

SOLID WASTE AND RECYCLING ENCLOSURE STANDARDS



Kitsap County Public Works

July 2019

If you have any questions regarding the *Standards* or *have recommendations for improvement*, please contact:

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ENCLOSURE STANDARDS

These standards help ensure that new multi-family, commercial, food establishment, industrial, and public construction projects include adequate space for recycling, municipal solid waste (MSW), and Fats, Oils and Grease (FOG) containers. The standards are necessary due to growing demand for recycling and the need to control polluted runoff from dumpster areas into stormwater systems. These standards will help property owners meet tenants' needs up front, with reduced need for expensive retrofitting in the future. These standards provide information and resources for designing waste and recycling areas and enclosures that will be used by building occupants in new developments or significant remodels. Designs and plans shall accommodate single-stream recycling and FOG (Fats, Oils and Grease) in addition to MSW.

This document provides information on how to achieve compliance with Kitsap County Code (KCC) requirements. For complete description of legal requirements, please refer to KCC 17.420.030(G) Solid Waste and Recycling and Title 9 for Solid Waste and Recycling Enclosures.

Refer to Appendix A, B, and C for design examples.

A. DETERMINING ENCLOSURE SIZE

- The automated collection trucks achieve maximum efficiency when the drivers do not have to leave the truck to empty the bins. Properly designed enclosures allow the truck driver to “stab” the bin without exiting the vehicle to move the bin. Maximizing efficiencies helps keep solid waste fees down.
- Additionally, **the collection system is far more efficient if the trucks only need to service a site once per week.** Therefore, the goal is to size the enclosures to be large enough to contain one-week's volume of solid waste, and single-stream recyclables whenever possible.
- Determine what types of materials will be collected from the facility. The three primary service types which require separation into different containers are single-stream recyclables, MSW, and FOG bins.
- Food facilities shall store any FOG containers in the enclosure. Grease bins shall be stored under cover so that they are not exposed to rain water or runoff. To comply with this requirement, food facilities shall add 4 or 5 feet to the width of the enclosure. Grease containers come in 55-gallon drums and two larger sizes: 200-gallon (small) and 300-gallon (large). Bin sizes are 40 to 48 inches high, 6 feet wide, and either 3'6" or 4'6" in depth. Drums are approximately 23 inches in diameter. Enclosures with grease containers are required to keep the enclosure clean.

Consultation with local collection service providers may determine that a business would benefit from multiple recycling containers (for example an additional container for cardboard only) in which case a larger enclosure size may be advisable to accommodate increased recycling.

Determining Enclosure Size When MSW and Recycling Volume is Known:

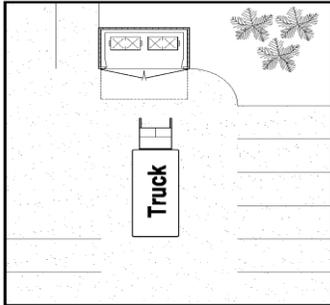
Kitsap County understands that space is at a premium and that enclosures large enough to hold material generated from one week of operation (1 pick-up per week) may be difficult to accommodate. Enclosures shall be sized to require collection no more than 2 times per week. Because waste generated is generally 50/50 waste to recyclables, the enclosure sizes are designed to hold two equal size containers, one for waste and one for commingled recyclables. Also note that if the property is laid out to prevent an enclosure of the minimum size, the bins can be placed in separate enclosures.

B. ENCLOSURE LOCATION & ACCESSABILITY

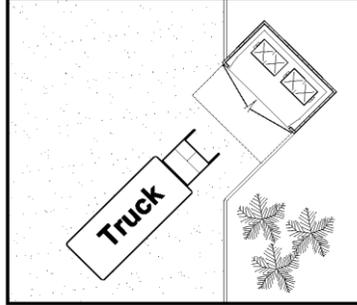
- Enclosures shall be located in an area accessible and convenient to the intended users (typically no more than 300 feet from the farthest user). The location of the enclosure shall not interfere with the primary use of the site, and shall be located in areas that can tolerate noise, odor, and increased pedestrian and vehicle traffic.
- All bins/enclosures shall have direct access for collection trucks. Direct access means the collection truck can drive directly at the bin, and insert the forks into the sides of the bin without exiting the vehicle to move the bin (See Diagram A). A minimum straight approach of 44 feet is necessary to line up directly with the bin.
- Opening/closing gates or fences and locking/unlocking the bin lids are part of the driver responsibility and are included as part of the service provided.

DIAGRAM A

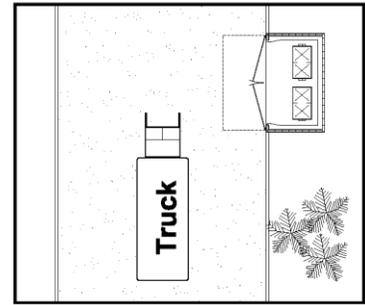
Direct Access
(Preferred)



Angled Direct
(Acceptable w/approval 30 degrees)



Non-Direct Access
(Not Acceptable)

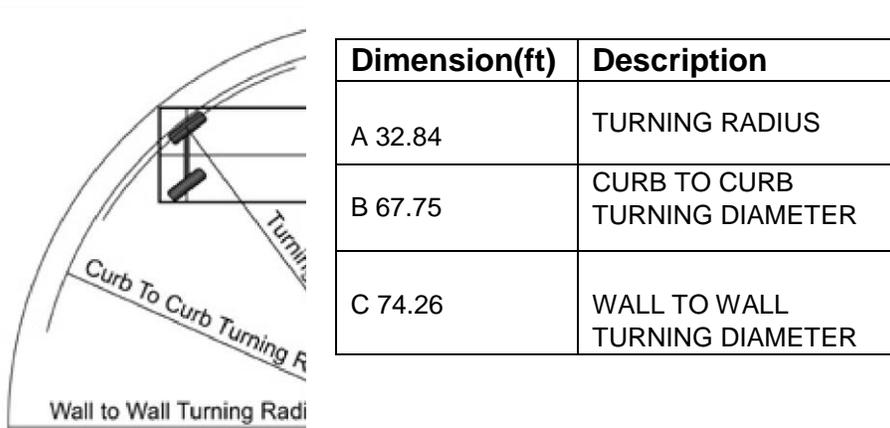


Enclosures with poor or no accessibility or enclosures with atypical orientations are not permitted because the likelihood of driver injury and/or property damage increases. In addition, if a driver is required to move or push the bin for servicing, an additional collection fee may be charged.

- It is difficult and dangerous for a collection truck to back-up. Providing a turn-around or separate exit that allows the truck to move forward rather than backwards is required. Maximum back-up distance is 44 feet for any maneuver and shall be in a straight line;
- Bins shall not be placed in front of fire hydrants and no bin shall be placed within 5 feet of a combustible building wall, opening, or combustible roof eave line; and
- Trash enclosures shall not be installed behind parking spaces.

TURNING RADIUS REQUIRED FOR ACCESS TO ENCLOSURE. The turning radius shall be adequate for a 3-axle truck. The overall length, including the forks is 36 feet. Minimum outside turning radius is 46.5 feet. The turning radius shall be delineated on submitted plans.

DIAGRAM B - REQUIRED TRUCK TURNING RADIUS



C. HEIGHT CLEARANCE OF THE ENCLOSURE APPROACH

In front of the enclosure, refuse trucks require at least 15 feet of vertical clearance over the entire approach to and from the enclosure to accommodate truck height, and 32 feet of clearance at the front of the enclosure itself to accommodate the truck lifting the bins up to empty the contents.

The roof on the enclosure shall prevent excess water from entering the waste water system, and the roof height inside the enclosure shall be a minimum of 21 feet.

D. DRIVEWAYS

An asphalt or concrete driveway with 44 feet of straight, direct access that leads to and from the enclosures to the bin is required, and shall be built in accordance with County standards and be able to withstand trucks weighing up to 56,000 lbs. Gross Vehicle Weight (GVW).

E. STRESS CONCRETE APRON

- Apron surface shall be the same elevation as the enclosure pad threshold and the surrounding surfaces, with a 2% grade or less; and,
- Apron shall extend 8 feet from the enclosure pad for the entire width of the enclosure opening. To prevent damage to the asphalt paving caused by receptacle impact, the enclosure base shall be six inches (6 inches of concrete over two (2") inches of aggregate base rock or the builder shall provide evidence that construction specs are engineered to withstand up to 20,000 lbs. of direct force from a single truck axle.

F. ENCLOSURE CONCRETE PAD

- Enclosure pad shall be engineered to withstand up to 20,000 lbs. of direct force from a single truck axle; and

- Enclosure pad surface shall be the same elevation as the apron threshold.
- On the open side, a grade break line shall be constructed at the inside edge of the wall with the slab sloping inwards on the inside of the structure and away from the structure on the outside.
- The ground shall be sloped away from the structure on all other sides as to not allow run-off from adjoining areas.

G. ENCLOSURE DESIGN

- **Material**

Generally, the material should match the exterior surface of the building. The County encourages compliance with the Leadership in Energy and Environmental Design (LEED) New Construction and Major Renovations Standards for Storage and Collection of Recyclables or comparable Build it Green Standards.

Reinforced masonry or concrete block is the typical standard.

- **Height of Walls**

Minimum 6 feet, as long as access under the enclosure is secure.

- ③ **Roof**

The lowest part of the roof shall be at least 15 feet high. The roof shall not overhang the front gate because the garbage trucks cannot access the bins.

- ③ **Inside Dimension**

Please refer to the Diagrams in Attachment A to determine enclosure size.

1. The minimum interior dimension for a trash/recycling enclosure shall house at least two (6) cubic yard bins, and be 16.5' X 11' or larger. Interior dimensions may increase depending on the size and number of bins; and
2. The enclosure shall be large enough to provide a 6" clearance from the back interior wall and a minimum of 12" (preferably 16" or more) to each side of the bins and 36" from front of bin to gate, and 0" with bins touching on the inside.) We recommend adding a wood or rubber bumper on the back wall to prevent damage to the enclosure during servicing.
3. Food establishments shall add 4 to 5 feet to the width of the enclosure for storage of grease containers.

- **Gates/Pedestrian Doors**

1. Two gates are required for two-bin enclosures. When lot configuration does not allow for two bins in one enclosure, it may necessitate individual enclosures. Single-bin enclosures may provide a single gate that shall open to 135 degrees.
2. Gates shall be free standing with no center pole or if there is a center pole, add 12 inches to the length of the gate side of the enclosure.
3. Gates shall be solid metal with outside handles on each door and a slide latch to secure the doors;

4. Gated opening for ingress/egress of bins shall be a minimum of 15 feet wide with no posts in the middle, place gate posts outside this span to avoid reducing the span;
 5. Use bolts, not screws, to secure gate to the poles or walls;
 6. Provide means to secure gate doors both opened and closed, e.g. cane bolt w/sleeve and slide latch between doors and sleeve in pavement. The bolts shall be a minimum ½ inch in diameter and the sleeves for both should be a minimum of 1 inch or double the size of the bolt to allow flexibility. The bolt drop shall be a minimum of 4 inches Deep.
 7. Gates shall remain closed unless in use and shall open to at least 135 degrees and be secured open in that position.
 8. Enclosure shall be kept clean with all recyclables and MSW to be placed in the proper receptacle.
 9. A separate additional pedestrian entrance with a door to reduce scavenging is required from the back or the side for both non-residential facilities and residential multi-family developments. Pedestrian entrance must be at least 36 inches wide.
- No Parking Signs
 1. The area directly in front of the enclosure gates shall have “NO PARKING” painted on the ground and signs permanently affixed to the gates stating the same.
 - Storage Inside the Enclosure
 1. The property owner shall ensure that only recycling, MSW containers and grease bins are stored in the enclosure. The enclosure is strictly for the storage of solid waste containers and shall not be used for general storage or any other purpose.

H. STORM WATER POLLUTION PREVENTION

- Kitsap County Code 12.30.020 prohibits illicit discharges from entering stormwater drainage systems.

This ordinance also requires new development and redevelopment projects to incorporate best management practices (BMPs) to minimize the generation, transport and discharge of pollutants to stormwater outlets.

I. WASTE WATER POLLUTION PREVENTION

- Drains in enclosure areas shall be plumbed to sewer, or, in absence of sanitary sewer, to a dead-end sump, which is maintained in accordance with KCC 13.12.260.
- The drain is required to be connected to a grease removal device.

J. FIRE PREVENTION

Fire Code sections 304.2 – 304.3.3 deal with solid waste enclosures.

- **304.2 Storage.** Storage of combustible rubbish shall not produce conditions that will create a nuisance or a hazard to the public health, safety or welfare.
- **304.3 Containers.** Combustible rubbish, and waste material kept within a structure shall be stored in accordance with Sections 304.3.1 through 304.3.
 - **304.3.1 Spontaneous ignition.** Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposable container. Contents of such containers shall be moved and disposed of daily.
 - **304.3.2 Capacity exceeding 5.33 cubic feet.** Containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15m cubed) shall be provided with lids. Containers and lids shall be constructed of noncombustible materials or approved combustible materials.
 - **304.3.3 Capacity exceeding 1.5 cubic yards.** Dumpsters and containers with an individual capacity of 1.5 cubic yards [40.5 cubic feet (1.1.5 m cubed) or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines.

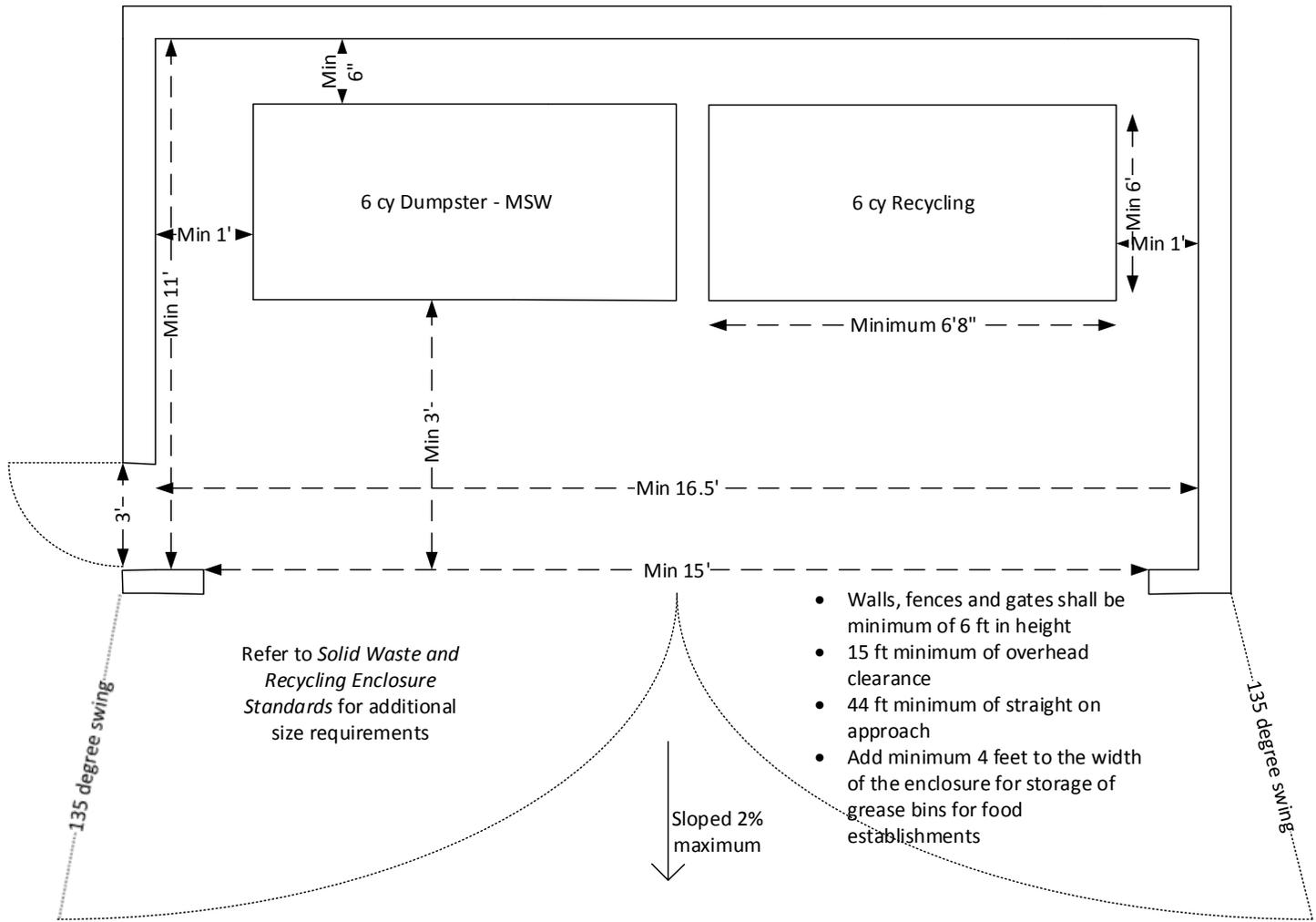
Exhibits

Exhibit A - Standards Recycling and Waste Enclosures

Exhibit B - Standards Recycling and Waste Enclosures with Food Establishment

Exhibit C - Standards Recycling and Waste Enclosures – Side View

Exhibit A

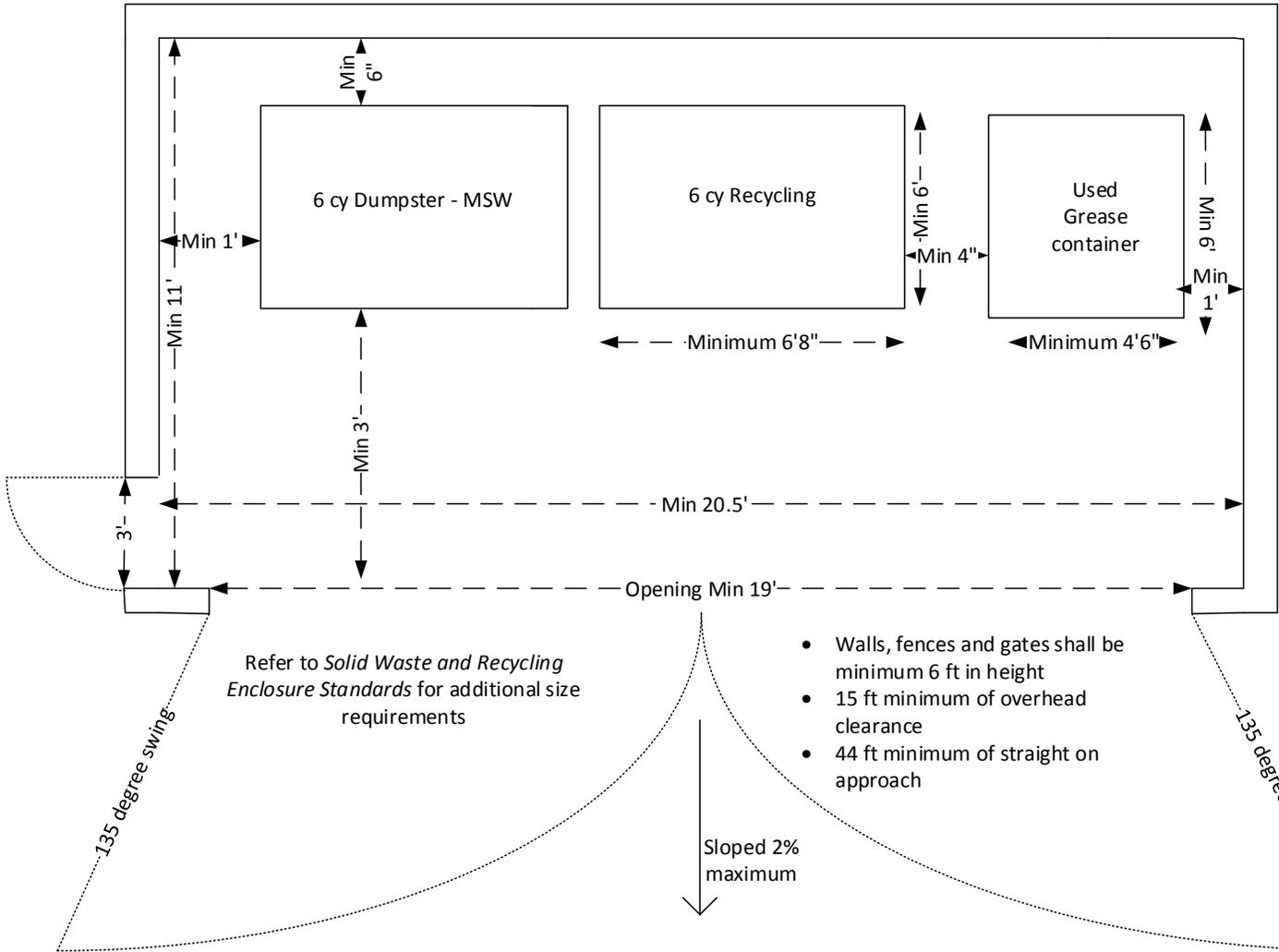


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**Kitsap County Stormwater Division –
 Dumpster Design Example-
 Without Food Establishment
 Kitsap County, Washington – NTS**

7-19-18

Exhibit B

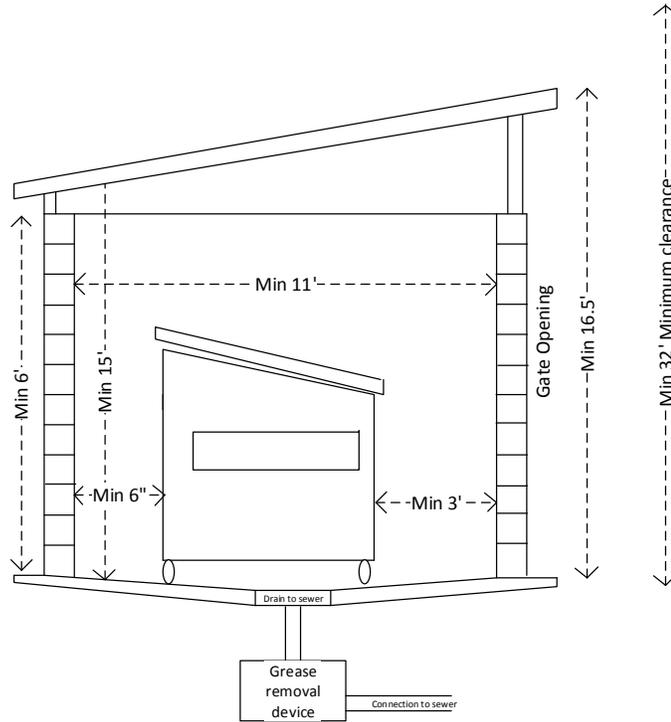


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**Kitsap County Stormwater Division –
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Exhibit C



	<p>KITSAP COUNTY DEPT. OF PUBLIC WORKS 614 DIVISION STREET MS-26 PORT ORCHARD, WA 98366 TEL: (360) 337-5777 FAX (360) 337-4867</p>	<p>Kitsap County Stormwater Division – Dumpster Design Example Without Food Establishment (Side View) Kitsap County, Washington – NTS</p>	<p>6-29-18</p>
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