

THURSTON COUNTY CP-11 RECYCLED ASPHALT POLICY

PLANNING COMMISSION – JULY 15, 2020



CP-11 Recycled Asphalt Policy (RAP)

WHAT IS THE REQUEST

- Lakeside Industries submitted an application in 2016 for a Comprehensive Plan Amendment.
- Request is to amend Policy E.5 of the Nisqually Subarea Plan, which currently prohibits asphalt recycling based on water quality concerns.
- Item is CP-11 on the 2020/2021 Official Comprehensive Plan Docket.

WHAT THE REQUEST DOESN'T DO

- No decisions regarding individual site permit applications will be made under this policy review.

CURRENT POLICY E.5 AND REQUEST

POLICY E.5

- Allow accessory activities to be considered inside the mined out portion of the gravel pit through the site plan review process. Examples of allowable accessory uses would include concrete pipe and/or septic tank construction and the recycling of used concrete and asphalt pavement. The reprocessing of imported mineral materials shall not be the primary accessory use. ~~and the reprocessing of asphalt shall not be allowed due to water quality concerns~~. These activities shall be discontinued once reclamation of the pit is completed in accordance with the WDNR standards.

REVIEW PROCESS OF THIS POLICY AMENDMENT

- **Phase I** – Consultant Review on Contaminant Leaching of RAP
 - **Part A** – Develop inventory list of literature and data
 - **Part B** – Issue paper on potential impacts of leachate, based on existing literature
- **Phase 2** – County review of current regulations, permit process, court rulings, conditions in the Subarea, and Best Management Practices.



BACKGROUND & CONTEXT

WHAT IS ASPHALT RECYCLING?

Asphalt Pavement Recycling Example

Breaking down the removed
asphalt pavement



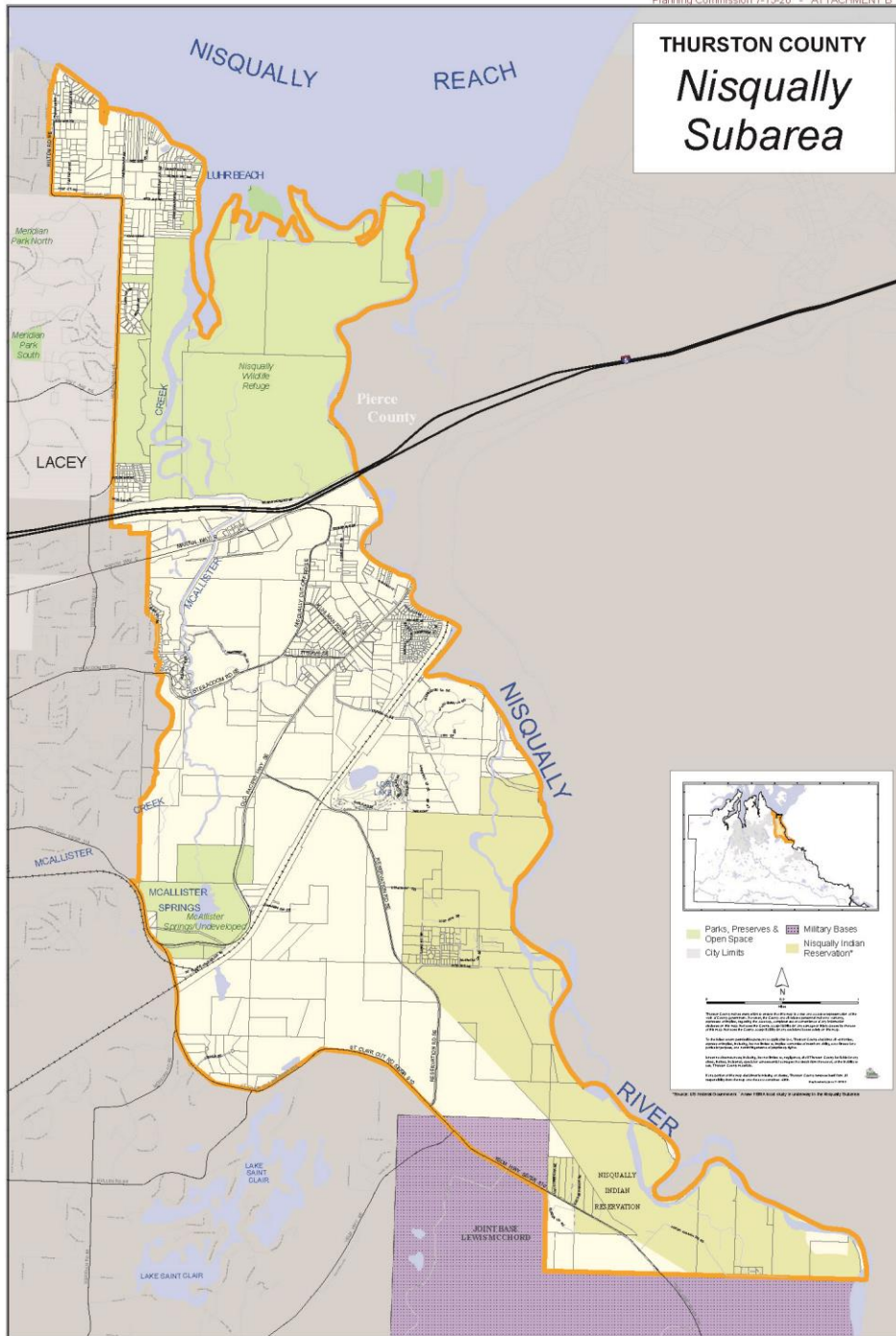
Removed Asphalt Pavement

Asphalt Paving Process

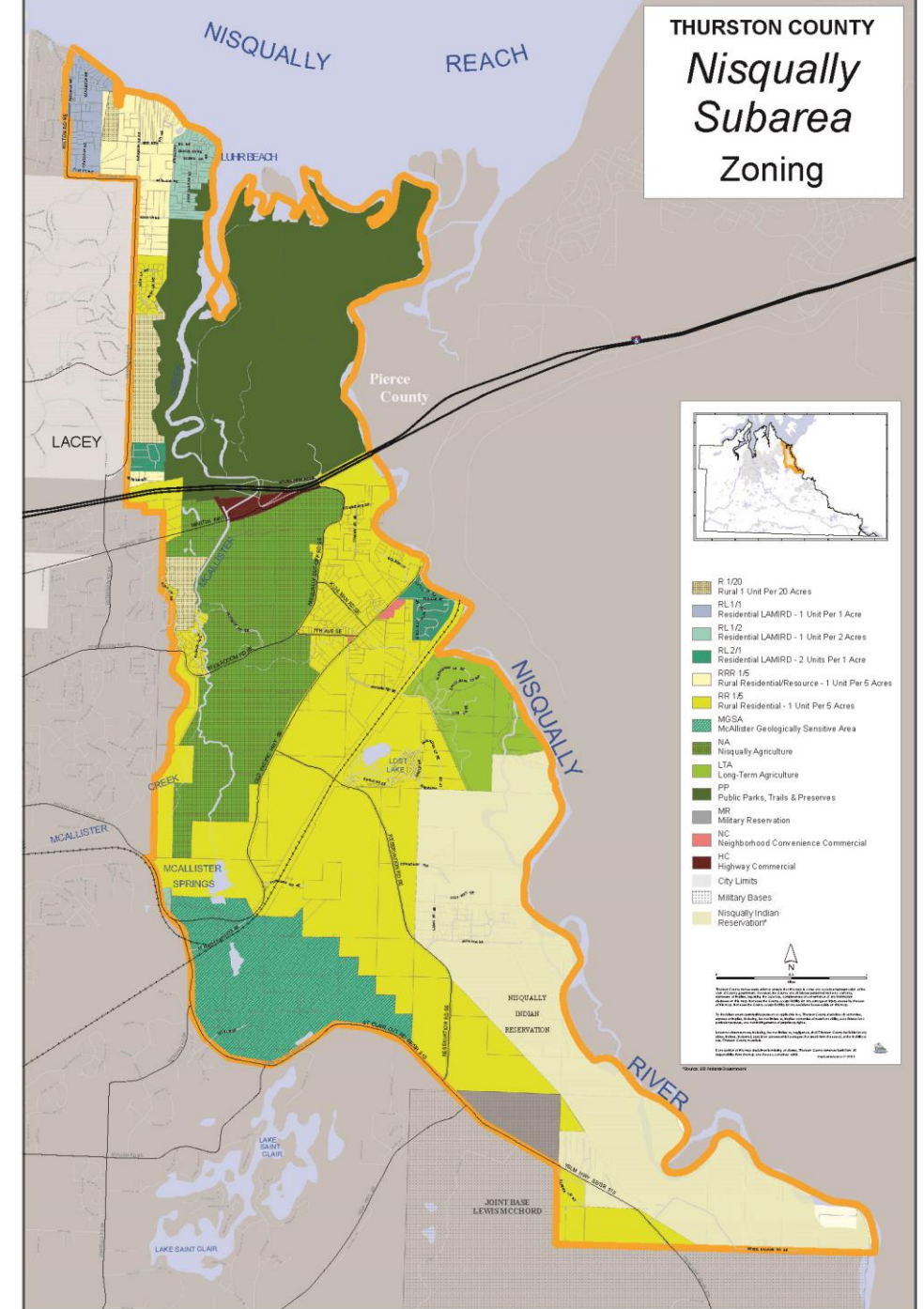
Deteriorating Asphalt Pavement

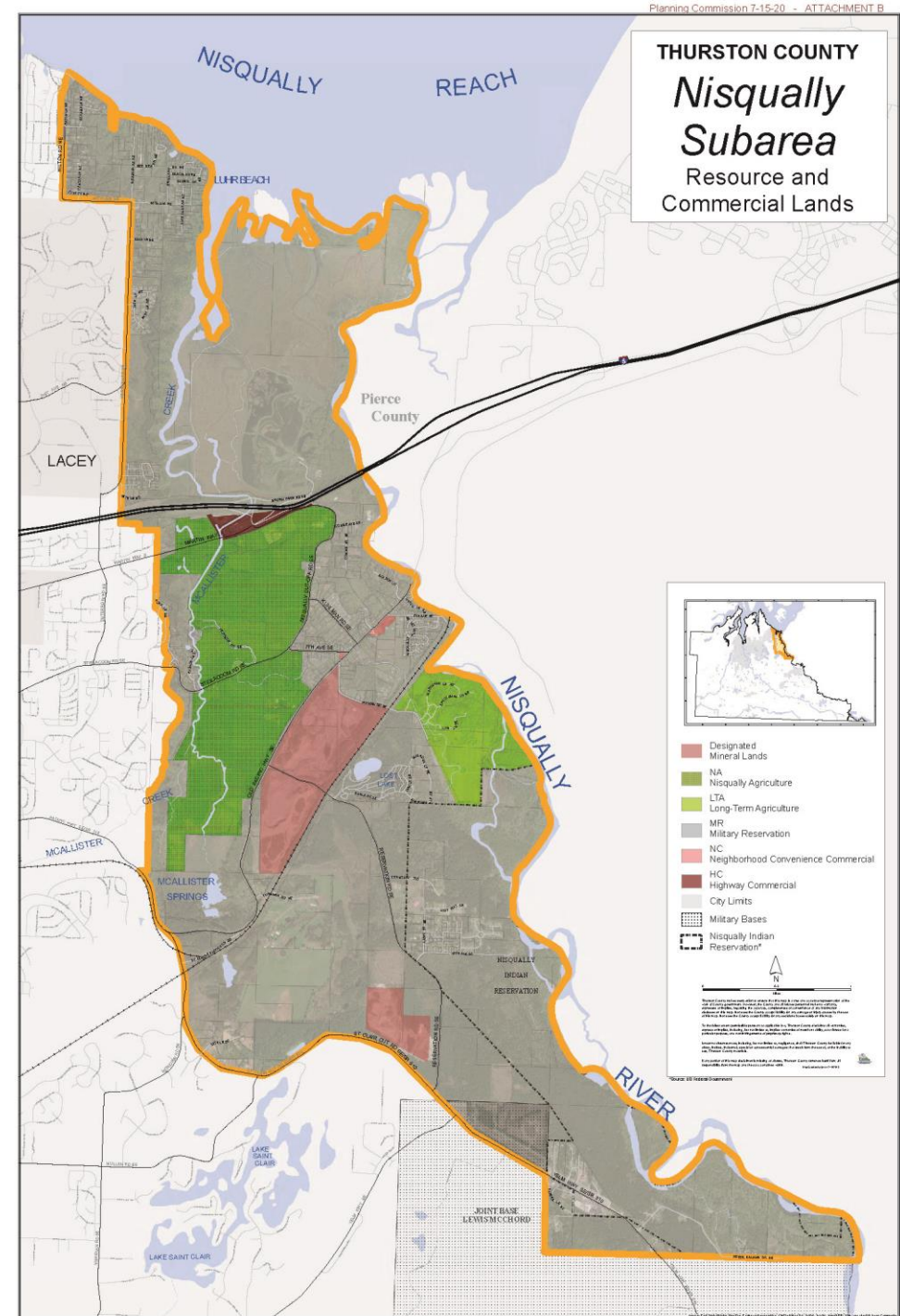
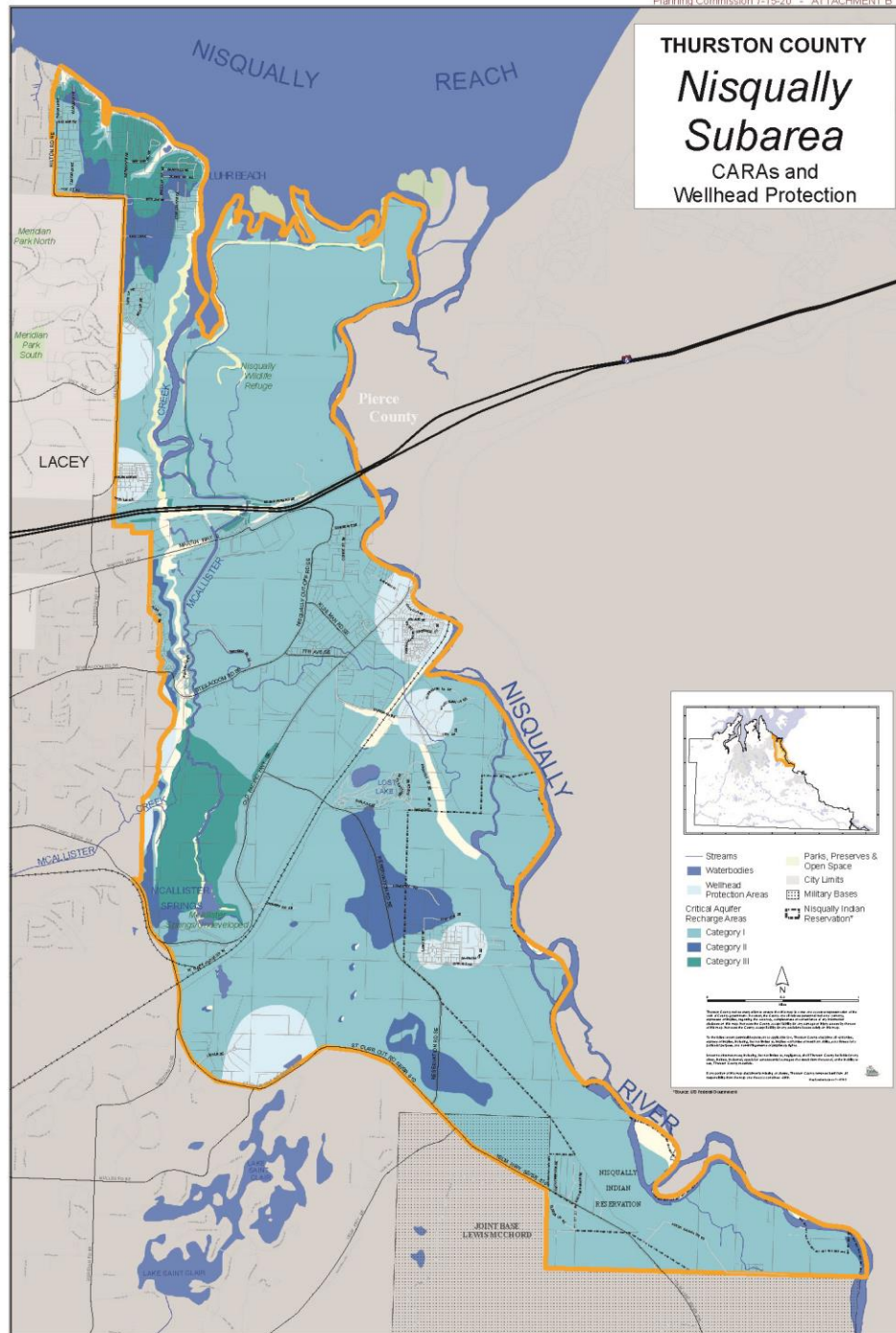
WHAT IS ASPHALT RECYCLING?

- Asphalt is one of the most recyclable materials; Nearly 100% can be reused.
- A survey indicates more than 80 million tons of asphalt is reclaimed each year, which is estimated to save the American taxpayers more than \$2.5 billion per year and saves more than 60 million cubic yards of landfill space.
- Recycling asphalt reduces the need for new raw materials.
- Recycling asphalt can factor favorably into the bid process for capital projects.
 - ESHB encourages use of recycled materials; for tied bids, contractors with the most recycled materials gets the project.



THURSTON COUNTY
Nisqually Subarea
Zoning







HISTORY OF POLICY E.5

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Sept 1990

“Identify existing mineral extractions, and establish guidelines for the design and locations of any new operations.”

Dec 1990

“Recognize existing mineral extraction operations, require any new operations to be visually buffered from adjacent properties and roads, and prohibit the location of any new facilities north of the Burlington Northern Railroad to protect the visual integrity of the Nisqually valley viewshed.”

Oct 1991

“Allow accessory uses to be located inside the mined out portion of a gravel pit through the site plan review process. Reprocessing of imported mineral resources shall not be the primary accessory use and these activities shall be discontinued once reclamation of the pit is completed in accordance with the WDNR standards.”

- **1999** – Lakeside Industries submits a special-use permit to build an asphalt plant and recycle pavement at the Holroyd Pit.
 - Staff initially recommended denial.
- **Apr. 2001** – Hearing Examiner approved the Special Use Permit.
 - Citizen group, Friends of Nisqually and Nisqually Indian Tribe appealed the Hearing Examiner's decision.
- **Sept. 2001** – The BoCC reversed the Hearing Examiners approval stating it was not consistent with the subarea plan policies.
- **Oct. 2001** – Lakeside appealed the BoCC's decision to Mason County Superior Court.
- **July 2002** – Mason County Superior Court reversed the Board's decision. Issue was remanded back to the Board with the direction to issue the permit as approved by the hearing examiner, but to include an additional condition that asphalt recycling is prohibited.

HISTORY OF THURSTON COUNTY AND LAKESIDE INTERACTIONS

- This policy amendment impacts the entire subarea. It is **not** a review or approval any individual site-specific permits.
- The prior court decision and related permit condition do not prevent future amendments to the Nisqually Subarea Plan.
- In the event that this policy were to be amended, additional permitting would be necessary for an operator to recycle asphalt in the subarea.

IMPLICATIONS OF AN AMENDMENT ON PREVIOUS LEGAL FINDINGS

WATER QUALITY CONSIDERATIONS

WATER QUALITY CONSIDERATIONS

- When industrial facilities are exposed to stormwater, they can leach pollutants.
- To what extent industrial activities and asphalt recycling impact water quality depends on a number of factors:
 - Geographic location
 - Topography
 - Hydrogeology
 - Extent of impervious surfaces
 - Type of ground cover
 - Type of activities occurring
 - Size of the operation
 - Type, duration and intensity of precipitation events

HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

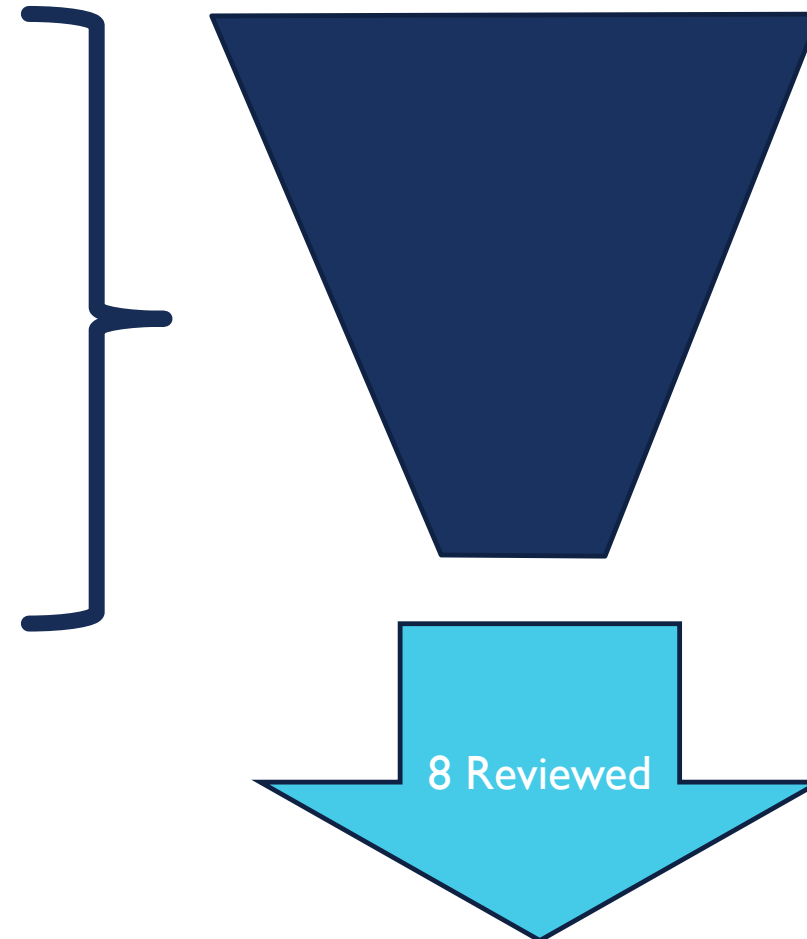
- Thurston County contracted with a consultant to review literature and summarize research on contaminant leaching from Recycled Asphalt Pavement (RAP).
- The literature review did not address:
 - Source control or Best Management Practices
 - Fate and Transport (how chemicals travel through and bind to soils)
 - Specific conditions of the Nisqually Subarea

HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

101 RAP Reports Identified

SCREENING PROCESS

- Age (old studies used less rigorous laboratory techniques/equipment)
- First party/original work
- 100% RAP
- Refereed literature/scientific journal



*Taken from Herrera
presentation, dated
June 20, 2019*

HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

CAVEATS WITH THE STUDY

- Wide range of testing materials, testing protocols and study conditions
- While most of the studies were done in the U.S. some were done in Europe. European RAP represents different manufacturing processes and other differences (type of gas, vehicles, road maintenance)
- Concentrations of contaminants may not be applicable but general behavior was similar across studies

Taken from Herrera presentation, dated June 20, 2019



HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

BATCH STUDIES

- 7 of the 8 studies performed batch type tests
- 6 studies included analysis of metals; 4 studies included analysis of PAHs
- pH, liquids to solid ratio, elutriate, duration of testing (hours to days) were the key testing variables

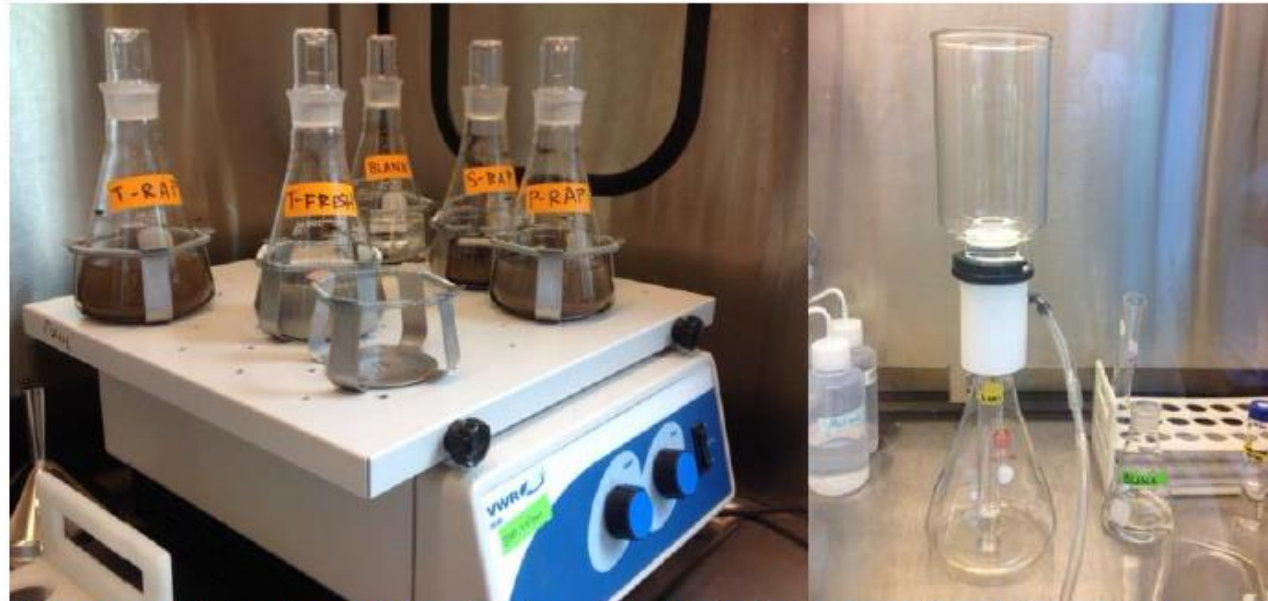


Figure 11: Laboratory Setup for Batch Extraction Experiments.

Taken from Herrera presentation, dated June 20, 2019

HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

BATCH STUDIES

- Some metals were detected above GW standards; higher concentrations were measured at low pH
- Only 50% of the studies used appropriate Detection Limits (DLs) for PAHs
- 13 of the 16 PAHs were detected in at least one of the studies
- 5 PAHs exceeded GW standards in 50% of the studies where DLs were appropriate



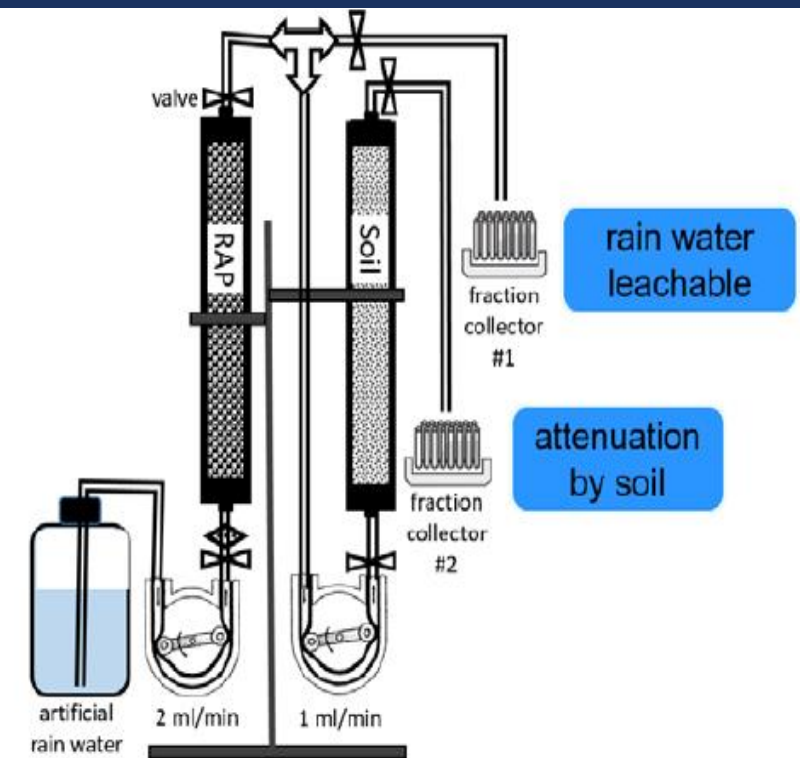
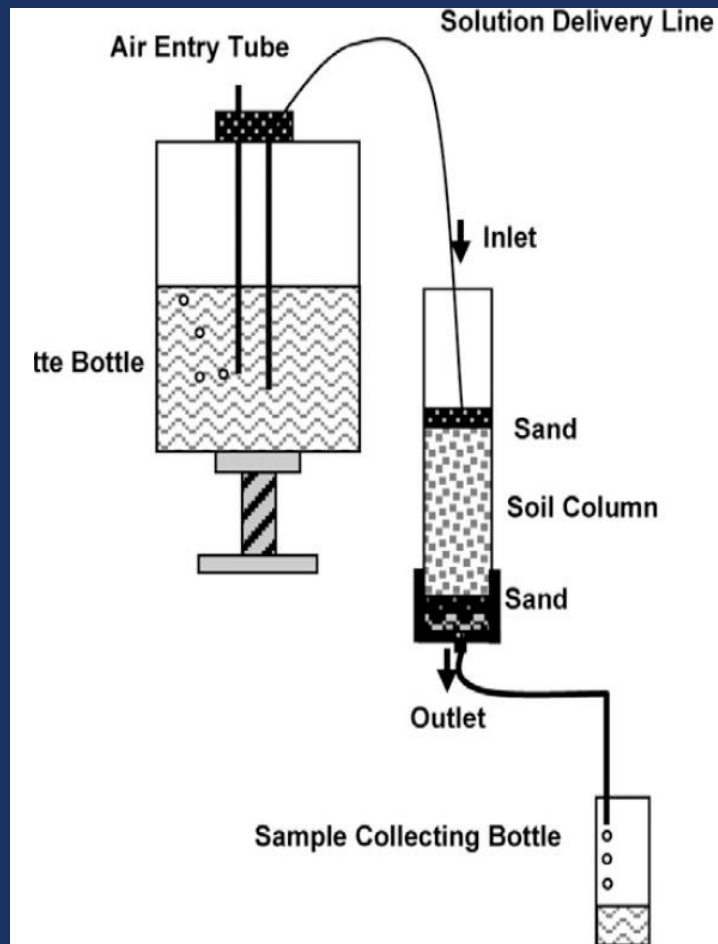
Figure 11: Laboratory Setup for Batch Extraction Experiments.

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HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

COLUMN STUDIES

- 6 of the 8 reports included column studies
- 4 studies tested metals
- 5 studies tested PAHs
- pH, liquid to solid ratio, duration (weeks to months), saturation, hydraulic loading rate,

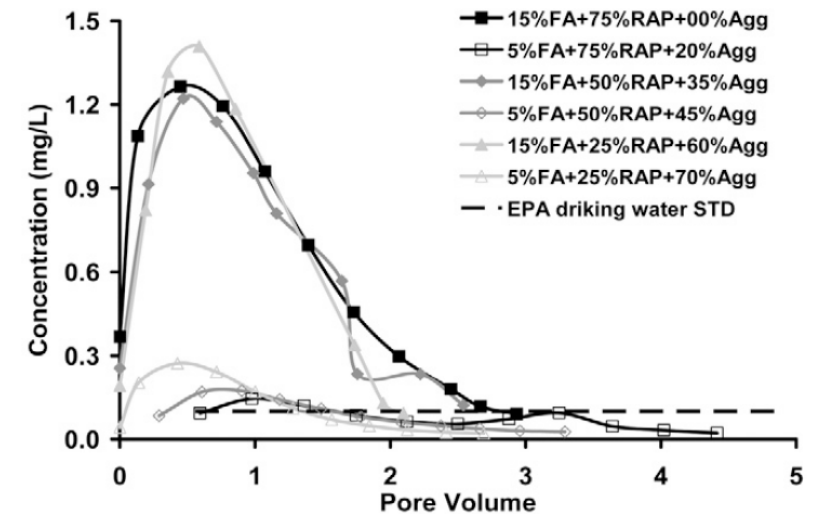
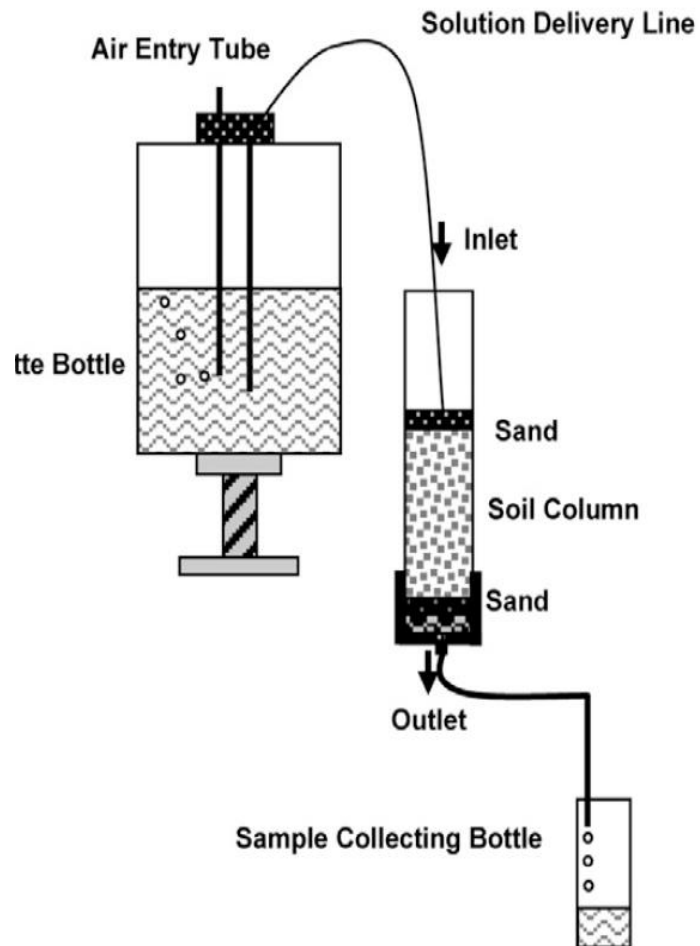


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COLUMN STUDIES

- Only 4 studies tested PAHs at appropriate DLs
- All 16 PAHs exceeded the GW standard in at least one study
- 8 were above standards in at least two (50%) of the studies
- Contaminants decreased to very low or BD levels after initial flushing

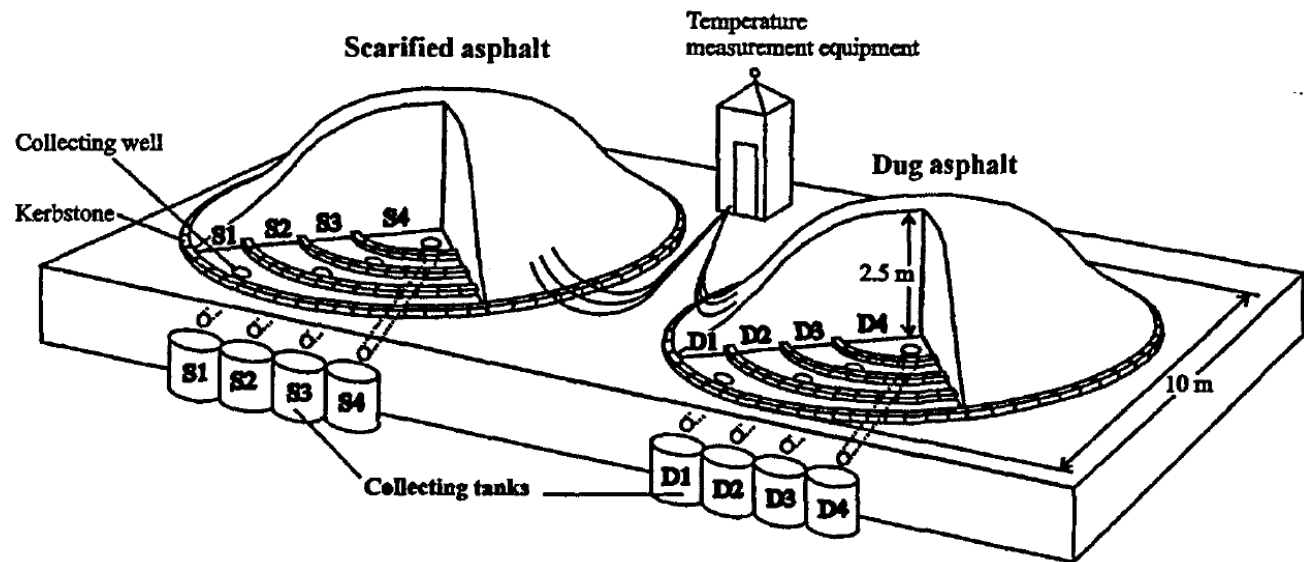


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HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

FIELD STUDY

- Only one field study
- Evaluated two RAP sources (from the wear course and base course of a highway)
- Examined differences in leachate content by location in the stockpile
- Only evaluated organics
- Compared results of their column testing to stockpile testing



Taken from Herrera presentation, dated June 20, 2019

HERRERA ENVIRONMENTAL CONSULTANT – LITERATURE REPORT

SUMMARY

DUE TO MANY VARIABLES WITH TESTING ONLY BROAD SUMMARIES CAN BE DRAWN FROM THE RESEARCH

- RAP is highly variable; manufacturing process, where it came from and how long it was in use, material size, storage and weathering.
- Although metals are leached they are rarely at concentrations that exceed GW standards, it is organic compounds (e.g., PAHs) that are the bigger concern.
- There were 4 PAHs consistently detected above GW standards in both batch and column studies.
- Detections and exceedances of PAHs were associated with initial flushing; contaminants were often below detection after the initial flush.
- A number of researchers suggested that the impact to the environment would be negligible if dilution and assimilation were considered.
- There was only one study of field conditions and it indicated that laboratory studies may not adequately account for real life conditions.

Taken from Herrera presentation, dated June 20, 2019





PUBLIC COMMENT & NEXT STEPS

PUBLIC COMMENT

- **44 comments to date, major themes include:**
 - No-RAP protects rural character
 - Concerns about flooding, groundwater, and impact to water quality
 - Concerns about truck traffic
 - Concerns over air quality, noise, habitat and impacts to salmon and other wildlife
 - Runoff/discharge regulated by Ecology
- Consultant report:
 - Concludes impact is negligible;
 - Doesn't consider Best Management Practices
 - Looks at lab testing, not field testing
- More on-the-ground studies should be done

NEXT STEPS

- Next Meeting
 - Current Regulations
 - Current Policy
 - Other Considerations (Economic, Best Management Practices)
 - Proposed Options

Questions?

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