerely,

Diane Escobedo
Site Manager
NWRO Toxics Cleanup Program

DE: TN

Enclosure (1): A – Remedial Investigation/Feasibility Study Outline

cc: John Foxwell, Apex Companies, LLC
Sonia Fernandez, VCP Coordinator, Ecology

Remedial Investigation Outline
January 2011

The following annotated outline is a suggested schematic for elements to be included in a Remedial Investigation report. It is not intended to replace MTCA's specific requirements as presented in 173-340-350(7) WAC.

The main purpose of the outline is to facilitate the preparation of a document that is clear, comprehensive, and to the point. A secondary, but important, purpose is to make document preparation and review more efficient.

INTRODUCTION
(*concise, bulleted if possible*)

- Site name,VCP number, Name, address, and phone number of project consultant, Current owner/operator
- Purpose of document *(very brief restatement of what an RI is for, reference the WAC)*

SITE IDENTIFICATION AND LOCATION
(*focus on defining the site in the context of its' location*)

- Site discovery and regulatory status (*describe how the site was identified and where it is in the MTCA process)*
- Site and property location/definition (*define actual MTCA site location relative to property or study area*)
- Neighborhood setting

Figure – Vicinity Map (*preferably with topography*)
Figure – Property/Site Map (*preferably with topography*)

Appendix – Legal description of property, present owner and operator, chronological listing of past owners and operators

ENVIRONMENTAL INVESTIGATION/INTERIM ACTION SUMMARY
(***Concise*** *summary presentation of the investigations that have been done at the site, along with prior remedial actions. Focused mostly on figures and tables. Eliminate the extensive descriptions of prior work commonly put in environmental reports, or put them in an appendix*)

- Constituents of Concern (*brief discussion about which specific compounds were chosen for analysis and why)*
- Soil
- Surface water
- Ground water
- Sediment
- Air/soil vapor
- Natural resources/wildlife

- Cultural history/archeology
- Interim actions (*brief intro to prior remediation activities*)

Figure – Soil investigation data points (*show potential source areas*)
Figure – Surface water/groundwater investigation data points (*show potential source areas*)
Figure – Air investigation data points (*show potential source areas*)
Figure – Prior remediation activities

Table – Exploration Summary
Table – Analytical Schedule per media (*include analytical methods and reporting limits,as possible)*

Appendix – Previous Investigations (*detailed discussion goes here)*
Appendix - Exploration and sampling methodology (*may combine with Previous Investigations)*
Appendix – Boring/ Well logs
Appendix - Prior Interim Actions

PROPERTY DEVELOPMENT AND HISTORY

(*this section focuses on the built environment, both current and historical, and presents the sources of contamination and release mechanisms*)

- Past site uses and facilities
- Current site use and facilities
- Proposed or potential future site uses
- Zoning (*if appropriate)*
- Transportation/roads
- Utilities, water supply
- Potential sources of site contamination
- Potential sources of contamination from neighboring properties (*discuss nearby sources if known)*

Figure – Historical site features (*may be combined with Figure 2*)
Figure – Potential contaminant sources
Figure – Utilities (*may be combined with Figure 2*)

Table – Potential Contaminants

NATURAL CONDITIONS

- Physiographic setting/topography

- Geology
  (*focus on interpretation*)

  - Regional Setting (*brief*)
  - Property Geologic Conditions (*synthesis, not regurgitation of boring logs, provide cross sections*)

- Physical Properties (*unlikely to need this section, but in some cases may be useful to present data on soil adsorptive capacity, organic content, strength, etc.)*

Figure – Plan view of geologic unit distribution (*if helpful*)
Figure - Cross section A-A' (*show borings, wells, screened intervals, water levels*)
Figure – Cross section B-B' (*if necessary*)

- Surface Water
  (*brief description of the surface water system, include elements of the built system as it might relate to contaminant transport*)

  - Property drainage (*for storm drains, focus on how deep the drains are relative to ground water)*
  - Area surface water/floodplain issues
  - Regulatory classifications, if any (*e.g surface water classification)*

  Figure – Surface water Conditions (*only if information not already in a prior figure*)

- Ground Water
  (*focus on interpretation, show on cross sections*)

  - Occurrence (*aquifers, water levels, confinement, geometry, continuity, physical properties*)
  - Movement (*directions, gradient if important, seasonal fluctuations, tidal influence*)
  - Discharge
  - Recharge (*if significant for site*)
  - Regulatory classifications, if any (*e.g. sole source aquifer*)

  Figure – Cross section with ground water information (*if not already included above*)
  Figure – Water table/potentiometric surface maps (*for various seasons or tidal conditions, show surface water*)

  Appendix – Ground water elevation data (*a table)*

- Natural Resources and Ecological Receptors
  (*preparatory to a TEE*)

  - Greenbelts and other natural habitat
  - Wildlife
  - Other Information required to conduct evaluations under -7491, -7492, or if necessary -7493

  Figure – showing natural areas, as appropriate

<u>CONTAMINANT OCCURRENCE AND MOVEMENT</u>

(very little text, mostly figures and tables, main point is to provide easy-to-understand figures showing the depth and breadth of contamination, relate contaminant distribution to release mechanisms and subsurface geologic/hydrogeologic conditions)

- Waste Material (*sludges, fluids, stockpiles)*
- Soil
- Surface Water
- Ground Water
- Sediment
- Air/Soil Vapor

Figures – Cross sections showing soil contamination with depth
Figures – Plan views showing soil contamination across site (*relative to releases if known*)
Figures – Cross section showing ground water contamination with depth (*if appropriate*)
Figures – Plan views showing ground water contamination in each aquifer (*relative to soil contamination and P-head map*)
Figures – XY plots of specific contaminants with time (*as appropriate*)
Figures – Others as appropriate to show the distribution of surface water, ground water, or air data

Tables – All of the analytical data against final cleanup levels (*exceedances highlighted, no need to develop screening levels*)
Tables – Summary of exceedances (*if helpful*)

Appendix – QA report
Appendix – Analytical lab reports

CONCEPTUAL MODEL
(*putting the whole story together, graphic illustrations are best*)

- Contaminant release/fate and transport/potential or actual receptors (*re-summarize how the releases occurred and how site physical conditions affected the ultimate distribution of contaminants at the surface and in the subsurface)*
- Data gaps (*is anything missing)*

CLEANUP STANDARDS
(*developing appropriate cleanup standards based on receptors and pathways*)

- Soil
  - Reasonable maximum exposure
  - Cleanup levels protective of contact, ground water, inhalation, terrestrial species, surface water, sediment
  - Points of compliance
  - Regulatory classifications (*classification of soil as dangerous or solid waste)*
- Ground Water
  - Highest beneficial use/reasonable maximum exposure
  - Cleanup levels protective of potable use, inhalation, surface water, sediment
  - Points of compliance
- Other Media as appropriate

- Cleanup levels protective of ....
- Points of compliance

Table – Cleanup Levels (*all potentially applicable values with final selected cleanup level noted*)

AREAS REQUIRING CLEANUP

(*the final story detailing where the contamination exceeds an applicable cleanup standard, brief text, mostly tables, figures*)

- Constitutuents of Concern (*a brief summary of compounds that exceed cleanup levels or "indicator hazardous substances" under MTCA. For most service station sites, the COCs should be the same)*
- Soil – vertical and lateral
- Ground water – vertical and later
- Sediment –
- Surface Water
- Soil Vapor/air

Figures – Plan view and vertical sections of areas requiring cleanup

REFERENCES

Feasibility Study (FS) Outline
June 2011

The following annotated outline is a schematic of elements to be included in a FS report. It is only one of many possible outlines, and is not intended to replace MTCA's specific requirements as presented in WAC 173-340-350, and associated sections.

The main purposes of this outline are therefore to:

- Provide a standardized format that will facilitate the preparation and review of the many FS reports that will be completed for the Shell Multi-Site project. As already stated, it is not the only format that will satisfy MTCA.

- Clarify the requirements of that portion of an FS commonly known as the disproportionate cost analysis (DCA). This one element engenders more confusion and controversy than the rest of the FS process combined.

Note that an FS need not be done if a cleanup involving complete removal is already being planned.

Annotations are denoted by Italicized text in parenthesis

I. **INTRODUCTION**

(If the FS is part of an RI/FS document, then only the purpose of the FS needs to be stated. Otherwise provide a concise summary of the RI; use figures if at all possible.)

- **Purpose** (*develop and evaluate cleanup action alternatives as basis for selecting cleanup action)*
- **Site Identification and Surroundings** (*site name, VCP number, site definition, property(s) identified, neighborhood setting; physiographic setting/topography)*
- **Property Development and History** (*past, current and future uses; roads, utilities)*
- **Natural Conditions** (*geology, surface water, ground water, natural habitat)*
- **Contaminant Occurrence and Movement** (*release sources/ mechanisms; distribution and movement in all affected media)*

II. **AREAS REQUIRING CLEANUP**

(This section reiterates what needs to be cleaned up, why it needs to be cleaned up, and where it needs to be cleaned up)

- **Soil Cleanup: Chemicals of concern, exposure pathways, exceedances, areas/volumes requiring cleanup, point of compliance.** (*limited text, table with cleanup levels, distribution best shown with figures – both plan view and cross section, describe soil volumes, soil type, and any special conditions)*
- **Ground water Cleanup** (*same as above*)
- **Other Media Cleanup** (*same as above*)

III. **IDENTIFICATION AND SCREENING OF REMEDIAL TECHNOLOGIES**

(This section may or may not be needed. It is not required by MTCA, but may be useful as a means to eliminate specific technologies from further consideration. A variety of criteria can be chosen for screening, but typical factors are cost, effectiveness, and implementability. A table format is best for the screening)

(Shell may wish to prepare a standard remedial technologies appendix for use in all feasibility studies. This could simplify the screening process by having a ready-made description of all technologies that realistically could be used at service station sites.)

IV. **SELECTION AND DESCRIPTION OF CLEANUP ALTERNATIVES**

(Here is where distinct alternatives are established and described only – no comparison. Some text is useful, but the bulk of the description is best put into a table with accompanying figures.)

(MTCA requires:

- *A reasonable number and type of alternatives*

- *Alternatives that protect human health and the environment by eliminating, reducing, or otherwise controlling risks*
- *Alternatives that have the standard point of compliance for all affected media, unless they are not technically possible or are disproportionately costly for the benefit obtained.*
- *At least one permanent cleanup action alternative, unless it is not technically possible or is disproportionately costly for the benefit obtained.)*

(Ecology expectations for cleanup (WAC 173-340-370) should also be considered in formulating the alternatives, even though these expectations are not explicit evaluation criterion.)

- **Cleanup Action Objectives** (*These are not required by MTCA, nor are they evaluation criteria under MTCA, but may be helpful in clarifying what the remedy needs to accomplish.*)

- **Alternative 1** (*Describe: actions, costs and schedule, other considerations such as habitat, land use)*

- **Alternatives 2, 3, 4, etc..**

V. DETAILED EVALUATION OF ALTERNATIVES

(best put into tabular format with numerical values for weighting criteria, important to have figure showing cost versus environment benefit for disproportionate cost analysis.)

(A cleanup action must meet these minimum requirements [WAC 173-340-360(2)(a)]:

Threshold requirements
- *Protect human health and the environment*
- *Comply with cleanup standards*
- *Comply with applicable state and federal laws*
- *Provide for compliance monitoring*

Other requirements
- *Use permanent solutions to the maximum extent practicable*
- *Provide for a reasonable restoration time frame*
- *Consider public concerns*

Project-specific requirements
- *Engineering criteria established for the specific project, as appropriate)*

- **Comparison with Threshold Criteria** (*Determine if alternatives meet threshold requirements. Only alternatives that meet these requirements advance to the next stage of comparison)*

- **Comparison with "Use Permanent Solutions to the Maximum Extent Practicable" (PMEP) Criterion** *(Ecology prefers permanent solutions, which are essentially those in which cleanup standards can be met without further action at the site.)*

  Determining PMEP – Disproportionate Cost Analysis (DCA) *(this is the method to determine the most practicable permanent solution, or to demonstrate the cleanup action is a permanent solution to the maximum extent practicable. In practice the*

analysis compares costs and benefits and allows selection of an alternative that provides the greatest relative benefit at least cost.)

Test

"Costs are disproportionate to benefits if the incremental costs of the alternative over that of a lower cost alternative exceed the incremental degree of benefits achieved by the alternative over that of the other lower cost alternative." WAC 173340-360 (3)(e)(i)

Procedure

A. *The alternatives are compared with the evaluation criteria listed below. The comparison may be quantitative or qualitative and require the use of best professional judgment.* ***However, at this time Ecology's northwest regional office favors a quantitative analysis. Quantitative factors should be applied to both weighting of the evaluation criteria and to the ranking of alternatives for each criterion. The basis for the criteria weighting and the alternative rankings should be clearly explained and supported.*** *An example table showing weighting factors and rankings is attached at the end of this document.*

B. *The most practicable permanent alternative is the baseline against which other alternatives are compared. The results of the comparison are best displayed in a graph which shows relative environmental benefit on one axis and cost on another. An example is attached at the end of this document.*

Evaluation Criteria

(following are the required comparison criteria for the DCA. Cost is not listed since it is an obvious criterion)

Protectiveness
Permanence
Effectiveness over the long term
Management of short-term risks
Technical and administrative implementability
Consideration of public concerns

(for VCP sites, there is no direct opportunity for the public to comment on planned cleanup actions. However, information is available to public on the Ecology website regarding the multi-site pilot project, and the public could comment on any planned actions)

(A more complete definition of each of these criteria is in WAC 173-340-360(3)(f)

- **Comparison with "Reasonable Restoration Time Frame" Criterion** *(this criterion requires that a cleanup action be completed within a reasonable amount of time – WAC 173-340-360(4).By completed, MTCA means cleanup levels have been met at the point of compliance. Making a restoration time frame longer is not allowed when there are practicable actions available that can reduce the amount of time.*

Factors to use determining whether the time frame is reasonable

(the following basic factors are outlined in MTCA. There are also special provisions for specific situations in Section -360. Ecology prefers immediate cleanups, but sometimes accepts up to 5 years for good cause. Anything beyond this needs an extremely persuasive analysis)

Potential Risk

(how risky is the existing situation based on type, extent and toxicity of contamination, and sensitivity of surrounding land uses now and in the future.)

Practicality of Achieving Shorter Time Frame

Availability of Alternate Water Supplies

(if impact on a local water supply is a major issue, this factor would need to be specifically considered)

Likely Effectiveness and Reliability of Institutional Controls

(this factor would only need to be considered where contaminants are being left in place as part of a final cleanup)

Ability to Control and Monitor Contaminant Migration

(how sure can we be sure about contaminant movement over time)

Potential for Contaminant Degradation Over time

(can we be sure the contaminants will degrade based on evidence from other sites)

VI. CONCLUSIONS

(focus in this section on the results of the analysis and the consequent proposed cleanup action)

VI. REFERENCES

APPENDICES

- **Alternative Cost Estimates**
- **Disproportionate Cost Analysis**