

# *Design Advisory Group Meeting #1*

*November 29, 2018*



**South County Recycling and Transfer Station**

# Welcome

- q Safety Moment
- q Introductions
- q Project Context and Timeline
- q Design Advisory Group Charter
- q December Open House Preview
- q Next Steps

- Scope
- Completed tasks
- Future tasks
- Project Schedule







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Department of  
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Solid Waste Division

# Project Background & Scope

2021-06-23

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# Guiding Principles

- Safety
- Efficiency
- Customer service
- Green building
- *Engagement: employee, community & other stakeholders*

# Completed Tasks

- Kick-off
- Employee Engagement Workshops
- Eco-charrette: Environment & ESJ
- Conceptual Design Alternatives Development (Basis of Design Workshops)
- Emerging Technology Workshop

# Consider Space for...

Trailer yard

Tipping floor

Recycling collection & sorting

Parking

Employee facility

HHW

Scale house

Fuel tanks & station

Traffic lanes

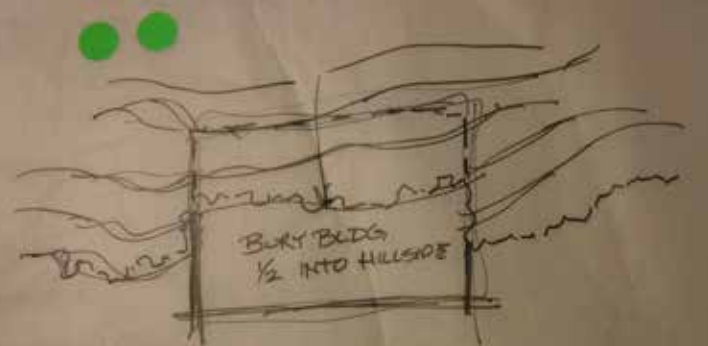






# Environment & Equity

- Goals and metrics of green building certifications
- Site and facilities characteristics
- Integrated systems
  - Water & land
  - Energy, carbon, & comfort
  - Materials & waste diversion
  - Workplace amenities
  - ESJ & Community Engagement



**BLD IN HILL SIDE**





# We must balance all interests!

- Operations employees
- King Street employees
- City of Algona
- Other governmental partners
- The community (open houses in Fall 2018 & summer 2019)
- Design Advisory Committee
- Online Open House



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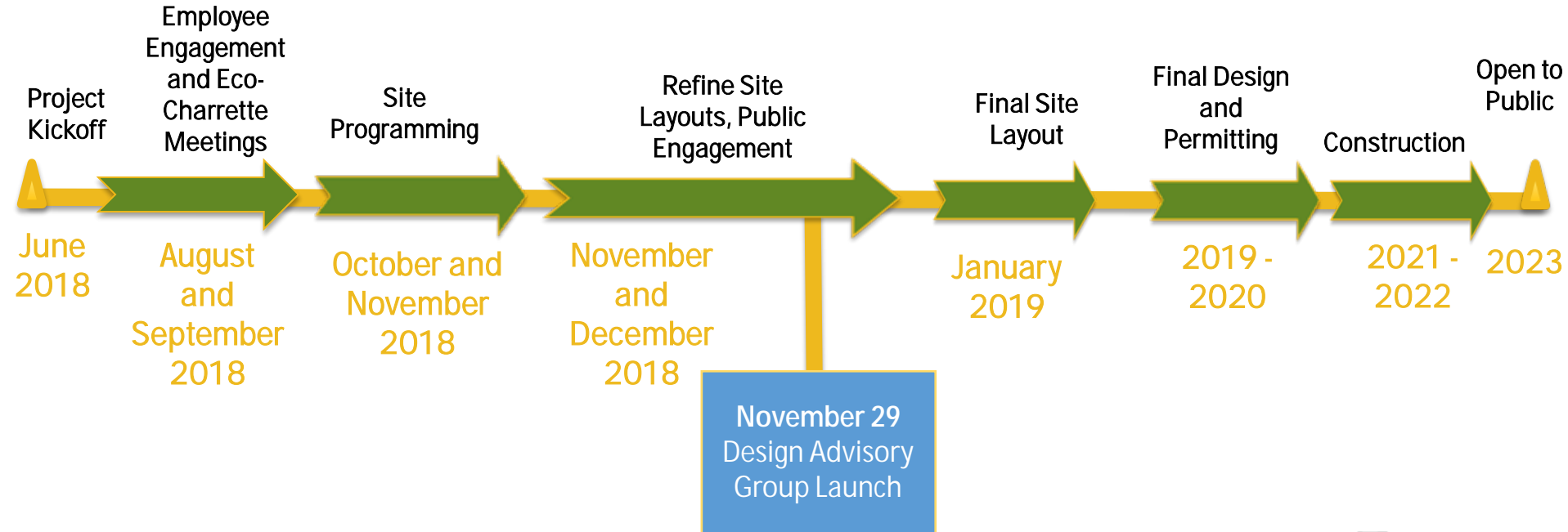
# Andrea Clinkscales

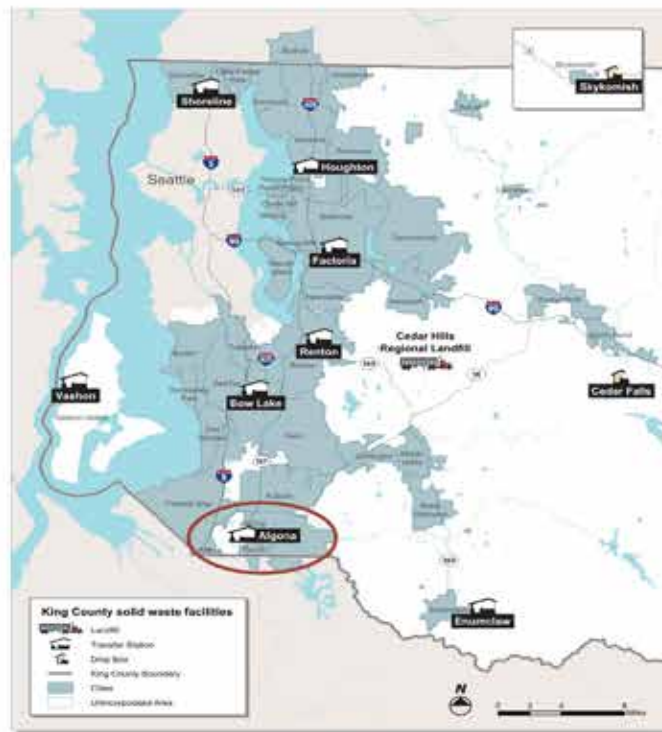
Project Manager

[andrea.clinkscales@kingcounty.gov](mailto:andrea.clinkscales@kingcounty.gov)

206-263-2050

# Project Timeline





## SYSTEM PLAN

### King County Solid Waste Division Goals:

- Accommodate community needs
- Meet tonnage and customer requirements
- Design for recycling and materials recovery
- Obtain highest appropriate environmental certification

## BENEFITS OF A NEW RECYCLING AND TRANSFER STATION

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Better solid waste compaction                                     | <input checked="" type="checkbox"/> Enclosed building                 |
| <input checked="" type="checkbox"/> Adds recycling services   | <input checked="" type="checkbox"/> Environmental controls            |
| <input checked="" type="checkbox"/> Incorporates green building and sustainable construction criteria | <input checked="" type="checkbox"/> Improves operational efficiencies |

## REPLACING EXISTING ALGONA TRANSFER STATION ENHANCES USER EXPERIENCE

- Updating technology and techniques increases customer safety
- Planning for increasing population/future solid waste handling needs
- Modernizing and incorporation of current green building goals
- Replacing outdated technology improves waste compaction

See more details about the Algona Station replacement in  
**King County's Final Environmental Impact Statement**

See more details about  
the System Plan in  
**King County's Solid Waste  
Management Plan**

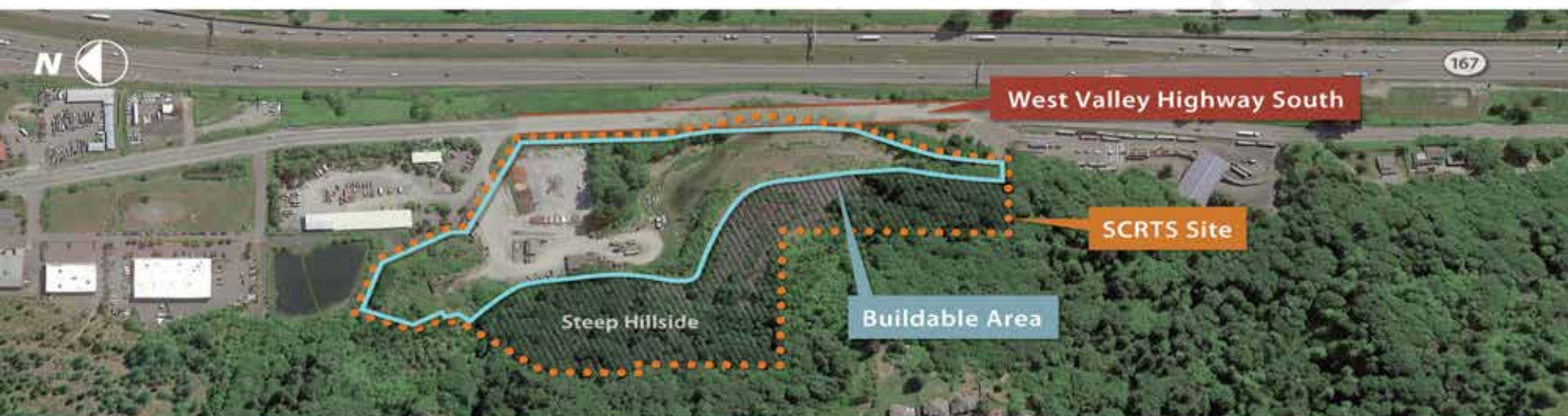


## WHY ARE STATIONS DISTRIBUTED ACROSS KING COUNTY?

- ✓ Vital to communities for the **safe and efficient handling** of solid waste
- ✓ King County **standard of 30 minutes for 90% of customers** to access nearest facility
- ✓ Transfer Stations are **designed to accommodate** community needs, tonnage projections, and customer requirements

## WHY REPLACE THE EXISTING ALGONA TRANSFER STATION?

- ✗ Constructed in mid-1960s – **does not meet current standards** for service, efficiency, and safety
- ✗ **Cannot provide recycling services** to meet environmental goals
- ✗ **Cannot cost-effectively compact waste**, which is necessary for efficient transport







## STEP 2. PRELIMINARY DESIGN

### Employee Engagement

### Community Engagement

- Design Advisory Group
- Open House Meetings
- Presentations to community groups, neighbors, and others

### Environmental Assessments

### Green Building and Sustainable Design Features

- Sustainability Evaluation
- Equity Impact Review

### Integrate Equity and Social Justice practices

### Evaluate Technologies to Improve Efficiency of Waste Handling

# Site Conditions and Zoning

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## GENERAL INFO

**Area:** 18.9 acres – 9 acres of critical area, 10 acres of gently sloping land

**Current Use:** Partially vacant, developed portion leased by King County to landscape supplier

**Zoning:** City of Algona C-3 Heavy Commercial, OS/CA Open Space/Critical Areas

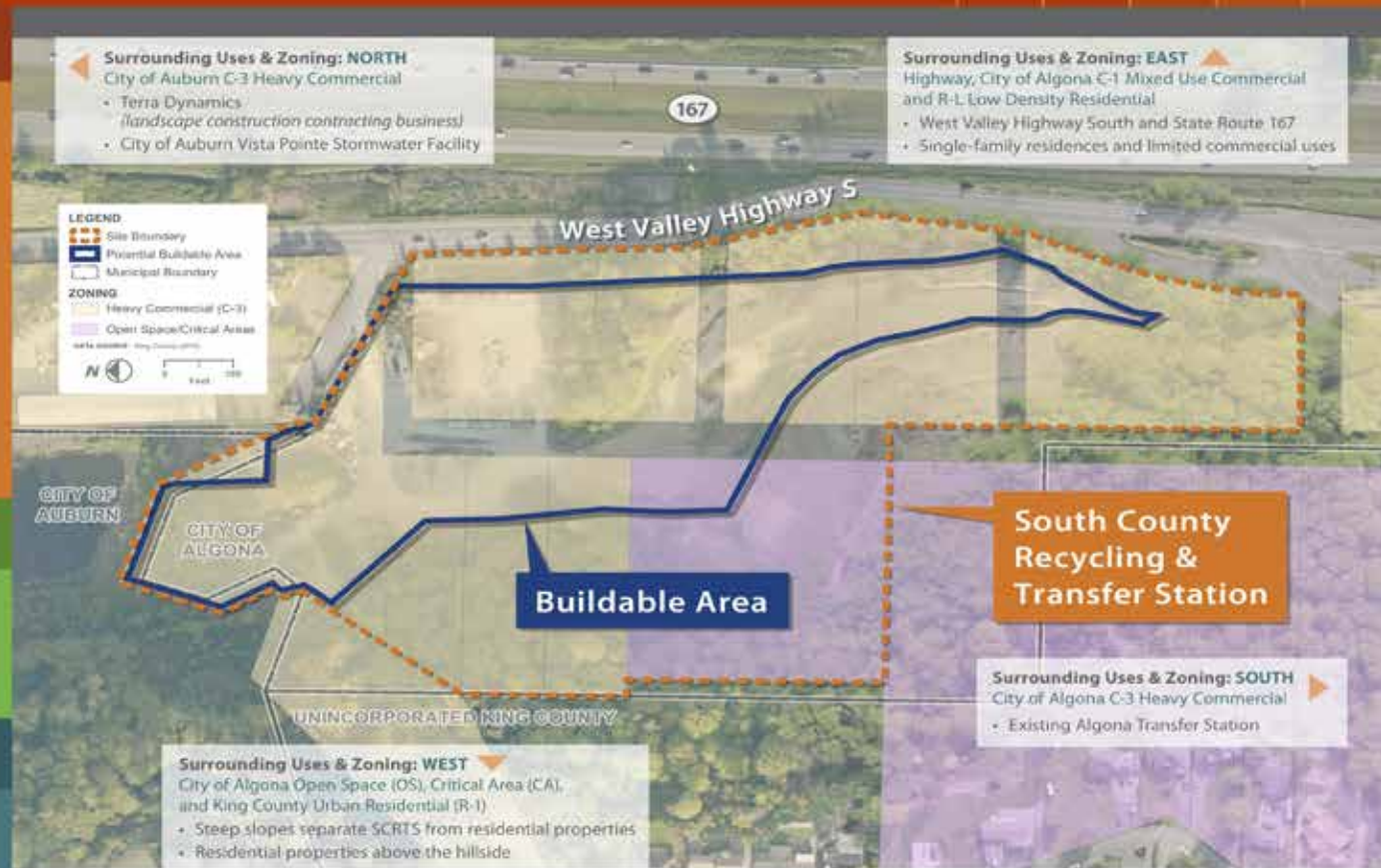
**Transfer Station Allowed?**  
Yes, as Conditional Use

## CRITICAL AREAS

Riparian habitat, aquifer recharge areas, wetlands, and steep slopes

## TRANSPORTATION

West Valley Highway South will be straightened



Factoria Recycling & Transfer Station



## PROJECT DESIGN REQUIREMENTS:

- Enclosed solid waste transfer and processing building
- Garbage compactors
- Recycling collection and sorting area
- Employee facilities
- Equipment fueling station
- Scales and scale house
- Household Hazardous Waste Disposal Service
- West Valley Highway South road improvements
- Public art
- Green building certification

## Community engagement will be used throughout the design process:

- Open houses will be held to gather community input for conceptual design
- Design Advisory Group consists of residents, business owners, waste haulers, city leaders, and community-based organizations to influence transfer station design
- King County staff are available to meet with community groups, neighbors, and others to discuss the project
- Online public comment opportunities allow people who cannot attend meetings to provide their input



**Fourteen Employee Engagement Meetings** gathered input from all sections within the Solid Waste Division.

**245 subject matter experts participated** in these meetings, including staff who work at existing King County transfer stations and **service King County residents every day.**

They were asked to **layout site features** and present the layouts to other attendees.



## WHAT WE HEARD

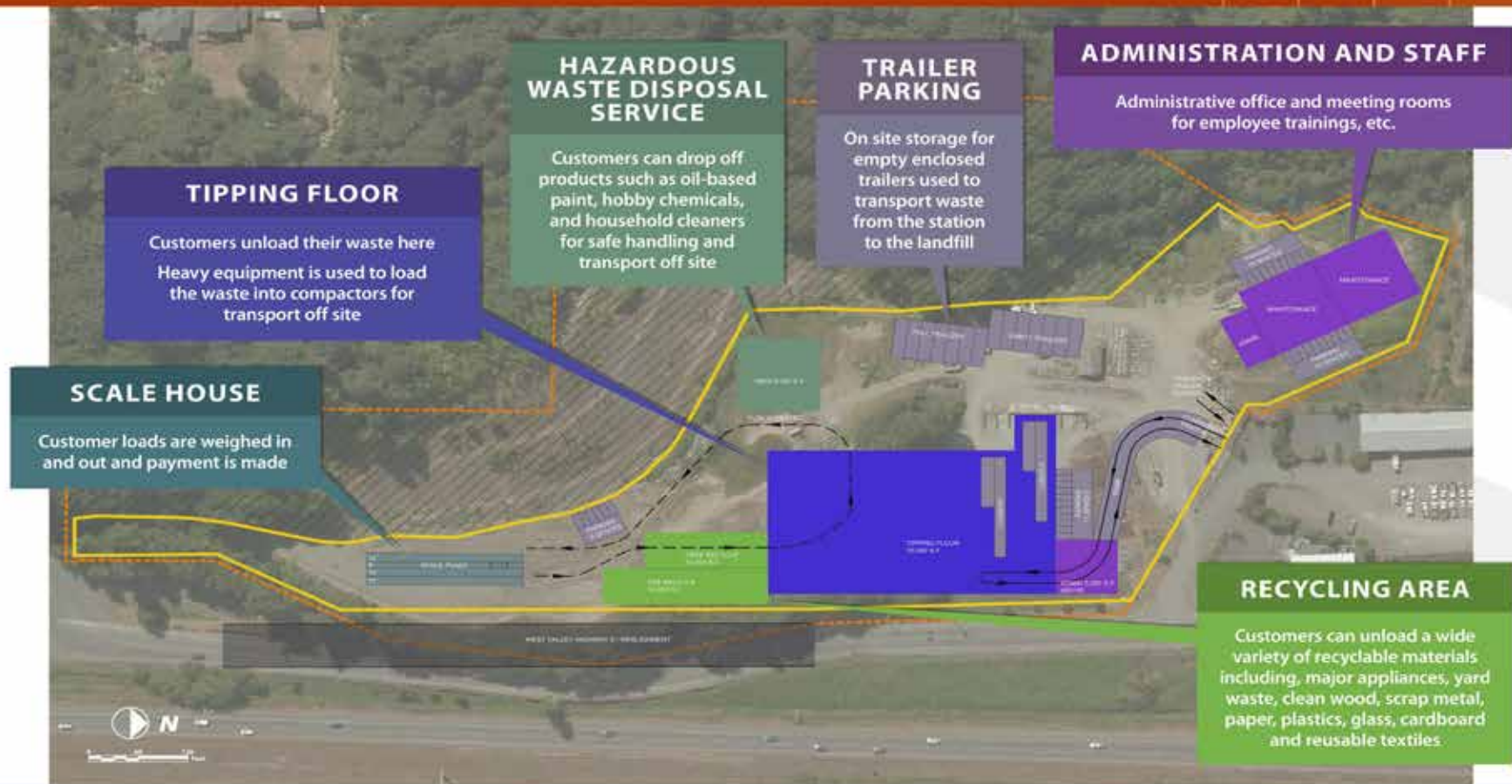
- 1 Separate residential and commercial customers for safety of users
- 2 Flexibility for future waste and changing technology
- 3 Employee views to key areas – scales, tipping floor, entrances and exits – to make sure customers get the help they need
- 4 Separate King County transfer vehicles from residential customers
- 5 User-friendly traffic flow



# Primary Transfer Station Features

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Solid Waste Division



SITE CONCEPT REVIEW RATING	
DESIGN ELEMENT	RANKING
QUEUING - PRE SCALE	1 + 0
QUEUING - POST SCALE	1 + 0
TRAFFIC	1 + 0
SAFETY	2 + 0
RECYCLING SPACE & SHEDDING	1 + 0

## Concept 1 - Grade Separated

Self-Haul Station - 15

Transfer Station - 25

Once on site, public customers access the facility predominantly from the west side (off box of slope).

1. Remote RECI Scale (segregated for commercial trucks, commodity trucks, transfer trucks, and MRW outbound).
2. Self-haul tips from apron, if allow commercial tip floor.
3. Recycle drop-off process, and is adjacent to self-haul.
4. Green waste (covered) and bulky item drop-off area (covered).
5. Material recovery equipment area with bales and shipping docks.

## Pros

- Utilizes a limited site boundary that provides volume of the stream with added buffer zones.
- Good queuing capacity before scale.
- Optimal Self-haul public free recycle drop-off space.
- Optimal Self-haul public pay recycle drop-off area for bulky items.
- Commercial loading area provides good pre storage area.
- Optimal recycle drop-off = 15 spaces.
- Largest pay recycle drop-off area for bulky items.
- Potential food compressor roadblock problem.

## Cons

- Loading dock very visible at nighttime entry (per Alternative).
- Public drop-off area is open to the slope and wastewater above LA. noise.
- Outbound commercial truck plant scale with inbound (add scale 1).



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SITE CONCEPT REVIEW RATING	
DESIGN ELEMENT	RANKING
OVERALL - PRE SCALE	A
OVERALL - POST SCALE	A++
TRAFFIC	A+
SAFETY	A++
RECYCLING SPACE	A

Concept 2 - Flat Floor

Self-Haul Spaces - 20

Potential Development Cost - \$\$\$

Once on site, public customers access the facility from the east side of site. Two distinct yard areas at north and south of site at lower level.

1. Remote RFID Scale for outbound commercial trucks, commodity trucks, and transfer trucks.
2. Vehicle maintenance and trailer parking in separate yard area.
3. Admin/Staff/TSO central location to most activities.
4. Recycle drop-off (pay).
5. MRW and Free Recycle drop-off share access.
6. Material recovery equipment area (-6'-0") w/ baler and shipping (-12'-0").

## Pros

- Utilizes a limited site boundary that provides results of the stream with added buffer zones.
- All activities sequenced along north-south main drive.
- Outbound commercial trucks avoid a bottleneck.
- Outbound commercial transfer trucks exit top floor opposite entry.
- Admin/Staff/TSO central location to most activities.
- Potential third compressor location position. (DRY corner)
- Two entry options for transfer trucks with or without weigh-in.

## Cons

- Leaving between street and scale is limited.
- Main access drive provides left turn for public users.
- Limited MRW queuing and access for shipping.
- Potential congestion at Free Recycle Drop-off.
- Commercial outbound trucks must stop to lower level and ramp up to exit.
- Largest building area.
- Utility must experience with extensive hanging walls and bridge.
- MRW equipment area opposite side of structure and at mid-level.
- Limited area for bulky item recycling.



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SITE CONCEPT REVIEW RATING	
DESIGN ELEMENT	RANKING
QUARRY - PPE SCALE	1 +
QUARRY - PORT SCALE	1 +
TRAFFIC	1 +
SAFETY	1 +
RECYCLING SPACE	1 +

Concept 3 - Grade Separated Floor  
Self-Haul Species - 22  
Potential Development Cost - \$5  
Remove scale, retaining walls at trailer areas, savings from no under floor tunnel.

1. Remote RFID Scales for inbound and outbound commercial trucks, commodity trucks, and transfer trucks.
2. Proposed Diverging Diamond Interchange (DDI)
3. Green waste area with open top loadout below.
4. Baler area at -6'-0" and shipping dock at -12'-0"
5. Self-haul tips from +4' level floor positions.

## Pros

- Utilizes a revised site boundary that provides remote of the quarry with added buffer zones.
- MHW and Recycle Drop off are enclosed in one structure. TSD has view of all operations including MHW.
- Potential improvement with traffic flow and safety with DDI (S. Department of Transportation, Federal Highway Administration).
- Recycle drop off area not for residential.

## Cons

- Top floor area is narrow in the north-south direction and may limit tipping and material flow.
- Spine yards may not be the DDI intersection.
- MHW shipping over the public substandard road (not separate commercial scales).
- First scale quaying may block access to Admin/Staff.
- First scale quaying for MHW & Recycle drop off may block access to Admin/Staff and ball field.



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# Common and Distinct Design Features

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Place your dot  
beside the layout  
you like the best



## COMMON ELEMENTS IN ALL CONCEPTS

- All customers enter at south end of site
- Customers can loop back through site to drop off various materials
- Administration Building and Staff Facilities have central location to Transfer Station
- Truck and trailer parking at the north side of the site
- Truck maintenance bays are in Transfer Station lower level

### CONCEPT 1

- Stream is routed south and provides a buffer parallel to the West Valley Highway realignment
- Collection trucks split from public after entry
- Tipping floor is grade separated (includes a wall to lift and dump waste over)
- Public recycling area faces west
- Transfer truck circulation is on the east side of the site
- Household Hazardous Waste Disposal Service, Administration Building, and Staff Facilities have separate lane after scale house



### CONCEPT 2

- Stream is routed south and provides a buffer parallel to the West Valley Highway realignment
- Collection trucks and transfer trucks exit to south
- Tipping floor is one large, flat area
- Public recycling area faces south



### CONCEPT 3

- Stream is routed through a culvert
- Transfer trucks access at north end of site,
- Tipping floor is grade separated (includes a wall to lift and dump waste over)
- Public recycling area faces southwest
- Household Hazardous Waste Disposal Service, Administration Building, and Staff Facilities have separate site entry
- Layout utilizes more buildable site area than other Alternatives



Which do you like best? Place your dot beside the station you like best.

1	Bow Lake Recycling & Transfer Station		
2	Factoria Recycling & Transfer Station		
3	Seattle North Transfer Station		
4	Seattle South Transfer Station		
5	Tacoma Recovery & Transfer Station		

# Noise, Odor, and Dust Controls - *What do want to see?*

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Enclosed Pre-load Compaction Equipment



Seattle North Transfer Station Misting System

**King County will design new facility to minimize noise, dust, and odor emissions.**

Features to reduce and control emissions will include the following:

- **Enclosed transfer station** dampens noise and minimizes odor and dust leaving the building
- **Misting systems** capture dust and suppress odors
- **Capacity to load compacted waste into trailers** removes waste from the tipping floor, removing odor and unsanitary conditions
- Potential **Roll-up doors** that close quickly and quietly



Let us know  
your thoughts...

## NOISE CONTROL

## ODOR CONTROL

## DUST CONTROL



# Sustainable Building Features

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As required by the King County Code Green Building Program, the facility will use relevant green building and sustainable construction criteria.

The project will pursue a sustainability certification and standards for the new facility, which may include use of the following:



Let us know  
your thoughts...

Design for **energy efficiency** and **water conservation**

Use of **environmentally friendly, locally manufactured, and recycled content materials**

**Planting native vegetation and drought-resistant plants**



Rooftop solar panels have been installed at existing King County Transfer Stations



Natural lighting used inside Factoria Recycling & Transfer Station



Drought-tolerant, native plants at Factoria Recycling & Transfer Station

Potential Sustainable Certifications





# Equity & Social Justice



WHAT DO ALL RESIDENTS NEED TO REACH THEIR FULL POTENTIAL?

## 14 DETERMINANTS OF EQUITY

THE CONDITIONS KING COUNTY HAS IDENTIFIED THAT EACH OF US NEED TO THRIVE

- ACCESS TO AFFORDABLE, HEALTHY, LOCAL FOOD
- ACCESS TO HEALTH AND HUMAN SERVICES
- ACCESS TO PARKS AND NATURAL RESOURCES
- ACCESS TO SAFE AND EFFICIENT TRANSPORTATION
- AFFORDABLE, SAFE, QUALITY HOUSING
- COMMUNITY AND PUBLIC SAFETY
- EARLY CHILDHOOD DEVELOPMENT
- ECONOMIC DEVELOPMENT
- EQUITABLE LAW AND JUSTICE SYSTEM
- EQUITY IN COUNTY PRACTICES
- FAMILY WAGE JOBS AND JOB TRAINING
- HEALTHY BUILT AND NATURAL ENVIRONMENTS
- QUALITY EDUCATION
- STRONG, VIBRANT NEIGHBORHOODS



FLOURISHING COMMUNITIES ARE ROOTED IN THE DETERMINANTS OF EQUITY.

# Recycling Services Planned for the New Station

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Scrap metal recycling at Bow Lake Recycling & Transfer Station



Cardboard disposal at Bow Lake Recycling & Transfer Station



Stockpile of clean wood in materials bay at Factoria Recycling & Transfer Station



The existing Algona Transfer Station accounts for

**17%** OF **TOTAL TONNAGE**  
FROM ALL KING COUNTY  
TRANSFER STATIONS

In 2017, more than **895,000 tons** of garbage were disposed in King County.

**70%** of what is landfilled in King County could have been reused, recycled, or composted.

To increase the amount of material diverted from the landfill, South County Recycling & Transfer Station will offer a wide array of recycling services including the following:

- **Paper, cardboard, glass, metal, and other materials** are separated from garbage for reuse or reprocessing into new products
- **Large or bulky items** – such as air conditioners, refrigerators, and wooden pallets – that cannot be collected via curbside recycling can be disposed of at the new South County Recycling & Transfer Station
- **Yard waste** represents a large portion of material currently disposed of at the existing Algona Transfer Station



Typical Recycling Signage at King County Transfer Stations



Yard Waste compaction at King County Transfer Stations



**South County Recycling & Transfer Station will provide customers the ability to properly dispose of household hazardous wastes (HHW). Benefits of HHW diversion include:**

- Protection of wastewater systems
- Toxicity reduction of solid waste landfills

**Materials accepted include:**

- Batteries
- Thermostats & Thermometers
- Mercury-Containing Light Bulbs & Tubes
- Oil-Based Paints, Thinners, and Solvents
- Motor Oil
- Propane & Butane Tanks
- Household Cleaners
- Lawn & Garden Products
- Glues & Adhesives
- Automotive Products
- Antifreeze
- Flammable Liquids
- Marine & Road Flares

**Commingled Recycling Compactors at Vashon Recycling & Transfer Station**



**Lead battery collection at Factoria Recycling & Transfer Station**



# Design Advisory Group Schedule

- DAG Launch
  - November 29 6:00-8:00 PM
  - Focus: Charter Review, Mock Open House
- DAG Meeting #2
  - March 2019 6:00-8:00 PM
  - Preliminary Design: Site concept review, public engagement and outreach update
- DAG Meeting #3
  - June 2019 6:00-8:00 PM
  - Final Design: Site plan review, public engagement and outreach update
- DAG Meeting #4
  - September 2019 6:00-8:00 PM
  - Final Design: Site plan review, public engagement and outreach update
- DAG Final Meeting
  - December 2019 6:00-8:00 PM
  - Final Design: Schedule if needed

Meetings to be held at Algona-Pacific Library 255 Ellingson Road, Pacific, WA 98047



*Photo from King County Library System Website*



***ADJOURN***

## FUNCTIONAL CRITERIA

### Zoning + Land Use

- Appropriately zoned with compatible land use
- Located 1,000 feet from parks and schools
- Located within 1/2 mile of arterial or highway
- Cost is within budget

### Site Design

- Access routes mitigate traffic impacts
- Approximately 15-20 acres
- Developable area is flat or gently sloping
- Utilities readily accessible

### Equity

- No racial, cultural, or socio-economic group unduly impacted by development
- Less than 30-minute travel time for 90% of solid waste facility users
- Avoids extensive tenant or business relocation
- Site is not component of community's economic development plans

### Environmental Sustainability

- Site developed without impact to critical wildlife habitat
- Water table beneath site supports development

## SITING ADVISORY COMMITTEE OUTCOMES

Narrowed to two potential sites

- Siting Advisory Committee assessed the focused site screening and comparative evaluation efforts
- Criteria developed by the Siting Advisory Committee narrowed potential properties to two sites

Siting Advisory Committee toured  
Bow Lake Recycling & Transfer Station



## COMMUNICATIONS CRITERIA OUTCOMES

Selected 35101 West Valley Highway S, Algonia

- Minimizes impacts to routes of commercial waste haulers
- Has a terrain suitable for accommodating the multi-level transfer building

Site of future Algonia Transfer Station



As part of this project King County is making improvements to West Valley Highway, including straightening out the curve and adding frontage enhancements. These are alternatives for West Valley Highway.



**ALTERNATIVE 1**



**ALTERNATIVE 2**









# Sustainable Features



# Sustainable Features

