



# C&D WASTE/ BUILDING CIRCULARITY WORKING GROUP

The presentation represents the range of diverse perspectives within the working group members. As a result, there are some points presented that do not have consensus among all members.

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## 4 AREA OF FOCUS

- Adoption of Zero Waste Hierarchy
- Accountability and Oversight
- Facilitating Markets for Diverted Materials
- Managing Waste Volumes and Surges

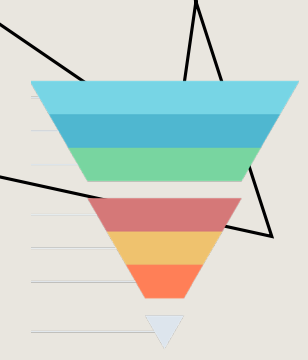
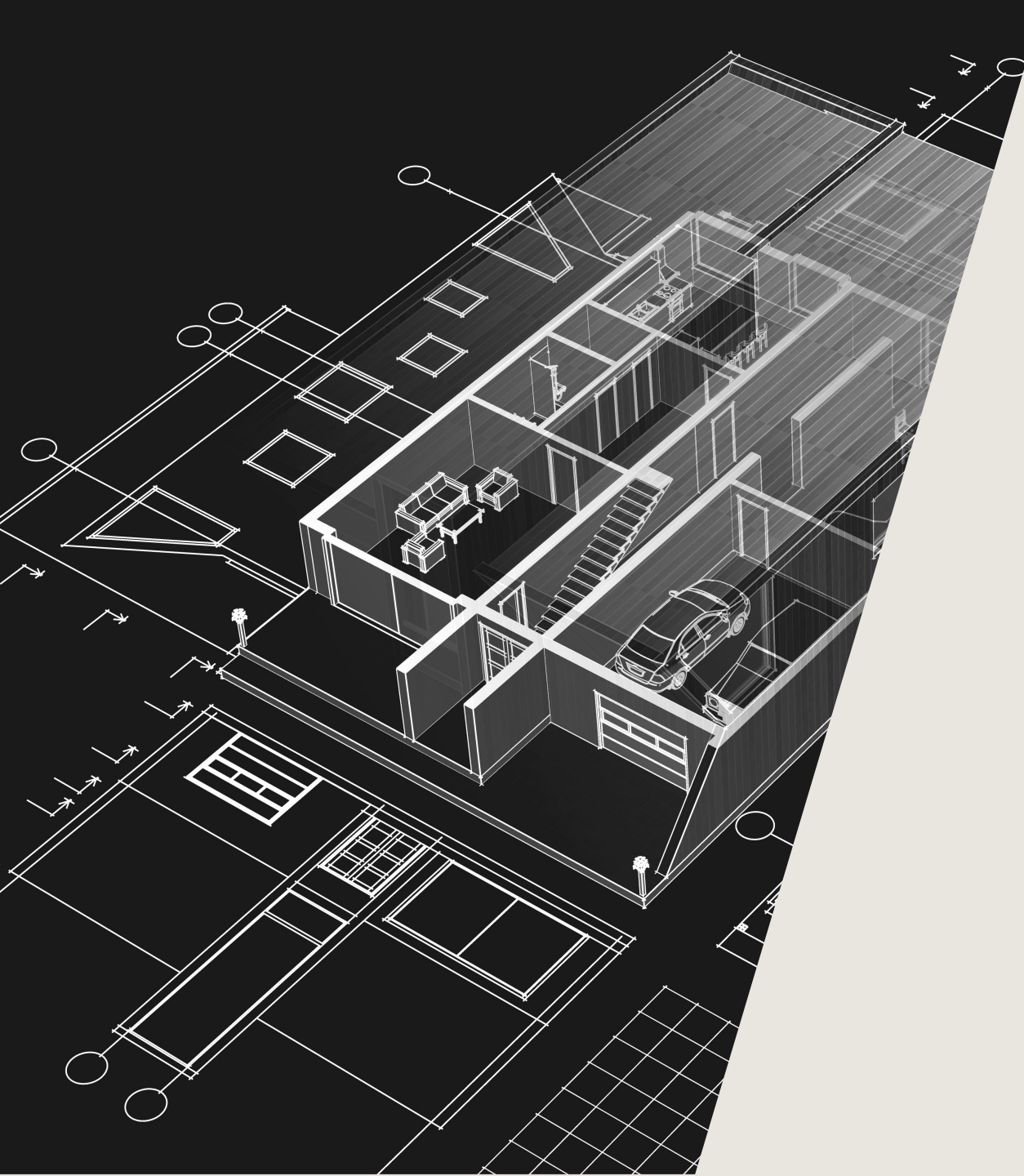
## 3 PRINCIPLES

- Prioritize those recommendations that are highest on the ZW Hierarchy
- Avoid locking in to linear strategies
- Adopt strategies in whatever capacity possible (regulate, advocate, influence)





# ADOPTION OF ZERO WASTE HIERARCHY

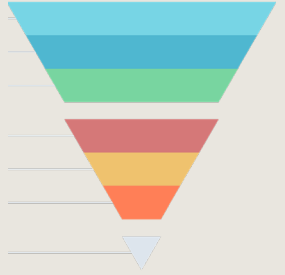


# REDESIGN

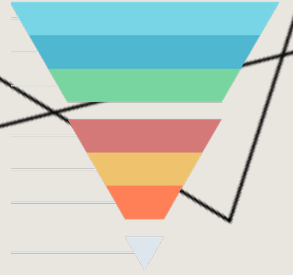
- Embed Zero Waste Hierarchy and Building ZW hierarchy in Metro Vancouver's procurement and policies
- Review policies and publications to revise language that assumes waste generation. For example, “building removal” not “demolition”
- Push for building codes to consider disassembly, repair, flexibility of use, deconstruction, and embodied carbon
- Support capacity building and education in the industry

# REDUCE & REUSE

- Require Design for Disassembly/Adaptability (DfD/A), salvage reuse, and recycled content in Metro Vancouver's building and infrastructure procurement
- Produce and distribute specification templates for circular building procurement
- Encourage product design for modularity, reuse, and recycling according to pollution hierarchy



# RECYCLING AND MATERIAL RECOVERY



- Work with partners to develop a model for wood waste management
- Work with the province and other partners to establish Extended Producer Responsibility (EPR) for C&D materials
- Phase out incineration of C&D materials and focus on material recovery





# ACCOUNTABILITY AND OVERSIGHT



**COMPLIANCE**

transparency

Standard

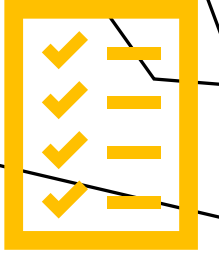
Policies

Law

Requirement

Audit

# TRACKING AND LICENSING (CHAIN OF CUSTODY)



- Consult industry on licensing and regulating haulers, and Implement annual reporting by industry stakeholders, validated by third-party auditors
- Connect projects to haulers and receivers using platforms like Green Halo
- Create a common confidential database to measure reductions/increases through an independent industry platform





## ENFORCEMENT AND REGULATION

- Ensure enforcement of existing regulations
- Incentivize source separation
- Implement significant deterrents for projects, haulers, and receiving facilities that misreport their recycling/waste





# FACILITATING MARKETS FOR DIVERTED MATERIALS



## MARKET DEVELOPMENT

- Develop an industry registry of supply volumes, reported and validated annually
- Implement a virtual marketplace platform for businesses and asset management
- Streamline the regulation system to foster increased use of salvaged/diverted materials







## INFRASTRUCTURE AND LAND USE

- Set up systems to address costs of material storage (using public land or providing support)
- Open land uses to recycling and facilitate land for receiving facility use with industrial rezoning and cost reductions
- Create an environment to increase processing capacity and business opportunities for C&D resources







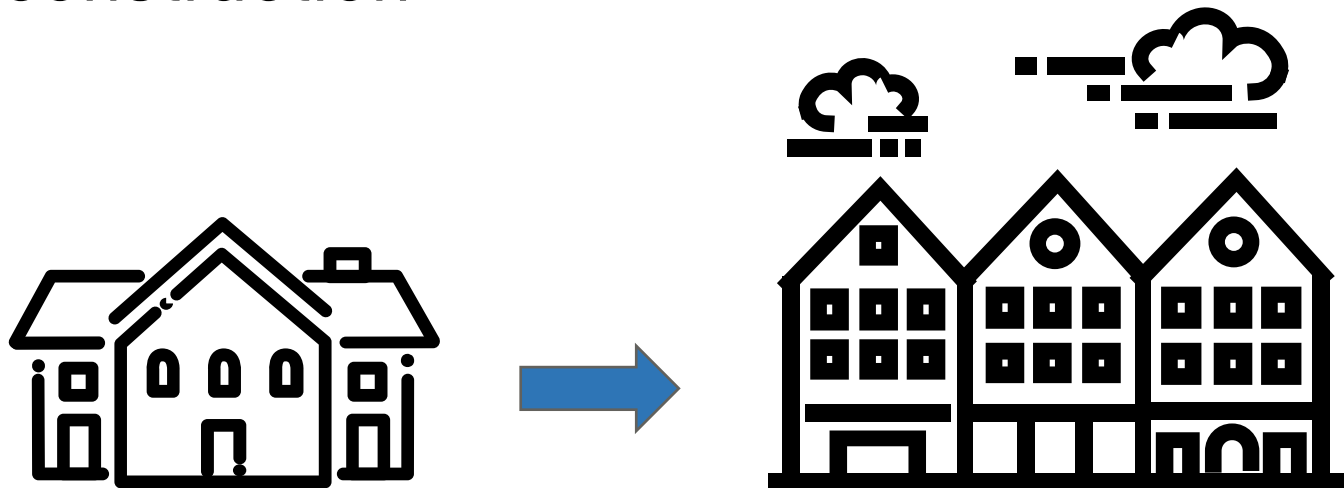
# MANAGING WASTE VOLUMES AND SURGES





# LAND USE CHANGES

- Promote renovation and retrofit options versus new builds
- Create a municipal template and toolkit for building removal bylaws that include house moving and deconstruction



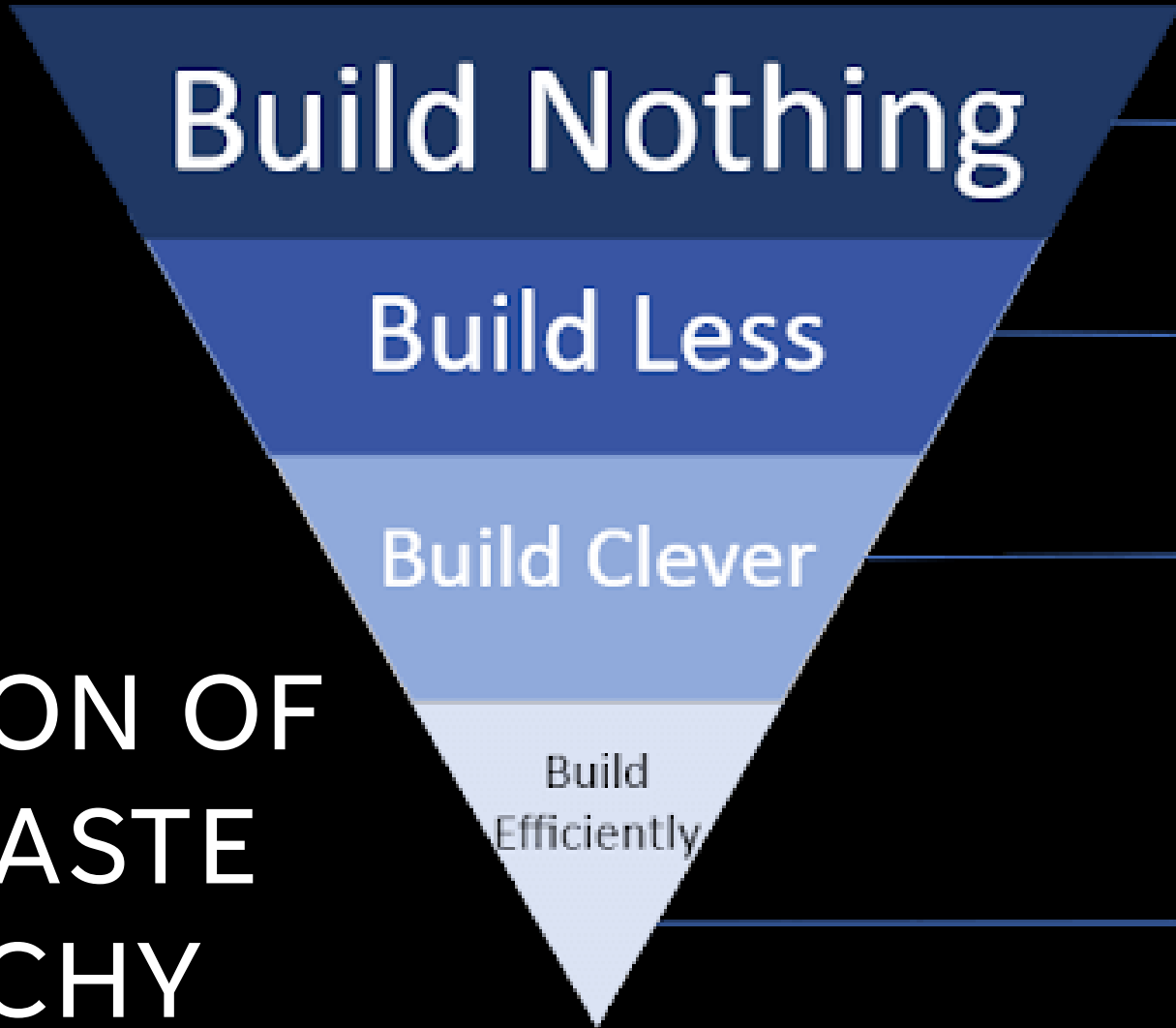
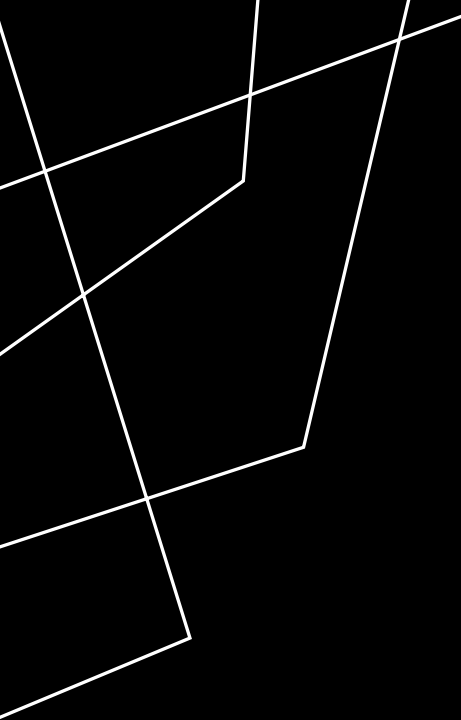




# DISASTER PREPAREDNESS & RESPONSE

- Incentivize disaster preparedness to preserve both life and property
- Work with organizations that make decisions during disasters to prioritize waste minimization
- Develop regional strategies for managing waste from natural disasters and land use changes





Build Nothing

Do the benefits of the work outweigh the carbon costs?

Build Less

Can we achieve the work aims whilst using or doing less?

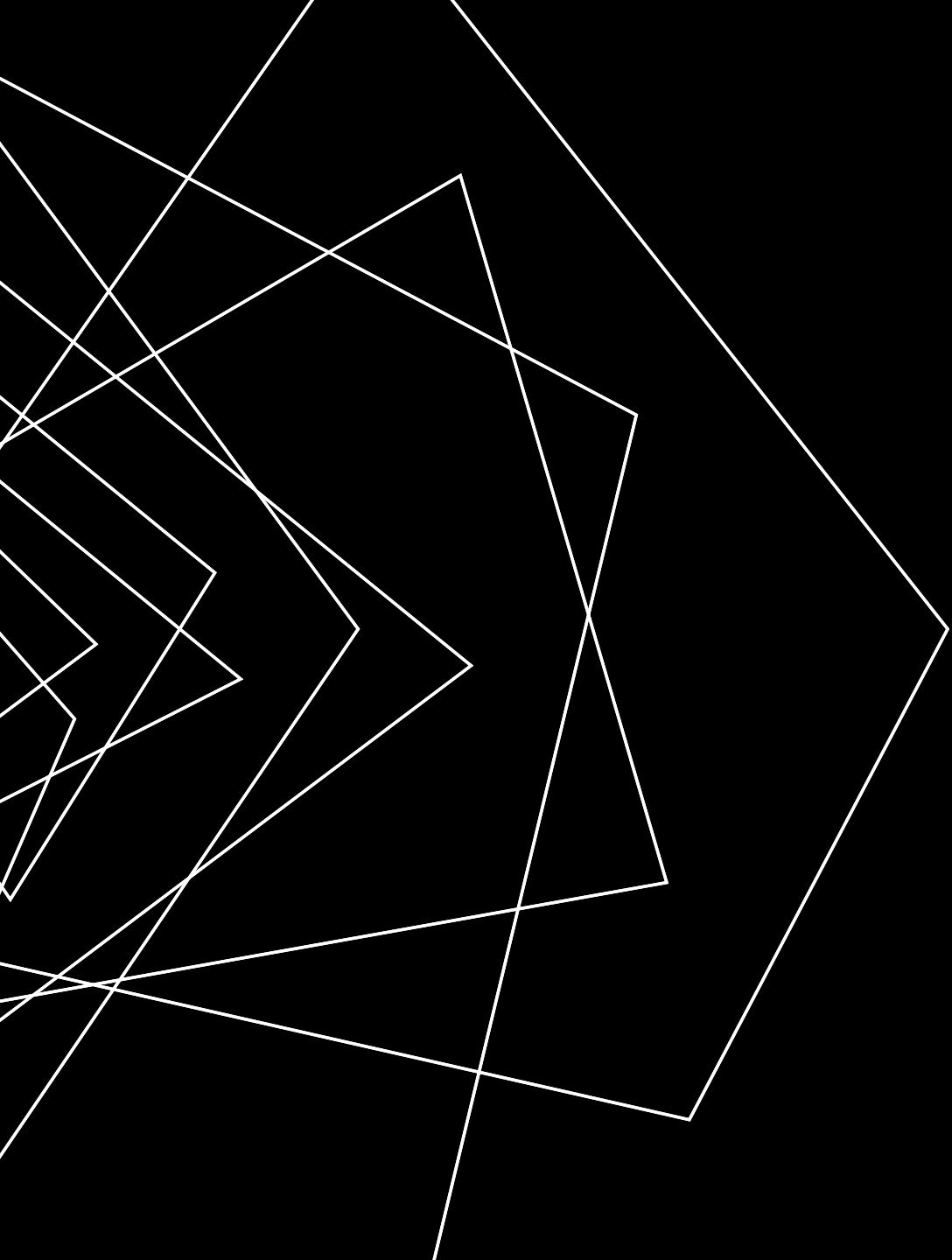
Build Clever

Can we take a smart or innovative approach to the works?

Build Efficiently

Can we complete the works without unnecessary material or time wasted?

ADOPTION OF ZERO WASTE HIERARCHY



**THANK YOU**

The following document was submitted by the Public/Technical Advisory Committee Construction and Demolition Working Group. These recommendations represent the range of diverse perspectives among the working group members. As a result, there are some points presented that do not have consensus among all members.

### Metro Vancouver Public/Technical Advisory Committee – Construction and Demolition Working Group Recommendations

These recommendations represent the range of diverse perspectives within the working group members. As a result, there are some points presented that do not have consensus among all members.

	Accountability and oversight of C&D Waste	Facilitate markets for diverted goods	Managing waste volumes and surges	Adoption of zero waste hierarchy
<b>Avoid waste generation</b>	<ul style="list-style-type: none"> <li>Connect projects to haulers (protect haulers and receiver confidential information such as customer base) to receivers (as per SF example), can use Green Halo platform <a href="https://www.greenhalosystems.com/">https://www.greenhalosystems.com/</a></li> <li>Industry to develop a registry of the supply of volumes, annual volumes reported out and validated through assurance from independent 3rd party</li> <li>Common confidential database so that we can measure reductions/increases - independent</li> </ul>	<ul style="list-style-type: none"> <li>Embed the Zero Waste Hierarchy and C&amp;D waste/embodied carbon hierarchy in Metro Van's procurement and policies - include sourcing used/salvaged materials where possible. Encourage other organizations to do the same. (this can be part of creating end markets)</li> <li>Industry to develop a registry of the supply of volumes, annual volumes reported out and validated through assurance from independent 3rd party</li> </ul>	<ul style="list-style-type: none"> <li>Industry to develop a registry of the supply of volumes, annual volumes reported out and validated through assurance from independent 3rd party</li> <li>Public awareness campaign regarding land use change waste.</li> <li>Work with organizations that make decisions that increase waste during disasters to make waste minimization also a priority (i.e. insurance companies, etc).</li> <li>Work with building and design industry and policy makers to adopt the ZW/embodied energy hierarchy</li> </ul>	<ul style="list-style-type: none"> <li>Review policies and publications for language that "assumes" waste generation. For example revise "demolition" to "building removal" and "construction waste" to "construction excess resources"</li> <li>Have a pollution hierarchy such that pollution prevention is not undertaken at one level unless all feasible options for pollution prevention at a higher level have been taken</li> <li>Require DfD/A, salvage reuse and recycled content in all MV's own building and infrastructure procurement.</li> <li>Push for building codes to consider disassembly, repair, flexibility of use, deconstruction and embodied carbon</li> <li>Adopt the ZW hierarchy as the guide and encourage others to do so as well</li> <li>Support capacity building (education) in the industry</li> <li>Produce and distribute specification templates for circular building procurement</li> <li>Encourage Product design for modularity, reuse recycle (according to pollution hierarchy)</li> </ul>

	industry platform.		as the guidance for building sector	
<b>Recycle / recover materials</b>	<ul style="list-style-type: none"> <li>• consult on licensing (permitting) and regulating haulers (as per SF)</li> <li>• Incentivize source separation</li> <li>• Annual reporting out by industry stakeholders by third party auditor</li> <li>• Have collection of reusable items at disposal locations as per North Van pilot, but permanent (Whistler as example <a href="https://mywcss.org/social-enterprises/re-use-it-centre/">https://mywcss.org/social-enterprises/re-use-it-centre/</a>)</li> </ul>	<ul style="list-style-type: none"> <li>• Set up systems to address costs of material storage (can be using public land, providing support or other tools)</li> <li>• Streamline regulation system to foster increased use of salvaged/diverted materials</li> <li>• Work with province, academia and NGOs to develop a model for wood waste that determines what assets exist and what are needed to create an ecosystem that can handle all kinds of wood and use it to the highest and best purposes (like King County). Use NZWC or other systems to build regional partnership.</li> <li>• Virtual Marketplace Platform (RHEAPLY), provides important tools; public marketplace for businesses; asset management for those large inventory holders for their stock - Like 'house moving</li> </ul>	<ul style="list-style-type: none"> <li>• Framework developed where products that cannot be reused or recycled have an environmental fee</li> </ul>	<ul style="list-style-type: none"> <li>• Pollution Hierarchy <ol style="list-style-type: none"> <li>1. reduce environment impact by producing the product by eliminating toxic components and increase energy efficiency;</li> <li>2. redesign to improve reusability or recyclability;</li> <li>3. reuse the product,</li> <li>4. recycle the product</li> </ol> </li> <li>• Work with the province and other partners to have EPR for C&amp;D materials</li> </ul>

		<p>storage' for example</p> <ul style="list-style-type: none"> <li>• Industry to develop their strategy in reduce/reuse targets with guidance from govt. eg. defining "highest use"</li> </ul>		
<b>Reduce / reuse</b>	<ul style="list-style-type: none"> <li>• "Hyper-regulate" (look at new term, effective regulation) mixed waste / commingled, standardized communication</li> <li>• Have significant deterrents for projects, haulers and receiving facilities that misreport their recycling/waste</li> <li>• Ensure enforcement of existing regulations</li> <li>• <a href="https://www.recyclingcertification.org/">https://www.recyclingcertification.org/</a> to ensure recycling / recovery is taking place</li> </ul>	<ul style="list-style-type: none"> <li>• Open land uses to recycling (may be residual waste)</li> </ul>		<ul style="list-style-type: none"> <li>• Similar to the above - adopt a pollution hierarchy and framed in the regulation as a guiding principle</li> <li>• Phase out incineration of all materials including C&amp;D. Work to recover materials instead.</li> <li>• Create a municipal template and toolkit for building removal bylaws that include house moving and deconstruction</li> </ul>
Misc.	<ul style="list-style-type: none"> <li>• Work with Fraser Valley RD to jointly research 2-3 combined heat and power plants for lower mainland</li> </ul>	<ul style="list-style-type: none"> <li>• Note: The pollution hierarchy as outlined in the column of Adoption of Zero Waste applies to the other 3 columns (i.e. accountability, managing waste volume)</li> </ul>	<ul style="list-style-type: none"> <li>• Start to regulate out the use of materials that can't be reused or recycled. Phase out problematic materials</li> </ul>	

### **Accountability and oversight of C&D waste**

- Tracking generators, haulers and receivers
- Licensing and permits
- Capacity tracking (receivers)
- Audits and certifications
- Collecting good data and 'leakage' out of region
- Contaminated soil?

### **Facilitate markets for diverted, salvaged/surplus construction materials**

- Procurement for waste management/salvaged materials – MV template for managing site and building materials
- Address costs of material storage
- Create certainty in the marketplace of both supply and demand
- Facilitate land for receiving facility use (recycling, reuse, etc.) with industrial rezoning and cost reductions
- Create an environment to create more processing capacity
- Create business opportunities for C&D waste with established partners/problem solvers
- Remove regulatory barriers for processors and end user

### **Managing waste volume and surges**

- Natural disasters
- Prevention of C&D waste due to affordable housing policy and other changes in land uses.
- End use management – capacity under current 'onerous' requirements
- Building removal options, support hierarchy
- Renovation and retrofit vs new build

### **Adoption of Zero Waste Hierarchy**

- Tie waste into values and priorities (practicality, cost, circularity, carbon and climate change)
- Design for Disassembly/Adaptability
- Extended Producer Responsibility for C&D
- Influence policies on end uses (such as wood pellets)
- Examine incineration