5.4.3 Sanitary wastes (restroom wastes) cannot be introduced into the grease interceptor.

5.4.4 A facility owner or designated occupant operator that has a grease interceptor or grease trap shall be responsible for all required maintenance.

5.4.5 An Operation and Maintenance manual for Grease Interceptors must be submitted for review and recorded against the property to include the following:

a) Manufacturer's specifications for maintenance including capacity.
b) Copy of cut sheets for installed infrastructure.
c) Copy of as-built site plan denoting cleanout locations and interceptor access points.

5.5 Plumbing for Dumpster Pads

5.5.1 Uncovered dumpster pads are not permitted to connect into the sewer system.

5.5.2 Dumpster Pads with covers may be permitted to the sewer system upon special approval by the Division Manager.

Section 6: Alternative Systems and Special Requirements

6.1 Special Requirements

6.1.1 The following items must comply with their corresponding portion of Section C1-9 of the Criteria for Sewage Works Design:

- Required Separation between Potable Water Lines, Reclaimed Water Lines, and /or Sanitary Sewers (Section C1-9.1)
- Pump out Facilities at Marinas (Section C1-9.2)
- Stream Crossing (Section C1-9.3)
- Inverted Siphons (Section C1-9.4)
- Required Separation from Water Supply Wells (Section C1-9.5)
- Odor Control (Section C1-9.6)
- Corrosion Control (Section C1-9.7)
- Trenchless Technologies (Section C1-9.8)
- Pipe Casing (Section C1-9.9)

6.1.1 Underground Utility Locations

6.1.1.1 The sewer contractor making the sanitary sewer extension shall be responsible for verifying the exact locations of all existing utilities prior to commencing any work. The Developer shall contact the Utility Underground Location Center, 1-800-424-5555, a minimum of two working days prior to commencing work.

6.1.1.2 The County is not required to provide locates on infrastructure which is not owned by the County.

6.1.2 County Inspections

6.1.2.1 All sewer installation inspections and test observations shall be made by the County. The County Inspector shall be notified a minimum of two working days in advance of commencing work on a sanitary sewer extension. Prior to final acceptance of all

installations, the County shall conduct an inspection of all main lines by the use of television equipment. Final acceptance of sewer installations will not be made until tests and inspections are complete and prove satisfactory.

6.1.2.2 The County Inspector shall be notified a minimum of two working days in advance of commencing work on a sanitary sewer extension. Prior to final acceptance of all side sewer and building sewer installations in new sewer mains, the County shall conduct an inspection of the sewer mains by the use of television equipment. Final acceptance of side sewer and building sewer installations will not be made until tests and inspections are complete and prove satisfactory.

6.2 Individual Grinder Pump Stations

6.2.1 Application

6.2.1.1 Together with submittal of the individual sewage pump installation plans for approval, the property owner shall submit a signed copy of the "Sewage Pump Installation, Operation, and Maintenance Agreement" and the filing fee.

6.2.1.2 The property owner shall be responsible for obtaining preliminary approval of the concept for their particular situation. Upon preliminary approval, the property owner shall submit engineered plans of the proposed installation showing all pertinent information together with specifications of all materials to be used.

6.2.1.3 The County reviews plans and inspected systems including the proposed IPS system to the connection at the public force main. Department of Community Development is responsible for permitting and connection from the structure to the IPS system.

6.2.2 Design Considerations

6.2.2.1 The station's operational components shall be located at an elevation that is not subjected to the 100-year frequency storm flood and associated wave action or shall be otherwise adequately protected as certified by a professional engineer registered in the State of Washington.

6.2.2.2 Only one grinder pump station is allowed per lot, and the property owner shall be responsible for maintaining the grinder pump station and the force main on their property by means of a recorded covenant on the title.

6.2.2.3 Developments proposed with private roadways may be served with a common force main serving no more than 15 Equivalent Residential Units (without possibility of future expansion). These developments will be required to construct the common force main to the public standard, however, will remain in private ownership and will not be maintained by the County. A redundant pig launch is required at the Right of Way Edge. These developments will be required to record a maintenance covenant against each parcel served by the common force main, designating perpetual O&M requirements for the system and showing evidence of a maintenance contract for the system to the County before final development permit closeout.

6.2.2.4 Developments proposed with public roadways may be served with a common force main serving no more than 15 Equivalent Residential Units (without possibility of future expansion) so long as all public standards are met.

a) For Accessory Dwelling Unit (ADU) proposals, an ADU must share a common sewer pipe with the primary home sewer connection, and be served by the same water meter as the primary home, to not add additional ERUs to the property.

6.2.2.5 Developments relying on pressurized sewer to serve between 16 and 20 Equivalent Residential Units must construct a lift station. No generator set is required, but a storage tank is required.

6.2.2.6 Developments relying on pressurized sewer to serve 21 or more Equivalent Residential Units must construct a lift station with a permanent generator set.

6.2.2.7 The Developer shall submit information from the material manufacturer or fabricator showing that the materials meet the requirements of the design and pertinent specifications. The Developer shall provide submittals to the County on all materials to be used.

6.2.2.8 Grinder pump structure and force main shall comply with the standards for manholes, trench excavation and backfill. Grinder pump station shall be installed as recommended and required by the Manufacturer, while following all County standards.

6.2.3 Grinder Pump (GP) Selection

6.2.3.1 General

6.2.3.1.1 The individual sewage pump installation shall consist of a single grinder pump, tank, and system controls, valves, piping, excavation, and backfill as outlined in these standards.

6.2.3.1.2 The pumps shall be capable of delivering between 10-20 gpm at the design TDH, with a rate of 12-15 gpm being preferred. The pumps shall be capable of operating at a negative TDH without overloading the motor. A pump curve indicating the pump capacity at design head and operating point shall be included with the submittal.

6.2.3.1.3 The grinder pump Manufacturer shall provide a part(s) and labor warranty on the complete station and accessories, including but not limited to, the panel, for a period of 24 months after notice of Owner's acceptance or receipt of equipment and materials.

6.2.3.1.4 The assembly shall be dynamically balanced and operate without unordinary noise or vibration over the entire range of recommended operating pressures. The grinder shall be constructed to minimize clogging and jamming under all normal operating conditions including starting. Sufficient vortex action shall be created to scour the tank free of deposits or solids banks which could impair the operation of the pump.

6.2.3.1.5 The grinder shall be capable of reducing all components that can be typically found in domestic raw sewage, including but not limited to a reasonable amount of "foreign objects" such as paper, wood, plastic, glass, wipes, and rubber into finely divided particles which will pass freely through the passages of the pump and the discharge piping.

6.2.3.1.6 The grinder shall be positioned in such a way that solids are fed in an upward flow direction.

6.2.3.2 Control Panel/Level Control

6.2.3.2.1 System controls shall consist of a higher water alarm light, one circuit breaker per pump, 120V AC control voltage transformer, starters, NEMA 3R enclosure for electrical control circuits which shall be mounted on the building adjacent to the pump unit, three liquid level control floats (pump off, pump on, high water alarm) and necessary wiring and appurtenances for a complete installation.

6.2.3.2.2 The alarm panel shall include external audible and visual alarm, a push-to-run switch, a push-to-silence switch, redundant pump start, and high-level alarm capability.

6.2.3.3 Pump Selection

6.2.3.3.1 Pumps installed on a GP system shall meet the criteria for the maximum hydraulic grade line and be able to meet the pumping requirements of the structure where it is installed.

6.2.3.3.2 The designer shall review the system as a whole and select a type or characteristic of a pump for the entire system that has sufficient head to operate at the maximum hydraulic grade line. The designer may opt to include design zones within the system with different maximum hydraulic grade lines. Compute the hydraulic grade line using common engineering fluid mechanics calculations using the Hazen Williams or Manning equation with an appropriate roughness coefficient as listed in Section 2.2.2. The engineer shall select a pump capable of discharging the influent peak flow without exceeding the working volume within the pump holding vessel. The engineer shall determine the influent peak flow by reviewing the number of fixtures within a structure or by applying a peaking factor to average daily flows. The designer shall use a minimum of 400 percent of average daily flow for estimating peak influent flows.

6.2.3.3.3 Grinder Pumps shall be E-One or approved equal.

6.2.4 Tank/Vessel Type and Sizing

6.2.4.1 Tanks shall be constructed of fiberglass or HDPE and shall be watertight. Tanks shall be a minimum of 24 inches in diameter and have a minimum depth of 5 feet. For homes with basements, the minimum depth of tank shall be such that the tank can be installed with adequate burial depth without the need for field fit risers. Tanks shall have a minimum of 24 hours of storage within the tank.

6.2.4.2 Corrugated sections shall be double wall construction with the internal wall being generally smooth to promote scouring. The corrugations of the outside wall shall have a minimum amplitude of 1-1/2 inches to provide necessary transverse stiffness. Any incidental sections of single wall construction shall be at least ¼-inch thick. All seams created during tank construction shall be thermally welded and factory tested for leak tightness.

6.2.4.3 The tank shall be furnished with one EPDM grommet fitting to accept a single 4.50-inch OD DWV or Schedule 40 pipe.

6.2.4.4 The station shall have all necessary penetrations molded in and factory sealed. To ensure a leak free installation, no field penetrations shall be acceptable.

6.2.4.5 All discharge piping shall be per Section 2.3. The discharge piping shall include a ball valve rated for 150 PSI. The bulkhead penetration shall be factory installed and warranted by the manufacturer to be watertight.

6.2.4.6 All electrical devices and connections shall be in accordance with NEC and approved by the authority having jurisdiction.

6.2.4.7 A concrete anti-flotation collar shall be provided if groundwater is present or if there is reasonable potential for groundwater. The anti-flotation collars shall be physically attached to the grinder pump tank.

6.2.4.8 No individual sewage pump shall be installed on the discharge side of an existing septic tank. Septic Tank Effluent Pumping (STEP) systems are not allowed. Pumping units shall be connected directly to the building sewer line. Kitsap County does not maintain septic systems.

6.2.5 System Components

6.2.5.1 Service Line/Check Valves

6.2.5.1.1 Each service line between the IPS and the collection line shall have a gate or ball valve installed at the main. In addition, install a minimum of two check valves on the GP service lines. The check valve attached to the IPS counts as one of the check valves. The check valve shall be installed at the property line.

6.2.5.2 Valves

6.2.5.2.1 Install sufficient mainline valves at locations to isolate portions of the system and to ensure continuous operation for maintenance and repair. On straight runs of pipeline, valves are required every one-quarter mile.

6.2.5.2.2 The pump discharge shall be equipped with a factory installed, gravity operated, flapper type integral check valve built into the discharge piping.

6.2.5.2.3 Holes or ports in the discharge piping are not acceptable anti-siphon devices.

6.2.5.3 Pipeline Material

6.2.5.3.1 The service piping from the pump unit to the side sewer or County force main shall be a minimum of 1-1/4 inch diameter HDPE SR11. A minimum burial depth of 24 inches shall be maintained on private property or 48 inches in the Right of Way.

6.2.5.4 IPS Testing

6.2.5.4.1 Each grinder pump shall be submerged and operated for 5 minutes (minimum). Included in this procedure will be testing of all ancillary components such as the check valve, the anti-siphon valve, discharge assembly, and dedicated level controls and motor controls for each unit. All completed stations shall be leak tested to assure the integrity of all joints, seams, and penetrations. All necessary penetrations such as inlets, discharge fittings and cable connectors shall be included in this test

along with their respective sealing means (grommets, gaskets, etc.). Final inspections by Kitsap County will only be completed after the work is validated by Labor and Industries and a Labor and Industries sticker is visible.

6.2.5.4.2 The grinder pump station shall only be allowed to pump sanitary sewage into the County system after final testing and acceptance by the County.

6.2.5.5 Discharge to a Gravity Collection System

6.2.5.5.1 Where a gravity sewer main exists in the public Right of Way, building sewer pressure lines shall discharge into gravity side sewers at the property/easement line as per County Standard Detail PD-9.

6.2.5.6 Discharge to a Conventional Force Main

6.2.5.6.1 Where a gravity sewer main does not exist in the public Right of Way, building sewer pressure lines shall pass through a valve box containing an isolation valve and a check valve located at the property line prior to connecting to the force main as per County Standard Detail PD-10 and PD-11.

6.2.5.6.2 After the Developer has exposed the sewer main and provided any shoring necessary to provide for safe working conditions, a saddle with a 2-inch corporation stop valve shall be furnished and installed by the County where the service line connects to the County force main. Developer shall schedule the saddle installation with the County in advance. Developer shall obtain the necessary permits prior to exposing the existing sewer main. Developer shall provide and install the check valve and valve can over the corporation stop as shown on the County Standard Details.

6.2.6 Ownership, Operation, and Maintenance

6.2.6.1 Ownership, Operation, and Maintenance of the Individual Pump Stations shall be the responsibility of the property owner. Property owners shall complete an O&M Agreement form to be recorded against the property documenting their understanding of this requirement at the time of installation.

6.3 Other Alternative Systems

6.3.1 No other alternative systems are expressly permitted but will be considered by the County on a case-by-case basis and will be evaluated based on the merits of the project to the County.

Section 7: Pump Station Provisions and Records

7.1 Introduction

7.1.1 Except where otherwise indicated, the following sections are intended to be consistent with Ecology's "Criteria of Sewage Works Design." Except where provided otherwise, construction details, workmanship, and materials shall be in accordance with the latest edition of the WSDOT Standard Specifications.

7.1.2 The Developer shall submit information from the material manufacturer or fabricator showing that the materials meet the requirements of the design and pertinent specifications. The Developer shall provide submittals to the County on all materials to be used.